

TURNING



METAL REMOVAL
BY WIDIA™



METAL REMOVAL
BY WIDIA

THE METAL CUTTING TOOL PHILOSOPHY

QUALITY

From raw material to final inspection, our state-of-the-art equipment and methods deliver products that will significantly boost your productivity and profitability.

PERFORMANCE

Our carbide technology is simply unsurpassed, as is our commitment to always provide you the grades and technologies to maximize your output.

SERVICE

Our field staff, fully backed by a team of in-house technical experts, has one objective: to give you the best tool for the job!

METAL REMOVAL BY WIDIA

WIDIA addresses customers' needs by providing them with innovative products and the latest technologies. Our precision metalworking tools cover applications like ISO turning and milling applications.

We help customers reduce their manufacturing spend by offering cost-effective, high-quality solutions that eliminate bottlenecks.

Our solutions meet customers' machining needs in the transportation, general engineering, and die & mold industries — and enable them to gain a competitive edge.



GENERAL
ENGINEERING



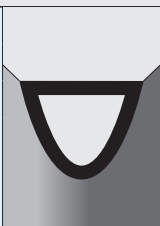


TRANSPORTATION

INSERT GEOMETRY & GRADES ON DIFFERENT MACHINING CONDITIONS

Chip Breaker Details:

Chip Breaker Geometries	Cutting Conditions	Ap (mm)	f (mm/rev)
.. MA	Very stable cutting edge design offers maximum stability and rigidity. Recommended for cast iron machining.	1–4	0.1–0.7
MRT1	For medium-duty roughing. Outstanding chip control. High edge strength for interrupted cuts, forging skin, or scale.	1–3.5	0.1–0.4
MRT2	Geometry for small- to medium-chip cross-sections.	0.5–5	0.08–0.6
MMT1	Geometry for medium to rough turning. Outstanding chip control, even at lower depths of cuts.	0.8–5	0.1–0.4
MMT2	Provides good chip control and low cutting forces. Can be used for steel, stainless steel, and cast iron.	0.5–2	0.05–0.2
.. MP	For medium-duty machining of tough work materials, such as stainless steel. Minimises tendency for materials to adhere to insert.	0.5–4	0.1–0.5
MFT1	For finish turning, producing smooth, accurate surfaces. Very good chip control, especially at low depths of cut.	0.2–2.5	0.06–0.2
MFT2	For medium turning to finish turning with strong cutting edge that works well in interrupted cuts.	0.5–2	0.05–0.2

GRADES

Coating		Grade Description	wear resistance ← → toughness											
			05	10	15	20	25	30	35	40	45			
MR2500P		PVD TiAlN-coated grade with micro-fine substrate suited for machining steel and cast iron in medium to finish turning applications.	P											
			M											
			K											
			N											
MR2000P		CVD-coated carbide, great for general-purpose turning for steels and ideal for medium machining to heavy roughing.	P											
			M											
			K											
			N											
MR1500K		CVD-coated carbide used for straight or lightly interrupted cut applications of ductile and cast irons.	P											
			M											
			K											
			N											

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



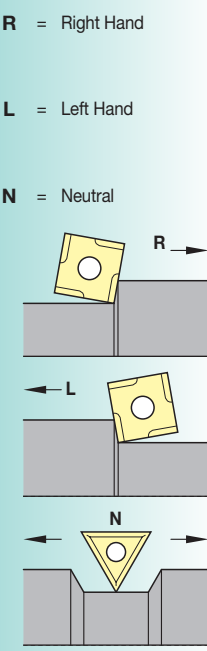
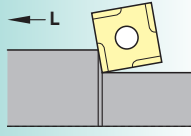
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Turning

