

PROVEN SOLUTIONS | ALWAYS AVAILABLE

ALL-STAR

AMERICAS | VOL 1

TURNING



WIDIA 

 **ALL-STAR**

WIDIA

The All-Star Program reinforces the core qualities of the WIDIA™ diamond — providing proven solutions that are easy to find and always available.

With All-Star, customers can benefit from product reliability and quick delivery to increase machine utilization.



 ALL-STAR



PROVEN SOLUTIONS

Products included in the All-Star program were chosen based on their proven performance and popularity. These industry-leading solutions combine versatility and productivity to deliver savings.

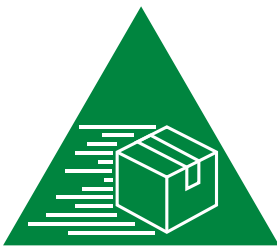


EASY TO FIND

It is easy to recommend All-Star on-the-go or in the shop while using tools like the NOVO™ tool advisor or the Machining Central app. To view All-Star products on widia.com, use the All-Star filter.



Available to download in the app store!



ALWAYS AVAILABLE

All-Star products are held to the highest availability standards. This means products that are flagged as All-Star feature same-day shipping for all orders received before 6pm EST.

TO SEE ALL PRODUCTS LINES, VISIT OUR DIGITAL RESOURCES



WIDIA NOVO™ Application
Download to your desktop or tablet:
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WIDIA™ Machining Central Mobile App
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TURNING

HIGH-PERFORMANCE INSERTS

Pages E4–E33

WIDIA™ Victory™ Inserts



SPECIALTY TURNING

Pages E4, E34–E35

Small-Hole Boring • Positive Inserts



GROOVING AND CUT-OFF

Pages E36–E52

WGC

WMT™



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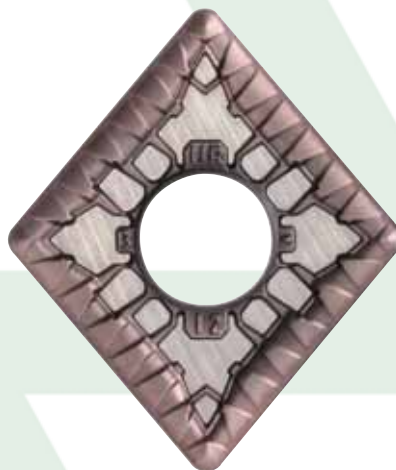
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HIGH-PERFORMANCE INS & SPECIALTY TURNING

HIGH-PERFORMANCE INSERTS • WIDIA™ VICTORY™

Pages E6–E33

A complete high-performance turning portfolio.



SPECIALTY TURNING

Pages E34–E35

WIDIA micro-boring bars provide accurate holemaking tooling in small diameters.

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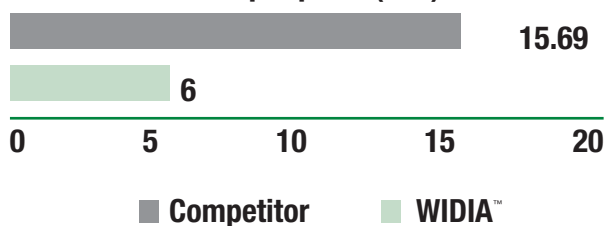
AUTOMOTIVE



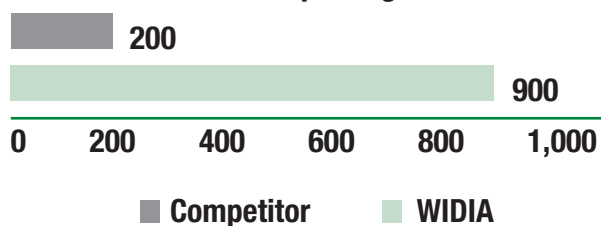
Breaks and Steering Success Story:
Victory™ — RH Chipbreaker

Engine Block Success Story:
Victory Grade WK15CT

Time per piece (min)



Pieces per edge



	COMPETITOR	WIDIA
Tool	—	CNMG434RH
Grade	—	WP15CT
Cutting Speed Vc	60.96 m/min (200 sfm)	39.62 m/min (130 sfm)
Feet per tooth f	0.102 mm (0.004")	0.203 mm (0.008")
Depth of cut ap	1.016 mm (0.04")	0.889 mm (0.035")
Length of cut L	101.6 mm (4")	
Number of passes	4	2
Coolant	Dry	
Time per piece	15.69	6.02

	COMPETITOR	WIDIA
Tool	—	SCMT3252
Grade	—	WK15CT
Cutting Speed Vc	152.4 m/min (500 sfm)	
Feet per tooth f	0.254 mm (0.01")	
Depth of cut ap	1.905 mm (0.075")	
Length of cut L	50.8 mm (2")	
Number of passes	1	
Coolant	External Cutting Oil	
Time per piece	200	900

Victory turning inserts provide excellent tool life with superior surface finish in rough and finish turning of all types of workpiece materials.

- Reduced cycle times: high speed and feed capabilities.
- Long tool life: new multilayer coating provides better wear resistance.
- Proven seating: smooth and secure seating surface.
- Specifically engineered multilayer coating and chip groove geometries provide high-speed capability with effective chipbreaking for finishing to roughing operations.

Materials:



Post-coat treatment

- Improves edge toughness.
- Long, predictable tool life.
- Reduces depth-of-cut notching.
- Wide range of applications.

Improved edge toughness

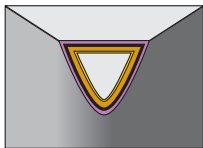
- Provides smooth outer surface to reduce forces, friction, and workpiece sticking.

New geometry identification system.

Post-coat grinding

- Provides secure seating surface.

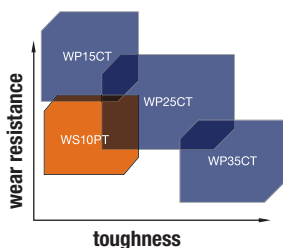
MT-CVD/CVD-TiN-TiCN-Al₂O₃-ZrCN



Alpha alumina layer

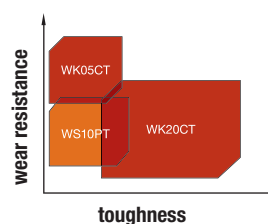
- Provides coating integrity at elevated speeds.
- Higher productivity and dependability at high cutting temperatures.

Victory Toughness/Wear Resistance



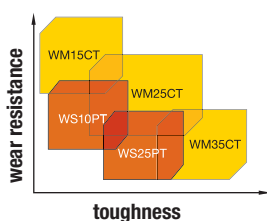
WP Grades for Steel

- Three grades and seven primary geometries for use in roughing to finishing operations.
- Increase cutting speed and/or feed rate to gain productivity.



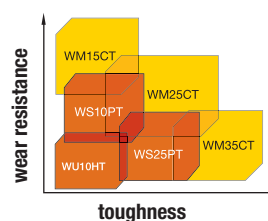
WK Grades for Cast Iron

- Two grades to cover all of your cast iron turning operations.
- Very good balance of wear resistance and toughness for long predictable tool life. Flat top geometry for machining cast iron. For finishing to roughing applications.



WM Grades for Stainless Steel

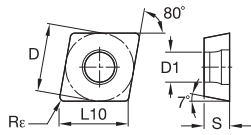
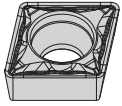
- Three grades across 12 geometries for use in roughing to finishing operations.
- Increase cutting speed and/or feed rate by up to 30% over similar competitive grades.



WS Grades for High-Temp Alloys

- Two grades for use in roughing to finishing operations.
- Very good wear resistance for longer tool life.
- One uncoated grade for use in titanium.

CCMT-FP

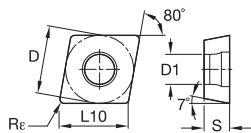
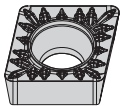


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT	WP25CT	WM25CT	WK20CT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in					
CCMT060204FP	CCMT2151FP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	4169858	4170141	4168779		5684340
CCMT09T302FP	CCMT32505FP	9,53	3/8	9,67	.381	3,97	5/32	0,2	.008	4,40	.173	4170293				
CCMT09T304FP	CCMT3251FP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	4169860	4170294			5684343
CCMT09T308FP	CCMT3252FP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	4170295		4170085		

CCMT-MP



- first choice
- alternate choice

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S	○	○	○	○	○
H	○	○	○	○	○

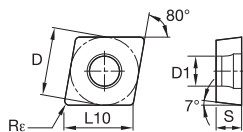
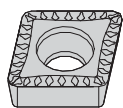
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP25CT	WM25CT	WK20CT
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CCMT09T304MP	CCMT3251MP	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	4170218	4168907	
CCMT09T308MP	CCMT3252MP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	4170219	4168908	
CCMT120408MP	CCMT432MP	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217			4170240



FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F108–F131 OF THE TECHNICAL CATALOG.

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CCMT-MU

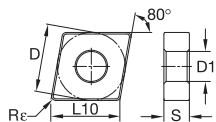
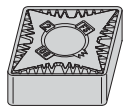


- first choice
- alternate choice

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S	○	○	○	○
H	○	○	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT	WP25CT	WM25CT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in				
CCMT09T304MU	CCMT3251MU	9,53	3/8	9,67	.381	3,97	5/32	0,4	1/64	4,40	.173	●	●	○	○
CCMT09T308MU	CCMT3252MU	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	○	○	○	○
CCMT120408MU	CCMT432MU	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,50	.217	○	○	○	○

CNGG-FS



- first choice
- alternate choice

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S	○	○
H	○	○

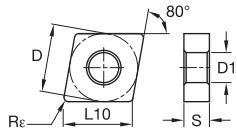
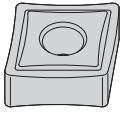
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CNGG120402FS	CNGG4305FS	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203	○



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CNGP

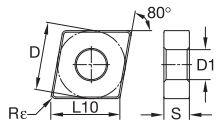


- first choice
- alternate choice

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ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT	WU10HT
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CNGP120401	CNGP430	12,70	1/2	12,90	.508	4,76	3/16	0,1	.004	5,16	.203	5549137	I
CNGP120402	CNGP4305	12,70	1/2	12,90	.508	4,76	3/16	0,2	.008	5,16	.203	5549138	I
CNGP120404	CNGP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	5549139	5549207
CNGP120408	CNGP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	5549190	I

CNMA

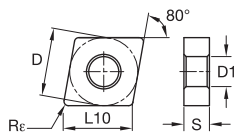
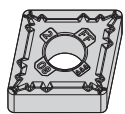


- first choice
- alternate choice

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ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WK20CT
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CNMA120408	CNMA432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	4171864
CNMA120412	CNMA433	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	4171865

CNMG-FF

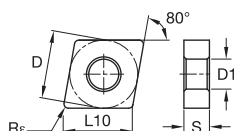
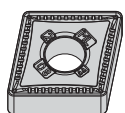


- first choice
- alternate choice

P	●
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K	○
N	○
S	○
H	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
CNMG120404FF	CNMG431FF	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	4171025

