

# Contents



TURNING INSERTS  
EXTERNAL · INTERNAL TURNING TOOL HOLDERS

---



THREADING SYSTEM

---



PARTING & GROOVING SYSTEM

---



INSERTS FOR CONSTRUCTION STEEL  
PIPE-SCRAPING SYSTEM  
SPECIAL FORM SYSTEM

---



MILLING SYSTEM

---



DRILLING SYSTEM

---

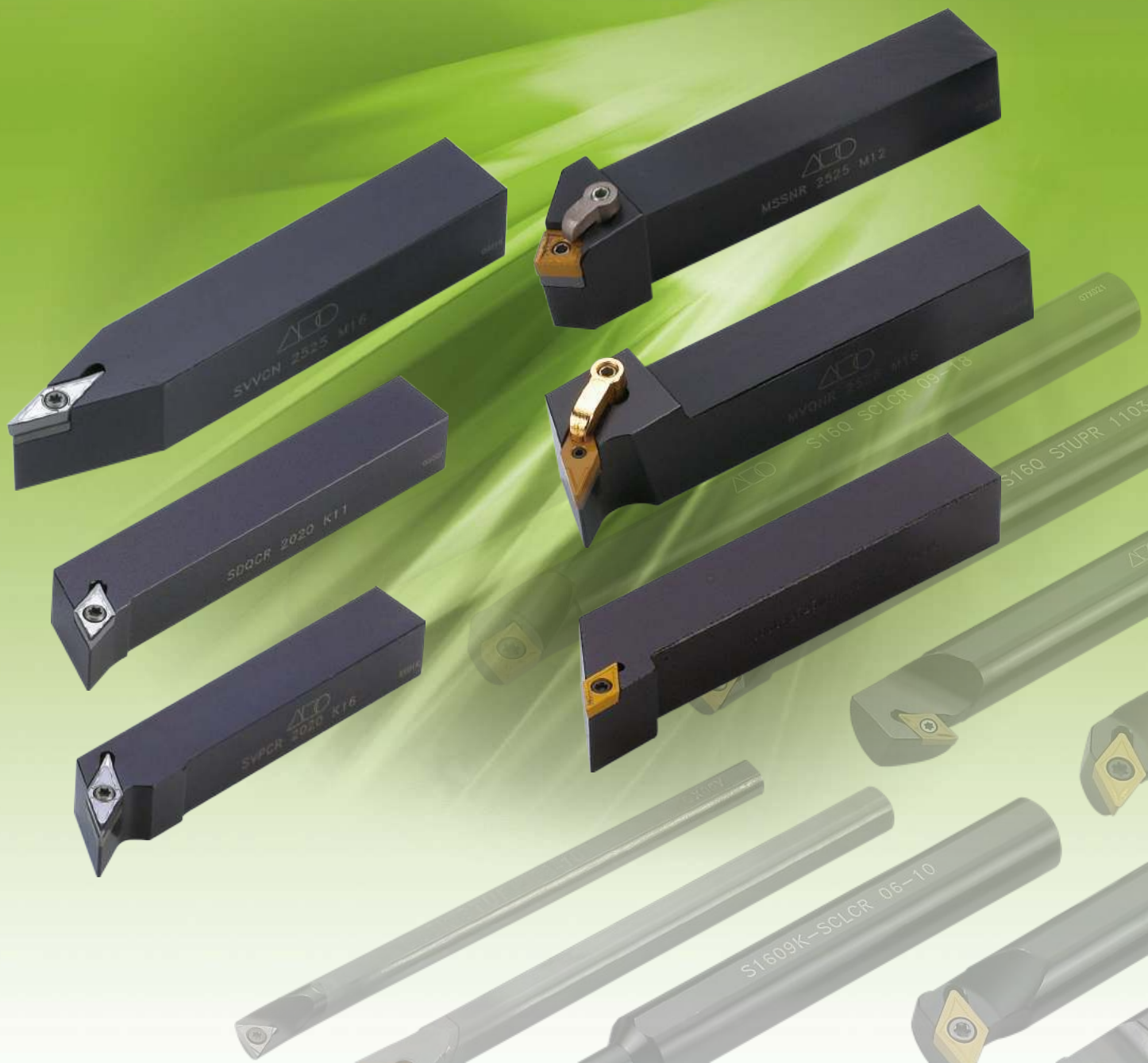


# 2023 Product Catalog



# HANWOO

*PRECISION CUTTING TOOLS*





## BORING BAR DESIGNATION SYSTEM

1 Boring Bar	2 Bar Diameter	3 Tool Length	4 Clamping System																																				
<p>S : Steel Shank</p> <p>A : Coolant Through Steel Shank</p> <p>C : Carbide Shank</p>		<table border="1"> <tr> <td>K</td><td>125</td><td>U</td><td>350</td></tr> <tr> <td>M</td><td>150</td><td>V</td><td>400</td></tr> <tr> <td>Q</td><td>180</td><td>W</td><td>450</td></tr> <tr> <td>R</td><td>200</td><td>Y</td><td>500</td></tr> <tr> <td>S</td><td>250</td><td>X</td><td>Special</td></tr> <tr> <td>T</td><td>300</td><td></td><td></td></tr> </table>	K	125	U	350	M	150	V	400	Q	180	W	450	R	200	Y	500	S	250	X	Special	T	300			<table border="1"> <tr> <td></td> <td></td> </tr> <tr> <td>P / Lever Lock</td> <td>C / Top Clamp</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>S / Screw Clamp</td> <td>M / Multi Lock</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>D / Double Clamp</td> <td>W / Wedge Clamp</td> </tr> </table>			P / Lever Lock	C / Top Clamp			S / Screw Clamp	M / Multi Lock			D / Double Clamp	W / Wedge Clamp
K	125	U	350																																				
M	150	V	400																																				
Q	180	W	450																																				
R	200	Y	500																																				
S	250	X	Special																																				
T	300																																						
P / Lever Lock	C / Top Clamp																																						
S / Screw Clamp	M / Multi Lock																																						
D / Double Clamp	W / Wedge Clamp																																						



5 Insert Shape	6 Approach Angle	7 Insert Clearance Angle
<p>W</p> <p>S</p> <p>T</p>	<p>L</p> <p>K</p>	<p>N</p> <p>B</p>
<p>C</p> <p>D</p> <p>E</p>	<p>U</p> <p>Z</p>	<p>C</p> <p>P</p>
<p>K</p> <p>V</p> <p>R</p>	<p>F</p> <p>Q</p>	

8 Hand of Tool
<p>R</p>
<p>L</p>

9 Cutting Edge Length



## TOOL HOLDER DESIGNATION SYSTEM

TOOL HOLDERS

A  
2

1 Clamping System	
P / Lever Lock	C / Top Clamp
S / Screw Clamp	M / Multi Lock
D / Double Clamp	W / Wedge Clamp

2 Insert Shape		
W	S	T
C	D	E
K	V	R

4 Insert Clearance Angle	
N	B
C	P

<b>M</b>	<b>C</b>	<b>L</b>	<b>N</b>	<b>R</b>
1	2	3	4	5

3 Approach Angle								
Symbol	Shape	Offset	Symbol	Shape	Offset	Symbol	Shape	Offset
A		Without	J		With	V		Without
			K		With	W		With
B		Without	L		With	Q		With
		With	M		Without			
D		Without	N		Without			
E		Without	R		With			
F		With	S		With			
G		With	T		With			
			U		With			

5 Hand of Tool	
	R
	N
	L

## TOOL HOLDER DESIGNATION SYSTEM

**6 Shank Height**

Integers to be preceded by 0  
e.g. : h=8mm indicated by 08

**7 Shank Width**

Integers to be preceded by 0  
e.g. : h=8mm indicated by 08

**25**  
6

**25**  
7

**M**  
8

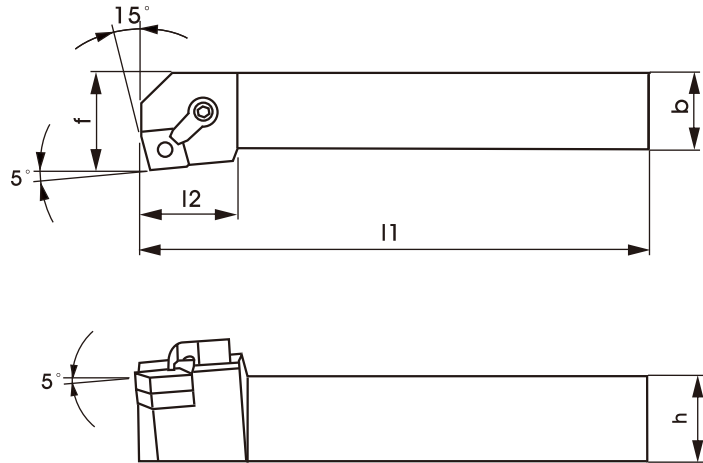
**12**  
9

**8 Tool Length**

L (mm)	Symbol	L (mm)	Symbol
32	A	160	N
40	B	170	P
50	C	180	Q
60	D	200	R
70	E	250	S
80	F	300	T
90	G	350	U
100	H	400	V
110	J	450	W
125	K	500	Y
140	L	Special	X
150	M		

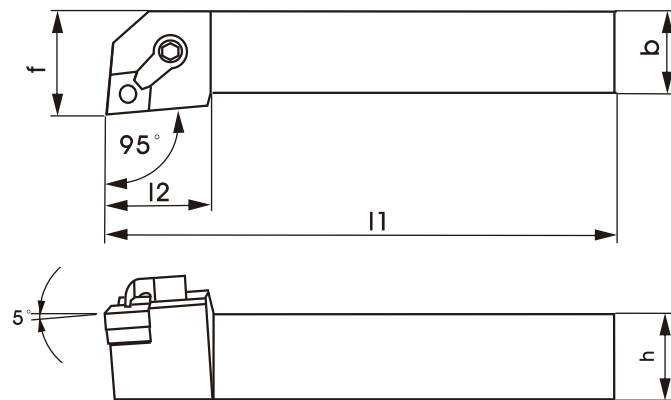
**9 Cutting Edge Length**

## MCKN R/L



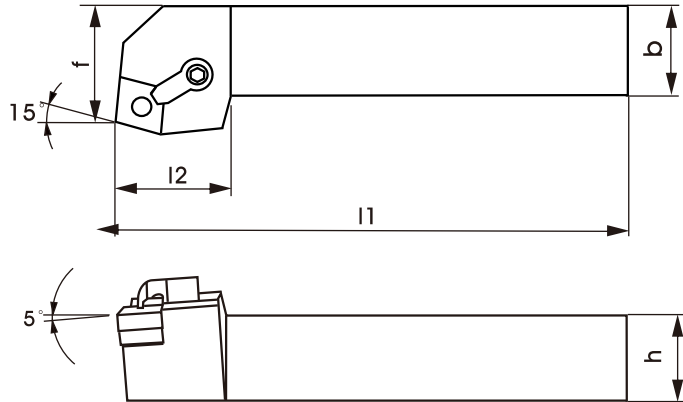
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MCKNR/L 2020 K12	20	20	125	32	25						
MCKNR/L 2525 M12	25	25	150	32	32						
MCKNR/L 3232 P12	32	32	170	40	32						

## MCLN R/L



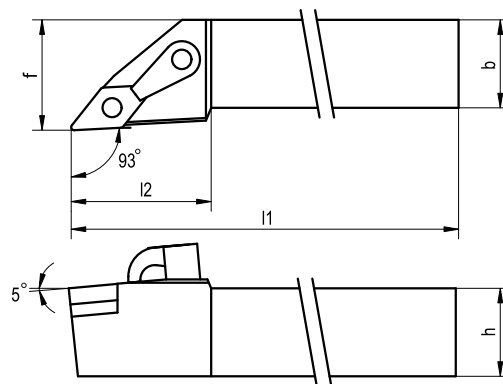
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MCLNR/L 1616 H12	16	16	100	31	20						
MCLNR/L 2020 K12	20	20	125	32	25						
MCLNR/L 2525 M12	25	25	150	32	32						
MCLNR/L 3232 P12	32	32	170	32	32						

## MCRN R/L



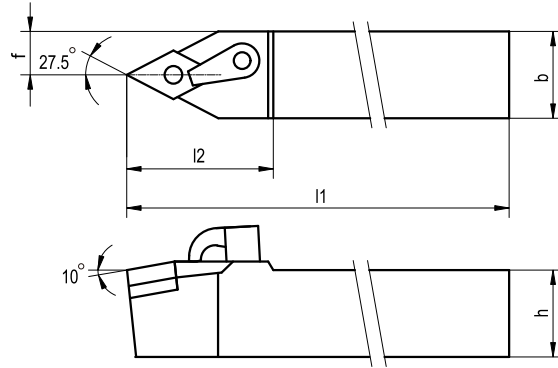
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MCRNR/L 2020 K12	20	20	125	32	25					WS061025	
MCRNR/L 2525 M12	25	25	150	32	32					WS061030	
MCRNR/L 3232 P12	32	32	170	32	32					3.0 mm	

## MDJN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MDJNR/L 2020 K15	20	20	125	36	25						
MDJNR/L 2525 M15	25	25	150	36	32						
MDJNR/L 3232 P15	32	32	170	36	32						

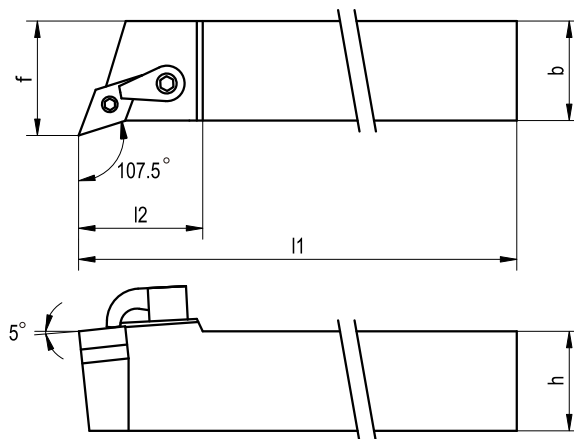
## MDNNR



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MDNNR 2525 M15	25	25	150	41	12.5						
MDNNR 3232 P15	32	32	170	41	12.5						

● Marked: Left-hand tool holder: make to order.

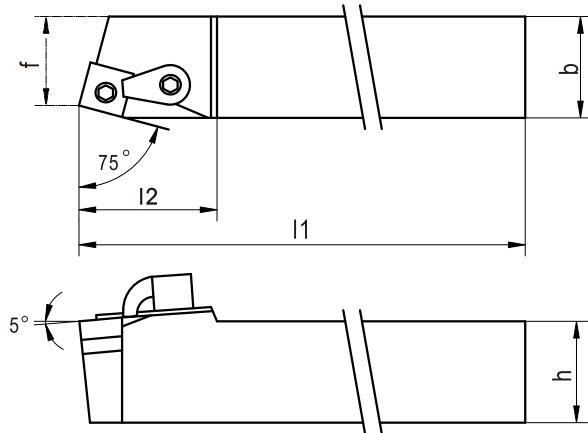
## MDQN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MDQNR/L 2020 K15	20	20	125	38	25						
MDQNR/L 2525 M15	25	25	150	38	32						

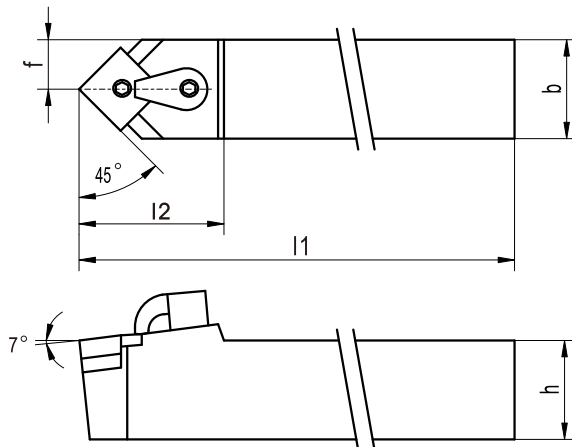


## MSBN R/L



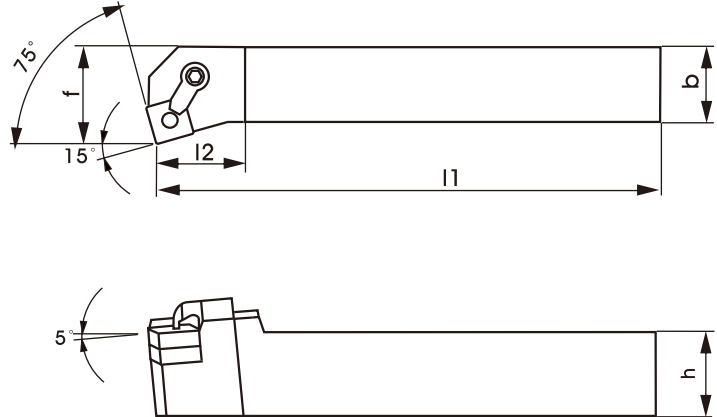
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MSBNR/L 2020 K12	20	20	125	34	17					WS061025	
MSBNR/L 2525 M12	25	25	150	34	22					WS061030	
MSBNR/L 3232 P12	32	32	170	34	32						

## MSDNN



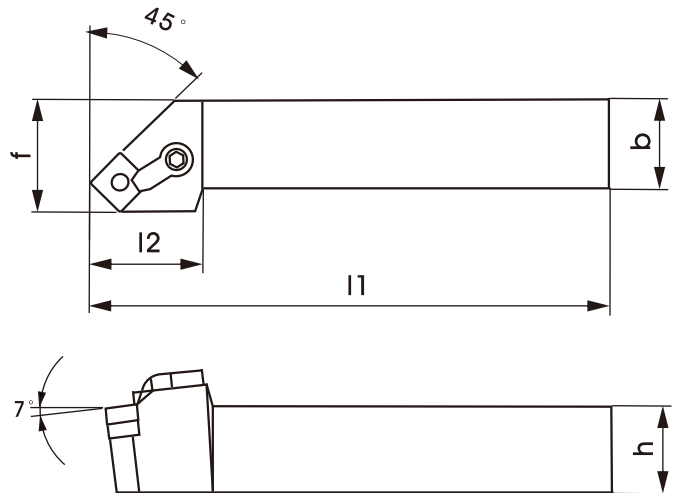
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MSDNN 2020 K12	20	20	125	34	10.3					WS061025	
MSDNN 2525 M12	25	25	150	34	12.8					WS061030	
MSDNN 3232 P12	32	32	170	34	12.8						