ISO INSERT NOMENCLATURE

C		N		M		G		12																																																																																																																																																																																																			
Insert Shape		Insert Clearance Angle		Tolerance Class		Insert Features		Size																																																																																																																																																																																																			
H	Hexagon 120°	A	3°	<p>Tolerances apply prior to edge prep and coating.</p> <p>D = Theoretical diameter of the insert inscribed circle S = Thickness B = See figures below</p>		N		<p>Code for mm cutting edge length "L10"</p> <table border="1"> <thead> <tr> <th>"D"</th> <th>C</th> <th>D</th> <th>R</th> <th>S</th> <th>T</th> <th>V</th> <th>W</th> </tr> </thead> <tbody> <tr><td>3,97</td><td>S4</td><td>04</td><td>03</td><td>03</td><td>06</td><td>—</td><td>—</td></tr> <tr><td>4,76</td><td>04</td><td>05</td><td>04</td><td>04</td><td>08</td><td>08</td><td>S3</td></tr> <tr><td>5,56</td><td>05</td><td>06</td><td>05</td><td>05</td><td>09</td><td>09</td><td>03</td></tr> <tr><td>6,00</td><td>—</td><td>—</td><td>06</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>6,35</td><td>06</td><td>07</td><td>06</td><td>06</td><td>11</td><td>11</td><td>04</td></tr> <tr><td>7,94</td><td>08</td><td>09</td><td>07</td><td>07</td><td>13</td><td>13</td><td>05</td></tr> <tr><td>8,00</td><td>—</td><td>—</td><td>08</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>9,52</td><td>09</td><td>11</td><td>09</td><td>09</td><td>16</td><td>16</td><td>06</td></tr> <tr><td>10,00</td><td>—</td><td>—</td><td>10</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>11,11</td><td>11</td><td>13</td><td>11</td><td>11</td><td>19</td><td>19</td><td>07</td></tr> <tr><td>12,00</td><td>—</td><td>—</td><td>12</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>12,70</td><td>12</td><td>15</td><td>12</td><td>12</td><td>22</td><td>22</td><td>08</td></tr> <tr><td>14,29</td><td>14</td><td>17</td><td>14</td><td>14</td><td>24</td><td>24</td><td>09</td></tr> <tr><td>15,88</td><td>16</td><td>19</td><td>15</td><td>15</td><td>27</td><td>27</td><td>10</td></tr> <tr><td>16,00</td><td>—</td><td>—</td><td>16</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>17,46</td><td>17</td><td>21</td><td>17</td><td>17</td><td>30</td><td>30</td><td>11</td></tr> <tr><td>19,05</td><td>19</td><td>23</td><td>19</td><td>19</td><td>33</td><td>33</td><td>13</td></tr> <tr><td>20,00</td><td>—</td><td>—</td><td>20</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>22,22</td><td>22</td><td>27</td><td>22</td><td>22</td><td>38</td><td>38</td><td>15</td></tr> <tr><td>25,00</td><td>—</td><td>—</td><td>25</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>25,40</td><td>25</td><td>31</td><td>25</td><td>25</td><td>44</td><td>44</td><td>17</td></tr> <tr><td>31,75</td><td>32</td><td>38</td><td>31</td><td>31</td><td>54</td><td>54</td><td>21</td></tr> <tr><td>32,00</td><td>—</td><td>—</td><td>32</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> </tbody> </table>		"D"	C	D	R	S	T	V	W	3,97	S4	04	03	03	06	—	—	4,76	04	05	04	04	08	08	S3	5,56	05	06	05	05	09	09	03	6,00	—	—	06	—	—	—	—	6,35	06	07	06	06	11	11	04	7,94	08	09	07	07	13	13	05	8,00	—	—	08	—	—	—	—	9,52	09	11	09	09	16	16	06	10,00	—	—	10	—	—	—	—	11,11	11	13	11	11	19	19	07	12,00	—	—	12	—	—	—	—	12,70	12	15	12	12	22	22	08	14,29	14	17	14	14	24	24	09	15,88	16	19	15	15	27	27	10	16,00	—	—	16	—	—	—	—	17,46	17	21	17	17	30	30	11	19,05	19	23	19	19	33	33	13	20,00	—	—	20	—	—	—	—	22,22	22	27	22	22	38	38	15	25,00	—	—	25	—	—	—	—	25,40	25	31	25	25	44	44	17	31,75	32	38	31	31	54	54	21	32,00	—	—	32	—	—	—	—	R	
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"D"	± Tolerance on "D"				"D"	± Tolerance on "B"			
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	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C		Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C
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3,97	0,05	—	—	—	3,97	0,08	—	—	—
4,76	0,05	—	—	0,08	4,76	0,08	—	—	0,13
5,56	0,05	0,05	0,05	0,08	5,56	0,08	0,11	—	0,13
6,35	0,05	0,05	0,05	0,08	6,35	0,08	0,11	—	0,13
7,94	0,05	0,05	0,05	0,08	7,94	0,08	0,11	—	0,13
9,52	0,05	0,05	0,05	0,08	9,52	0,08	0,11	0,18	0,13
11,11	0,08	0,08	0,08	0,13	11,11	0,13	0,15	—	—
12,70	0,08	0,08	0,08	0,13	12,70	0,13	0,15	0,25	0,20
14,29	0,08	0,08	0,08	0,13	14,29	0,13	0,15	—	—
15,88	0,10	0,10	0,10	0,18	15,88	0,15	0,18	—	0,27
17,46	0,10	0,10	0,10	0,18	17,46	0,15	0,18	—	0,27
19,05	0,10	0,10	0,10	0,18	19,05	0,15	0,18	—	0,27
22,22	0,13	—	—	0,25	22,22	0,15	—	—	0,38
25,40	0,13	—	—	0,25	25,40	0,18	—	—	0,38
31,75	0,15	—	—	0,25	31,75	0,20	—	—	0,38