CNMG-ML



- first choice
- alternate choice

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S	○
H	○

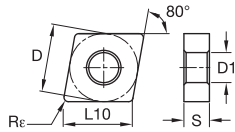
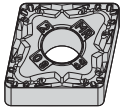
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CNMG120404ML	CNMG431ML	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	4171059	
CNMG120408ML	CNMG432ML	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	4171060	4170459



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CNMG-MR

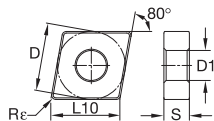
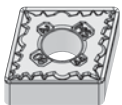


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP25CT	WP35CT	WM25CT
		mm	in	mm	in	mm	in	mm	in	mm	in				
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CNMG120408MR	CNMG432MR	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	○	○	○	○
CNMG120412MR	CNMG433MR	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	○	○	○	○
CNMG190612MR	CNMG643MR	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	○	○	○	○
CNMG190616MR	CNMG644MR	19,05	3/4	19,34	.762	6,35	1/4	1,6	1/16	7,93	.313	○	○	○	○

CNMG-MS

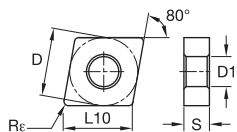
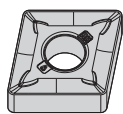


- first choice
- alternate choice

P	○	○	○	○
M	○	○	○	○
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WS10PT	WS25PT	WU10HT
		mm	in	mm	in	mm	in	mm	in	mm	in			
CNMG120404MS	CNMG431MS	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	○	○	○
CNMG120408MS	CNMG432MS	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	○	○	○
CNMG160608MS	CNMG542MS	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250	○	○	○

CNMG-RH

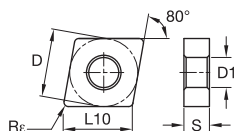
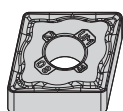


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT	WP35CT	WM25CT	WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in				
CNMG120408RH	CNMG432RH	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	4171504	5684366	4173035	4171903
CNMG120412RH	CNMG433RH	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203	4171505	4171904		
CNMG160608RH	CNMG542RH	15,88	5/8	16,12	.635	6,35	1/4	0,8	1/32	6,35	.250				4171906
CNMG160616RH	CNMG544RH	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250				4171908

CNMG-UM



- first choice
- alternate choice

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

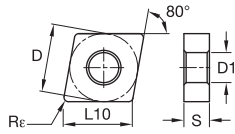
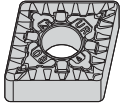
ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT	WM25CT	WM35CT
		mm	in	mm	in	mm	in	mm	in	mm	in			
CNMG120404UM	CNMG431UM	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203		4172380	
CNMG120408UM	CNMG432UM	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	5645219	4172381	4172411



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CNMG-UR

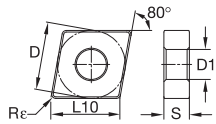
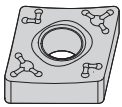


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP25CT	WP35CT	WM25CT	WM35CT	WS10PT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in						
CNMG120404UR	CNMG431UR	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	4170500					
CNMG120408UR	CNMG432UR	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	4170501	4169960	4169445	4169480	5301400	5301402
CNMG120412UR	CNMG433UR	12,70	1/2	12,90	.508	4,76	3/16	1,2	3/64	5,16	.203			4169446			

CNMM-65

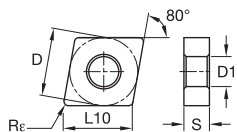
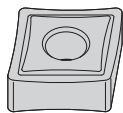


- first choice
- alternate choice

P	●	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP25CT
		mm	in	mm	in	mm	in	mm	in			
CNMM16061665	CNMM54465	15,88	5/8	16,12	.635	6,35	1/4	1,6	1/16	6,35	.250	5698373

CNMP

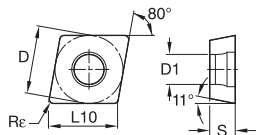
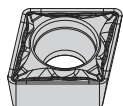


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		WP25CT	WS10PT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in			
CNMP120404	CNMP431	12,70	1/2	12,90	.508	4,76	3/16	0,4	1/64	5,16	.203	4173552	4172439	—
CNMP120408	CNMP432	12,70	1/2	12,90	.508	4,76	3/16	0,8	1/32	5,16	.203	4173663	4172440	4172614
CNMP190612	CNMP643	19,05	3/4	19,34	.762	6,35	1/4	1,2	3/64	7,93	.313	—	4172483	—

CPMT-FP



- first choice
- alternate choice

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

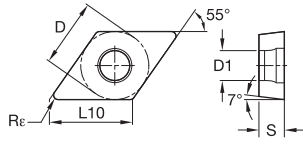
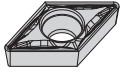
ISO catalog number	ANSI catalog number	D		L10		S		R _ε		D1		WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
CPMT060204FP	CPMT2151FP	6,35	1/4	6,45	.254	2,38	3/32	0,4	1/64	2,80	.110	4170326
CPMT09T308FP	CPMT3252FP	9,53	3/8	9,67	.381	3,97	5/32	0,8	1/32	4,40	.173	4170329



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DCMT-FP

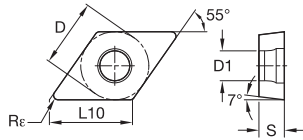
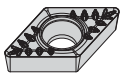


- first choice
- alternate choice

P	●	●
M	●	●
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT	WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
DCMT070204FP	DCMT2151FP	6,35	1/4	7,75	.305	2,38	3/32	0,4	1/64	2,80	.110	●	●
DCMT11T304FP	DCMT3251FP	9,53	3/8	11,63	.458	3,97	5/32	0,4	1/64	4,40	.173	○	○
DCMT11T308FP	DCMT3252FP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	○	○

DCMT-MP

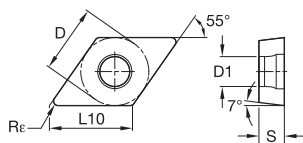
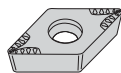


- first choice
- alternate choice

P	●	●
M	●	●
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT	WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
DCMT11T308MP	DCMT3252MP	9,53	3/8	11,63	.458	3,97	5/32	0,8	1/32	4,40	.173	○	○
DCMT11T312MP	DCMT3253MP	9,53	3/8	11,63	.458	3,97	5/32	1,2	3/64	4,40	.173	○	○

DCMT-MU

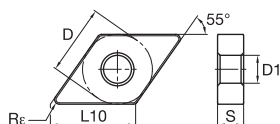
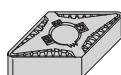


- first choice
- alternate choice

P	●	○
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WS10PT
		mm	in	mm	in	mm	in	mm	in	mm	in		
DCMT11T308MU	DCMT3252MU	9,52	3/8	11,63	.458	3,97	.156	0,8	.0315	4,40	.173	5623600	5623601

DNGG-FS

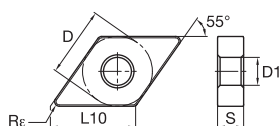
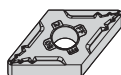


- first choice
- alternate choice

P	○	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WS10PT
		mm	in	mm	in	mm	in	mm	in	mm	in	
DNGG150402FS	DNGG4305FS	12,70	1/2	15,50	.610	4,76	3/16	0,2	.008	5,16	.203	5548673

DNMG-FF

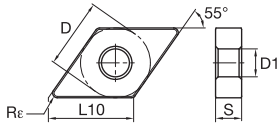
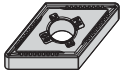


- first choice
- alternate choice

P	○	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
DNMG150404FF	DNMG431FF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	4171030

DNMG-ML

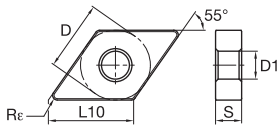


- first choice
- alternate choice

P	●	●
M	●	●
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
DNMG150404ML	DNMG431ML	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	4171065	4170483
DNMG150408ML	DNMG432ML	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	4171066	4170484

DNMG-MR



- first choice
- alternate choice

P	●	●
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

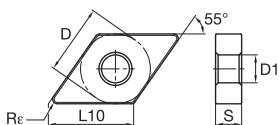
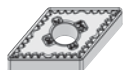
ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP25CT	WP35CT
		mm	in	mm	in	mm	in	mm	in	mm	in			
DNMG150404MR	DNMG431MR	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	4170565	4170565	4170565
DNMG150408MR	DNMG432MR	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	4171141	4170566	4170562



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DNMG-MS

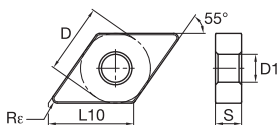


- first choice
- alternate choice

P	<input type="checkbox"/>	<input type="checkbox"/>
M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in		
DNMG150404MS	DNMG431MS	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	5908782	5908787
DNMG150408MS	DNMG432MS	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	5908785	5908787

DNMG-UF



- first choice
- alternate choice

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K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

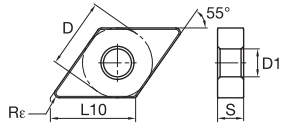
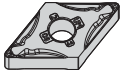
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WM25CT
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DNMG150404UF	DNMG431UF	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	4169384



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DNMG-UM

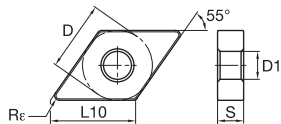
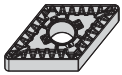


- first choice
- alternate choice

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K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WM25CT 4172387
		mm	in	mm	in	mm	in	mm	in	mm	in	
DNMG150408UM	DNMG432UM	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203	

DNMG-UR

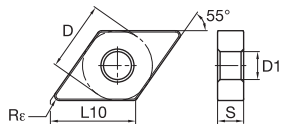
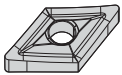


- first choice
- alternate choice

P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT 4170511	WM25CT 4169454	WS25PT 5579271
		mm	in	mm	in	mm	in	mm	in	mm	in			
DNMG150408UR	DNMG432UR	12,70	1/2	15,50	.610	4,76	3/16	0,8	1/32	5,16	.203			

DNMP

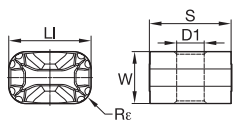
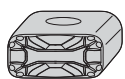


- first choice
- alternate choice

P	<input type="checkbox"/>	<input type="checkbox"/>
M	<input checked="" type="checkbox"/>	<input type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WS10PT 4172484
		mm	in	mm	in	mm	in	mm	in	mm	in	
DNMP150404	DNMP431	12,70	1/2	15,50	.610	4,76	3/16	0,4	1/64	5,16	.203	

LNUX-13

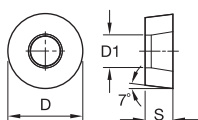
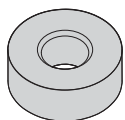


- first choice
- alternate choice

P	<input type="radio"/>
M	<input type="radio"/>
K	<input checked="" type="radio"/>
N	<input type="radio"/>
S	<input type="radio"/>
H	<input type="radio"/>

ISO catalog number	ANSI catalog number	W		LI		S		Re		D1		WK20CT 4170968
		mm	in	mm	in	mm	in	mm	in	mm	in	
LNUX30194013	LNUX30194013	12,00	.472	30,00	1.181	19,05	3/4	4,0	5/32	6,35	.250	