## MSKN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MSKNR/L 2020 K12	20	20	125	32	25					WS061025	
MSKNR/L 2525 M12	25	25	150	32	32					WS061030	
MSKNR/L 3232 P12	32	32	170	40	32					3.0 mm	

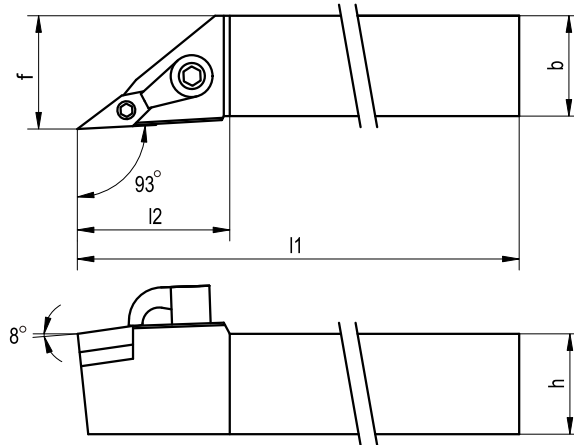
## MSSN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MSSNR/L 2020 K12	20	20	125	20	25					WS061025	
MSSNR/L 2525 M12	25	25	150	25	32					WS061030	
MSSNR/L 3232 P12	32	32	170	38	40					3.0 mm	

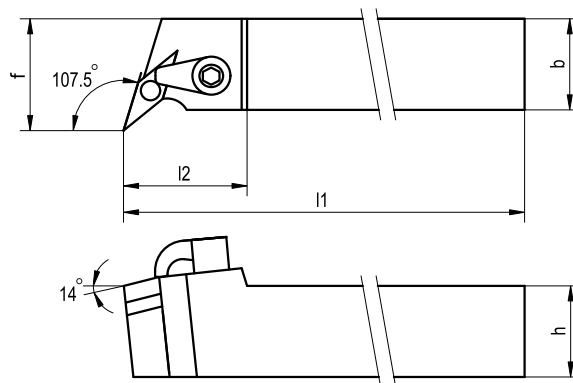


## MVJNR/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MVJNR/L 2020 K16	20	20	125	36	25	 VNMG VNMA VNGA 1604	 MSV163	 MSP513	 MCL2414	 WS061030	 3.0 mm 2.0 mm
MVJNR/L 2525 M16	25	25	150	36	32						
MVJNR/L 3232 P16	32	32	170	36	32						

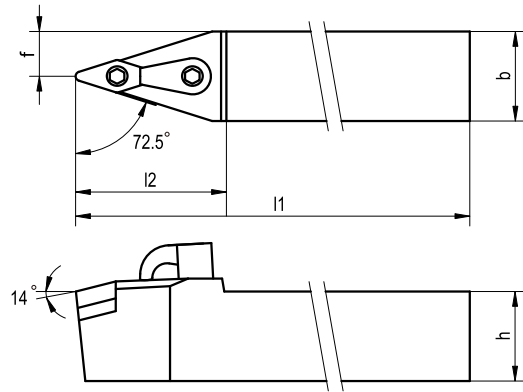
## MVQNR/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MVQNR/L 2020 K16	20	20	125	42	10	 VNMG VNMA VNGA 1604	 MSV163	 MSP513	 MCL2414	 WS061030	 3.0 mm 2.0 mm
MVQNR/L 2525 M16	25	25	150	42	12						
MVQNR/L 3232 P16	32	32	170	42	16						



## MVVNN

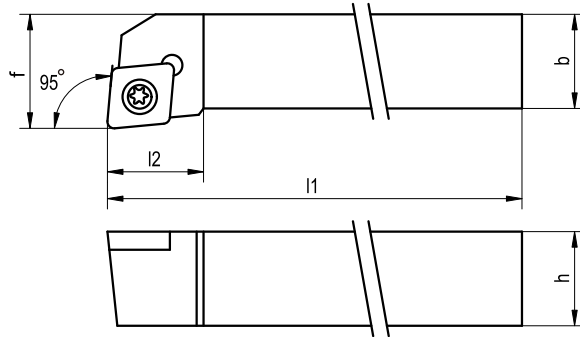


TOOL HOLDERS

A  
10

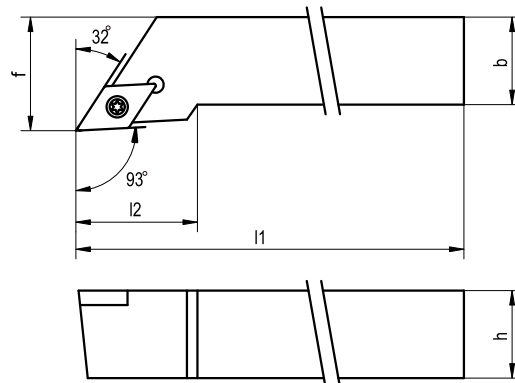
ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	h	b	l1	l2	f						
MVVNN 2020 K16	20	20	125	42	10	VNMG VNMA VNGA 1604	MSV163	MSP513	MCL2414	WS061030	3.0 mm 2.0 mm
MVVNN 2525 M16	25	25	150	42	12						
MVVNN 3232 P16	32	32	170	42	16						

## SCLCR/L



ORDERING CODE	Dimension					Insert	Screw	Wrench
	h	b	l1	l2	f			
SCLCR/L 0808 E06	8	8	70	10	10	 CCMT 0602 CCGT 0602	S025055	 T8
SCLCR/L 1010 H06	10	10	100	10	12			
SCLCR/L 1212 H09	12	12	100	16	16	 CCMT 0903 CCGT 09T3	S035080	T15
SCLCR/L 1616 H09	16	16	100	16	20			
SCLCR/L 2020 K12	20	20	125	25	25	 CCMT 1204 CCGT 1204	S050110B	T20
SCLCR/L 2525 M12	25	25	150	26	32			

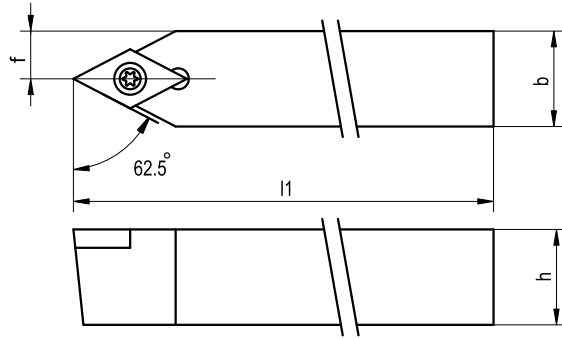
## SDJCR/L



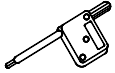


ORDERING CODE	Dimension				Insert	Screw	Wrench
	h	b	l1	f			
SDJCR/L 0808 H07	8	8	100	8	 DCMT 0702 DCGT 0702	S025055	 T8
SDJCR/L 1010 H07	10	10	100	10			
SDJCR/L 1212 H07	12	12	100	16			
SDJCR/L 1212 H11	12	12	100	12	 DCMT 11T3 DCGT 11T3	S035080	T15
SDJCR/L 1616 H11	16	16	100	16			
SDJCR/L 2020 K11	20	20	125	20			
SDJCR/L 2525 M11	25	25	150	25			

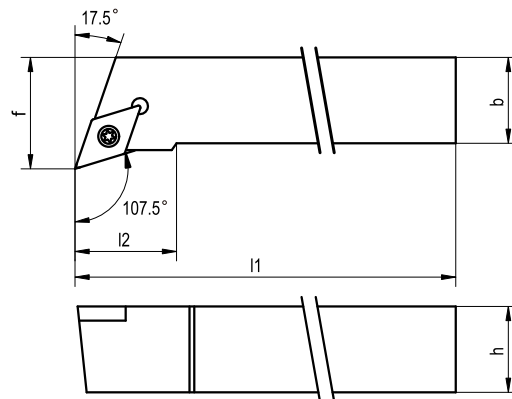




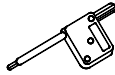
## SDNCN



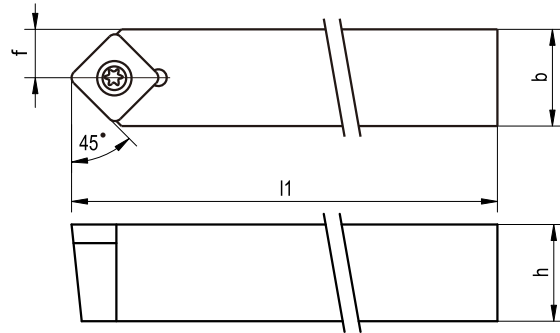
ORDERING CODE	Dimension				Insert	Screw	Wrench
	h	b	l1	f			
SDNCN 0808 H07	8	8	100	4	DCMT 0702 DCGT 0702	S025055	T8
SDNCN 1010 H07	10	10	100	5			
SDNCN 1212 H11	12	12	100	6	DCMT 11T3 DCGT 11T3	S035080	T15
SDNCN 1616 H11	16	16	100	8			
SDNCN 2020 K11	20	20	125	10			
SDNCN 2525 M11	25	25	150	12.5			



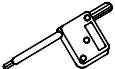
## SDQCR/L



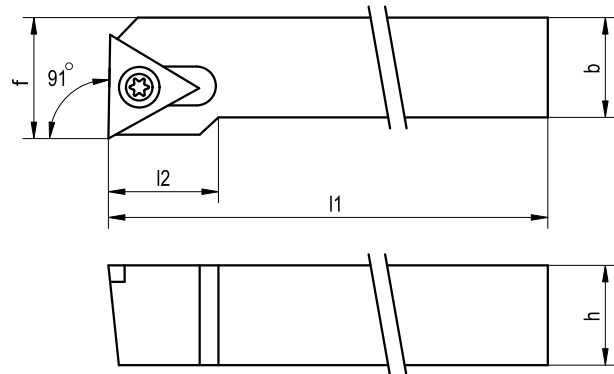
ORDERING CODE	Dimension				Insert	Screw	Wrench
	h	b	l1	f			
SDQCR/L 1010 H07	10	10	100	12	DCMT/DCGT 0702	S025055	T8
SDQCR/L 1212 H11	12	12	100	16			
SDQCR/L 1616 H11	16	16	100	20	DCMT 11T3 DCGT 11T3	S035080	T15
SDQCR/L 2020 K11	20	20	125	25			
SDQCR/L 2525 M11	25	25	150	32			



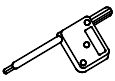
## SSDCN



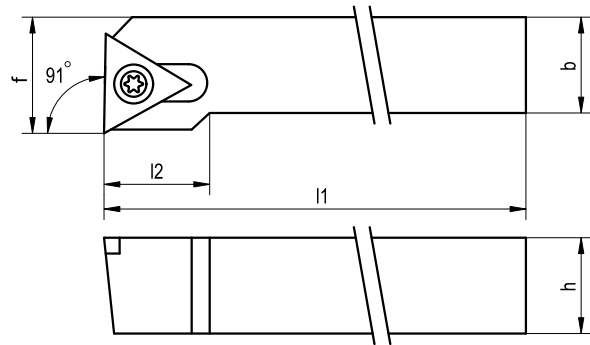
ORDERING CODE	Dimension				Insert	Screw	Wrench
	h	b	l1	f			
SSDCN 1212 H09	12	12	100	6	SCMT 09T3	S035080	T15
SSDCN 1616 H09	16	16	100	8			

## STFCR/L



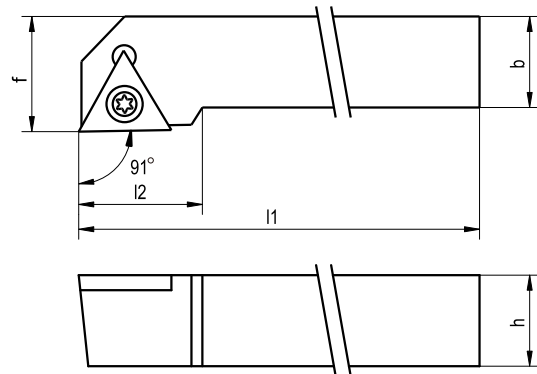
ORDERING CODE	Dimension					Insert	Screw	Wrench
	h	b	l1	l2	f			
STFCR/L 0808 H09	8	8	100	10	10	TCMT 0902 TCGT 0902	S022050	T7
STFCR/L 1010 H09	10	10	100	10	12			
STFCR/L 1212 H11	12	12	100	14	16	TCMT/TCGT 1102	S025055	T8
STFCR/L 1616 H11	16	16	100	19	20			
STFCR/L 2020 K16	20	20	125	19	25	TCMT 16T3 TCGT 16T3	S035080	T15
STFCR/L 2525 M16	25	25	150	19	32			

## STFP R/L



ORDERING CODE	Dimension					Insert	Screw	Wrench
	h	b	l1	l2	f			
STFPR/L 1010 H11	10	10	100	10	11	TPMT 1103	S030080	T9
STFPR/L 1212 H11	12	12	100	14	12			

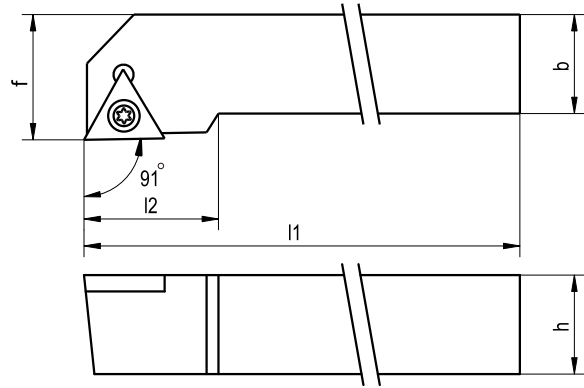
## STGCR/L



ORDERING CODE	Dimension					Insert	Screw	Wrench
	h	b	l1	l2	f			
STGCR/L 1212 H11	12	12	100	14	16	TCMT 1102 TCGT 1102	S025055	T8
STGCR/L 1616 H11	16	16	100	21	20			
STGCR/L 2020 K16	20	20	125	21	25	TCMT 16T3 TCGT 16T3	S040080B	T15
STGCR/L 2525 M16	25	25	150	21	32			

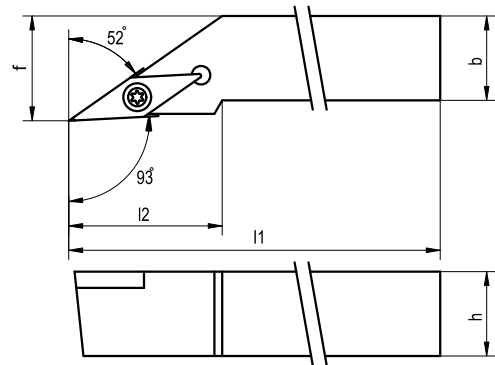


## STGPR/L



ORDERING CODE	Dimension					Insert	Screw	Wrench
	h	b	l1	l2	f			
STGPR/L 1010 H11	10	10	100	11	12	 TPMT 1103	 S030080	 T9
STGPR/L 1212 H11	12	12	100	14	16			

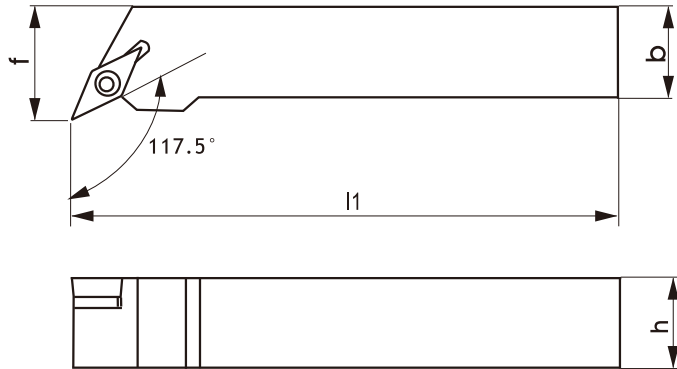
## SVJCR/L



ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Insert Screw	Wrench
	h	b	l1	f					
SVJCR/L 1010 H11	10	10	100	10.5	 VCMT 11T3 VCGT 11T3	 —	 —	 S025055	 T8
SVJCR/L 1212 H11	12	12	100	12.5					
SVJCR/L 1616 H11	16	16	100	16.5					
SVJCR/L 2020 K16	20	20	125	25	 VCMT 1604 VCGT 1604	 SSV163	 SDN535	 S035120	 T15
SVJCR/L 2525 M16	25	25	150	32					



## SVPCR/L

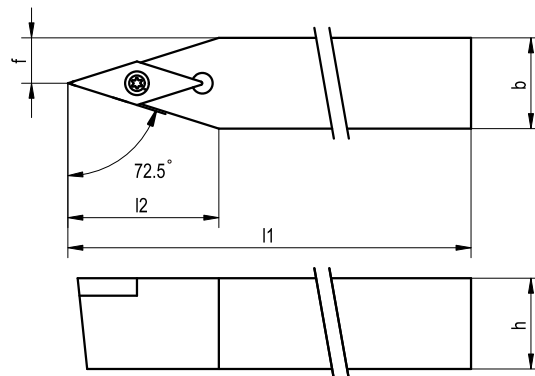


TOOL HOLDERS

A 16

ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Insert Screw	Wrench
	h	b	l1	f					
SVPCR/L 1010 H11	10	10	100	14.5	VCMT 1103 VCGT 1103	—	—	S025055	T8
SVPCR/L 1212 H11	12	12	100	16.5					
SVPCR/L 1616 H11	16	16	100	20.5					
SVPCR/L 2020 K16	20	20	125	25	VCMT 1604 VCGT 1604	MSV163	SDN535	S035120	T15
SVPCR/L 2525 M16	25	25	150	32					