METAL REMOVAL
BY WIDIA

Turning

INSERTS FOLLOWING THE GRADE MR2000P

◆ CNMG

Insert	Description	Insert grade	Work material	Ordering code
	CNMG120404-MRT1	MR2000P	Steel & Cast Iron	6655331
	CNMG120408-MMT1	MR2000P	Steel & Cast Iron	6655332
	CNMG120408-MRT1	MR2000P	Steel & Cast Iron	6655335
	CNMG120404-MRT2	MR2000P	Steel & Cast Iron	6740718
	CNMG190612-MRT2	MR2000P	Steel & Cast Iron	6740715
	CNMG190608-MRT2	MR2000P	Steel & Cast Iron	6851880
	CNMG120412-MRT1	MR2000P	Steel & Cast Iron	6772974
	CNMG190612-MRT1	MR2000P	Steel & Cast Iron	6755261

◆ TNMG

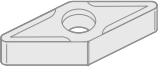
Insert	Description	Insert grade	Work material	Ordering code
	TNMG160404-MRT1	MR2000P	Steel & Cast Iron	6655329
	TNMG160408-MMT1	MR2000P	Steel & Cast Iron	6655328
	TNMG160412-MRT1	MR2000P	Steel & Cast Iron	6655330
	TNMG160404-MFT1	MR2000P	Steel & Cast Iron	6740717
	TNMG160408-MRT1	MR2000P	Steel & Cast Iron	6870156
	TNMG160412-MMT1	MR2000P	Steel & Cast Iron	6905623

◆ WNMG

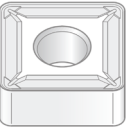
Insert	Description	Insert grade	Work material	Ordering code
	WNMG060408-MRT1	MR2000P	Steel & Cast Iron	6655337
	WNMG080408-MMT1	MR2000P	Steel & Cast Iron	6655338
	WNMG080412-MRT1	MR2000P	Steel & Cast Iron	6655339
	WNMG080412-MMT1	MR2000P	Steel & Cast Iron	6905624
	WNMG080408-MRT1	MR2000P	Steel & Cast Iron	6870253
	WNMG060412-MRT1	MR2000P	Steel & Cast Iron	6870155

INSERTS FOLLOWING THE GRADE MR2000P

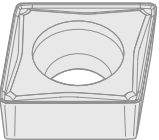
◆ VNMG

Insert	Description	Insert grade	Work material	Ordering code
	VNMG12T304-MRT2	MR2000P	Steel & Cast Iron	6740720
	VNMG12T308-MRT2	MR2000P	Steel & Cast Iron	6870254

◆ SNMG

Insert	Description	Insert grade	Work material	Ordering code
	SNMG190612-MRT2	MR2000P	Steel & Cast Iron	6740716
	SNMG120412-MRT1	MR2000P	Steel & Cast Iron	6870146
	SNMG120408-MRT1	MR2000P	Steel & Cast Iron	6870144

◆ CCMT

Insert	Description	Insert grade	Work material	Ordering code
	CCMT060204-MRT2	MR2000P	Steel & Cast Iron	6655316
	CCMT060208-MFT2	MR2000P	Steel & Cast Iron	6655317
	CCMT09T304-MRT2	MR2000P	Steel & Cast Iron	6655319
	CCMT09T308-MRT2	MR2000P	Steel & Cast Iron	6655320

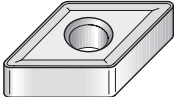


METAL REMOVAL
BY WIDIA

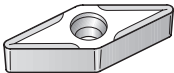
Turning

INSERTS FOLLOWING THE GRADE MR2500P

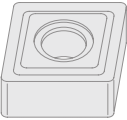
◆ DNMG

Insert	Description	Insert grade	Work material	Ordering code
	DNMG150608-MMT1	MR2000P	Steel & Cast Iron	6797566
	DNMG150608-MRT1	MR2000P	Steel & Cast Iron	6797565

◆ VBMT

Insert	Description	Insert grade	Work material	Ordering code
	VBMT160408-MRT2	MR2000P	Steel & Cast Iron	6870256

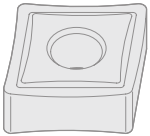
◆ CNMG

Insert	Description	Insert grade	Work material	Ordering code
	CNMG120404-MRT2	MR2500P	Steel & Cast Iron	6740749
	CNMG120408-MMT2	MR2500P	Steel & Cast Iron	6741544
	CNMG190612-MRT2	MR2500P	Steel & Cast Iron	6749002
	CNMG120408-MMT1	MR2500P	Steel & Cast Iron	6870252
	CNMG120408-MRT1	MR2500P	Steel & Cast Iron	6870251
	CNMG190612-MRT1	MR2500P	Steel & Cast Iron	6755262

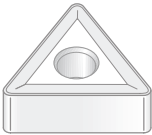
INSERTS FOLLOWING THE GRADE MR2500P

◆ CNMP

Insert	Description	Insert grade	Work material	Ordering code
	CNMP120408	MR2500P	Steel & Stainless Steel	6749253