RNMA

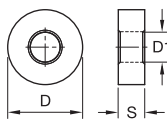
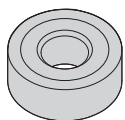


- first choice
- alternate choice

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M	<input type="radio"/>
K	<input checked="" type="radio"/>
N	<input type="radio"/>
S	<input type="radio"/>
H	<input type="radio"/>

ISO catalog number	ANSI catalog number	D		S		D1		WK20CT 4171881
		mm	in	mm	in	mm	in	
RNMA120400	RNMA43	12,70	1/2	4,76	3/16	5,16	.203	

RNMG-RH

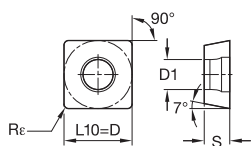
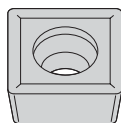


- first choice
- alternate choice

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H	<input type="radio"/>

ISO catalog number	ANSI catalog number	D		S		D1		WP25CT 4171532
		mm	in	mm	in	mm	in	
RNMG190600RH	RNMG64RH	19,05	3/4	6,35	1/4	7,93	.313	

SCMT

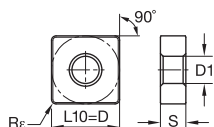
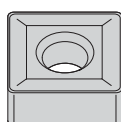


- first choice
- alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP35CT 6128308
		mm	in	mm	in	mm	in	mm	in	mm	in	
SCMT150512	SCMT5353	15,88	5/8	15,88	.625	5,56	7/32	1,2	3/64	5,50	.217	

SNMG

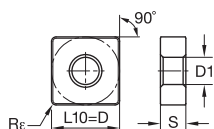
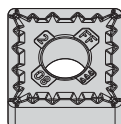


- first choice
- alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP35CT 5091303
		mm	in	mm	in	mm	in	mm	in	mm	in	
SNMG250924	SNMG866	25,40	1	25,40	1.000	9,53	3/8	2,4	3/32	9,12	.359	

SNMG-FF

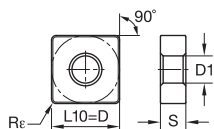
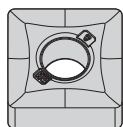


- first choice
- alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT 4171046
		mm	in	mm	in	mm	in	mm	in	mm	in	
SNMG090308FF	SNMG322FF	9,53	3/8	9,53	.375	3,18	1/8	0,8	1/32	3,81	.150	

SNMG-RH

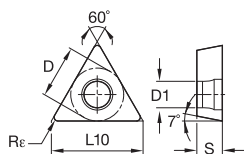
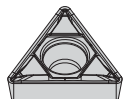


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP35CT	WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in			
SNMG120412RH	SNMG433RH	12,70	1/2	12,70	.500	4,76	3/16	1,2	3/64	5,16	.203	4170999	■	■
SNMG150612RH	SNMG543RH	15,88	5/8	15,88	.625	6,35	1/4	1,2	3/64	6,35	.250	■	■	4171922
SNMG190612RH	SNMG643RH	19,05	3/4	19,05	.750	6,35	1/4	1,2	3/64	7,93	.313	■	■	4171722

TCMT-FP



- first choice
- alternate choice

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

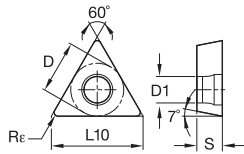
ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT	WM25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
TCMT110202FP	TCMT21505FP	6,35	1/4	11,00	.433	2,38	3/32	0,2	.008	2,90	.114	■	4168800
TCMT220408FP	TCMT432FP	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,50	.217	■	4170317



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TCMT-MP

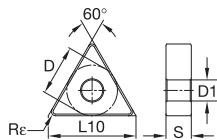
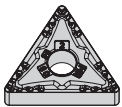


- first choice
- alternate choice

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K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WMP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
TCMT16T308MP	TCMT3252MP	9,53	3/8	16,50	.650	3,97	5/32	0,8	1/32	4,40	.173	4168919

TNMG-MR

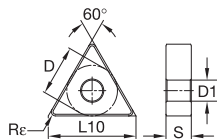


- first choice
- alternate choice

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M	<input type="checkbox"/>	<input type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT	WP35CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
TNMG220408MR	TNMG432MR	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	4170577	4170063

TNMG-MS

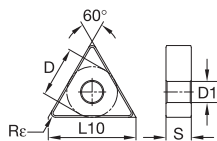


- first choice
- alternate choice

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K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
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ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in	
TNMG220408MS	TNMG432MS	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	5908937

TNMG-RH

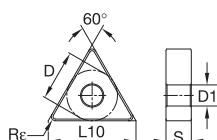
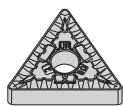


- first choice
- alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
TNMG220412RH	TNMG433RH	12,70	1/2	22,00	.866	4,76	3/16	1,2	3/64	5,16	.203	4171010

TNMG-UR



- first choice
- alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

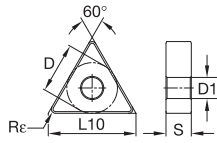
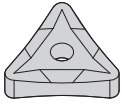
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
TNMG160408UR	TNMG332UR	9,53	3/8	16,50	.650	4,76	3/16	0,8	1/32	3,81	.150	4171115



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TNMP

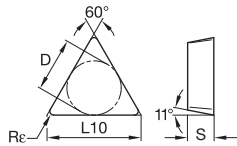
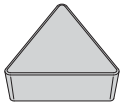


- first choice
- alternate choice

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K	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WM25CT	WS10PT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in			
TNMP160404	TNMP331	9,53	3/8	16,50	.650	4,76	3/16	0,4	1/64	3,81	.150	4173670	1	1
TNMP220404	TNMP431	12,70	1/2	22,00	.866	4,76	3/16	0,4	1/64	5,16	.203	4172494	1	1
TNMP220408	TNMP432	12,70	1/2	22,00	.866	4,76	3/16	0,8	1/32	5,16	.203	4172625	1	1

TPGN/TPG

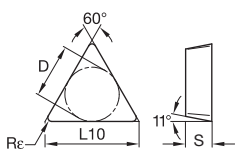
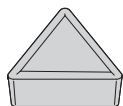


- first choice
- alternate choice

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K	<input checked="" type="checkbox"/>	<input type="checkbox"/>
N	<input checked="" type="checkbox"/>	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		WK20CT
		mm	in	mm	in	mm	in	mm	in	
TPGN160308	TPG322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	4170953

TPMR

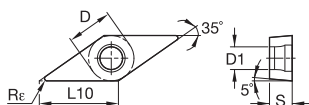


- first choice
- alternate choice

P	●	●
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		WP15CT	WP35CT
		mm	in	mm	in	mm	in	mm	in		
TPMR160304	TPMR321	9,53	3/8	16,50	.650	3,18	1/8	0,4	1/64	4170861	1
TPMR160308	TPMR322	9,53	3/8	16,50	.650	3,18	1/8	0,8	1/32	4170787	1

VBMT



- first choice
- alternate choice

P	●	●
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

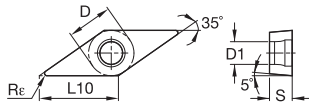
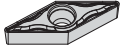
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP35CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
VBMT160408	VBMT332	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173	4170808



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VBMT-FP

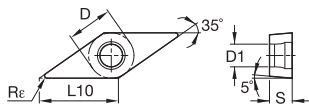


- first choice
- alternate choice

P	●	○
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WM25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
VBMT160408FP	VBMT332FP	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	4,40	.173	4168811

VBMT-MP

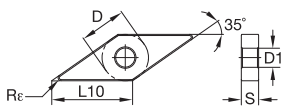


- first choice
- alternate choice

P	●	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP25CT	WM25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
VBMT160404MP	VBMT331MP	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	4,40	.173	4170235	4168921

VNGG-FS

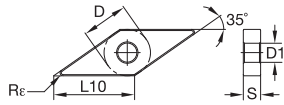
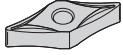


- first choice
- alternate choice

P	○	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT
		mm	in	mm	in	mm	in	mm	in	mm	in	
VNGG160404FS	VNGG331FS	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	5548665

VNGP

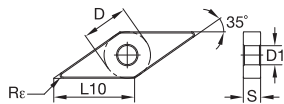
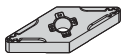


- first choice
- alternate choice

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M	<input type="checkbox"/>	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		5549196
		mm	in	mm	in	mm	in	mm	in	mm	in	
VNGP160402	VNGP3305	9,53	3/8	16,61	.654	4,76	3/16	0,2	.008	3,81	.150	WS10PT

VNMG-FF

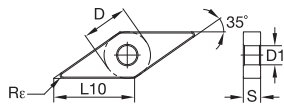


- first choice
- alternate choice

P	<input checked="" type="checkbox"/>	<input type="checkbox"/>
M	<input type="checkbox"/>	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		4171053
		mm	in	mm	in	mm	in	mm	in	mm	in	
VNMG160404FF	VNMG331FF	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	WP15CT

VNMG-ML

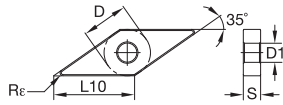
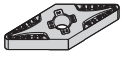


- first choice
- alternate choice

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M	<input type="checkbox"/>	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>	<input type="checkbox"/>
N	<input type="checkbox"/>	<input type="checkbox"/>
S	<input type="checkbox"/>	<input type="checkbox"/>
H	<input type="checkbox"/>	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		4171079	4170495
		mm	in	mm	in	mm	in	mm	in	mm	in		
VNMG160404ML	VNMG331ML	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	WP15CT	WP25CT

VNMG-MR

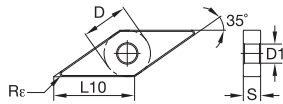


- first choice
- alternate choice

P	●	○
M	●	○
K	●	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
VNMG160408MR	VNMG332MR	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	4170580

VNMG-MS



- first choice
- alternate choice

P	○	○
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

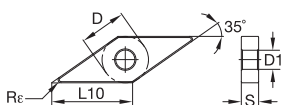
ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT	WS25PT
		mm	in	mm	in	mm	in	mm	in	mm	in		
VNMG160408MS	VNMG332MS	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	5908947	5908947
VNMG220404MS	VNMG431MS	12,70	1/2	22,14	.872	4,76	3/16	0,4	1/64	5,16	.203	5908950	5908961
VNMG220408MS	VNMG432MS	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203	5908964	5908964



FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F108–F131 OF THE TECHNICAL CATALOG.