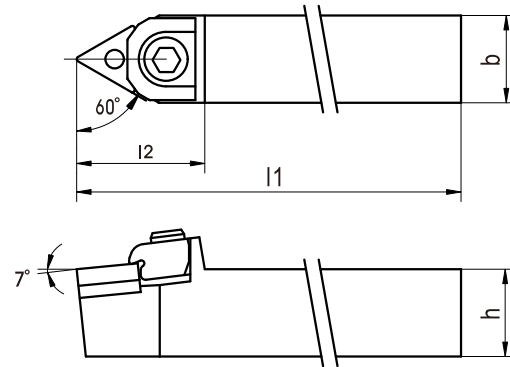
## SVVCN



ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Insert Screw	Wrench
	h	b	l1	f					
SVVCN 1010 H11	10	10	100	5	VCMT 1103 VCGT 1103	—	—	S025055	T8
SVVCN 1212 H11	12	12	100	6					
SVVCN 1616 H11	16	16	100	8					
SVVCN 2020 K16	20	20	125	10	VCMT 1604 VCGT 1604	MSV163	SDN535	S035120	T15
SVVCN 2525 M16	25	25	150	12.5					

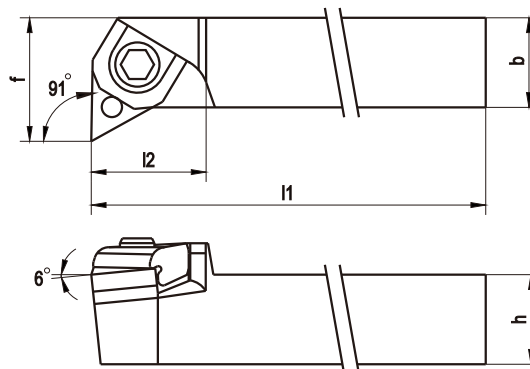


## WTENN



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	E Ring	Wrench
	h	b	l1	l2	f							
WTENN 1616 H16	16	16	100	31	10							
WTENN 2020 K16	20	20	125	31	10							
WTENN 2525 M16	25	25	150	32	12.5							
WTENN 2525 M22	25	25	150	40	14							
WTENN 3232 P22	32	32	170	40	16							
WTENN 4040 S22	40	40	250	40	22							

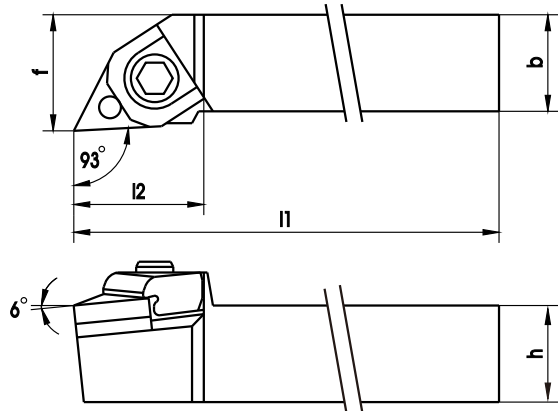
## WTFNR/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	E Ring	Wrench
	h	b	l1	l2	f							
WTFNR/L 2020 K16	20	20	125	31	25							
WTFNR/L 2525 M16	25	25	150	35	32							

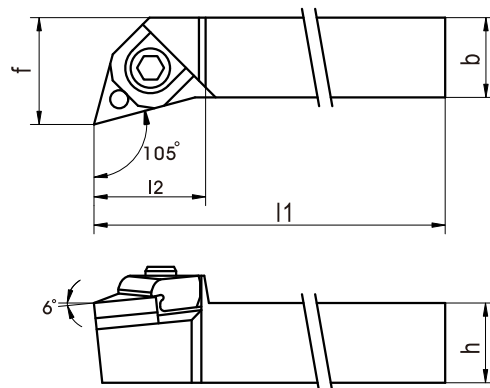


## WTJN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	E Ring	Wrench
	h	b	l1	l2	f							
WTJNR/L 1616 H16	16	16	100	32	20	TNMG TNMA TNGA 1604	WST163	WSP30514	WC16T	WC0525E	E4	4.0 mm
WTJNR/L 2020 K16	20	20	125	32	25							
WTJNR/L 2525 M16	25	25	150	32	32							
WTJNR/L 2525 M22	25	25	150	40	32	TNMG TNMA TNGA 2204	WST224	WSP40617	WC22T	WC0624E	E5	3.0 mm
WTJNR/L 3232 P22	32	32	170	40	38							
WTJNR/L 4040 S22	40	40	250	48	48							

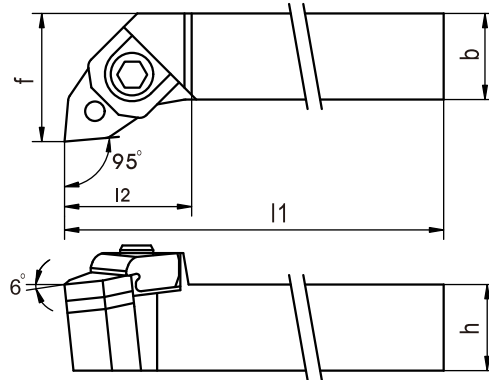
## WTQN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	E Ring	Wrench
	h	b	l1	l2	f							
WTQNR/L 1616 H16	16	16	100	31	20	TNMG TNMA 1604	WST163	WSP30514	WC16T	WC0525E	E4	4.0 mm
WTQNR/L 2020 K16	20	20	125	32	25							
WTQNR/L 2525 M16	25	25	150	32	32							

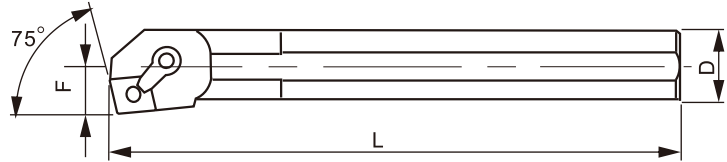


## WWLN R/L



ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp	Clamp screw	E Ring	Wrench
	h	b	l1	l2	f							
WWLNR/L 2020 K08	20	20	125	32	25	 WNMG WNMA 0804	 WSW084	 WSP40617	 WC08C	 WC0525E	 E4	 4.0 mm
WWLNR/L 2525 M08	25	25	150	32	32							
WWLNR/L 3232 P08	32	32	170	40	32							

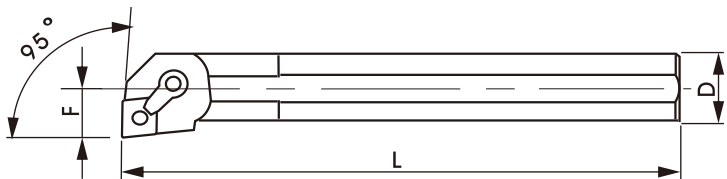
## MCKNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	D	F	L	B						
S20R MCKNR 12	20	13	200	25	CNMG 1204	—	MSP511	MCL1708	WS050820	2.5 mm
S25R MCKNR 12	25	17	200	32						
S32S MCKNR 12	32	22	250	40		MSC124	MSP617	MCL1814	WS061030	3.0 mm

• Marked: Left-hand tool holder: make to order.

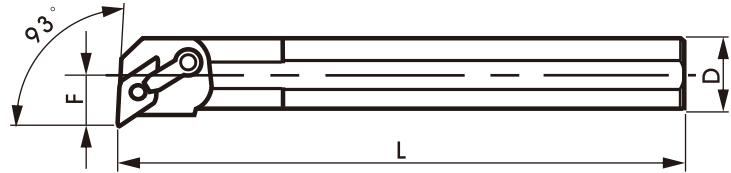
## MCLNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	D	F	L	B						
S20R MCLNR 12	20	13	200	25	CNMG 1204	—	MSP511	MCL1708	WS050820	2.5 mm
S25R MCLNR 12	25	17	200	32						
S32S MCLNR 12	32	22	250	40		MSC124	MSP617	MCL1814	WS061030	3.0 mm
S40T MCLNR 12	40	27	300	50						
S50U MCLNR 12	50	35	350	63						

• Marked: Left-hand tool holder: make to order.

## MDUNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	D	F	L	B						
S25R MDUNR 15	25	17	200	32	DNMG 1504	MSD154	MSP617	MCL2114	WS061030	3.0 mm
S32S MDUNR 15	32	22	250	40						
S40T MDUNR 15	40	27	300	50						
S50U MDUNR 15	50	35	350	63						

● Marked: Left-hand tool holder: make to order.

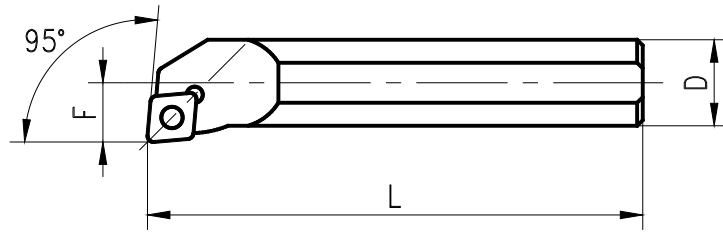
## MTUNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	Clamp screw	Wrench
	D	F	L	B						
S20R MTUNR 16	20	13	200	25	TNMG 1604	—	MSP510	MCL1708	WS050820	2.5 mm
S25R MTUNR 16	25	17	200	32						
S32S MTUNR 16	32	22	250	40		WST163	MSP513	MCL1814	WS061030	3.0 mm
S40T MTUNR 16	40	26.5	300	50						
S50U MTUNR 16	50	31	350	63						

● Marked: Left-hand tool holder: make to order.

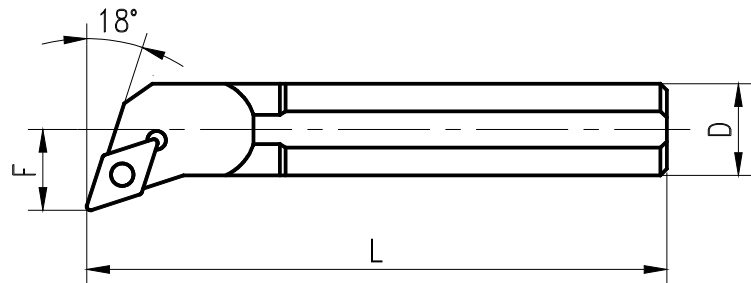
## SCLCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S08H SCLCR 06	8	6	100	12	 CCMT 0602 CCGT 0602	 S025055	 T8
S10K SCLCR 06	10	7	125	14			
S12M SCLCR 06	12	9	150	16			
S16Q SCLCR 06	16	11	180	20			
S12M SCLCR 09	12	9	150	16	 CCMT 09T3 CCGT 09T3	 S035080	 T15
S16Q SCLCR 09	16	11	180	20			
S20R SCLCR 09	20	13	200	25			
S25T SCLCR 09	25	17	300	32			
S20R SCLCR 12	20	13	200	25	 CCMT 1204 CCGT 1204	 S050110B	 T20
S25T SCLCR 12	25	17	300	32			

• Marked: Left-hand tool holder: make to order.

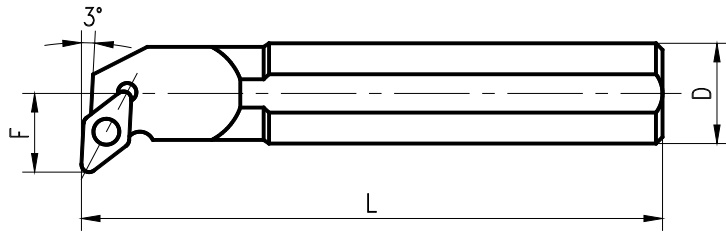
## SDQCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S10M SDQCR 07	10	7	150	13	 DCMT 0702 DCGT 0702	 S025055	 T8
S12M SDQCR 07	12	9	150	16			
S16Q SDQCR 11	16	11	180	20	 DCMT 11T3 DCGT 11T3	 S035080	 T15
S20R SDQCR 11	20	13	200	25			
S25R SDQCR 11	25	17	200	32			

• Marked: Left-hand tool holder: make to order.

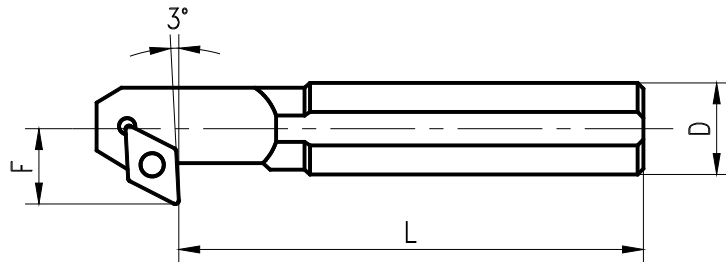
## SDUCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S10M SDUCR 07	10	7	150	13	DCMT 0702 DCGT 0702	S025055	T8
S12M SDUCR 07	12	9	150	16			
S16Q SDUCR 11	16	11	180	20	DCMT 11T3 DCGT 11T3	S035080	T15
S20R SDUCR 11	20	13	200	25			
S25R SDUCR 11	25	17	200	32			

• Marked: Left-hand tool holder: make to order.

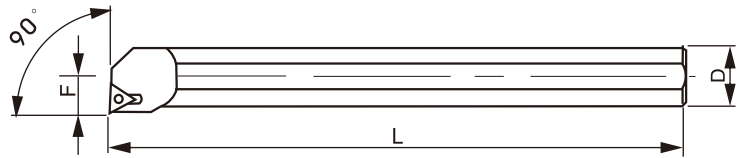
## SDZCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S10M SDZCR 07	10	8.5	150	14	DCMT 0702 DCGT 0702	S025055	T8
S12M SDZCR 07	12	10.5	150	17			
S16Q SDZCR 07	16	12.5	180	21			
S20R SDZCR 11	20	15.5	200	26	DCMT 11T3 DCGT 11T3	S035080	T15
S25R SDZCR 11	25	18	200	33			

• Marked: Left-hand tool holder: make to order.

## STFCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S08H STFCR 09	8	6	100	12	 TCMT 0902 TCGT 0902	S022055	T7
S10K STFCR 09	10	7	125	14			
S12M STFCR 11	12	9	150	16	 TCMT 1102 TCGT 1102	S025055	T8
S16Q STFCR 11	16	11	180	20			
S20R STFCR 11	20	13	200	25	 TCMT 16T3 TCGT 16T3	S035080	T15
S20R STFCR 16	20	11.5	200	25			
S25R STFCR 16	25	17	200	32			

• Marked: Left-hand tool holder: make to order.

## STFPR

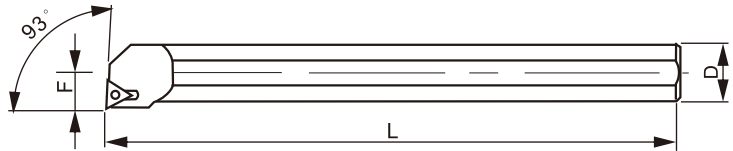


ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S08H STFPR 09	8	5	100	11	 TPMT 0902 TPGX 0902	S025055	T8
S10K STFPR 09	10	7	125	14			
S12M STFPR 11	12	9	150	16	 TPMT 1103 TPGT 1103 TPGX 1103	S030080	T9
S16Q STFRR 11	16	11	180	20			
S20R STFPR 11	20	13	200	25			

• Marked: Left-hand tool holder: make to order.



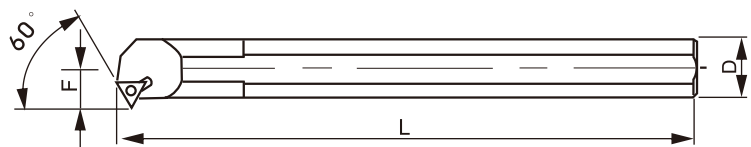
## STUPR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S10K STUPR 09	10	6	125	12	TPMT/TPGX 0902	S025055	T8
S10K STUPR 11	10	6	125	12	TPMT 1103 TPGX 1103	S030080	T9
S12M STUPR 11	12	8	150	16			
S16Q STUPR 11	16	10	180	20			
S20R STUPR 11	20	12.5	200	25	TPMT 1603	S040080B	T15
S20R STUPR 16	20	12	200	25			
S25R STUPR 16	25	14.5	200	32			

• Marked: Left-hand tool holder: make to order.

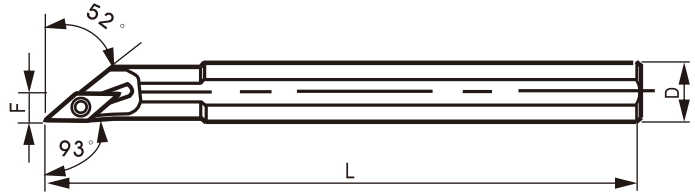
## STWCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S08H STWCR 09	8	6	100	10	TCMT 0902	S022055	T7
S10K STWCR 11	10	7	125	13	TCMT 1102	S025055	T8
S12M STWCR 11	12	9	150	16			
S16Q STWCR 11	16	11	180	20			
S20R STWCR 11	20	13	200	25			

• Marked: Left-hand tool holder: make to order.

## SVJCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S12M SVJCR 11	12	7	150	14	VCMT 1103	S025055	T8
S16Q SVJCR 11	16	9	180	18	VCGT 1103		
S16Q SVJCR 16	16	9	180	18	VCMT 1604 VCGT 1604	S035080	T15
S20R SVJCR 16	20	10.5	200	21			
S25R SVJCR 16	25	13.5	200	27			
S32S SVJCR 16	32	17	250	34			

● Marked: Left-hand tool holder: make to order.