◆ TNMG

Insert	Description	Insert grade	Work material	Ordering code
	TNMG160404-MFT1	MR2500P	Steel & Cast Iron	6740747
	TNMG160408-MMT2	MR2500P	Steel & Cast Iron	6740748
	TNMG160408-MMT1	MR2500P	Steel & Cast Iron	6826644

◆ TNMP

Insert	Description	Insert grade	Work material	Ordering code
	TNMP160408	MR2500P	Steel & Stainless Steel	6749252



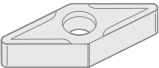


METAL REMOVAL
BY WIDIA

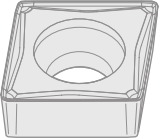
Turning

INSERTS FOLLOWING THE GRADE MR2500P

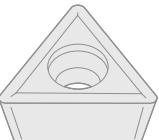
◆ VNMG

Insert	Description	Insert grade	Work material	Ordering code
	VNMG12T304-MRT2	MR2500P	Steel & Cast Iron	6749003
	VNMG12T308-MRT2	MR2500P	Steel & Cast Iron	6749004

◆ CCMT

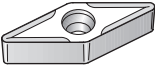
Insert	Description	Insert grade	Work material	Ordering code
	CCMT060204-MRT2	MR2500P	Steel & Cast Iron	6740667
	CCMT060208-MFT2	MR2500P	Steel & Cast Iron	6740668
	CCMT09T304-MRT2	MR2500P	Steel & Cast Iron	6740669
	CCMT09T308-MRT2	MR2500P	Steel & Cast Iron	6740670
	CCMT060208MFT2	MR2500P	Steel & Cast Iron	6927966
	CCMT09T308-MFT2	MR2500P	Steel & Cast Iron	6780840

◆ TCMT


Insert	Description	Insert grade	Work material	Ordering code
	TCMT110204-MRT2	MR2500P	Steel & Cast Iron	6740735
	TCMT110208-MFT2	MR2500P	Steel & Cast Iron	6740736
	TCMT16T304-MRT2	MR2500P	Steel & Cast Iron	6740737
	TCMT16T308-MRT2	MR2500P	Steel & Cast Iron	6740738

INSERTS FOLLOWING THE GRADE MR2500P

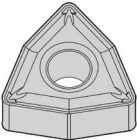
◆ VBMT/VCMT

Insert	Description	Insert grade	Work material	Ordering code
	VBMT160408MRT2	MR2500P	Steel & Cast Iron	6870258
	VBMT160404MRT2	MR2500P	Steel & Cast Iron	6870259
	VCMT16T308MRT2	MR2500P	Steel & Cast Iron	6826645

◆ SCMT

Insert	Description	Insert grade	Work material	Ordering code
	SCMT120408-MRT2	MR2500P	Steel & Cast Iron	6740739
	SCMT09T308-MRT2	MR2500P	Steel & Cast Iron	6826646

◆ WNMG

Insert	Description	Insert grade	Work material	Ordering code
	WNMG080412-MRT1	MR2500P	Steel & Cast Iron	6758425
	WNMG080408-MMT1	MR2500P	Steel & Cast Iron	6758424

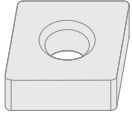


METAL REMOVAL
BY WIDIA

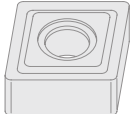
Turning

INSERTS FOLLOWING THE GRADE MR1500K

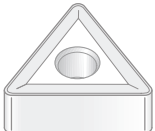
◆ CNMA

Insert	Description	Insert grade	Work material	Ordering code
	CNMA120404	MR1500K	Cast Iron	6740741
	CNMA120408	MR1500K	Cast Iron	6655322
	CNMA120412	MR1500K	Cast Iron	6655323

◆ CNMG

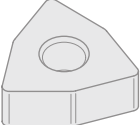
Insert	Description	Insert grade	Work material	Ordering code
	CNMG120408-MMT1	MR1500K	Cast Iron	6905625
	CNMG120408-MRT1	MR1500K	Cast Iron	6655351
	CNMG120412-MRT1	MR1500K	Cast Iron	6826703

◆ TNMG

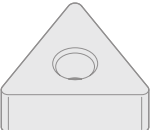
Insert	Description	Insert grade	Work material	Ordering code
	TNMG160408-MRT1	MR1500K	Cast Iron	6655340
	TNMG160412-MRT1	MR1500K	Cast Iron	6826704

INSERTS FOLLOWING THE GRADE MR1500K

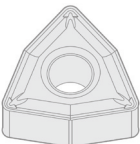
WNMA

Insert	Description	Insert grade	Work material	Ordering code
	WNMA060408	MR1500K	Cast Iron	6870152
	WNMA080408	MR1500K	Cast Iron	6655324
	WNMA080412	MR1500K	Cast Iron	6655325