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VNMG-RH

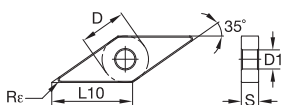


- first choice
- alternate choice

P	●	○
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
VNMG160408RH	VNMG332RH	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	●	○
VNMG220408RH	VNMG432RH	12,70	1/2	22,14	.872	4,76	3/16	0,8	1/32	5,16	.203	●	○
VNMG220412RH	VNMG433RH	12,70	1/2	22,14	.872	4,76	3/16	1,2	3/64	5,16	.203	○	●

VNMG-UR



- first choice
- alternate choice

P	○	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

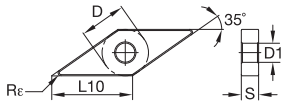
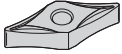
ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WM25CT	WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in		
VNMG160408UR	VNMG332UR	9,53	3/8	16,61	.654	4,76	3/16	0,8	1/32	3,81	.150	○	○
VNMG160412UR	VNMG333UR	9,53	3/8	16,61	.654	4,76	3/16	1,2	3/64	3,81	.150	○	○



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VNMP

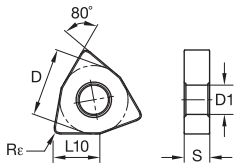
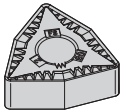


- first choice
- alternate choice

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M	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>
N	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>
H	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT 4172497
		mm	in	mm	in	mm	in	mm	in	mm	in	
VNMP160404	VNMP331	9,53	3/8	16,61	.654	4,76	3/16	0,4	1/64	3,81	.150	

WNGG-FS

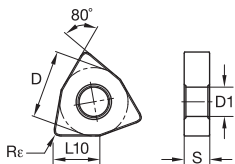
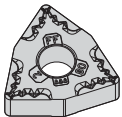


- first choice
- alternate choice

P	<input type="checkbox"/>
M	<input checked="" type="checkbox"/>
K	<input type="checkbox"/>
N	<input type="checkbox"/>
S	<input checked="" type="checkbox"/>
H	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WS10PT 5546688
		mm	in	mm	in	mm	in	mm	in	mm	in	
WNGG080408FS	WNGG432FS	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	

WNMG-FF

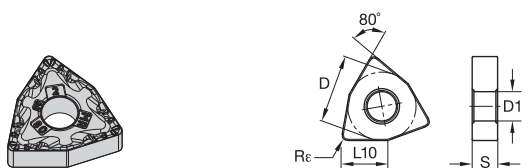


- first choice
- alternate choice

P	<input checked="" type="checkbox"/>
M	<input type="checkbox"/>
K	<input type="checkbox"/>
N	<input type="checkbox"/>
S	<input type="checkbox"/>
H	<input type="checkbox"/>

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WP15CT 4171058
		mm	in	mm	in	mm	in	mm	in	mm	in	
WNMG080408FF	WNMG432FF	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	

WNMG-MR

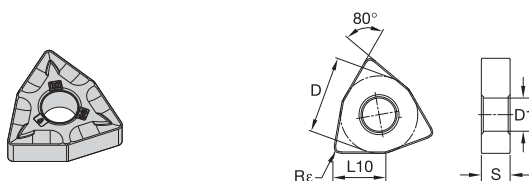


- first choice
- alternate choice

P	●	●
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
WNMG080408MR	WNMG432MR	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	4170581

WNMG-RH

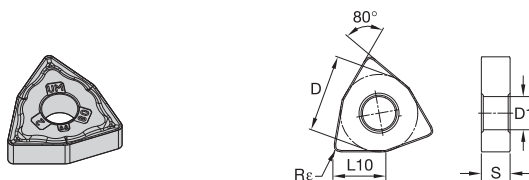


- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WP15CT	WP25CT	WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in			
WNMG080408RH	WNMG432RH	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	4171019	4171554	4171932

WNMG-UM

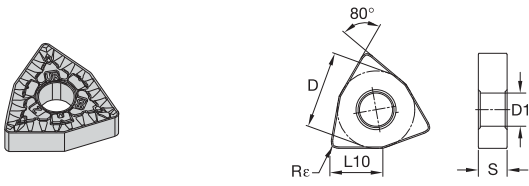


- first choice
- alternate choice

P	○	○
M	○	○
K	○	○
N	○	○
S	○	○
H	○	○

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		WN25CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
WNMG080408UM	WNMG432UM	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	4172407

WNMG-UR



- first choice
- alternate choice

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

ISO catalog number	ANSI catalog number	D		L10		S		Re		D1		4170533	4170040	4169476	4169509
		mm	in	mm	in	mm	in	mm	in	mm	in				
WNMG080408UR	WNMG432UR	12,70	1/2	8,69	.342	4,76	3/16	0,8	1/32	5,16	.203	WP25CT	WP35CT	WM25CT	WM35CT



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HOLDERS AND CLAMP STYLES



D-Style Clamping

- Used for negative style inserts.
- Clamp assembly contains clamp, screw, and retaining ring.
- Quick insert indexing.
- Ensures insert repeatability and seating.
- Reduced chatter and extended tool life.

P-Style Clamping

- Lever-type clamping system for negative indexable inserts.
- No interference to chip flow.
- Fast insert changes.

P-style available in metric sizes only.

S-Style Clamping

- Screw clamping system for positive indexable inserts.
- Compact design for high reliability and cost efficiency.
- Carbide shim for additional tool protection.

C-Style Clamping

- Height-adjustable clamp permits use of additional chipbreakers.
- Universal clamping system for positive and negative flat top inserts.
- Robust engineering makes it easy to handle.
- Carbide shim for extra tool protection.

To view our holder offering visit NOVO or widia.com.

Specialty Turning

WIDIA™ micro-boring bars provide accurate holemaking tooling in diameters as small as .157" (4mm). These economical indexable inserts are available in both steel and carbide shanks and are stocked in both metric and inch sizes. Ideal for a wide range of applications including precision micro-boring.

80° Diamond Insert Boring Bars

- Available in shanks as small as .157" (4mm) to bore >.180" (4,57mm) diameter.
- Positive rake geometry for free cutting action and better surface finishes.
- Superior, unobstructed chip evacuation.
- Stocked in multiple grades to bore a wide range of materials.

Threading and Grooving Boring Bars

- Easy insert changes for threading and grooving.
- Thread down to a 48 TP, 1,3mm TP (pitch).
- Thread and groove capabilities to an inside bore diameter of .272" (6,91mm).

Triangle Insert Boring Bars

- Designed for less obstruction and greater chip evacuation.
- Positive rake geometry to bore holes >.275" (6,98mm) diameter.
- Stocked in all grades, including diamond-tipped and borazon-tipped styles.
- Stocked in shanks as small as .24" (6mm) for .28" (7,06mm) minimum bore diameter.

Materials:

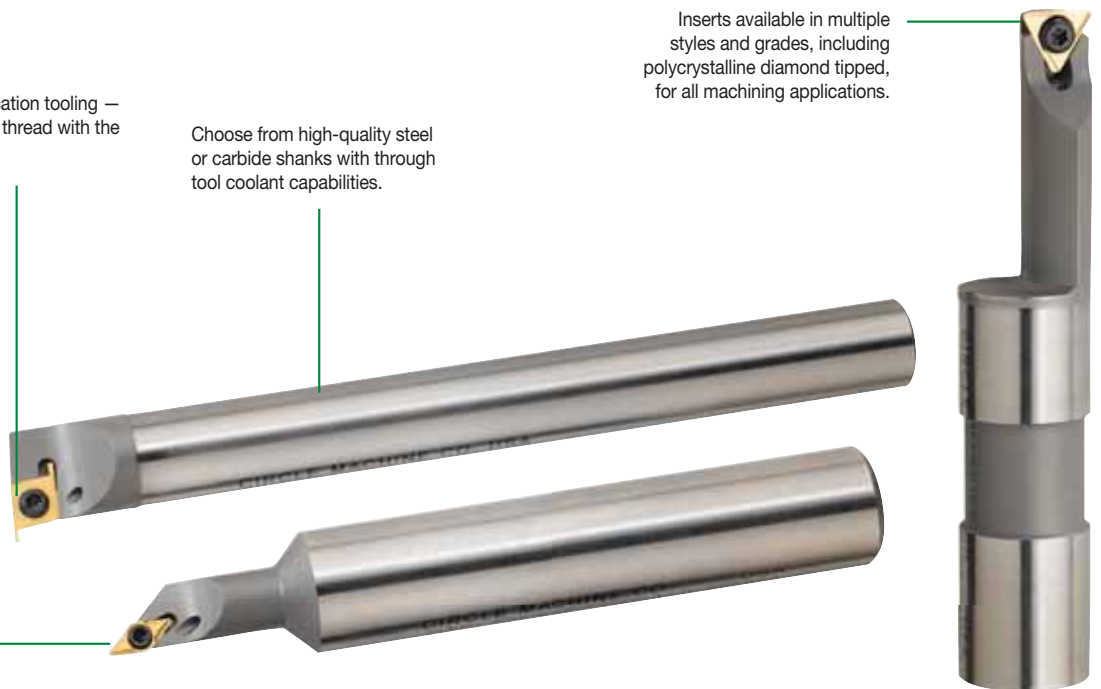


Multi-application tooling — groove and thread with the same bar.

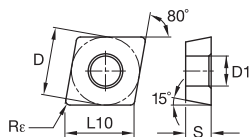
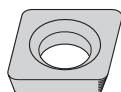
Choose from high-quality steel or carbide shanks with through tool coolant capabilities.

Inserts available in multiple styles and grades, including polycrystalline diamond tipped, for all machining applications.

.002" (0,05mm) insert nose radii available; insert repeatability within .0002" (0,005mm).



CDHB



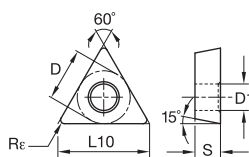
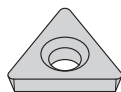
- first choice
- alternate choice

P	□	○
M	□	○
K	□	●
N	□	○
S	□	○
H	□	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
CDHBS4T002	CDHB120605	3,97	5/32	4,03	.159	1,02	.040	0,2	.007	2,13	.084	2890870

NOTE: To view the complete offering of small-part boring tools visit our digital resources page at widia.com.

TDHB



- first choice
- alternate choice

P	□	○
M	□	○
K	□	●
N	□	○
S	□	○
H	□	○

ISO catalog number	ANSI catalog number	D		L10		S		Rε		D1		WK20CT
		mm	in	mm	in	mm	in	mm	in	mm	in	
TDHB07S102	TDHB130805	4,06	.160	7,04	.277	1,19	3/64	0,2	.007	2,41	.095	2828763

NOTE: To view the complete offering of small-part boring tools visit our digital resources page at widia.com.



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GROOVING & CUT-OFF

WGC

Pages E38–E43

The most versatile tool in the market in grooving, profiling, and cut-off operations.



WMT™

Pages E44–E52

The WMT platform is the economical and reliable option for all your grooving, cut-off, turning, and profiling applications.



AUTOMOTIVE



Gears

Cylinder Housing

Brakes and Steering



WIDIA™ manufactures tools to meet application needs in steel, cast iron, and aluminum automotive components.

TO SEE ALL PRODUCTS LINES, VISIT OUR DIGITAL RESOURCES



WIDIA NOVO™ Application
Download to your desktop or tablet:
widia.com/novo



WIDIA™ Machining Central Mobile App
Download for iOS or Android:
widia.com/en/featured/WidiaMobileApp

WGC is the first choice and most versatile tool for grooving, profiling and cut-off operations.