## SVQCR

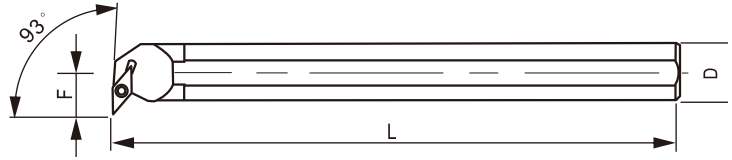


ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S16Q SVQCR 11	16	13	180	22	VCMT 1103	S025055	T8
S20R SVQCR 11	20	15	200	27	VCGT 1103		
S25R SVQCR 16	25	20.5	200	33	VC□T 1604	S035080	T15

● Marked: Left-hand tool holder: make to order.



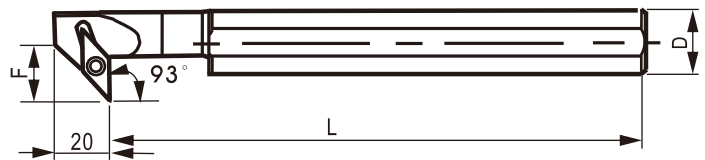
## SVUCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S16Q SVUCR 11	16	13	180	22	VCMT 1103	S025055	T8
S20R SVUCR 11	20	15	200	27	VCMT 1103 VCGT 1103		
S25R SVUCR 16	25	20.5	200	33	VC□T 1604	S035080	T15

• Marked: Left-hand tool holder: make to order.

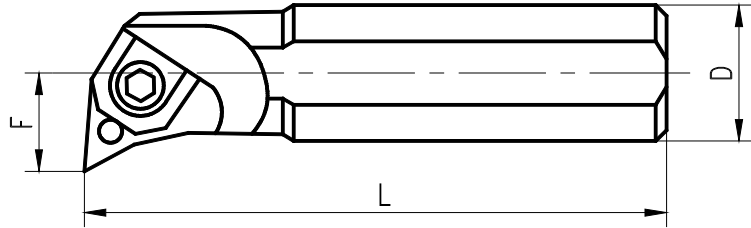
## SVZCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
S25R SVZCR 16	25	20.5	200	35	VCMT 1604 VCGT 1604	S035080	T15
S32S SVZCR 16	32	22	250	40			
S40T SVZCR 16	40	27	300	50			

• Marked: Left-hand tool holder: make to order.

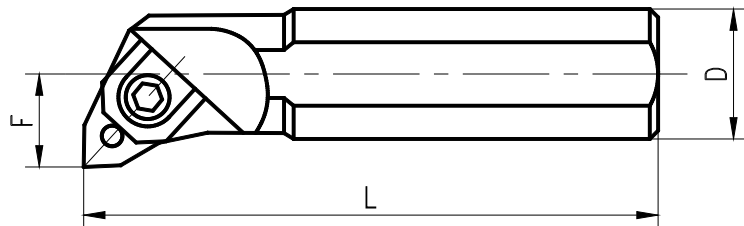
## WTUNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	clamp screw	E Ring	Wrench
	D	F	L	B							
S25T WTUNR 16	25	13	300	32	TNMG 1604	WST163	WSP30514	WC16T	WC0525E	E4	4.0 mm
S32U WTUNR 16	32	17	350	40							
S40V WTUNR 16	40	27	400	50							
S50W WTUNR 16	50	35	450	63	TNMG 2204	WST224	WSP40617	WC22T	WC0624E	E4	3.0 mm
S40V WTUNR 22	40	27	400	50							
S50W WTUNR 22	50	35	450	63							

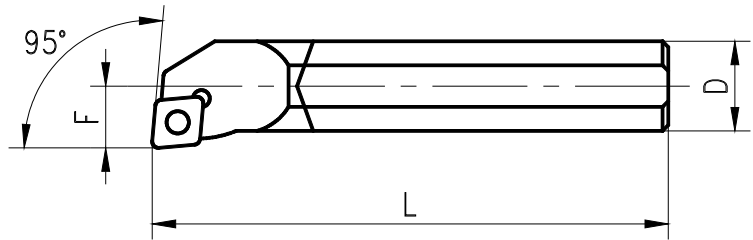
● Marked: Left-hand tool holder: make to order.

## WWLNR



ORDERING CODE	Dimension				Insert	Shim	Shim screw	Clamp	clamp screw	E Ring	Wrench
	D	F	L	B							
S25T WWLNR 08	25	13	300	32	WNMG WNMA 0804	—	WSP00611	WC08C	WC0525E	E4	4.0 mm
S32U WWLNR 08	32	17	350	40							
S40V WWLNR 08	40	27	400	50		WSW084	WSP40617				
S50W WWLNR 08	50	35	450	63							

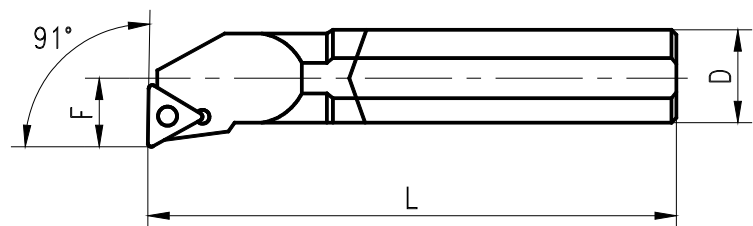
## SCLCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
C08K SCLCR 06	8	5	125	10	CCMT 0602	S025055	T8
C10M SCLCR 06	10	6	150	12			
C12Q SCLCR 06	12	7	180	14			
C12Q SCLCR 09	12	7	180	14	CCMT 09T3 CCGT 09T3	S035080	T15
C16R SCLCR 09	16	9	200	18			
C20S SCLCR 09	20	11	250	22			

● Marked: Left-hand tool holder: make to order.

## STFCR



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
C08K STFCR 09	8	5	125	10	TCMT/TCGT 0902	S022050	T7
C10K STFCR 11	10	7	125	14	TCMT 1102 TCGT 1102	S025055	T8
C12M STFCR 11	12	9	150	16			
C16R STFCR 11	16	9	200	18			
C20S STFCR 11	20	11	250	22			

● Marked: Left-hand tool holder: make to order.



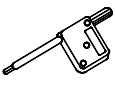


## STUPR/STUBR



TOOL HOLDERS

A  
30

ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	F	L	B			
C06H STUBR 06	6	3.5	100	7	TBGT 0601	S020040	T6
C08K STUPR 08	8	5	125	10	TPGT 0802	S020045	T6
C10M STUPR 08	10	6	150	12	TPMT 0902	S025050	T7
C10M STUPR 09	10	6	150	12			
C10M STUPR 11	10	6	150	12			
C12Q STUPR 11	12	7	180	14			
C16R STUPR 11	16	9	200	18	TPMT 1103	S030080	T9
C20S STUPR 11	20	11	250	22			
C20S STUPR 16	20	11	250	22			
C25T STUPR 16	25	14	300	28	TPMT 1604	S040090	T15

● Marked: Left-hand tool holder: make to order.



GRADE	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40	
P1080		■	■													
P2010			■	■	■											
M1010							■	■	■							
M1070							■	■	■							
K0050											■	■	■			
K1090												■	■	■		
P2020		■	■	■				■	■							
P2030		■	■	■												

GRADE	TaeguTec	Mitsubishi	Sumitomo	Tungaloy	Kyocera
P1080	TT8115	UE6005	AC820P	T9115	CA5505
P2010	TT8125	UE6020	AC830P	T9125	CA5525
M1010	TT5080	VP10RT	AC610M	AH710	PR915
M1070	TT8020	VP15TF	AC530U	AH730	PR1125
K0050	TT7005	UC5105	AC410K	T5105	CA4010
K1090	TT7015	UC5115	AC700G	T5115	CA4115



## TURNING INSERT

### DESIGNATION SYSTEM

1 Shape			2 Clearance Angle		4 Type		
<b>C</b>	<b>D</b>	<b>E</b>	<b>N</b>	<b>B</b>	<b>A</b>	<b>G</b>	<b>M</b>
<b>H</b>	<b>K</b>	<b>R</b>	<b>C</b>	<b>P</b>	<b>R</b>	<b>W</b>	<b>T</b>
			<b>Special : X</b>				
<b>S</b>	<b>T</b>	<b>V</b>					
<b>W</b>							

↑  
**T**  
1

↑  
**N**  
2

↑  
**M**  
3

↑  
**G**  
4

↓

### 3 Tolerance

Class	m	t	d
	<b>A</b>	±0.005	±0.025
<b>F</b>	±0.005	±0.025	±0.013
<b>C</b>	±0.013	±0.025	±0.025
<b>H</b>	±0.013	±0.025	±0.013
<b>E</b>	±0.025	±0.025	±0.025
<b>G</b>	±0.025	±0.13	±0.025
<b>M</b>	±0.08 - ±0.18	±0.13	±0.05 - ±0.13
<b>U</b>	±0.13 - ±0.38	±0.13	±0.08 - ±0.25

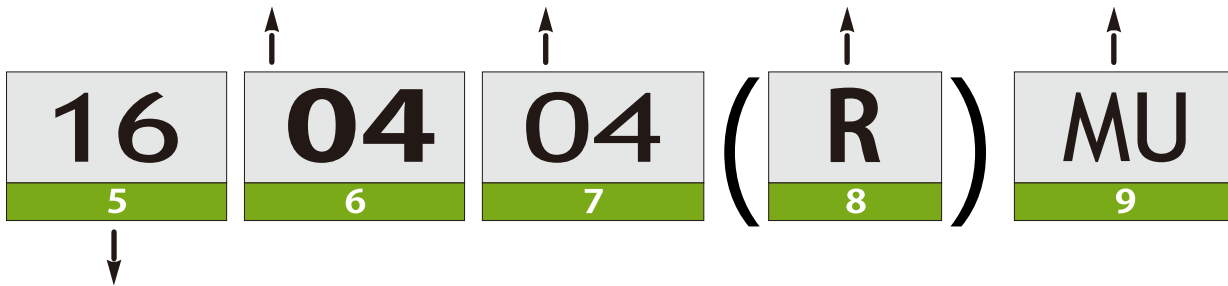
Diameter of IC	Tolerance			
	On m		On d	
	Class M	Class U	Class M	Class U
<b>6.35</b>	±0.08	±0.13	±0.05	±0.08
<b>9.52</b>	±0.08	±0.13	±0.05	±0.08
<b>12.70</b>	±0.13	±0.20	±0.08	±0.13
<b>15.88</b>	±0.15	±0.27	±0.10	±0.18
<b>19.05</b>	±0.15	±0.27	±0.10	±0.18
<b>25.40</b>	±0.18	±0.38	±0.13	±0.25
<b>31.75</b>	±0.18	±0.38	±0.13	±0.25



## TURNING INSERT

### DESIGNATION SYSTEM

6 Thickness	7 Corner Radius	8 Hand of Insert	9 Chipbreaker
<p>           01 = 1.59mm            T1 = 1.98mm            02 = 2.38mm            T2 = 2.78mm            03 = 3.18mm            T3 = 3.97mm            04 = 4.76mm            05 = 5.56mm            06 = 6.35mm            07 = 7.94mm            09 = 9.52mm         </p>	<p>           01 = 0.1mm            02 = 0.2mm            04 = 0.4mm            05 = 0.5mm            08 = 0.8mm            12 = 1.2mm            16 = 1.6mm            20 = 2.0mm            24 = 2.4mm            32 = 3.2mm         </p>	<p>R: Right hand</p> <p>L: Left hand</p>	<p>           S: 小槽 (Small groove)            M: 中槽 (Medium groove)            L: 大槽 (Large groove)         </p> <p>           S: 鋼鐵槽 (Steel groove)            U: 不鏽鋼槽 (Stainless steel groove)         </p>



5 Cutting Edge Length										
I.C(mm)	C	D	E	R	S	T	V	W	K	H
3.97	03	04			03	06		02		
4.76	04	05			04	08	08			
5.56	05	06			05	09	09	03		
6.35	06	07			06	11	11	04		
7.94	08	09			07	13	13	05		
8.0				08						
9.52	09	11		09	09	16	16	06	16	
10.0				10						
12.0				12						
12.7	12	15	13		12	22	22	08		05
15.88	16	19		15	15	27	27	10		
16.0				16						
19.05	19	23		19	19	33	33	13		10
20.0				20						
25.0				25						
25.4	25	31		25	25	44	44	17		
31.75	32	38			31	54	54	21		
32.0				32						



Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	CNMA 120404	0.15~0.50	1.00~5.00					330	250
	CNMA 120408	0.15~0.60	1.00~5.00					330	250
	CNMA 120412	0.15~0.60	1.00~5.00					330	250
	CNMG 120404	0.17~0.45	1.00~5.00		265		140	330	250
	CNMG 120408	0.23~0.60	2.00~5.00		280		160	330	260
	CNMG 190612	0.30~0.60	3.00~8.00		300				330
	CNMG 120408-LS	0.25~0.70	2.50~6.00		270				
	CNMG 120404-MS	0.10~0.40	0.40~5.00		250		150		
	CNMG 120408-MS	0.15~0.50	0.50~5.00		250		150		260
	CNMG 120412-MS	0.15~0.50	0.50~5.00		250		150		260
	CNMG 190612-MS	0.25~0.55	3.00~8.00		290				
	CNMG 120404-MSS	0.10~0.40	0.40~3.50		270		170		
	CNMG 120404-MU	0.10~0.30	0.80~4.00		300		150		
	CNMG 120408-MU	0.12~0.40	1.00~4.00		300		150		
	CNMG 120408-SS	0.10~0.30	0.80~3.50		280				
	CCMT 060204-M	0.06~0.18	0.30~2.00		310		170		280
	CCMT 060208-M	0.08~0.25	0.35~3.00		310		180		
	CCMT 09T304-M	0.08~0.25	0.35~3.00		310		170		280
	CCMT 09T308-M	0.10~0.28	0.50~3.00		320		180		
	CCMT 120408-M	0.10~0.30	0.70~4.00		340				290




Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	CCMT 09T304-MSS	0.07~0.20	0.40~2.00				170		
	CCMT 09T308-MSS	0.07~0.20	0.40~2.00				170		
	CCMT 060204-S	0.05~0.15	0.30~1.50		240		190		
	CCMT 09T304-S	0.10~0.25	0.60~2.00		240		190		
	CCMT 09T308-S	0.10~0.25	0.60~2.00		240		190		
	DNMG 150608	0.25~0.55	1.50~4.00						250
	DNMG 150612	0.25~0.55	1.50~4.00						250
	DNMG 150408-MS	0.15~0.50	0.50~4.00		300				250
	DNMG 150612-MS	0.17~0.55	0.60~4.00		300				250
	DCMT 070204-M	0.08~0.25	0.50~3.00		310		170		330
	DCMT 11T304-M	0.10~0.25	0.60~1.50	340	310		170		330
	DCMT 11T304-S	0.08~0.25	0.50~3.00		310				
	RCMX 100300	0.25~0.50	1.50~4.00		210				220
	RCMX 120400	0.30~0.60	2.50~5.00		230				250
	RCMX 160600	0.40~0.75	3.00~7.00		250				
	RCMX 200600	0.48~0.90	3.50~9.00		250				270
	RCMX 250700	0.55~1.20	4.00~12.0		250				280
	SNMG 120408	0.23~0.60	1.50~5.00		265		150	320	250



刀片 Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	SNMG 120408-MS	0.15~0.50	0.50~5.00		280				265
	SNMG 120408-MU	0.12~0.40	1.00~4.00				120		
	SCMT 09T304-M	0.08~0.25	0.35~3.00		280		160		
	SCMT 09T308-M	0.10~0.28	0.50~3.00		280		160		
	TNMA 160404	0.15~0.30	1.00~4.00					330	250
	TNMA 160408	0.15~0.40	1.00~4.00					330	250
	TNMG 160404	0.17~0.45	1.50~3.50		235		150	330	250
	TNMG 160408	0.17~0.55	2.00~3.50		235		150	330	250
	TNMG 220408	0.17~0.55	2.00~5.00		260		170		
	TNMG 160404-MS	0.15~0.40	1.00~3.50		310		150	265	
	TNMG 160408-MS	0.15~0.50	0.40~4.50		310		150		250
	TNMG 220408-MS	0.17~0.50	1.20~5.00		310				
	TNMG 160404-MSS	0.10~0.30	0.80~3.50		300		150		
	TNMG 160404-MU	0.10~0.30	0.80~3.50		300		150		
	TNMG 160408-MU	0.12~0.40	1.00~3.50		300		150		







Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	TNMG 160404-SS	0.10~0.30	0.80~3.50		310		140		
	TNMG 160404-SU	0.15~0.40	1.00~3.50				150		
	TNMG 160408-SU	0.15~0.50	1.50~3.50				150		
	TNMG 160404R/L	0.15~0.30	0.80~3.00		310		130		320
	TNMG 160408R/L	0.20~0.40	1.00~3.50		310		130		320
	TNMG 270612-LS								
	TCMT 110202-M	0.03~0.15	0.10~0.15		310		150		320
	TCMT 110204-M	0.10~0.25	0.60~3.00		310		150		320
	TCMT 16T308-M	0.10~0.30	1.00~5.00		310		160		330
	VNMG 160404	0.17~0.40	1.00~3.00		265		150		290
	VNMG 160408	0.17~0.50	1.50~3.00		265				290
	VNMG 160404-MS	0.15~0.36	0.40~3.00		290				310
	VNMG 160408-MS	0.17~0.36	0.50~3.00		290			330	310
	VNMG 160404-MU	0.15~0.36	0.80~3.00				160		
	VNMG 160408-MU	0.17~0.36	1.00~2.50				160		



Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	VNMG 160404-MX	0.15~0.36	0.40~3.00		290				
	VNMG 160404-SS	0.05~0.30	0.30~2.50		310				
	VCMT 160404-M	0.10~0.25	0.60~3.00		280		150		310
	VCMT 160408-M	0.10~0.30	1.00~3.00		280		150		310
	WNMA 080408	0.15~0.70	1.00~5.00					310	250
	WNMA 080412	0.20~0.80	1.50~5.00					310	250
	WNMG 080408-MS	0.15~0.50	0.50~4.00		280				310
	WNMG 080412-MS	0.17~0.50	0.60~4.00		280				
	WNMG 080408-MU	0.12~0.40	1.0~4.0	300	300	170	150		320
	WNMG 080412-MU	0.15~0.40	0.10~4.0		300		150		



Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)
		feed (mm/rev)	ap (mm)	K10
	CCGX 060204-AL	0.02-0.15	0.10-3.00	•
	CCGX 09T308-AL	0.02-0.40	0.20-6.00	•
	CCGX 120408-AL	0.04-0.80	0.10-5.50	•
	DCGX 11T304-AL	0.03-0.50	0.10-5.00	•
	TCGX 090204-AL	0.02-0.30	0.10-3.50	•
	TCGX 16T304-AL	0.04-0.50	0.50-6.00	•
	VCGX 160404-AL	0.03-0.40	0.10-5.00	•
	VCGX 160412-AL	0.03-0.50	0.50-5.00	•

# 2023 Product Catalog



# HANWOO

*PRECISION CUTTING TOOLS*





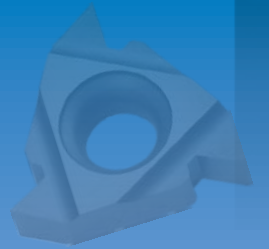
## THREADING INSERT DESIGNATION SYSTEM

1 Insert Size	2 Application	3 Hand of Tool														
<table border="1"> <thead> <tr> <th>L (mm)</th> <th>IC</th> </tr> </thead> <tbody> <tr> <td>06</td> <td>5/32</td> </tr> <tr> <td>08</td> <td>3/16</td> </tr> <tr> <td>11</td> <td>1/4</td> </tr> <tr> <td>16</td> <td>3/8</td> </tr> <tr> <td>22</td> <td>1/2</td> </tr> <tr> <td>27</td> <td>5/8</td> </tr> </tbody> </table> 	L (mm)	IC	06	5/32	08	3/16	11	1/4	16	3/8	22	1/2	27	5/8	<p>E – External</p> <p>N – Internal</p> <p>U – Type</p>	<p>R – right-hand</p> <p>L – Left-hand</p> <p>RL – Right-hand Left-hand</p>
L (mm)	IC															
06	5/32															
08	3/16															
11	1/4															
16	3/8															
22	1/2															
27	5/8															
		<p>4 Type</p> <p>M – Pressed chipbreaker</p> <p><input type="checkbox"/> – No indication regular type</p>														

<b>16</b>	<b>E</b>	<b>R</b>	<b>M</b>	<b>1.50</b>	<b>ISO</b>	<b>CV15</b>
1	2	3	4	5	6	7

5 Pitch	6 Thread Standard	7 Grade																					
<p>Full Profile (Value by number)</p> <p>0.35 - 9.0 mm 72 - 2 TPI</p> <p>Partial Profile (Range by letter)</p> <table border="1"> <thead> <tr> <th></th> <th>mm</th> <th>TPI</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.5~1.5</td> <td>48~16</td> </tr> <tr> <td>AG</td> <td>0.5~3.0</td> <td>48~8</td> </tr> <tr> <td>G</td> <td>1.75~3.0</td> <td>14~8</td> </tr> <tr> <td>N</td> <td>3.5~5.0</td> <td>7~5</td> </tr> <tr> <td>U</td> <td>5.5~9.0</td> <td>4.5~2.75</td> </tr> <tr> <td>Q</td> <td>5.5~6.0</td> <td>4.5~4</td> </tr> </tbody> </table>		mm	TPI	A	0.5~1.5	48~16	AG	0.5~3.0	48~8	G	1.75~3.0	14~8	N	3.5~5.0	7~5	U	5.5~9.0	4.5~2.75	Q	5.5~6.0	4.5~4	<p>60 – Partial Profile 60°</p> <p>55 – Partial Profile 55°</p> <p>ISO – ISO Metric</p> <p>UN – American</p> <p>W – Whitworth</p> <p>BSPT – British BSPT</p> <p>TR – Trapeze DIN 103</p> <p>ACME – ACME</p> <p>STACME – Stub ACME</p> <p>NPT – NPT</p> <p>ROUND – DIN405</p> <p>ABUT – American Buttress</p> <p>SAGENGWINDE – DIN405</p>	<p>COATED</p> <p>CV09</p> <p>CV15</p> <p>CV16</p> <p>UNCOATED</p> <p>H13S</p>
	mm	TPI																					
A	0.5~1.5	48~16																					
AG	0.5~3.0	48~8																					
G	1.75~3.0	14~8																					
N	3.5~5.0	7~5																					
U	5.5~9.0	4.5~2.75																					
Q	5.5~6.0	4.5~4																					

**CV09**



# GRADE FAMILY

## Threading Grades

GRADE	ISO	P01	P10	P20	P40	M10	M20	M30	M40	K01	K10	K20	K40
CV09	P10 M10	■				■							
CV15	P20 M20		■			■							
CV16	P20 M30		■			■						■	
H13S	K10									■			

GRADE	APPLICATION
CV09	for medium speed cutting stainless steel, alloy steel
CV15	for medium speed cutting stainless steel, alloy steel
CV16	for low-medium speed cutting stainless steel, steel
H13S	for general cutting cast iron, non-ferrous, hardened steel

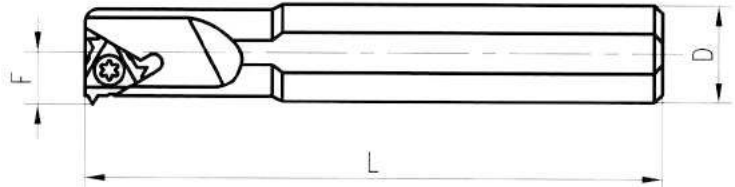
## Grades for Brazed Tool

GRADE	ISO	P01	P10	P20	P40	M10	M20	M30	M40	K01	K10	K20	K40
SIP	P05, P10	■											
AU 20	P20,M20		■			■							
H13	K10									■			
SIB	P01	■											
UIB	P25,M25			■		■							
CH05	K01									■			

GRADE	APPLICATION
SIP	for high speed cutting steel, carbon steel
AU 20	for medium-high speed cutting stainless steel, alloy steel
H13	for general cutting cast iron, non-ferrous
SIB	finishing for steel, carbon steel
UIB	for medium speed cutting stainless steel, alloy steel
CH05	for general cutting hardened steel, cast iron, non-ferrous



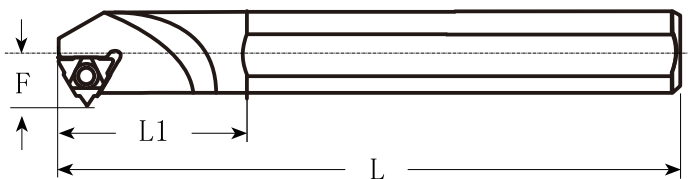
## SINR



ORDERING CODE	Dimension			Insert	Shim	Screw	Shim screw	Wrench
	D	F	L					
SINR 0712-06	12	3.7	100	06NR	—	S020045	—	T6
SINR 0916-08	16	5.1	125	08NR	—	S022055	—	T7
SINR 1010-11	10	5.2	150	11NR	—	S0300805	—	T10
SINR 1012-11	12	5.2	150					
SINR 1216-11	16	6.3	150					
SINR 1516-11	16	7.5	150					
SINR 2016-16	16	10	150	16NR	—	S035120	—	T15
SINR 2420S-16	20	12	180	16NR	Al16S	S035120	HCM030506	T15
SINR 3025S-16	25	15	200					
SINR 3732S-16	32	18.5	250					
SINR 4440S-16	40	23.7	300					
SINR 2420-22	20	13.9	180	22NR	—	S045110	—	T20
SINR 4032S-27	32	22.6	250	27NR	Al27	S050220	HCM050809	T25
SINR 4840S-27	40	26.6	300					

● Marked: Left-hand type purchase back to customer order

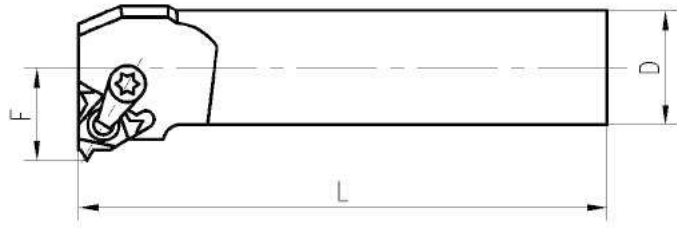
## SINR U-TYPE



ORDERING CODE	Dimension			Insert	Shim	Screw	Shim screw	Wrench
	D	F	L					
SINR 3832S 22U	32	24.4	250	22UNR	AIE22U	S045150	HCM040706	T15
SINR 4640S 22U	40	28.1	300					
SINR 4032S 27U	32	25.8	250	27UNR	AIE27U	S050220	HCM050809	T25
SINR 4840S 27U	40	29.4	300					

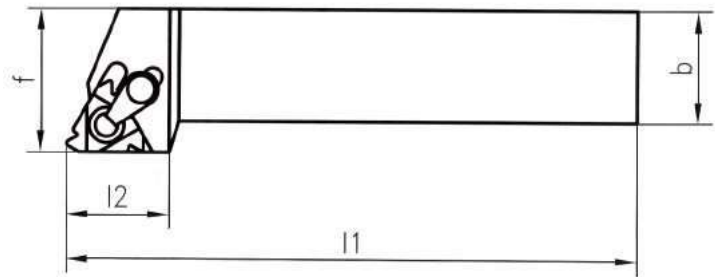


## CNR



ORDERING CODE	Dimension			Insert	Shim	Shim screw	Clamp+Screw/SET		Wrench
	D	F	L						
CNR 3025S-22	25	16	200	22NR		HFM030508			T15
CNR 3732S-22	32	19.5	250						
CNR 4440S-22	40	23.5	300						

## CER

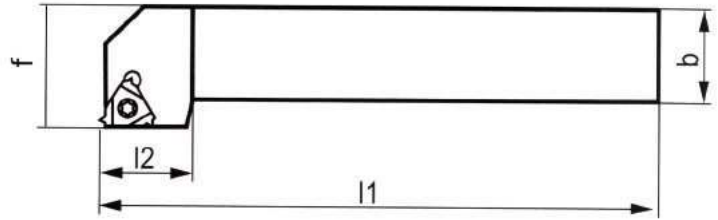


ORDERING CODE	Dimension					Insert	Shim	Shim screw	Clamp+Screw/SET		Wrench
	h	b	l1	l2	f						
CER 1616 H16	16	16	100	22	20	16ER	AE16S	HFM030508			T15
CER 2020 K16	20	20	125	22	25						
CER 2525 M16	25	25	150	25	32						
CER 3232 P16	32	32	170	32	40						
CER 2020 K22	20	20	125	22	25	22ER		HFM030508			
CER 2525 M22	25	25	150	25	32						
CER 3232 P22	32	32	170	32	40						

● Marked: Left-hand type purchase back to customer order

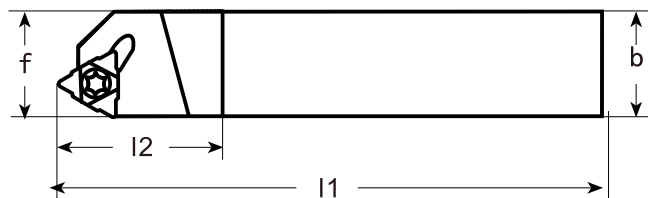


## SER



ORDERING CODE	Dimension					Insert	Shim	Screw	Shim screw	Wrench
	h	b	l1	l2	f					
SER 1010 H11	10	10	100	16	11	11ER	—	S030080S	—	T10
SER 1212 H11	12	12	100	16	13					
SER 1212 H16	12	12	100	20	16					
SER 1616 H16	16	16	100	22	20	16ER	AE16S	S035120	HCM030506	T15
SER 2020 K16	20	20	125	25	25					
SER 2525 M16	25	25	150	25	32					
SER 3232 P16	32	32	170	32	40					
SER 2525 M27	25	25	150	34	32	27ER	AE27	S050220	HCM050809	T25
SER 3232 P27	32	32	170	34	40					

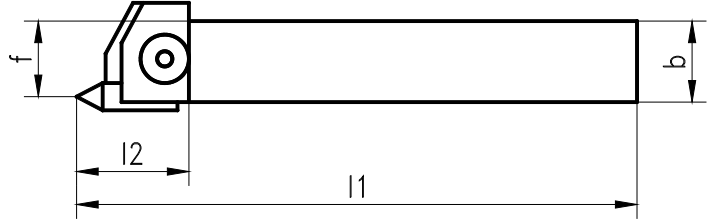
## SER U-TYPE



ORDERING CODE	Dimension					Insert	Shim	Screw	Shim screw	Wrench
	h	b	l1	l2	f					
SER 2525 M22U	25	25	150	26	25	22UER	AIE22U	S045150	HCM040706	T15
SER 2525 M27U	25	25	150	32	25	27UER	AIE27U	S050220	HCM050809	T25



## MTHR

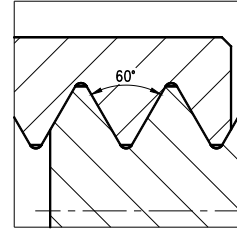
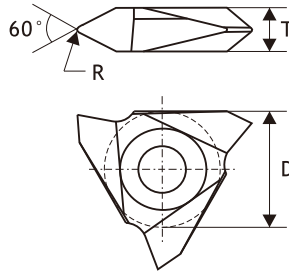
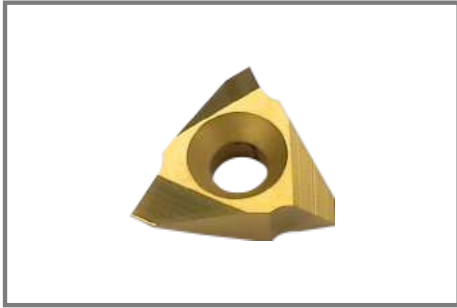


ORDERING CODE	Dimension					Insert	Clamp	Clamp screw	Spring	Wrench	Screw	Wrench
	h	b	l1	l2	f							
MTHR 1616H4S	16	16	100	23	13.8							
MTHR 2020K4S	20	20	125	21	17.8							
MTHR 2525M4S	25	25	150	21	22.8							

● Marked: With extra screw for holding insert.

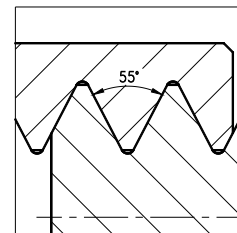
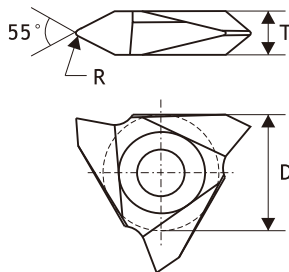
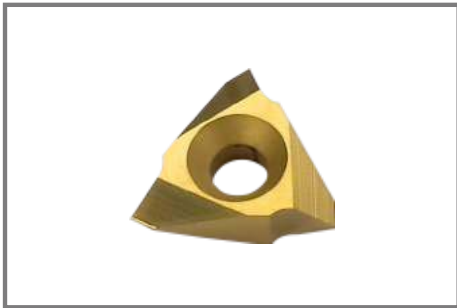


### Partial Profile 60°



ORDERING CODE	Pitch		Dimension			Grade		
	mm	TPI	D	T	R	H13S	CV15	CV20
MTTR 436001	1.0-1.75	-	12.70	4.76	0.1	●	●	●
MTTL 436001		-						
MTTR 436002	2.0-2.5	-	12.70	4.76	0.2	●	●	●
MTTL 436002		-						
MTTR 436003	3.0-3.5	-	12.70	4.76	0.3	●	●	●
MTTL 436003		-						
MTTR 436004	4.0-4.5	-	12.70	4.76	0.4	●	●	●
MTTL 436004		-						

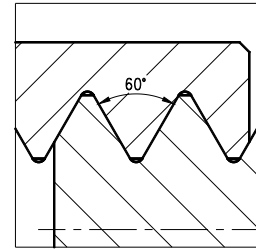
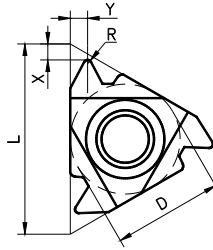
### Partial Profile 55°



ORDERING CODE	Pitch		Dimension			Grade		
	mm	TPI	D	T	R	H13S	CV15	CV20
MTTR 435501	-	28-10	12.70	4.76	0.1	●	●	●
MTTL 435501	-							
MTTR 435502	-	16-8	12.70	4.76	0.2	●	●	●
MTTL 435502	-							
MTTR 435503	-	11-8	12.70	4.76	0.3	●	●	●
MTTL 435503	-							
MTTR 435504	-	8-6	12.70	4.76	0.4	●	●	●
MTTL 435504	-							

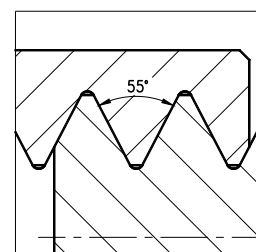
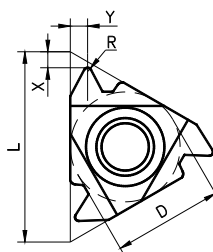


## Partial Profile 60°



Ordering Code		Pitch		Dimensions (mm)					Grade				
External	Internal	mm	TPI	L	D	Y	X	R	H13S	CV09	CV15	CV16	
	06NR/L A60	0.5 -1.25	48-20	6	3.968	0.6	0.6	0.06	●	●	●		
	08NR/L A60	0.5 -1.5	48-16	8	4.762	0.7	0.6	0.07	●	●	●		
11ER/L A60	11NR/L A60	0.5 -1.5	48-16	11	6.35	0.9	0.8	0.08	●	●	●	●	
16ER/L A60	16NR/L A60	0.5 -1.5	48-16	16	9.525	0.9	0.8	0.08	●	●	●	●	
16ER/L AG60	16NR/L AG60	0.5 -3.0	48-8			1.7	1.2	0.08	●	●	●	●	●
16ER/L G60	16NR/L G60	1.75-3.0	14-8			1.7	1.2	0.18	●	●	●	●	●
22ER/L N60	22NR/L N60	3.5 -5.0	7-5	22	12.70	2.5	1.7	0.40	●	●	●	●	
27ER/L Q60	27NR/L Q60	5.5 -6.0	4.5-4	27	15.875	3.1	2.1	0.64	●	●	●	●	