TNMA

Insert	Description	Insert grade	Work material	Ordering code
	TNMA160412-MA	MR1500K	Cast Iron	6826702
	TNMA160408-MA	MR1500K	Cast Iron	6826701

WNMG

Insert	Description	Insert grade	Work material	Ordering code
	WNMG060408-MRT1	MR1500K	Cast Iron	6870153
	WNMG080408-MRT1	MR1500K	Cast Iron	6826706
	WNMG080412-MRT1	MR1500K	Cast Iron	6826705

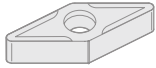


METAL REMOVAL
BY WIDIA

Turning

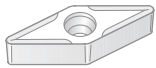
INSERTS FOLLOWING THE GRADE MR1500K

◆ VNMG



Insert	Description	Insert grade	Work material	Ordering code
	VNMG12T304-MRT2	MR1500K	Cast Iron	6870255
	VNMG12T308-MRT2	MR1500K	Cast Iron	6826710

◆ VBMT



Insert	Description	Insert grade	Work material	Ordering code
	VBMT160408-MRT2	MR1500K	Cast Iron	6870257

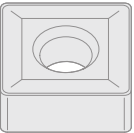
◆ SNMA




Insert	Description	Insert grade	Work material	Ordering code
	SNMA120412	MR1500K	Cast Iron	6870149
	SNMA120408	MR1500K	Cast Iron	6870148

INSERTS FOLLOWING THE GRADE MR1500K

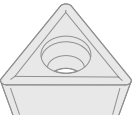
◆ SNMG

Insert	Description	Insert grade	Work material	Ordering code
	SNMG120412-MRT1	MR1500K	Cast Iron	6870147
	SNMG120408-MRT1	MR1500K	Cast Iron	6870145

◆ SCMT

Insert	Description	Insert grade	Work material	Ordering code
	SCMT120408-MRT2	MR1500K	Cast Iron	6826709
	SCMT09T308-MRT2	MR1500K	Cast Iron	6826708

◆ TCMT

Insert	Description	Insert grade	Work material	Ordering code
	TCMT16T308-MRT2	MR1500K	Cast Iron	6826707



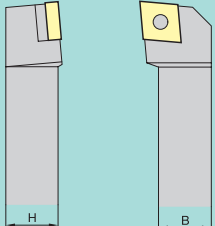







































METAL REMOVAL
BY WIDIA

Turning

ISO NOMENCLATURE FOR TOOLHOLDERS

P	C	L	N	R	
Insert Holding Method	Insert Shape	Tool Style or Lead Angle	Insert Clearance Angle	Hand of Tool	Additional Information
<p>D</p>	<p>A </p>	<p>A L </p>	<p>N </p>	<p>R =</p>	<p>C =</p>
<p>C</p>	<p>B </p>	<p>B P </p>	<p>B </p>	<p>Right Hand</p>	<p>Deep Pocket for Ceramic Insert</p>
<p>S</p>	<p>C </p>	<p>C Q </p>	<p>C </p>	<p>L =</p>	<p>S =</p>
<p>P</p>	<p>D </p>	<p>D R </p>	<p>P </p>	<p>N =</p>	<p>F =</p>
	<p>E </p>	<p>E S </p>	<p>D </p>	<p>R</p>	<p>Straight Shank, No Offset</p>
	<p>H </p>	<p>F U </p>	<p>E </p>	<p></p>	
	<p>K </p>	<p>G V </p>	<p>F </p>	<p>L</p>	
	<p>L </p>	<p>Y </p>		<p>N</p>	
	<p>M </p>			<p></p>	
	<p>O </p>				
	<p>P </p>				
	<p>R </p>				
	<p>S </p>				
	<p>T </p>				
	<p>V </p>				
	<p>W </p>				

ISO NOMENCLATURE FOR TOOLHOLDERS


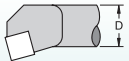
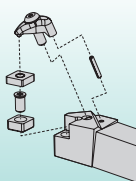

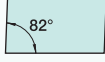

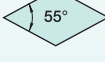


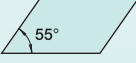
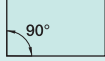
