Grooving:

- First choice for external grooving applications in most workpiece materials.
- Through coolant capability and efficient coolant delivery for enhanced productivity.
- Available in integral and modular style toolholders.
- Groove width 0.0787–0.394" (2–10mm).

Cut-Off:

- Specially engineered chip breakers for effective parting/cut-off, and deep grooving.
- Positive geometry for lower forces.
- Secure seating offers greatest stability.
- Groove width: 0.055–0.315" (1.4–8mm).

Profiling:

- Full radius chipbreakers for multidirectional turning and generating complex profiles.
- Rigid design ensures smooth surface finish.
- Groove width: 0.118–0.315" (3–8mm).

4 BENEFITS IN 1

VERSATILE

GROOVING, PROFILING,
AND CUT-OFF OPERATIONS

SIMPLE

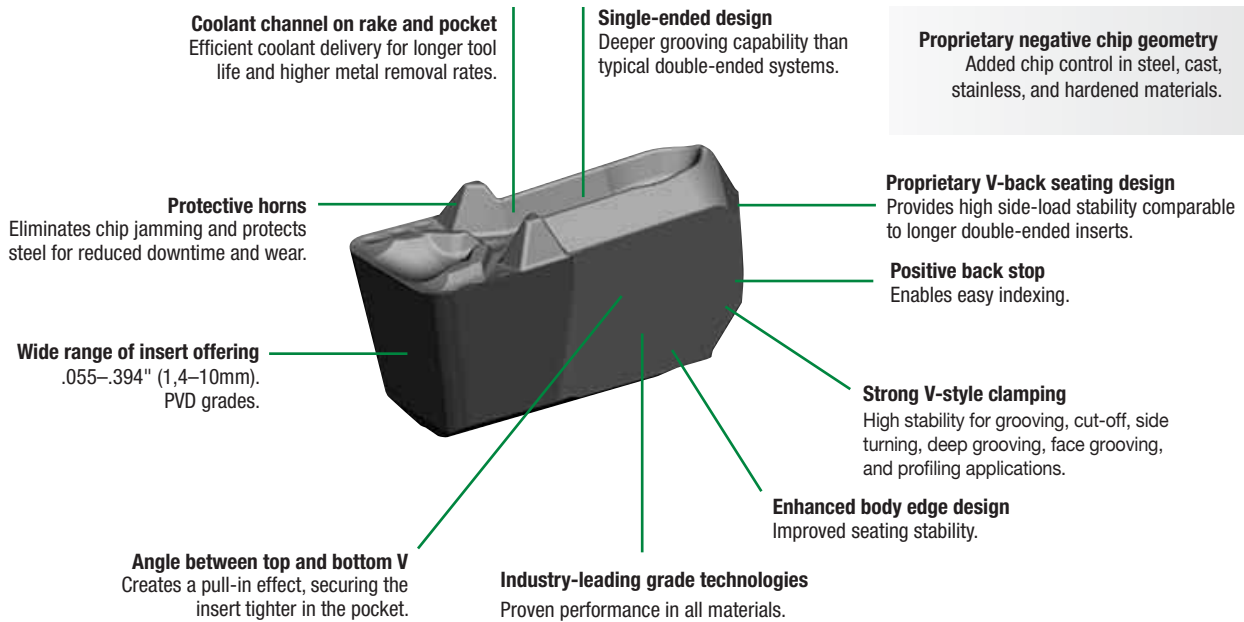
EASY TO SELECT
AND APPLY

STABLE

TRIPLE-V SEATING FOR
SECURE CLAMPING

PRODUCTIVE

LOW CUTTING FORCES IN
THROUGH COOLANT FOR
BETTER CHIP EVACUATION



Grooving
Precision Molded



P M N S

PT-Positive Rake



P M K H

PN-Negative Rake



P M N S

F-Fine



P K

M-Medium



P M

R-Rough



P M N S

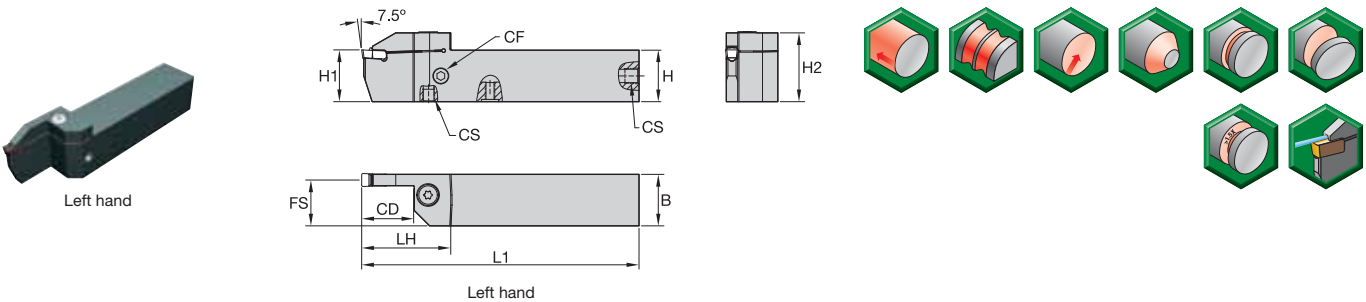
PR-Full Radius

Cut-Off
Precision Molded

Profiling
Precision Molded

NOTE: Use the NOVO™ software to select appropriate toolholder and insert.

Integral Straight • Inch



order number	catalog number	SSC	CD	H1	H	B	H2	L1	FS	LH	CF	CS
right hand												
6461925	WGCSMR160326C	3	1.02	1.000	1.000	1.000	1.39	6.00	.94	1.85	G1/8-28	G1/8-28
6461943	WGCSMR160526C	5	1.02	1.000	1.000	1.000	1.40	6.00	.91	1.85	G 1/8	G 1/8
6461949	WGCSMR160626C	6	1.02	1.000	1.000	1.000	1.40	6.00	.89	1.85	G 1/8	G 1/8
6461957	WGCSMR160826C	8	1.02	1.000	1.000	1.000	1.40	6.00	.86	1.93	G 1/8	G 1/8
left hand												
6461980	WGCSML160626C	6	1.02	1.000	1.000	1.000	1.40	6.00	.89	1.85	G1/8-28	G1/8-28

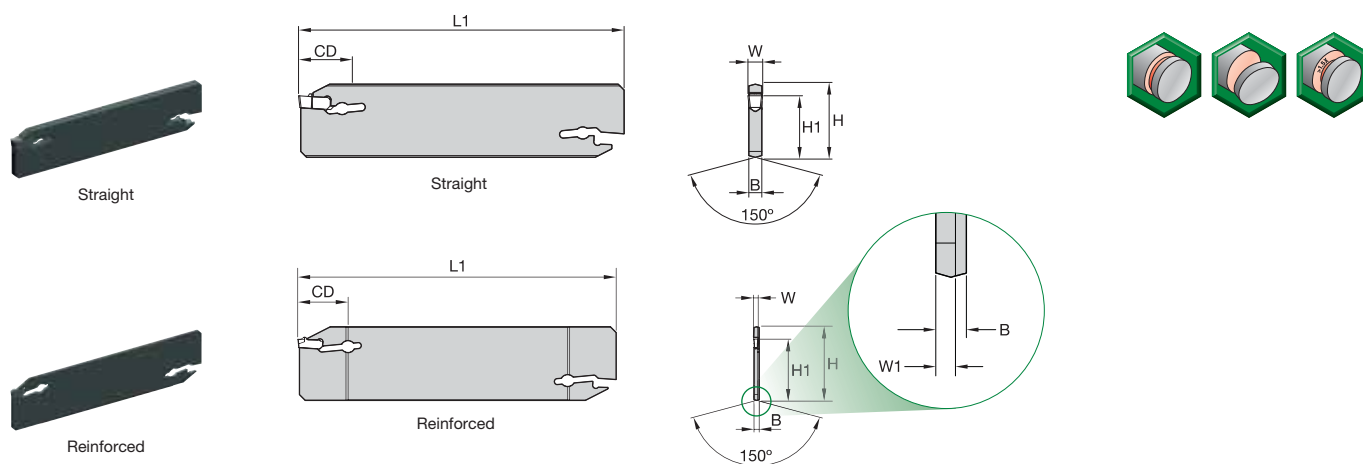
NOTE: SSC = Pocket Seat Reference. To correspond with the SSC on the insert.



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Double-Ended Cut-Off Blade



order number	catalog number	SSC	H	W	W1	H1	L1	B	CD
neutral hand									
6499212	WGCBNS26J0230	2	26	2,0	—	21,5	110	1,65	30
6499215	WGCBNS32M0350	3	32	3,0	—	25,1	150	2,40	50
6499216	WGCBNS26J0440	4	26	4,0	—	21,5	110	3,40	40
6499217	WGCBNS32M0450	4	32	4,0	—	25,1	150	3,40	50

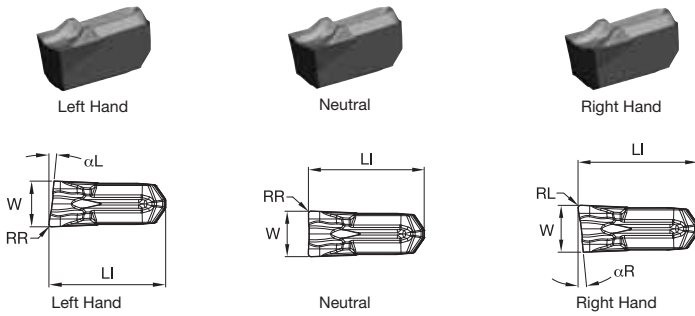
NOTE: SSC = Pocket Seat Reference. To correspond with the SSC on the insert.



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Cut-Off Inserts • F Precision Molded • Metric



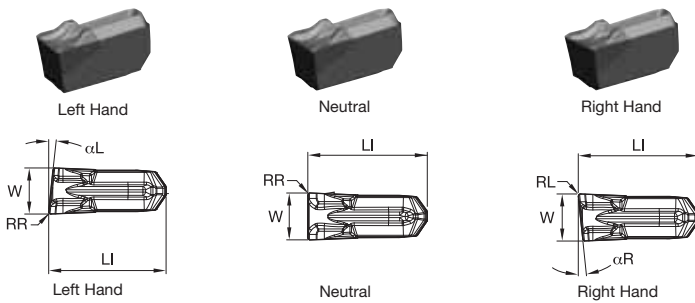
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		LI		αR	αL	RR		RL		WU25PT
		mm	in	mm	in	mm	in			mm	in	mm	in	
WC020M02N00F02	2	2,00	.079	0,050	.002	9,00	.353	—	—	0,20	.008	0,20	.008	6470548
WC030M03N00F02	3	3,00	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	6470561
WC030M03R06F02	3	3,00	.118	0,075	.003	9,60	.378	6	—	—	—	—	—	6470562
WC040M04N00F02	4	4,00	.157	0,075	.003	10,19	.401	—	—	0,20	.008	0,20	.008	6470564

NOTE: SSC = To correspond with the SSC on the toolholder.