## Partial Profile 55°

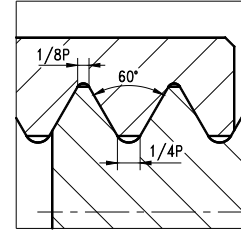
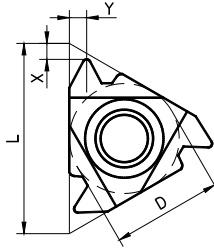
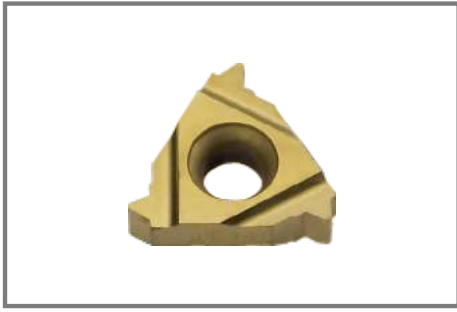


Ordering Code		Pitch		Dimensions (mm)					Grade				
External	Internal	mm	TPI	L	D	Y	X	R	H13S	CV09	CV15	CV16	
	06NR/L A55	0.5 -1.25	48-20	6	3.968	0.6	0.5	0.05	●	●	●		
	08NR/L A55	0.5 -1.5	48-16	8	4.762	0.7	0.6	0.07	●	●	●		
11ER/L A55	11NR/L A55	0.5 -1.5	48-16	11	6.35	0.9	0.8	0.08	●	●	●	●	
16ER/L A55	16NR/L A55	0.5 -1.5	48-16	16	9.525	0.9	0.8	0.08	●	●	●	●	
16ER/L AG55	16NR/L AG55	0.5 -3.0	48-8			1.7	1.2	0.08	●	●	●	●	●
16ER/L G55	16NR/L G55	1.75-3.0	14-8			1.7	1.2	0.20	●	●	●	●	●
22ER/L N55	22NR/L N55	3.5 -5.0	7-5	22	12.70	2.5	1.7	0.40	●	●	●	●	
27ER/L Q55	27NR/L Q55	5.5 -6.0	4.5-4	27	15.875	2.9	2.0	0.60	●	●	●	●	



ISO

ISO METRIC



THREADING SYSTEM

B  
10

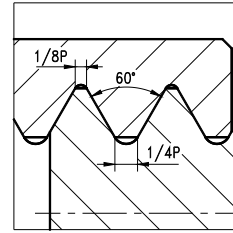
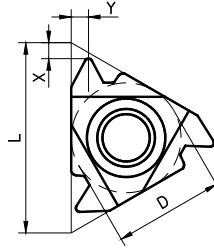
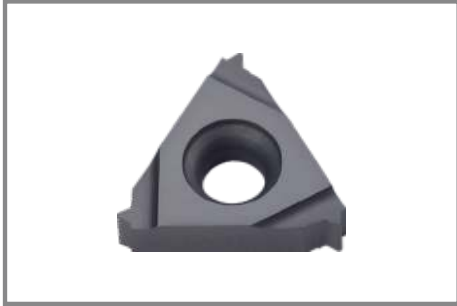
Ordering Code		Pitch		Dimensions (mm)				Grade				
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16	
	06NR/L 0.5 ISO	0.50	-	6	3.968	0.5	0.9	●	●	●	●	
	06NR/L 0.75 ISO	0.75	-			0.5	0.8	●	●	●	●	●
	06NR/L 1.0 ISO	1.00	-			0.6	0.7	●	●	●	●	●
	06NR/L 1.25 ISO	1.25	-			0.6	0.6	●	●	●	●	●
	08NR/L 0.5 ISO	0.50	-	8	4.76	0.5	0.6	●	●	●	●	
	08NR/L 0.75 ISO	0.75	-			0.5	0.6	●	●	●	●	●
	08NR/L 1.0 ISO	1.00	-			0.6	0.6	●	●	●	●	●
	08NR/L 1.25 ISO	1.25	-			0.7	0.6	●	●	●	●	●
	08NR/L 1.5 ISO	1.50	-			0.7	0.6	●	●	●	●	●
	08NR/L 1.75 ISO	1.75	-			0.8	0.6	●	●	●	●	
	11NR/L 0.5 ISO	0.50	-	11	6.35	0.6	0.6	●	●	●	●	
	11NR/L 0.75 ISO	0.75	-			0.6	0.6	●	●	●	●	●
	11NR/L 1.0 ISO	1.00	-			0.7	0.6	●	●	●	●	●
	11NR/L 1.25 ISO	1.25	-			0.8	0.8	●	●	●	●	●
	11NR/L 1.5 ISO	1.50	-			1.0	0.8	●	●	●	●	●
	11NR/L 1.75 ISO	1.75	-			1.1	0.8	●	●	●	●	●
	11NR/L 2.0 ISO	2.00	-			0.9	0.8	●	●	●	●	
16ER/L 0.35 ISO	16NR/L 0.35 ISO	0.35	-	16	9.525	0.4	0.8	●	●	●	●	
16ER/L 0.4 ISO	16NR/L 0.4 ISO	0.40	-			0.4	0.7	●	●	●	●	●
16ER/L 0.45 ISO	16NR/L 0.45 ISO	0.45	-			0.4	0.7	●	●	●	●	●
16ER/L 0.5 ISO	16NR/L 0.5 ISO	0.50	-			0.6	0.6	●	●	●	●	●
16ER/L 0.6 ISO	16NR/L 0.6 ISO	0.60	-			0.6	0.6	●	●	●	●	●
16ER/L 0.7 ISO	16NR/L 0.7 ISO	0.70	-			0.6	0.6	●	●	●	●	●
16ER/L 0.75 ISO	16NR/L 0.75 ISO	0.75	-			0.6	0.6	●	●	●	●	●
16ER/L 0.8 ISO	16NR/L 0.8 ISO	0.80	-			0.6	0.6	●	●	●	●	●
16ER/L 1.0 ISO	16NR/L 1.0 ISO	1.00	-			0.7	0.6	●	●	●	●	●
16ER/L 1.25 ISO	16NR/L 1.25 ISO	1.25	-			0.9	0.8	●	●	●	●	●
16ER/L 1.5 ISO	16NR/L 1.5 ISO	1.50	-			1.0	0.8	●	●	●	●	●
16ER/L 1.75 ISO	16NR/L 1.75 ISO	1.75	-			1.2	0.9	●	●	●	●	●
16ER/L 2.0 ISO	16NR/L 2.0 ISO	2.00	-			1.3	1.0	●	●	●	●	●
16ER/L 2.5 ISO	16NR/L 2.5 ISO	2.50	-			1.5	1.1	●	●	●	●	●
16ER/L 3.0 ISO	16NR/L 3.0 ISO	3.00	-			1.5	1.1	●	●	●	●	●
22ER/L 3.5 ISO	22NR/L 3.5 ISO	3.50	-			22	12.70	2.3	1.6	●	●	●
22ER/L 4.0 ISO	22NR/L 4.0 ISO	4.00	-	2.3	1.6			●	●	●	●	●
22ER/L 4.5 ISO	22NR/L 4.5 ISO	4.50	-	2.4	1.7			●	●	●	●	●
22ER/L 5.0 ISO	22NR/L 5.0 ISO	5.00	-	2.5	1.7			●	●	●	●	●
27ER/L 5.5 ISO	27NR/L 5.5 ISO	5.50	-	27	15.875	2.7	1.9	●	●	●	●	
27ER/L 6.0 ISO	27NR/L 6.0 ISO	6.00	-			2.9	2.0	●	●	●	●	●

● Marked; 22E/NR 3.0 ISO: Make to order.



## UN

### AMERICAN UN



Ordering Code		Pitch		Dimensions (mm)				Grade				
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16	
	06NR/L 32 UN	-	32	6	3.968	0.5	0.8	●	●	●	●	
	06NR/L 28 UN	-	28			0.6	0.8	●	●	●	●	●
	06NR/L 24 UN	-	24			0.6	0.7	●	●	●	●	●
	06NR/L 20 UN	-	20			0.6	0.6	●	●	●	●	●
	06NR/L 18 UN	-	18			0.7	0.6	●	●	●	●	●
	08NR/L 32 UN	-	32	8	4.76	0.5	0.6	●	●	●	●	
	08NR/L 28 UN	-	28			0.6		●	●	●	●	
	08NR/L 24 UN	-	24			0.6		●	●	●	●	
	08NR/L 20 UN	-	20			0.7		●	●	●	●	
	08NR/L 18 UN	-	18			0.7		●	●	●	●	
	08NR/L 16 UN	-	16			0.7		●	●	●	●	
	08NR/L 14 UN	-	14	0.8	●	●	●	●	●			
	11NR/L 32 UN	-	32	11	6.35	0.6	0.6	●	●	●	●	
	11NR/L 28 UN	-	28			0.7	0.6	●	●	●	●	
	11NR/L 24 UN	-	24			0.8	0.7	●	●	●	●	
	11NR/L 20 UN	-	20			0.9	0.8	●	●	●	●	
	11NR/L 18 UN	-	18			1.0	0.8	●	●	●	●	
	11NR/L 16 UN	-	16			1.1	0.9	●	●	●	●	
	11NR/L 14 UN	-	14			1.1	0.9	●	●	●	●	
16ER/L 32 UN	16NR/L 32 UN	-	32	16	9.525	0.6	0.6	●	●	●	●	
16ER/L 28 UN	16NR/L 28 UN	-	28			0.7	0.6	●	●	●	●	
16ER/L 24 UN	16NR/L 24 UN	-	24			0.8	0.7	●	●	●	●	
16ER/L 20 UN	16NR/L 20 UN	-	20			0.9	0.8	●	●	●	●	
16ER/L 18 UN	16NR/L 18 UN	-	18			1.0	0.8	●	●	●	●	
16ER/L 16 UN	16NR/L 16 UN	-	16			1.1	0.9	●	●	●	●	
16ER/L 14 UN	16NR/L 14 UN	-	14			1.2	0.9	●	●	●	●	
16ER/L 12 UN	16NR/L 12 UN	-	12			1.4	1.1	●	●	●	●	
16ER/L 11 UN	16NR/L 11 UN	-	11			1.5	1.1	●	●	●	●	
16ER/L 10 UN	16NR/L 10 UN	-	10			1.5	1.1	●	●	●	●	
16ER/L 9 UN	16NR/L 9 UN	-	9			1.7	1.2	●	●	●	●	
16ER/L 8 UN	16NR/L 8 UN	-	8			1.5	1.1	●	●	●	●	
22ER/L 7 UN	22NR/L 7 UN	-	7			22	12.70	2.3	1.6	●	●	●
22ER/L 6 UN	22NR/L 6 UN	-	6	●	●					●	●	
22ER/L 5 UN	22NR/L 5 UN	-	5	●	●					●	●	
27ER/L 4.5 UN	27NR/L 4.5 UN	-	4.5	27	15.875	3.0	2.1	●	●	●	●	
27ER/L 4 UN	27NR/L 4 UN	-	4					2.7	1.9	●	●	●

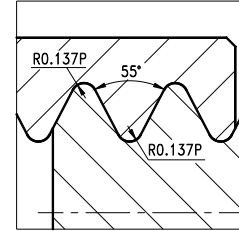
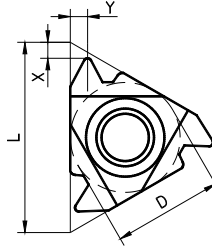
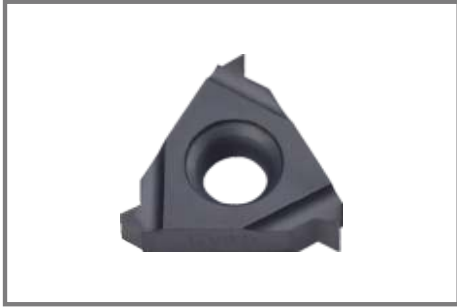
● Marked: Make to order.

● Marked: NPS



W

## 55° WHITWORTH



THREADING SYSTEM

B  
12

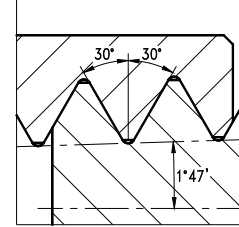
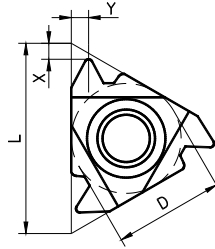
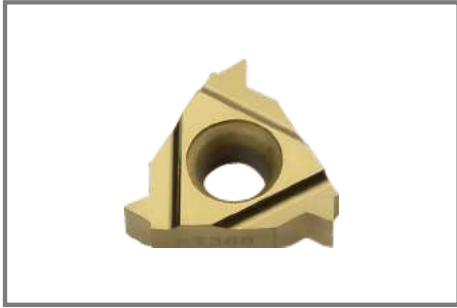
Ordering Code		Pitch		Dimensions (mm)				Grade			
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16
	06NR/L 26 W	-	26	6	3.968	0.6	0.6	●	●	●	
	06NR/L 22 W	-	22			0.6	0.6	●	●	●	
	06NR/L 20 W	-	20			0.7	0.6	●	●	●	
	06NR/L 18 W	-	18			0.7	0.6	●	●	●	
	08NR/L 28 W	-	28	8	4.76	0.6	0.6	●	●	●	
	08NR/L 24 W	-	24			0.6	0.6	●	●	●	
	08NR/L 20 W	-	20			0.7	0.6	●	●	●	
	08NR/L 19 W	-	19			0.7	0.7	●	●	●	
	08NR/L 18 W	-	18			0.7	0.6	●	●	●	
	08NR/L 16 W	-	16			0.7	0.6	●	●	●	
	11NR/L 19 W	-	19	11	6.35	1.0	0.8	●	●	●	●
	11NR/L 18 W	-	18			1.0	0.8	●	●	●	●
	11NR/L 16 W	-	16			1.1	0.9	●	●	●	●
	11NR/L 14 W	-	14			1.1	0.9	●	●	●	●
16ER/L 28 W	16NR/L 28 W	-	28	16	9.525	0.7	0.6	●	●	●	●
16ER/L 26 W	16NR/L 26 W	-	26			0.7	0.7	●	●	●	●
16ER/L 24 W	16NR/L 24 W	-	24			0.8	0.7	●	●	●	●
16ER/L 20 W	16NR/L 20 W	-	20			0.8	0.7	●	●	●	●
16ER/L 19 W	16NR/L 19 W	-	19			1.0	0.8	●	●	●	●
16ER/L 18 W	16NR/L 18 W	-	18			1.0	0.9	●	●	●	●
16ER/L 16 W	16NR/L 16 W	-	16			1.1	1.0	●	●	●	●
16ER/L 14 W	16NR/L 14 W	-	14			1.2	1.1	●	●	●	●
16ER/L 12 W	16NR/L 12 W	-	12			1.4	1.1	●	●	●	●
16ER/L 11 W	16NR/L 11 W	-	11			1.5	1.1	●	●	●	●
16ER/L 10 W	16NR/L 10 W	-	10			1.5	1.2	●	●	●	●
16ER/L 9 W	16NR/L 9 W	-	9			1.7	1.2	●	●	●	●
16ER/L 8 W	16NR/L 8 W	-	8			1.5	2.3	●	●	●	●
22ER/L 7 W	22NR/L 7 W	-	7			22	12.70	2.3	1.6	●	●
22ER/L 6 W	22NR/L 6 W	-	6	2.3	1.6			●	●	●	●
22ER/L 5 W	22NR/L 5 W	-	5	2.4	1.7			●	●	●	●
27ER/L 4.5 W	27NR/L 4.5 W	-	4.5	27	15.875	2.6	1.8	●	●	●	●
27ER/L 4 W	27NR/L 4 W	-	4			2.9	2.0	●	●	●	●

● Marked: Make to order.