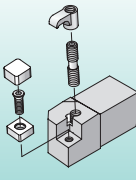
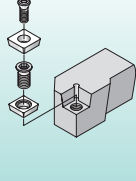
25	25	M	12	KC	04																																																
Shank Dimensions		Tool Length	Insert Size	Additional Information	Insert Thickness (optional)																																																
		<table border="1"> <thead> <tr> <th>L1</th> <th>ISO</th> </tr> </thead> <tbody> <tr><td>32</td><td>A</td></tr> <tr><td>40</td><td>B</td></tr> <tr><td>50</td><td>C</td></tr> <tr><td>60</td><td>D</td></tr> <tr><td>70</td><td>E</td></tr> <tr><td>80</td><td>F</td></tr> <tr><td>90</td><td>G</td></tr> <tr><td>100</td><td>H</td></tr> <tr><td>110</td><td>J</td></tr> <tr><td>125</td><td>K</td></tr> <tr><td>140</td><td>L</td></tr> <tr><td>150</td><td>M</td></tr> <tr><td>160</td><td>N</td></tr> <tr><td>170</td><td>P</td></tr> <tr><td>180</td><td>Q</td></tr> <tr><td>200</td><td>R</td></tr> <tr><td>250</td><td>S</td></tr> <tr><td>300</td><td>T</td></tr> <tr><td>350</td><td>U</td></tr> <tr><td>400</td><td>V</td></tr> <tr><td>450</td><td>W</td></tr> <tr><td>500</td><td>Y</td></tr> <tr><td>Special Design</td><td>X</td></tr> </tbody> </table>	L1	ISO	32	A	40	B	50	C	60	D	70	E	80	F	90	G	100	H	110	J	125	K	140	L	150	M	160	N	170	P	180	Q	200	R	250	S	300	T	350	U	400	V	450	W	500	Y	Special Design	X		<p>KC = D-Style Clamping</p>	<p>04 = 4,76mm 06 = 6,35mm</p>
L1	ISO																																																				
32	A																																																				
40	B																																																				
50	C																																																				
60	D																																																				
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110	J																																																				
125	K																																																				
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200	R																																																				
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350	U																																																				
400	V																																																				
450	W																																																				
500	Y																																																				
Special Design	X																																																				
<p>The seventh and eighth position shall be a significant two-digit number that indicates the holder cross section.</p> <ul style="list-style-type: none"> If the dimension for the width "B" or the height "H" is represented by a one-digit number, a 0 (zero) will be used in front of it. <p>Example: 8,0mm = 08</p>			<p style="text-align: center;">Cutting Edge Length L10</p> <table border="0"> <tr> <td style="vertical-align: top;"> <p>H Hexagon 120°</p>  </td> <td style="vertical-align: top;"> <p>C Rhomboid 80°</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>O Octagon 135°</p>  </td> <td style="vertical-align: top;"> <p>D 55°</p>  </td> </tr> <tr> <td style="vertical-align: top;"> <p>P Pentagon 108°</p>  </td> <td style="vertical-align: top;"> <p>E 75°</p>  </td> </tr> <tr> <td style="vertical-align: top;"> <p>S Square 90°</p>  </td> <td style="vertical-align: top;"> <p>M 86°</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>T Triangular 60°</p>  </td> <td style="vertical-align: top;"> <p>V 35°</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>R Round —</p>  </td> <td style="vertical-align: top;"> <p>W Trigon 80° with enlarged corner angles</p>  </td> </tr> <tr> <td></td> <td style="vertical-align: top;"> <p>L Rectangular 90°</p>  </td> </tr> <tr> <td></td> <td style="vertical-align: top;"> <p>A Parallelogram 85°</p>  </td> </tr> <tr> <td></td> <td style="vertical-align: top;"> <p>B 82°</p>  </td> </tr> <tr> <td></td> <td style="vertical-align: top;"> <p>K 55°</p>  </td> </tr> </table>			<p>H Hexagon 120°</p> 	<p>C Rhomboid 80°</p>	<p>O Octagon 135°</p> 	<p>D 55°</p> 	<p>P Pentagon 108°</p> 	<p>E 75°</p> 	<p>S Square 90°</p> 	<p>M 86°</p>	<p>T Triangular 60°</p> 	<p>V 35°</p>	<p>R Round —</p> 	<p>W Trigon 80° with enlarged corner angles</p> 		<p>L Rectangular 90°</p> 		<p>A Parallelogram 85°</p> 		<p>B 82°</p> 		<p>K 55°</p> 																												
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










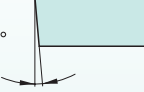
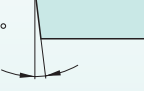
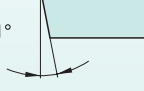

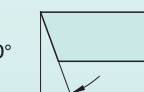
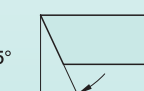
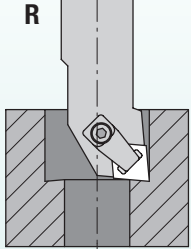
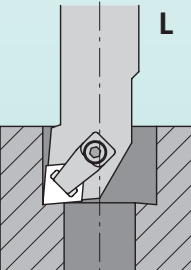










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ISO NOMENCLATURE FOR BORING BARS