Cut-Off Inserts • M Precision Molded • Metric



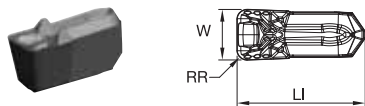
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		LI		αR	αL	RR		RL		WU25PT
		mm	in	mm	in	mm	in			mm	in			
WC030M03N00M02	3	3,00	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	6461865

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving Inserts • PT Precision Molded • Metric



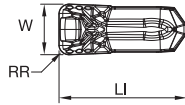
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		LI		RR		WU25PT
		mm	in	mm	in	mm	in			
WG0312M03U02PT	3	3,13	.123	0,075	.003	9,60	.378	0,20	.008	6461736

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving Inserts • PT Precision Molded • Inch



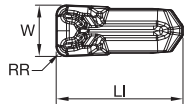
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		RR		LI		WU25PT
		mm	in	mm	in	mm	in	mm	in	
WG130I03U1PT	3	3,30	.130	0,075	.003	0,40	.016	9,60	.378	6470487
WG130I03U05PT	3	3,30	.130	0,075	.003	0,20	.008	9,60	.378	6470486

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving Inserts • PN Precision Molded • Metric



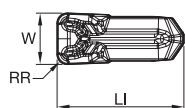
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		RR		LI		WU25PT
		mm	in	mm	in	mm	in	mm	in	
WG0312M03U02PN	3	3,13	.123	0,075	.003	0,20	.008	9,60	.378	6471042
WG0812M08U08PN	8	8,13	.320	0,075	.003	0,80	.031	17,46	.687	6471050
WG1012M10U12PN	10	10,13	.399	0,075	.003	1,20	.047	20,75	.817	6471064

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving Inserts • PN Precision Molded • Inch



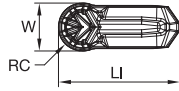
- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	●
H	

catalog number	SSC	W		W tol ±		RR		LI		WU25PT
		mm	in	mm	in	mm	in	mm	in	
WG125I03U1PN	3	3,18	.125	0,075	.003	0,40	.016	9,60	.378	6470834

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving Inserts • PR Full Radius Precision Ground • Metric



- first choice
- alternate choice

P		●
M		●
K		○
N		○
S		●
H		

catalog number	SSC	W		W tol ±		RC		LI		WU25PT 6470470
		mm	in	mm	in	mm	in	mm	in	
WR0500M05P00PC	5	5,00	.197	0,025	.001	2,50	.098	12,18	.480	

NOTE: SSC = To correspond with the SSC on the toolholder.



FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F108–F131 OF THE TECHNICAL CATALOG.

THE ALL-STAR PROGRAM FEATURES ONLY THE MOST POPULAR PLATFORMS, GRADES, AND SIZES.
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The most advanced turning, grooving, cut-off, and profiling system. WMT provides a complete line of grooving geometries and an extensive grade selection to meet the most demanding application requirements.

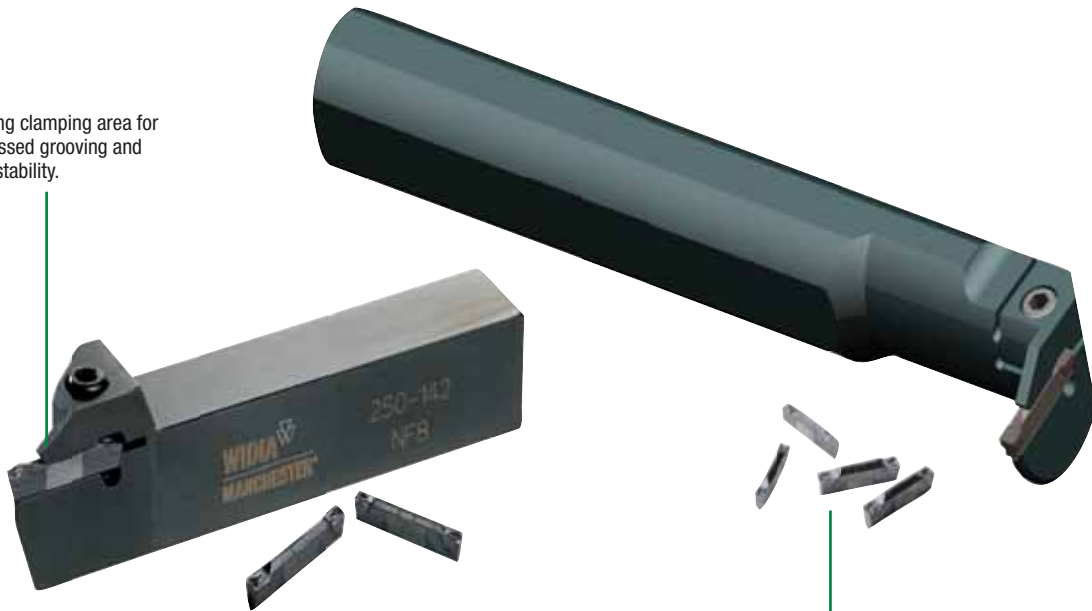
Rigid Clamping with Advanced Chip Control

- Specifically designed to increase speeds and feeds.
- Excellent geometry for even your most demanding deep grooving applications.
- The WMT system enables heavy stock removal of turning applications.

WMT Toolholders

- Outstanding system rigidity and clamping capabilities.
- Guarantees fast cycle times and limited turret indexes.
- Precise insert positioning for accurate machining.
- Double-V shape aiding in operator-friendly insert indexing and optimum insert positioning.
- Choice of integral modular holders.

Extra-long clamping area for unsurpassed grooving and turning stability.



Interchangeable grooving and cut-off inserts designed for excellent chip control.

CM Cut-Off Medium



P M K N S H

CM-W Cut-Off Medium with Wiper



P M K N S H

PT Plunge, Groove, and Turn Inserts



P M K N S H

PC Grooving and Profiling Inserts



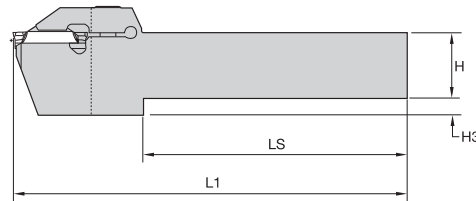
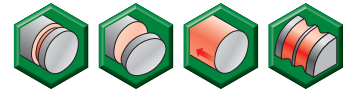
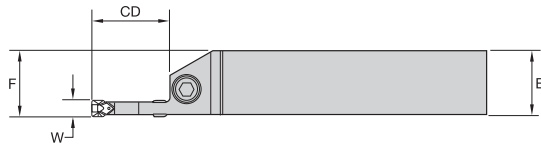
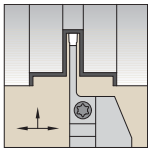
P M K N S H

PH Plunge, Groove, and Turn Inserts



P M K N S H

Integral Toolholders • Metric



Right Hand Tool

order number	catalog number	SSC	W	H	B	CD	F	H3	L1	LS
right hand 3650481	WMTSR2525M322	3	3,00	25,0	25,0	22	25,0	—	150	110
left hand 3650488	WMTSL2525M525	5	5,00	25,0	25,0	25	25,0	—	150	104

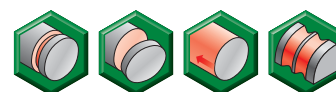
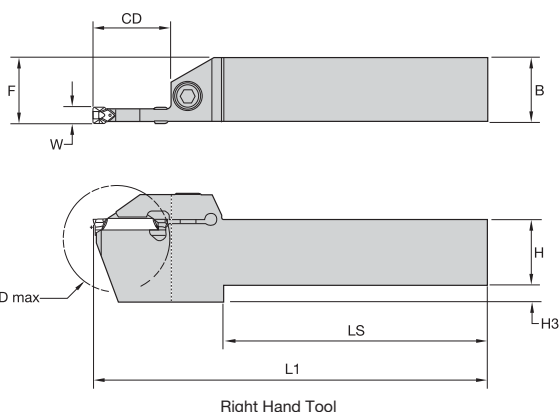
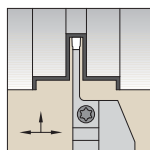
NOTE: SSC = To correspond with the SSC on the insert.



FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F108–F131 OF THE TECHNICAL CATALOG.

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Integral Toolholders • Inch



order number	catalog number	SSC	W	H	B	CD	D max	F	H3	L1	LS
right hand											
3655892	WMTCR82B062	2B	.094	.500	.500	—	1.250	.500	.190	4.500	3.310
3655934	WMTSR122B042	2B	.094	.750	.750	.420	—	.750	—	5.000	3.695
3655896	WMTSR122B075	2B	.094	.750	.750	.750	—	.750	.250	5.000	3.500
3539156	WMTSR162B042	2B	.094	1.000	1.000	.420	—	1.000	—	6.000	4.700
3655936	WMTSR162B075	2B	.094	1.000	1.000	.750	—	1.000	—	6.000	4.500
3655900	WMTSR103087	3	.125	.625	.625	.875	—	.624	.250	5.000	3.375
3655906	WMTSR123044	3	.125	.750	.750	.440	—	.750	—	5.000	3.695
3655908	WMTSR123087	3	.125	.750	.750	.875	—	.750	.250	5.000	3.355
3655916	WMTSR163044	3	.125	1.000	1.000	.440	—	1.000	—	6.000	4.695
3655918	WMTSR163087	3	.125	1.000	1.000	.875	—	1.000	—	6.000	4.375
3655920	WMTSR164087	4	.156	1.000	1.000	.875	—	1.000	—	6.000	4.375
3655912	WMTSR125100	5	.188	.750	.750	1.000	—	.750	.250	5.500	3.655
3655924	WMTSR165100	5	.188	1.000	1.000	1.000	—	1.000	—	6.000	4.175
3655928	WMTSR166100	6	.250	1.000	1.000	1.000	—	1.002	—	6.000	4.174
left hand											
3655945	WMTSL122065	2	.079	.750	.750	.650	—	.750	—	5.000	3.680
3655895	WMTSL102B075	2B	.094	.625	.625	.750	—	.625	.250	5.000	3.500
3655909	WMTSL123087	3	.125	.750	.750	.875	—	.750	.250	5.000	3.355
3655919	WMTSL163087	3	.125	1.000	1.000	.875	—	1.000	—	6.000	4.375
3655929	WMTSL166100	6	.250	1.000	1.000	1.000	—	1.004	—	6.000	4.174

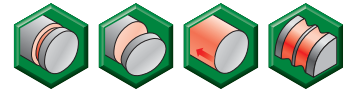
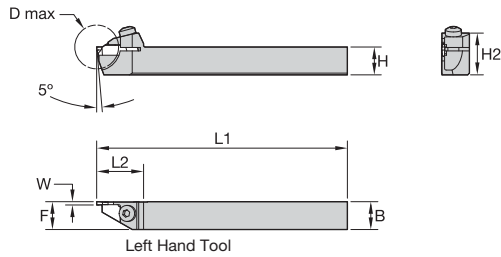
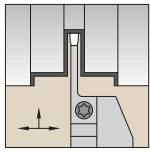
NOTE: SSC = To correspond with the SSC on the insert.