## NPT

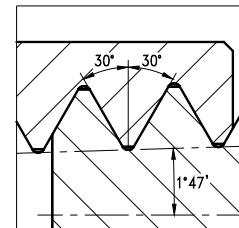
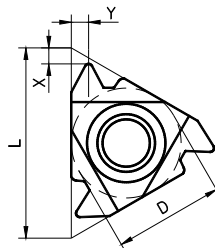
### 60° NPT



Ordering Code		Pitch		Dimensions (mm)				Grade					
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16		
	06NR/L 27 NPT	-	27	6	3.968	0.6	0.6	●	●	●			
	08NR/L 27 NPT	-	27	8	4.76	0.6	0.6	●	●	●			
	08NR/L 18 NPT	-	18					●	●	●			
	11NR/L 27 NPT	-	27	11	6.35	0.8	0.7	●	●	●	●		
	11NR/L 18 NPT	-	18					1.0	0.8	●	●	●	●
	11NR/L 14 NPT	-	14					1.0	0.8	●	●	●	●
16ER/L 27 NPT	16NR/L 27 NPT	-	27	16	9.525	0.8	0.7	●	●	●	●		
16ER/L 18 NPT	16NR/L 18 NPT	-	18					1.0	0.8	●	●	●	●
16ER/L 14 NPT	16NR/L 14 NPT	-	14					1.2	0.9	●	●	●	●
16ER/L 11.5 NPT	16NR/L 11.5 NPT	-	11.5					1.5	1.1	●	●	●	●
16ER/L 8 NPT	16NR/L 8 NPT	-	8					1.8	1.3	●	●	●	●
		-										●	●

## NPTF

### 60° NPTF

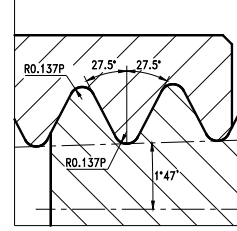
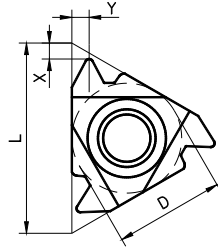


Ordering Code		Pitch		Dimensions (mm)				Grade					
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16		
	11NR/L 27 NPTF	-	27	11	6.35	0.8	0.7		●	●			
	11NR/L 18 NPTF	-	18					1.0	0.8	●	●		
	11NR/L 14 NPTF	-	14					1.0	0.8	●	●		
16ER/L 27 NPTF	16NR/L 27 NPTF	-	27	16	9.525	0.8	0.7	●	●	●	●		
16ER/L 18 NPTF	16NR/L 18 NPTF	-	18					1.0	0.8	●	●	●	●
16ER/L 14 NPTF	16NR/L 14 NPTF	-	14					1.2	0.9	●	●	●	●
		-	11.5					1.5	1.1	●	●	●	●
16ER/L 8 NPTF	16NR/L 8 NPTF	-	8					1.8	1.3	●	●	●	●
		-										●	●



## BSPT

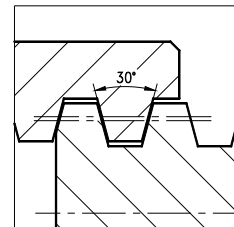
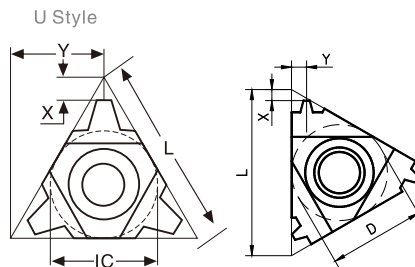
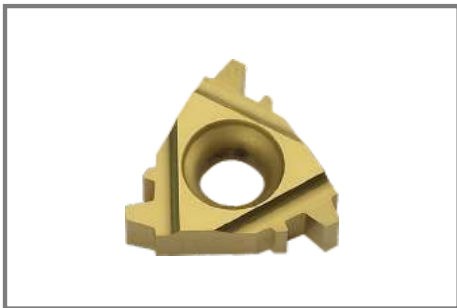
### 55° BSPT (British Standard Pipe)



Ordering Code		Pitch		Dimensions (mm)				Grade			
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16
	06NR/L 28 BSPT	-	28	6	3.968	0.6	0.7	●	●	●	
	08NR/L 28 BSPT	-	28	8	4.76	0.6	0.6	●	●	●	
	08NR/L 19 BSPT	-	19			0.6	0.6	●	●	●	
	11NR/L 28 BSPT	-	28	11	6.35	0.6	0.6	●	●	●	●
	11NR/L 19 BSPT	-	19			0.9	0.8	●	●	●	●
	11NR/L 14 BSPT	-	14			1.0	0.9	●	●	●	●
16ER/L 28 BSPT	16NR/L 28 BSPT	-	28	16	9.525	0.6	0.6	●	●	●	●
16ER/L 19 BSPT	16NR/L 19 BSPT	-	19			0.9	0.8	●	●	●	●
16ER/L 14 BSPT	16NR/L 14 BSPT	-	14			1.2	1.0	●	●	●	●
16ER/L 11 BSPT	16NR/L 11 BSPT	-	11			1.5	1.1	●	●	●	●

## TR

### 30° Trapeze DIN 103

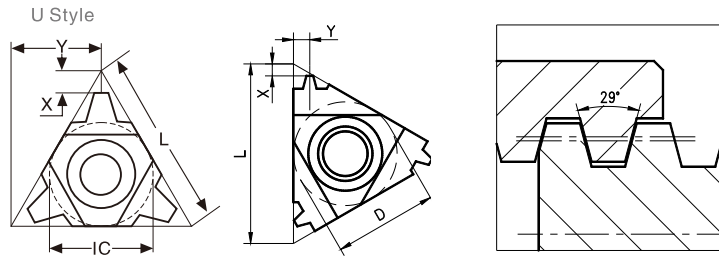


Ordering Code		Pitch		Dimensions (mm)				Grade			
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16
16ER/L 1.5 TR	16NR/L 1.5 TR	1.5	-	16	9.525	1.1	1.0	●	●	●	●
16ER/L 2.0 TR	16NR/L 2.0 TR	2.0	-			1.3	1.0	●	●	●	●
16ER/L 3.0 TR	16NR/L 3.0 TR	3.0	-			1.5	1.3	●	●	●	●
22ER/L 4.0 TR	22NR/L 4.0 TR	4.0	-	22	12.70	1.9	1.8	●	●	●	●
22ER/L 5.0 TR	22NR/L 5.0 TR	5.0	-			2.4	2.0	●	●	●	●
22UER/L 6.0 TR	22UNR/L 6.0 TR	6.0	-			11.0	2.0	●	●	●	●
22UER/L 7.0 TR	22UNR/L 7.0 TR	7.0	-			11.0	2.3	●	●	●	●
27ER/L 6.0 TR	27NR/L 6.0 TR	6.0	-	27	15.875	2.7	2.3	●	●	●	●
27ER/L 7.0 TR	27NR/L 7.0 TR	7.0	-			2.6	2.2	●	●	●	●
27UER/L 8.0 TR	27UNR/L 8.0 TR	8.0	-			13.7	2.5	●	●	●	●
27UER/L 9.0 TR	27UNR/L 9.0 TR	9.0	-			13.7	3.0	●	●	●	●
27UER/L 10.0 TR	27UNR/L 10.0 TR	10.0	-			13.7	3.2	●	●	●	●



## ACME

### 29° ACME

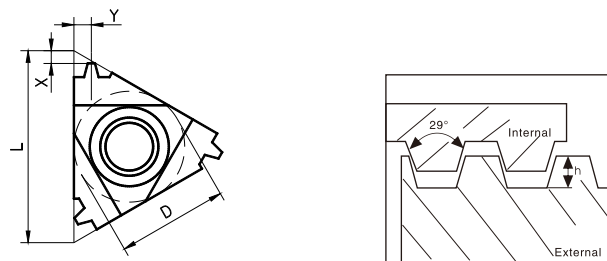


Ordering Code		Pitch		Dimensions (mm)				Grade			
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16
16ER/L 16 ACME	16NR/L 16 ACME	-	16	16	9.525	1.0	0.9	●	●	●	●
16ER/L 14 ACME	16NR/L 14 ACME	-	14			1.2	1.0	●	●	●	●
16ER/L 12 ACME	16NR/L 12 ACME	-	12			1.2	1.1	●	●	●	●
16ER/L 10 ACME	16NR/L 10 ACME	-	10			1.3	1.3	●	●	●	●
16ER/L 8 ACME	16NR/L 8 ACME	-	8			1.5	1.5	●	●	●	●
22ER/L 6 ACME	22NR/L 6 ACME	-	6	22	12.70	2.1	1.8		●	●	●
22ER/L 5 ACME	22NR/L 5 ACME	-	5			2.3	2.0		●	●	●
22UER/L 4 ACME	22UNR/L 4 ACME	-	4			11.0	2.3		●	●	●
27ER/L 4 ACME	27NR/L 4 ACME	-	4	27	15.875	2.7	2.4		●	●	●
27UER/L 3 ACME	27UNR/L 3 ACME	-	3			13.7	2.8		●	●	●

● Marked: Make to order.

## STUB ACME

### 29° STUB ACME



Ordering Code		Pitch		Dimensions (mm)				Grade			
External	Internal	mm	TPI	L	D	Y	X	H13S	CV09	CV15	CV16
16ER/L 16 STACME	16NR/L 16 STACME	-	16	16	9.525	1.0	1.0		●	●	●
16ER/L 14 STACME	16NR/L 14 STACME	-	14			1.1	1.1		●	●	●
16ER/L 12 STACME	16NR/L 12 STACME	-	12			1.2	1.2		●	●	●
16ER/L 10 STACME	16NR/L 10 STACME	-	10			1.3	1.3		●	●	●
16ER/L 8 STACME	16NR/L 8 STACME	-	8			1.5	1.5		●	●	●
16ER/L 6 STACME	16NR/L 6 STACME	-	6	22	12.70	1.8	1.8		●	●	●
22ER/L 6 STACME	22NR/L 6 STACME	-	6			1.8	1.8		●	●	●
22ER/L 5 STACME	22NR/L 5 STACME	-	5			2.3	2.3		●	●	●
27ER/L 4 STACME	27NR/L 4 STACME	-	4	27	15.875	2.4	2.3		●	●	●
27ER/L 3 STACME	27NR/L 3 STACME	-	3			2.9	2.8		●	●	●

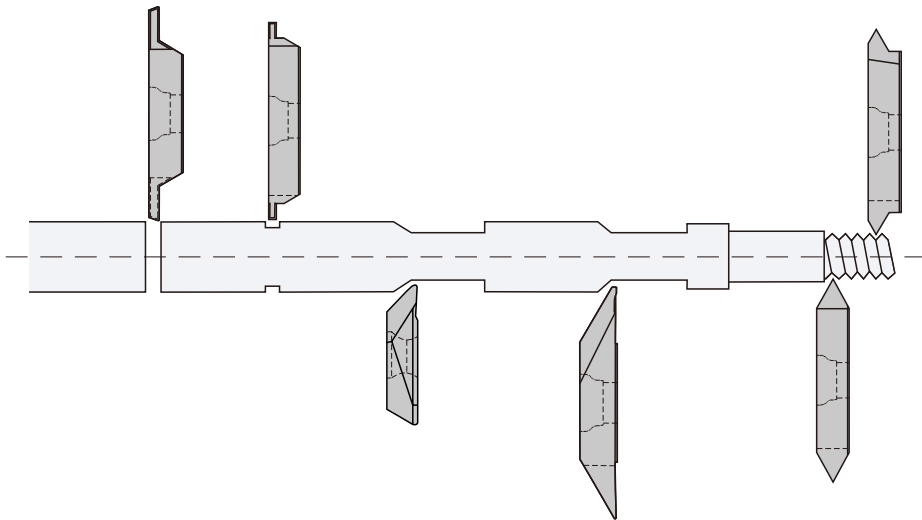
# 2023 Product Catalog



# HANWOO

PRECISION CUTTING TOOLS





TBR



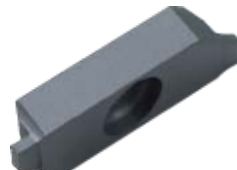
TBR



TTR



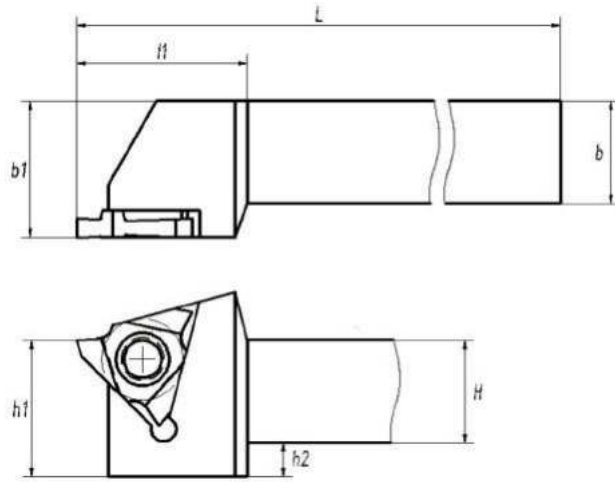
TCR









TGR



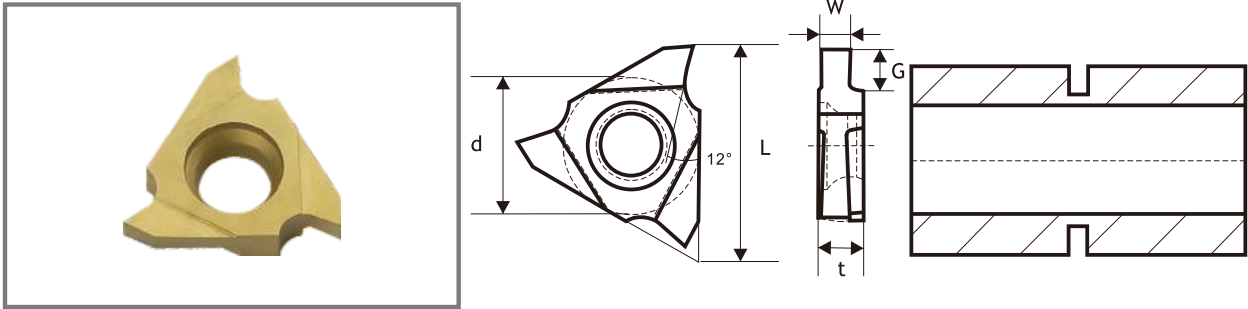
## STGR



ORDERING CODE	Dimension							Insert	Screw	Wrench
	H	h1	h2	b	b1	L	l1			
STGR/L 1212-3	12	16	4	12	16	100	20			
STGR/L 1616-3	16	16	-	16	20	100	20			
STGR/L 2020-3	20	20	-	20	25	125	20			
STGR/L 2525-3	25	25	-	25	32	150	20			



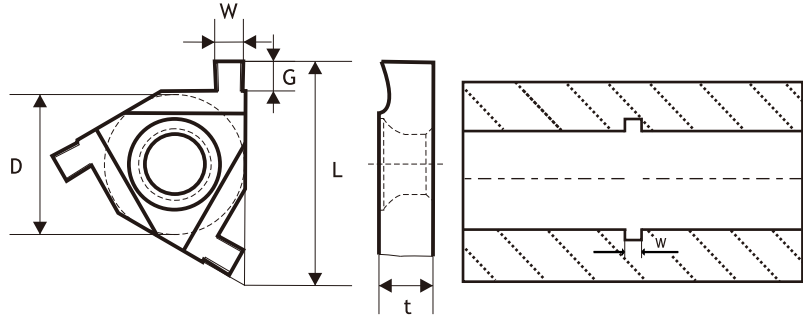
## TGR/L



ORDERING CODE	Dimension					GRADE			
	L	W	G	d	t	H13S	CV09	CV15	CV16
TGR/L 3033	16	0.33	0.9	3/8"	3.18	•	•	•	•
TGR/L 3043		0.43	1.3			•	•	•	
TGR/L 3050		0.50	1.3			•	•	•	
TGR/L 3065		0.65	2.1			•	•	•	
TGR/L 3075		0.75	2.1			•	•	•	
TGR/L 3080		0.80	2.1			•	•	•	
TGR/L 3085		0.85	2.1			•	•	•	
TGR/L 3090		0.90	2.1			•	•	•	
TGR/L 3095		0.95	2.1			•	•	•	
TGR/L 3100		16	1.00			2.3	3/8"	3.18	•
TGR/L 3110	1.10		2.3	•	•	•			
TGR/L 3115	1.15		2.3	•	•	•			
TGR/L 3120	1.20		2.3	•	•	•			
TGR/L 3125	1.25		2.3	•	•	•			
TGR/L 3130	1.30		2.3	•	•	•			
TGR/L 3135	1.35		2.3	•	•	•			
TGR/L 3140	1.40		2.3	•	•	•			
TGR/L 3145	1.45		2.3	•	•	•			
TGR/L 3150	1.50		2.3	•	•	•			
TGR/L 3155	1.55	2.3	•	•	•				
TGR/L 3165	1.65	2.3	•	•	•				
TGR/L 3175	1.75	2.3	•	•	•				
TGR/L 3180	1.80	2.3	•	•	•				
TGR/L 3190	16	1.90	2.8	3/8"	3.18	•	•	•	•
TGR/L 3195		1.95	2.8			•	•	•	
TGR/L 3200		2.00	2.8			•	•	•	
TGR/L 3220		2.20	2.8			•	•	•	
TGR/L 3225		2.25	2.8			•	•	•	
TGR/L 3240		2.40	2.8			•	•	•	
TGR/L 3250		2.50	2.8			•	•	•	
TGR/L 3270		2.70	2.8			•	•	•	
TGR/L 3275		2.75	2.8			•	•	•	
TGR/L 3300		3.00	2.8			•	•	•	



## TNR



ORDERING CODE	Dimension					GRADE			
	L	W	G	D	t	H13S	CV09	CV15	CV16
TNR 08075	08	0.75	0.8	3/16"	2.2	•	•	•	
TNR 08080		0.80	0.8		2.2	•	•	•	
TNR 08085		0.85	0.8		2.2	•	•	•	
TNR 08090		0.90	0.8		2.2	•	•	•	
TNR 08100		1.00	0.8		2.2	•	•	•	
TNR 11070	11	0.70	1.2	1/4"	3.2		•	•	
TNR 11080		0.80	1.2		3.2	•	•	•	
TNR 11085		0.85	1.2		3.2	•	•	•	
TNR 11090		0.90	1.2		3.2	•	•	•	
TNR 11100		1.00	1.2		3.2	•	•	•	
TNR 11110		1.10	1.2		3.2	•	•	•	
TNR 11120		1.20	1.2		3.2	•	•	•	
TNR 11125		1.25	1.2		3.2	•	•	•	
TNR 11130		1.30	1.2		3.2	•	•	•	
TNR 11140		1.40	1.2		3.2	•	•	•	
TNR 11150		1.50	1.2		3.2	•	•	•	
TNR 16080	16	0.80	2.0	3/8"	3.65	•	•	•	•
TNR 16090		0.90	2.0		3.65	•	•	•	•
TNR 16100		1.00	2.0		3.65	•	•	•	•
TNR 16110		1.10	2.0		3.65	•	•	•	•
TNR 16120		1.20	2.0		3.65	•	•	•	•
TNR 16125		1.25	2.0		3.65	•	•	•	•
TNR 16130		1.30	2.0		3.65	•	•	•	•
TNR 16140		1.40	2.0		3.65	•	•	•	•
TNR 16150		1.50	2.0		3.65	•	•	•	•
TNR 16160		1.60	2.0		3.65	•	•	•	•
TNR 16170		1.70	2.0		3.65	•	•	•	•
TNR 16180		1.80	2.0		3.65	•	•	•	•
TNR 16190		1.90	2.0		3.65	•	•	•	•
TNR 16200		2.00	2.0		3.65	•	•	•	•
TNR 16210		2.10	2.0		3.65	•	•	•	•
TNR 16250	2.50	2.0	3.65			•	•		

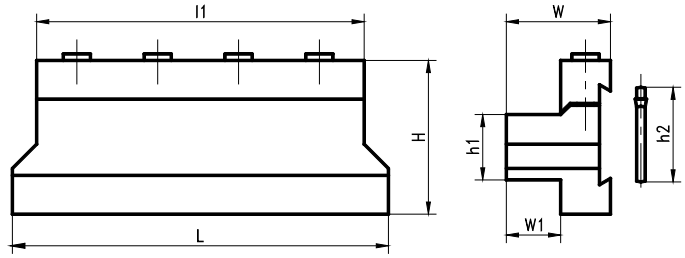
● Marked: Make to order.