S	32	S	P	C
Bar Type	Bar Diameter	Bar Length**	Insert Holding Method	Insert Shape
<p>A  Steel Bar with Coolant</p>	<p></p> <p>Metric: A two-digit number indicates the bar diameter in mm. If the diameter is represented by a one digit number, a 0 (zero) will be used in front of it. Example: 8mm = 08</p>	<p>3 = F 3.5 = G 4 = H 4.5 = J 5 = K 5.5 = L 6 = M 6.5 = N 7 = Q 8 = R 10 = S 12 = T 14 = U 16 = V 18 = W 20 = Y</p> <p>**Used only when more than one length is available or a special length is required.</p>	<p>D </p>	<p>A  85°</p> <p>B  82°</p> <p>C  80°</p> <p>D  55°</p> <p>E  75°</p> <p>H  120°</p> <p>K  55°</p> <p>L  90°</p> <p>M  86°</p> <p>O  135°</p> <p>P  108°</p> <p>R </p> <p>S  90°</p> <p>T  60°</p> <p>V  35°</p> <p>W  80°</p>
<p>S  Steel Bar without Coolant</p>				
<p>C  Carbide Bar</p>				
<p>D  DeVibrator Bar with Coolant</p>				
<p>D  Tunable Bar with Coolant</p>				
<p>E  Carbide Bar with Coolant</p>				
<p>B  DeVibrator</p>				
<p>H  Interchangeable Head</p>				
<p>L  Heavy Metal Bar with Coolant</p>				
<p>C </p>			<p>S </p>	

ISO NOMENCLATURE FOR BORING BARS

L	N	L	12	KC04
Bar Style or Lead Angle	Insert Clearance Angle	Hand of Tool	Insert Size Cutting Edge Length L10	Additional Information
<p>E </p> <p>F </p> <p>K </p> <p>L </p> <p>(E-style inserts)</p> <p>L </p> <p>P </p> <p>Q </p> <p>S </p> <p>U </p> <p>X </p>	<p>N 0° </p> <p>B 5° </p> <p>C 7° </p> <p>P 11° </p> <p>D 15° </p> <p>E 20° </p> <p>F 25° </p>	<p>R = Right-Hand Boring Bar</p>  <p>L = Left-Hand Boring Bar</p> 	<p>H </p> <p>O </p> <p>P </p> <p>S </p> <p>T </p> <p>CDE M V </p> <p>W </p> <p>L </p> <p>A B K </p> <p>R </p>	<p>M... = M.. MF, MN, MX, for ceramic and PcBN inserts</p> <p>KC = D-Style Clamping</p> <p>+ = Insert thickness</p>



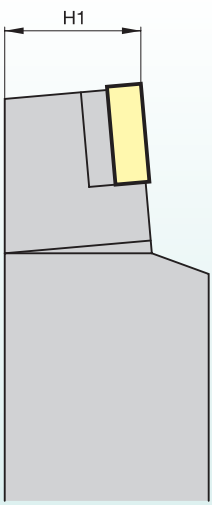
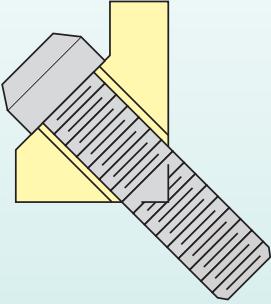
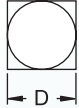
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ISO NOMENCLATURE FOR CARTRIDGES

S	T	F	C	R
<p>Insert Clamping System</p> <div data-bbox="150 712 395 907"> <p>C</p> <p>Top Clamping by Clamping Finger for Inserts without Hole.</p> </div> <div data-bbox="150 1048 395 1243"> <p>M</p> <p>Top and Hole Clamping for Inserts with Hole.</p> </div> <div data-bbox="150 1406 395 1601"> <p>P</p> <p>Insert Clamping by Toggle Lever for Insert Hole.</p> </div> <div data-bbox="150 1749 395 1944"> <p>S</p> <p>Center Clamping by Screw for Inserts with Hole.</p> </div>	<p>Insert Shape</p> <div data-bbox="453 712 582 795"> <p>C </p> </div> <div data-bbox="453 831 582 913"> <p>D </p> </div> <div data-bbox="453 949 582 1032"> <p>R </p> </div> <div data-bbox="453 1068 582 1151"> <p>S </p> </div> <div data-bbox="453 1187 582 1270"> <p>T </p> </div> <div data-bbox="453 1305 582 1388"> <p>W </p> </div>	<p>Cartridge Style</p> <div data-bbox="644 712 833 795"> <p>F K </p> </div> <div data-bbox="644 808 833 891"> <p>L J </p> </div> <div data-bbox="644 904 833 987"> <p>Q R </p> </div> <div data-bbox="644 1001 833 1084"> <p>S G </p> </div>	<p>Insert Clearance Angle</p> <div data-bbox="893 712 1045 795"> <p>C </p> </div> <div data-bbox="893 808 1045 891"> <p>N </p> </div> <div data-bbox="893 904 1045 987"> <p>P </p> </div>	<p>Hand of Tool</p> <div data-bbox="1107 712 1407 1032"> <p>Right-Hand Cartridge</p> <p>R </p> </div> <div data-bbox="1107 1046 1407 1366"> <p>Left-Hand Cartridge</p> <p>L </p> </div>