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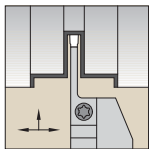
Integral Toolholders for Swiss-Style Machines • Inch



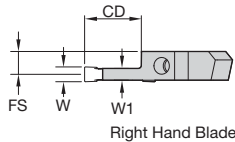
order number	catalog number	SSC	W	H	B	D max	F	H2	L1	L2
right hand										
3656133	WMTCR101051	1	.059	.625	.625	1.024	.626	.925	5.000	.952
3656141	WMTCR082039	2	.079	.500	.500	.787	.500	.750	4.500	.843
left hand										
3656101	WMTCL081039	1	.059	.500	.500	.787	.500	.750	4.500	.842
3656142	WMTCL082039	2	.079	.500	.500	.787	.500	.750	4.500	.843
3656144	WMTCL102051	2	.079	.625	.625	1.024	.625	.925	5.000	.953
3656146	WMTCL122051	2	.079	.750	.750	1.024	.750	1.050	5.000	.953

NOTE: Insert exterior edge in line with toolholder edge for .375" and .500" shank toolholders.
 SSC = To correspond with the SSC on the insert.

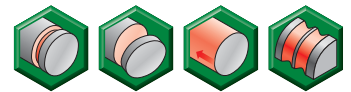
Modular Toolholders • Metric



Right Hand Blade



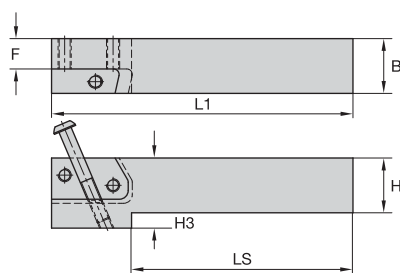
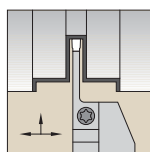
Right Hand Blade



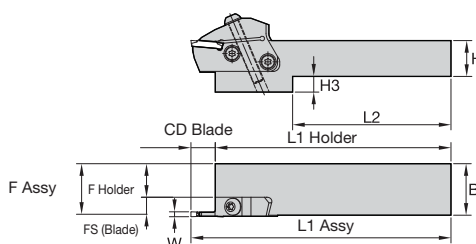
order number	catalog number	SSC	CD		W		FS		W1	
			mm	in	mm	in	mm	in	mm	in
right hand										
5359130	WMTWGMR319S	3	19,00	.748	3,00	.118	10,38	.409	2,54	.100
5359131	WMTWGMR419S	4	19,00	.748	4,00	.157	10,00	.394	3,30	.130
5359132	WMTWGMR522S	5	22,00	.866	5,00	.197	9,82	.387	3,66	.144
5359133	WMTWGMR622S	6	22,00	.866	6,00	.236	9,26	.365	4,78	.188
left hand										
5359123	WMTWGML319S	3	19,00	.748	3,00	.118	10,38	.409	2,54	.100
5359125	WMTWGML522S	5	22,00	.866	5,00	.197	9,82	.387	3,66	.144
5359126	WMTWGML622S	6	22,00	.866	6,00	.236	9,26	.365	4,78	.188

NOTE: Blade and clamp screw torque equals 71–88 in. lbs. (8–10 Nm).
 SSC = To correspond with the SSC on the insert.

Modular Toolholders • Straight Mount • Inch



Right Hand Tool Pictured
2 Blade Screws Required



$$F \text{ Assy} = F (\text{Holder}) + FS (\text{Blade}) + W/2$$

$$L1 \text{ Assy} = L1 (\text{Holder}) + CD (\text{Blade})$$

order number	catalog number	H	B	L1	LS	F	H3
right hand							
5349621	WGMSR12	.75	.75	4.30	2.75	.31	.49
5349622	WGMSR16	1.00	1.00	5.05	3.86	.56	.24
5349624	WGMSR20	1.25	1.25	5.05	—	.81	—
left hand							
5349620	WGMSL16	1.00	1.00	5.05	3.86	.56	.24
5349623	WGMSL20	1.25	1.25	5.05	—	.81	—

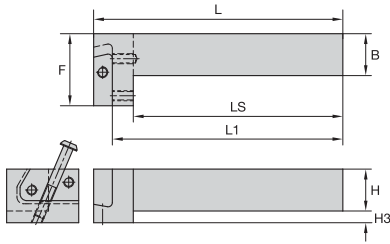
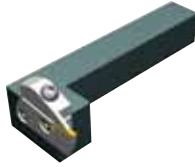
NOTE: Use the larger seat size toolholder for optimal performance.
Blade screws and clamp screw included with holder.



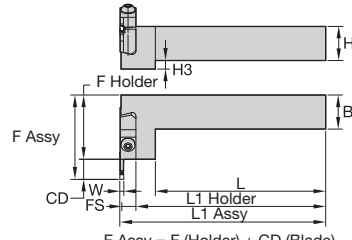
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Modular Toolholders • End Mount • Inch



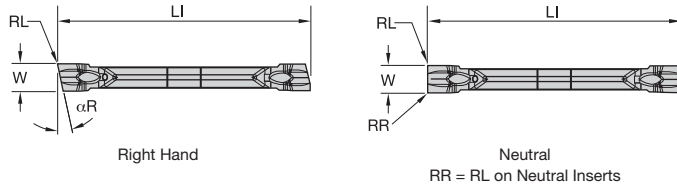
Right Hand Tool



$F \text{ Assy} = F \text{ (Holder)} + CD \text{ (Blade)}$
 $L1 \text{ Assy} = L1 \text{ (Holder)} + FS \text{ (Blade)} + W/2$

order number	catalog number	H	B	L	L1	LS	F	H3
right hand								
5515022	WGMER2050	1.25	1.25	5.96	5.53	4.96	1.70	—
left hand								
5514976	WGMEL16	1.00	1.00	5.96	5.53	4.96	1.70	.24
5515023	WGMEL2050	1.25	1.25	5.96	5.53	4.96	1.70	—

Cut-Off Inserts • WMT-CM



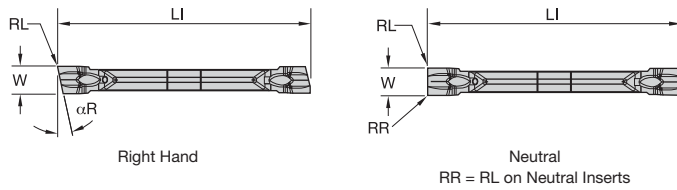
- first choice
- alternate choice

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M	<input checked="" type="radio"/>
K	<input type="radio"/>
N	<input checked="" type="radio"/>
S	<input checked="" type="radio"/>
H	<input type="radio"/>

catalog number	SSC	W		RR		LI		alpha R	hand	WU25PT
		mm	in	mm	in	mm	in			
WMTC015N00CM08	1	1,50	.059	0,08	.003	19,30	.760	—	N - Neutral	4169668
WMTC020N00CM08	2	2,00	.079	0,08	.003	19,21	.756	—	N - Neutral	4169673
WMTC094N00CM13	2B	2,39	.094	0,13	.005	22,32	.879	—	N - Neutral	4169576
WMTC030N00CM17	3	3,00	.118	0,17	.007	25,40	1.000	—	N - Neutral	4169682
WMTC125N00CM17	3	3,17	.125	0,17	.007	25,41	1.000	—	N - Neutral	4169582
WMTC020R12CM08	2	2,00	.079	0,08	.003	19,26	.758	12	R - Right	4169678
WMTC030R05CM17	3	3,00	.118	0,17	.007	25,40	1.000	5	R - Right	4169684
WMTC125R05CM17	3	3,17	.125	0,17	.007	25,40	1.000	5	R - Right	4169664
WMTC125R12CM17	3	3,18	.125	0,17	.007	25,40	1.000	12	R - Right	4169666

NOTE: SSC = To correspond with the SSC on the toolholder.

Cut-Off Inserts with Wiper • WMT-CM-W



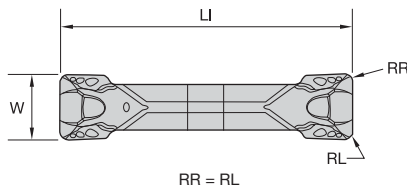
- first choice
- alternate choice

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K	<input type="radio"/>
N	<input checked="" type="radio"/>
S	<input checked="" type="radio"/>
H	<input type="radio"/>

catalog number	SSC	W		RR		LI		alpha R	hand	WU25PT
		mm	in	mm	in	mm	in			
WMTC094N00CMW13	2B	2,39	.094	0,13	.005	22,32	.879	—	N - Neutral	4169577
WMTC030N00CMW17	3	3,00	.118	0,17	.007	25,40	1.000	—	N - Neutral	4169683
WMTC125N00CMW17	3	3,18	.125	0,17	.007	25,41	1.000	—	N - Neutral	4169663
WMTC040N00CMW17	4	4,00	.157	0,17	.007	25,40	1.000	—	N - Neutral	4169693
WMTC030R05CMW17	3	3,00	.118	0,17	.007	25,40	1.000	5	R - Right	4169685
WMTC125R05CMW17	3	3,17	.125	0,17	.007	25,41	1.000	5	R - Right	4169665
WMTC125R12CMW17	3	3,17	.125	0,17	.007	25,41	1.000	12	R - Right	4169667

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving and Turning Inserts • WMT-U-PT • Molded



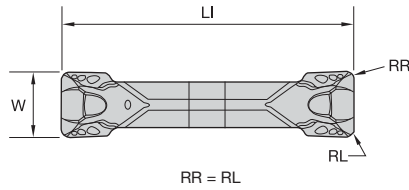
- first choice
- alternate choice

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K	<input checked="" type="radio"/>	<input checked="" type="radio"/>
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S	<input checked="" type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RR		LI		WP10CT	WP25CT
		mm	in	mm	in	mm	in		
WMTS305M3U03PT	3	3,13	.123	0,31	.012	25,81	1.016	—	4169557
WMTS405M4U06PT	4	4,13	.163	0,61	.024	25,53	1.005	4169562	—
WMTS605M6U03PT	6	6,13	.241	0,30	.012	28,76	1.320	4169568	—
WMTS605M6U06PT	6	6,13	.241	0,59	.023	28,76	1.320	4169570	—

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving and Turning Inserts • WMT-P-PT • Precision



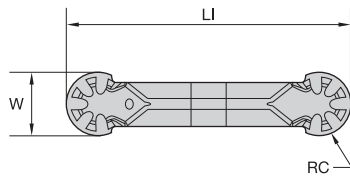
- first choice
- alternate choice

P	<input type="radio"/>	<input type="radio"/>
M	<input checked="" type="radio"/>	<input checked="" type="radio"/>
K	<input type="radio"/>	<input type="radio"/>
N	<input checked="" type="radio"/>	<input type="radio"/>
S	<input checked="" type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RR		LI		WU10PT	WU25PT
		mm	in	mm	in	mm	in		
WMTS200M2P02PT	2	2,00	.079	0,15	.006	19,10	.752	4116129	-
WMTS094I2BP04PT	2B	2,38	.094	0,38	.015	22,14	.872	-	4118584
WMTS300M3P03PT	3	3,00	.118	0,31	.012	25,65	1.010	-	4113564
WMTS125I3P03PT	3	3,17	.125	0,23	.009	25,40	1.000	4118585	4118586
WMTS125I3P08PT	3	3,17	.125	0,76	.030	25,40	1.000	-	4118588
WMTS188I5P03PT	5	4,76	.188	0,26	.010	28,63	1.127	-	4118590
WMTS188I5P08PT	5	4,77	.188	0,76	.030	28,63	1.127	4118591	-
WMTS250I6P08PT	6	6,34	.250	0,76	.030	28,63	1.127	4118595	4118596
WMTS250I6P03PT	6	6,35	.250	0,25	.010	28,63	1.127	-	4118594
WMTS800M8P06PT	8	8,00	.315	0,61	.024	28,57	1.125	-	4117258
WMTS800M8P15PT	8	8,00	.315	1,50	.059	28,57	1.125	-	4117260

NOTE: SSC = To correspond with the SSC on the toolholder.