ISO NOMENCLATURE FOR CARTRIDGES

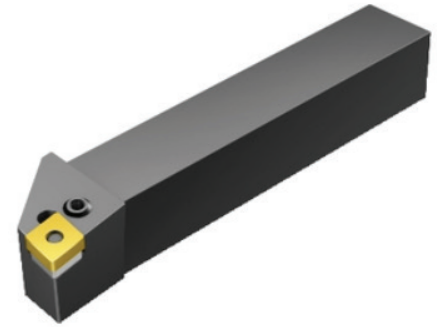
10	C	A	3	
Cartridge Size	Identifying Code of Cartridge	Mounting Design of Cartridge	Insert Size	Additional Information
 <p>H1 = Cutting Edge Height of Cartridge, in Inches</p>	<p>C = Cartridge</p>	<p>A-Design Conforming to ISO 5611</p> 	 <p>Insert iC Number of 1/8ths of "D"</p>	



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TOOLHOLDERS



Description	ISO text	Ordering code
ISO TOOL HOLDER 'P' CLAMPING	PSBNR2020M12 MRW	6870707
ISO TOOL HOLDER 'P' CLAMPING	PSBNR2525M12 MRW	6870706
ISO TOOL HOLDER 'P' CLAMPING	PDJNL3232P15 MRW	6870705
ISO TOOL HOLDER 'P' CLAMPING	PDJNR3232P15 MRW	6870704
ISO TOOL HOLDER 'P' CLAMPING	PDJNL2525M15 MRW	6870703
ISO TOOL HOLDER 'P' CLAMPING	PDJNR2525M15 MRW	6870702
ISO TOOL HOLDER 'P' CLAMPING	PCLNL2525M12 MRW	6870701
ISO TOOL HOLDER 'P' CLAMPING	PCLNR2525M12 MRW	6870680
ISO TOOL HOLDER 'P' CLAMPING	PCLNL2020K12 MRW	6870679
ISO TOOL HOLDER 'P' CLAMPING	PCLNR2020K12 MRW	6870678
ISO TOOL HOLDER 'M' CLAMPING	MWLN2020K08 MRW	6870677
ISO TOOL HOLDER 'M' CLAMPING	MWLN2020K08 MRW	6870676
ISO TOOL HOLDER 'M' CLAMPING	MWLN2525M08 MRW	6870299
ISO TOOL HOLDER 'M' CLAMPING	MWLN2525M08 MRW	6870298
ISO TOOL HOLDER 'M' CLAMPING	MWLN2020M06 MRW	6870297
ISO TOOL HOLDER 'M' CLAMPING	MWLN2020M06 MRW	6870296
ISO TOOL HOLDER 'M' CLAMPING	MWLN2525M06 MRW	6870295
ISO TOOL HOLDER 'M' CLAMPING	MWLN2525M06 MRW	6870294
ISO TOOL HOLDER 'M' CLAMPING	MTJNL2020K16 MRW	6870293
ISO TOOL HOLDER 'M' CLAMPING	MTJNL2020K16 MRW	6870292
ISO TOOL HOLDER 'M' CLAMPING	MTJNR2525M16 MRW	6870291
ISO TOOL HOLDER 'M' CLAMPING	MTJNL2525M16 MRW	6870260

BORING BARS



Description	ISO text	Ordering code
P CLAMPING BORING BAR	S32SPCLNR12F3 MRW	6870718
P CLAMPING BORING BAR	S32SPCLNL12F3 MRW	6870717
P CLAMPING BORING BAR	S25TPCLNR12F3 MRW	6870716
P CLAMPING BORING BAR	S25TPCLNL12F3 MRW	6870715
SCREW ON BORING BAR	S20SSCLCR09T3 MRW	6870714
SCREW ON BORING BAR	S20SSCLCL09T3 MRW	6870713
SCREW ON BORING BAR	S16RSCLCL09T3 MRW	6870712
SCREW ON BORING BAR	S12MSCLCR06F3 MRW	6870711
SCREW ON BORING BAR	S10KSCLCL06F3 MRW	6870710
SCREW ON BORING BAR	S08HSCLCR06F3 MRW	6870709
SCREW ON BORING BAR	S08HSCLCL06F3 MRW	6870708

CARTRIDGES



Description	ISO text	Ordering code
SCREW ON CARTRIDGE	STFCR12CA16 MRW	6870724
SCREW ON CARTRIDGE	STFCR10CA11 MRW	6870723
P CLAMPING CARTRIDGE	PTFNR12CA16 MRW	6870722
P CLAMPING CARTRIDGE	PTFNL16CA16 MRW	6870720
P CLAMPING CARTRIDGE	PTFNR16CA16 MRW	6870719



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BY **WIDIA™**

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