Plunge and Contour Inserts • WMT-U-PC • Molded



- first choice
- alternate choice

P	<input checked="" type="radio"/>	<input type="radio"/>
M	<input checked="" type="radio"/>	<input checked="" type="radio"/>
K	<input checked="" type="radio"/>	<input type="radio"/>
N	<input type="radio"/>	<input type="radio"/>
S	<input type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RC		LI		WP10CT	WU25PT
		mm	in	mm	in	mm	in		
WMTR305M3UPC	3	3,13	.123	1,53	.060	25,53	1.005	4170174	4170173
WMTR505M5UPC	5	5,13	.202	2,53	.099	29,01	1.142	4170184	-

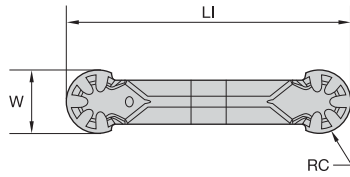
NOTE: SSC = To correspond with the SSC on the toolholder.



FOR MORE INFORMATION ON THE PRODUCTS SHOWN, PLEASE SEE PAGES F108–F131 OF THE TECHNICAL CATALOG.

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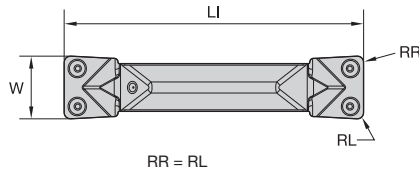
● first choice
○ alternate choice

P	<input type="radio"/>	<input type="radio"/>
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N	<input checked="" type="radio"/>	<input checked="" type="radio"/>
S	<input checked="" type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RC		LI		WU10PT	WU25PT
		mm	in	mm	in	mm	in		
WMTR300M3PPC	3	3,00	.118	1,50	.059	25,40	1.000	4170170	4170171
WMTR188I5PPC	5	4,78	.188	2,39	.094	28,65	1.128	4170119	4170120
WMTR600M6PPC	6	6,00	.236	3,00	.118	28,65	1.128	-	4170186
WMTR250I6PPC	6	6,36	.250	3,18	.125	29,01	1.142	4170121	4170122

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving and Turning Inserts • WMT-U-PH • Molded



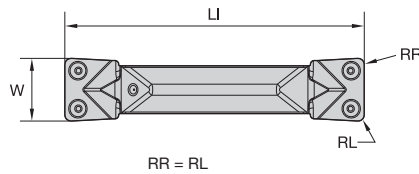
● first choice
○ alternate choice

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K	<input type="radio"/>	<input type="radio"/>
N	<input checked="" type="radio"/>	<input checked="" type="radio"/>
S	<input checked="" type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RR		LI		WU10PT
		mm	in	mm	in	mm	in	
WMTS605M6U06PH	6	6,13	.241	0,60	.024	28,76	1.320	5346406

NOTE: SSC = To correspond with the SSC on the toolholder.

Grooving and Turning Inserts • WMT-P-PH • Precision



● first choice
○ alternate choice

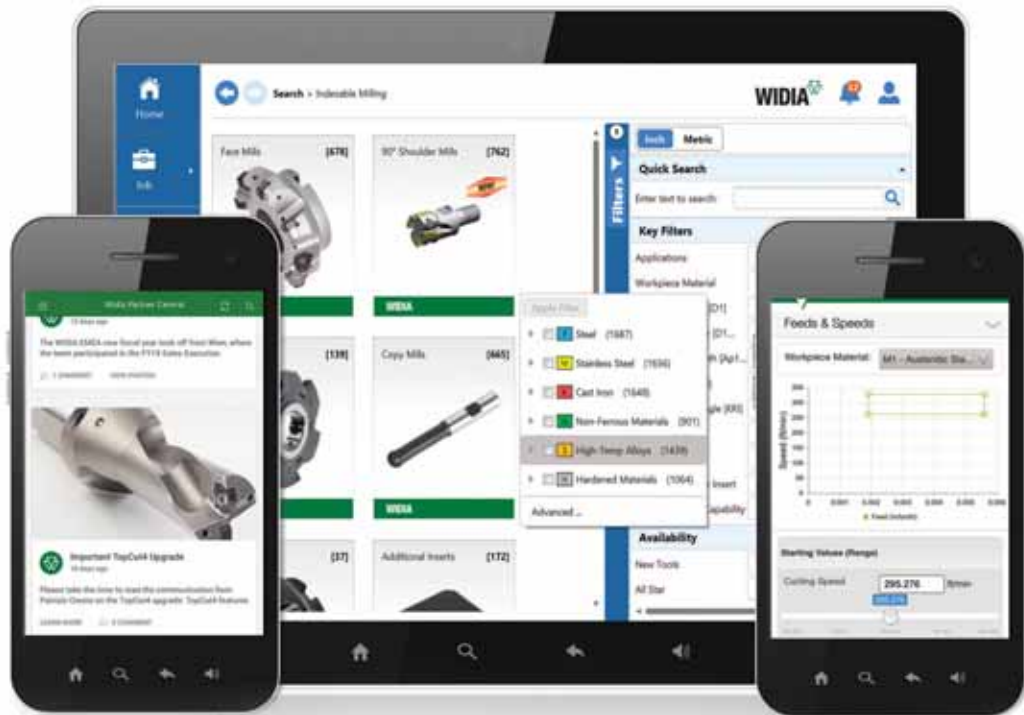
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K	<input type="radio"/>	<input type="radio"/>
N	<input checked="" type="radio"/>	<input checked="" type="radio"/>
S	<input checked="" type="radio"/>	<input checked="" type="radio"/>
H	<input type="radio"/>	<input type="radio"/>

catalog number	SSC	W		RR		LI		WU10PT	WU25PT
		mm	in	mm	in	mm	in		
WMTS125I3P03PH	3	3,18	.125	0,25	.010	25,40	1.000	5345914	5291300
WMTS125I3P08PH	3	3,18	.125	0,75	.030	25,40	1.000	5345915	5331093
WMTS188I5P03PH	5	4,77	.188	0,25	.010	28,63	1.127	5345980	5331095
WMTS188I5P08PH	5	4,77	.188	0,75	.030	28,63	1.127	5345981	5331097
WMTS500M5P06PH	5	5,00	.197	0,60	.024	28,63	1.127	-	5346428
WMTS250I6P08PH	6	6,32	.249	0,75	.030	28,63	1.127	5345984	5327621
WMTS250I6P03PH	6	6,35	.250	0,25	.010	28,63	1.127	5345983	5327620
WMTS312I8P03PH	8	7,92	.312	0,25	.010	28,57	1.125	-	5345986
WMTS312I8P08PH	8	7,92	.312	0,75	.030	28,57	1.125	5345987	-

NOTE: SSC = To correspond with the SSC on the toolholder.

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ANSI

P Steel	K Cast Iron	S High-Temp Alloys
M Stainless Steel	N Non-Ferrous	H Hardened Materials

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	A36, 1008, 1010, 1018 through 1029; 1108, 1117
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	10L18, 1200 Series, 1213, 12L14
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
M1	Austenitic Stainless Steel	–	<600	130–200	–	200 Series, 301, 302, 304, 304L, 309
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21
M3	Duplex Stainless Steel	–	<800	135–275	<30	323, 329, F55, 2205, S329000
K1	Grey Cast Iron	–	125–500	120–290	<32	class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	60-40-18, 65-45-12, 80-55-06, SAE J434: D4018, D4512, D5506, ASTM A47: Grade 32510, 35018, SAE J158: Grade M3210, M4504, M5003, M5503, M7002, ASTM A842: Grade 250, 300, 350, 400, 450
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	ASTM A536: 100-70-03, 120-90-02, SAE J434: D7003, SAE J158: Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185
N1	Wrought Aluminum	–	–	–	–	2025, 5050, 7050, 1000, 2017
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	2024, 6061, 7075
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	–
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	C81500
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	–
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	Graphite, CFK, CFRP
N7	Metal Matrix Composites (MMC)	–	–	–	–	C63000
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	A-286, INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 25 (L605), Haynes 188, J-1570, Stellite, AiResist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102, INCOLOY 900 Series, Rene 41, Waspalloy®, Monel®, K-500, MAR-M20, NIMONIC®, UDIMET®
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Pure: Ti 98.8, Ti 98.9, Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al
H1	Hardened Materials	–	–	–	44–48	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H2	Hardened Materials	–	–	–	48–55	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H3	Hardened Materials	–	–	–	56–60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H4	Hardened Materials	–	–	–	>60	Tool Steel H10, H11, H13, D2, D3, 4340, P20

Material Overview • DIN

DIN

P Steel	K Cast Iron	S High-Temp Alloys
M Stainless Steel	N Non-Ferrous	H Hardened Materials

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	–
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	X102CrMo17, G-X120Cr29
M1	Austenitic Stainless Steel	–	<600	130–200	–	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	Duplex Stainless Steel	–	<800	135–275	<30	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	Gray Cast Iron	–	125–500	120–290	<32	GG15, GG25, GG30, GG40, GTW40
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	GGG40, GTS35
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	GGG60, GTW55, GTS65
N1	Wrought Aluminum	–	–	–	–	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, ALMg-SiPb
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	GAISiCu4, GDAISi10Mg
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	G-ALSi12, G-AISi17Cu4, G-AISi21CuNiMg
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	Lexan®, Hostalen™, Polystyrol, Makralon®
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	CFK, GFK
N7	Metal Matrix Composites (MMC)	–	–	–	–	–
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 188, Stellite® 6,21,31
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	INCONEL® 690, INCONEL 625, Hastelloy®, Nimonic® 75
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	–	–	–	44–48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400
H2	Hardened Materials	–	–	–	48–55	–
H3	Hardened Materials	–	–	–	56–60	–
H4	Hardened Materials	–	–	–	>60	–

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METALCUTTING SAFETY

Projectile and Fragmentation Hazards

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

For more information, read the applicable Material Safety Data Sheet provided by WIDIA and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation.

For more information, consult the WIDIA Metalcutting Safety booklet, available free from WIDIA at +1 724 539 5747 or fax +1 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at +1 724 539 5066 or fax +1 724 539 5372.

Breathing and Skin Contact Hazards

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

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