● Marked: For toolholders.

SINR 0916-08 SINR 2016-16  
 SINR 1012-11 SINR 2420-16  
 SINR 1216-11 SINR 3025-16  
 SINR 1516-11



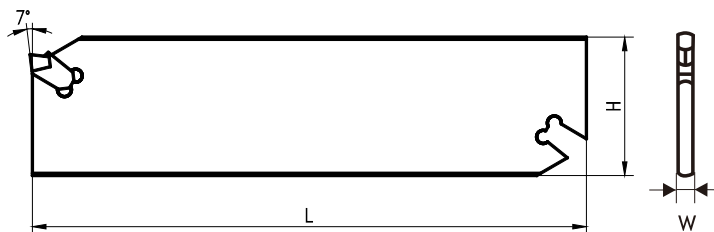
## SGTBU



ORDERING CODE	Dimension								
	W	W1	H	h1	h2	L	l1		
SGTBU 16-5	36	17	43	16	26	100	90	HCM061025	5.0 mm
SGTBU 20-5	38	21	43	20	26	100	90		
SGTBU 20-6	38	19	52	20	32	100	90		
SGTBU 25-5	42	23	43	25	26	100	90		
SGTBU 25-6	42	23	52	25	32	100	90		

- Marked : FOR BRAZED TYPE PARTING, PLEASE SEE SGIH PS HSS

## SGIH PS HSS

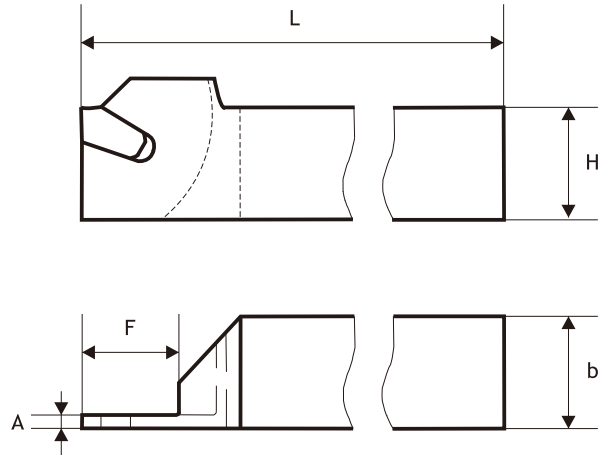
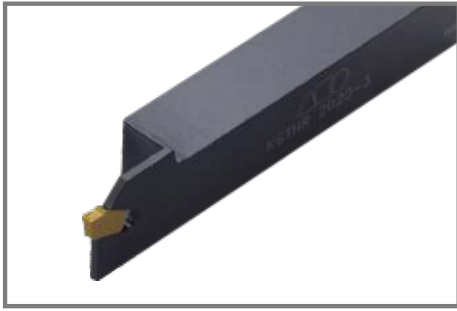


ORDERING CODE	Dimension		
	H	W	L
SGIH 26-3 PS HSS	26	3	110
SGIH 26-4 PS HSS	26	4	110
SGIH 32-3 PS HSS	32	3	150
SGIH 32-4 PS HSS	32	4	150

- Marked : For GTN3, GTN4 insert.

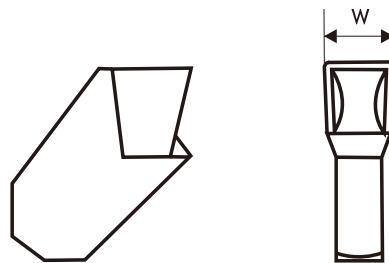


## KGTHR



ORDERING CODE	Dimension (mm)							Insert
	H	B	L	F	A	W	Dmax	
KGTHR 1616 H3	16	16	100	18.8	2.4	3.1	22	GTN-3
KGTHR 2020 K3	20	20	125	18.8	2.4	3.1	22	
KGTHR 2525 M3	25	25	150	23.8	2.4	3.1	26	

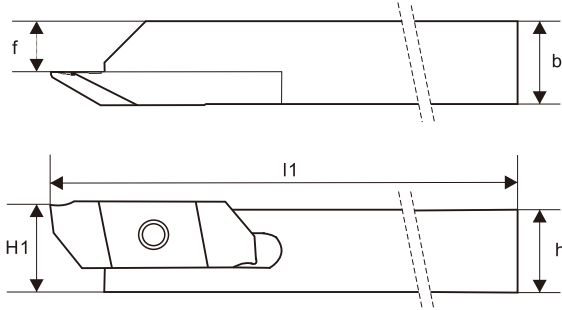
## GTN



ORDERING CODE	Dimension (mm)	GRADE
	W	CV17
GTN-3	3	•
GTN-4	4	•



## JSXBR

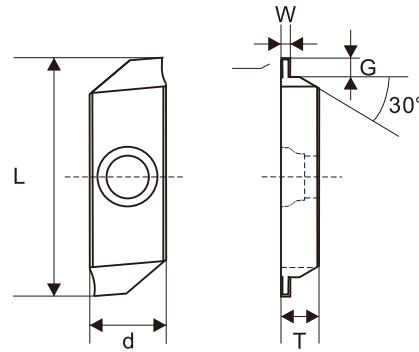
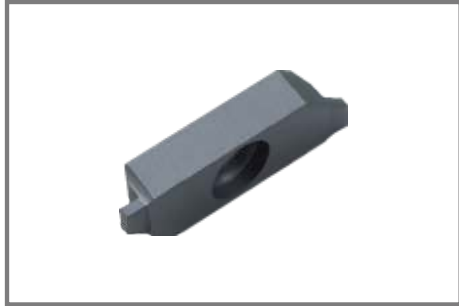


ORDERING CODE	Dimension (mm)					Insert	Screw	Wrench
	h	b	l1	f	H1			
JSXBR 1010 K08	10	10	125	5.7	10	8TBR 8TCR 8TGR 8TTR	S040100	T15
JSXBR 1212 K08	12	12	125	7.7	12			
JSXBR 1616 K08	16	16	125	11.7	16			
JSXBR 2020 K08	20	20	125	15.7	20			

● Marked: Make to order.

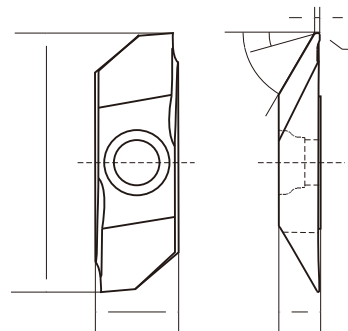


## 8TGR



ORDERING CODE	Dimension (mm)						Grade
	L	d	W	T	R	G	CV15
8TGR 05012-R03	25	8	0.5	4	0.03	1.2	●
8TGR 07520-R03	25	8	0.75	4	0.03	2.0	●
8TGR 10020-R03	25	8	1.0	4	0.03	2.0	●
8TGR 12525-R03	25	8	1.25	4	0.03	2.5	●
8TGR 15025-R03	25	8	1.5	4	0.03	2.5	●
8TGR 20025-R03	25	8	2.0	4	0.03	2.5	●

## 8TBR

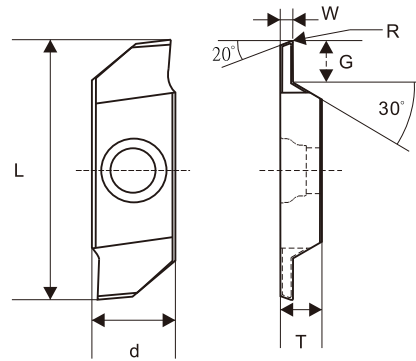
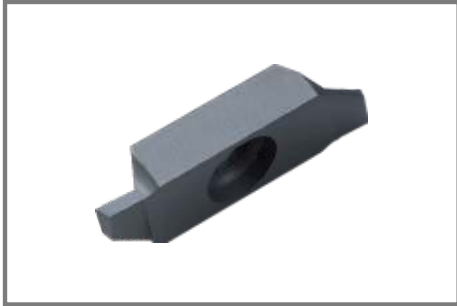


ORDERING CODE	Dimension (mm)					Grade
	L	d	W	T	R	CV15
8TBR 6055-R03	25	8	0.55	4	0.03	●
8TBR 6055-R15	25	8	0.55	4	0.15	●

● Marked: Make to order.

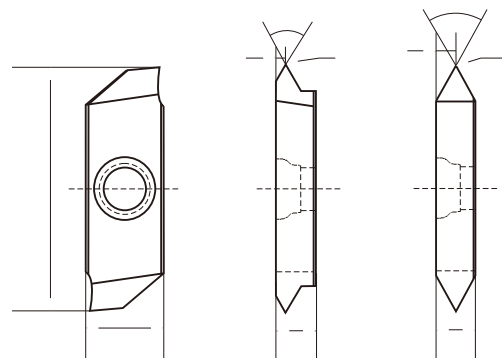


## 8TCR



ORDERING CODE	Dimension (mm)						Grade
	L	d	W	T	R	G	CV15
8TCR 070RG20-R03-45	25	8	0.7	4	0.03	4.5	●
8TCR 100RG20-R03-60	25	8	1.0	4	0.03	6.0	●
8TCR 120RG20-R03-60	25	8	1.2	4	0.03	6.0	●
8TCR 150RG20-R03-60	25	8	1.5	4	0.03	6.0	●
8TCR 200RG20-R03-60	25	8	2.0	4	0.03	6.0	●

## 8TTR

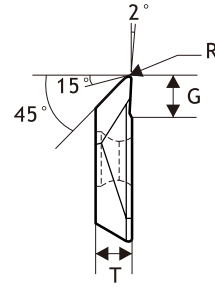
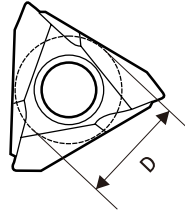


ORDERING CODE	Dimension (mm)					Grade
	L	d	W	T	R	CV15
8TTR 60R-R07	25	8	0.8	4	0.07	●
8TTR 60N-R07	25	8	2.0	4	0.07	●

● Marked: Make to order.

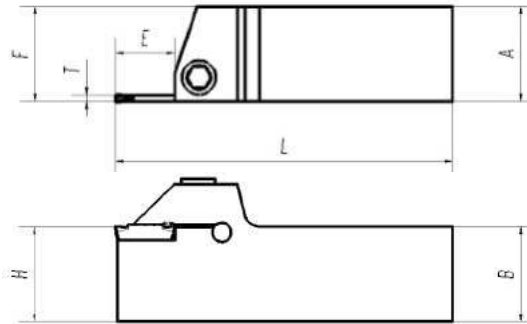
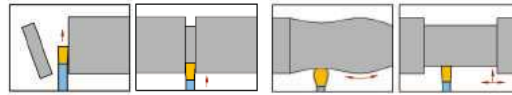




## TBR



ORDERING CODE	Dimension (mm)				Grade
	D	T	R	G	CV15
TBR 1603-R03	9.438	3.18	0.03	3.5	●
TBR 1603-R15	9.438	3.18	0.15	3.5	●

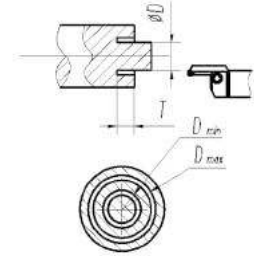
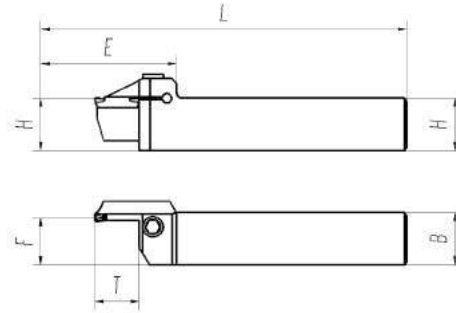
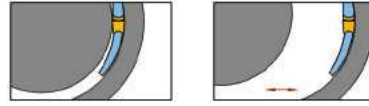
● Marked: Make to order.



**ZTER/L**


ORDERING CODE	Dimension (mm)						Insert	Screw	Wrench
	F	E	A	B=H	L	T			
ZTER/L 2020K-MG2-14	20	14	20	20	125	2	MGMN200	HTM6x20L	L5
ZTER/L 2020K-MG2-18	20	18	20	20	125			HTM6x20L	L5
ZTER/L 2525M-MG2-14	25	14	25	25	150	2		HTM6x25L	L5
ZTER/L 2525M-MG2-18	25	18	25	25	150			HTM6x25L	L5
ZTER/L 2020K-MG3-20	20	20	20	20	125	3	MGMN300	HTM6x20L	L5
ZTER/L 2525M-MG3-10	25	10	25	25	150			HTM6x25L	L5
ZTER/L 2525M-MG3-20	25	20	25	25	150			HTM6x25L	L5
ZTER/L 2020K-MG4-20	20	20	20	20	125	4		MGMN400	HTM6x20L
ZTER/L 2525M-MG4-20	25	20	25	25	150		HTM6x25L		L5
ZTER/L 2020K-MG5-25	20	25	20	20	125	5	MGMN500	HTM6x20L	L5
ZTER/L 2525M-MG5-25	25	25	25	25	150			HTM6x25L	L5



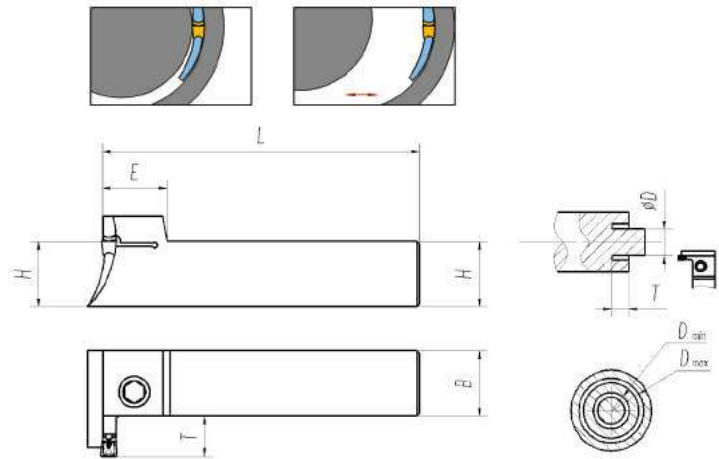
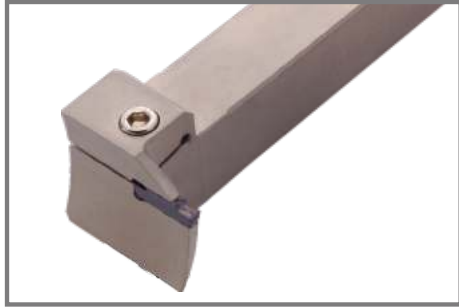
## ZYHR





ORDERING CODE	Dimension (mm)								Insert	Screw 	Wrench 
	H	B	L	F	E	Tmax	Dmin	Dmax			
ZYHR25-3T15 F50~65	25	25	150	24	38	15	50	65	MGMN300	HTM6x25L	L5
ZYHR25-3T15 F65~90	25	25	150	24	38	15	65	90		HTM6x25L	L5
ZYHR25-3T20 F90~130	25	25	150	24	38	20	90	130		HTM6x25L	L5
ZYHR25-4T15 F50~65	25	25	150	23.6	39	15	50	65	MGMN400	HTM6x25L	L5
ZYHR25-4T15 F65~90	25	25	150	23.6	39	15	65	90		HTM6x25L	L5
ZYHR25-4T15 F90~130	25	25	150	23.6	39	15	90	130		HTM6x25L	L5
ZYHR25-4T20 F50~65	25	25	150	23.6	39	20	50	65		HTM6x25L	L5
ZYHR25-4T20 F65~90	25	25	150	23.6	39	20	65	90		HTM6x25L	L5
ZYHR25-4T20 F90~130	25	25	150	23.6	39	20	90	130		HTM6x25L	L5
ZYHR25-5T16 F50~65	25	25	150	23.1	49	16	50	65	MGMN500	HTM6x25L	L5
ZYHR25-5T16 F65~90	25	25	150	23.1	49	16	65	90		HTM6x25L	L5
ZYHR25-5T16 F90~130	25	25	150	23.1	49	16	90	130		HTM6x25L	L5
ZYHR25-5T20 F50~65	25	25	150	23.1	49	20	50	65		HTM6x25L	L5
ZYHR25-5T20 F65~90	25	25	150	23.1	49	20	65	90		HTM6x25L	L5
ZYHR25-5T20 F90~130	25	25	150	23.1	49	20	90	130		HTM6x25L	L5
ZYHR25-5T25 F50~65	25	25	150	23.1	49	25	50	65		HTM6x25L	L5
ZYHR25-5T25 F65~90	25	25	150	23.1	49	25	65	90		HTM6x25L	L5
ZYHR25-5T25 F90~130	25	25	150	23.1	49	25	90	130		HTM6x25L	L5



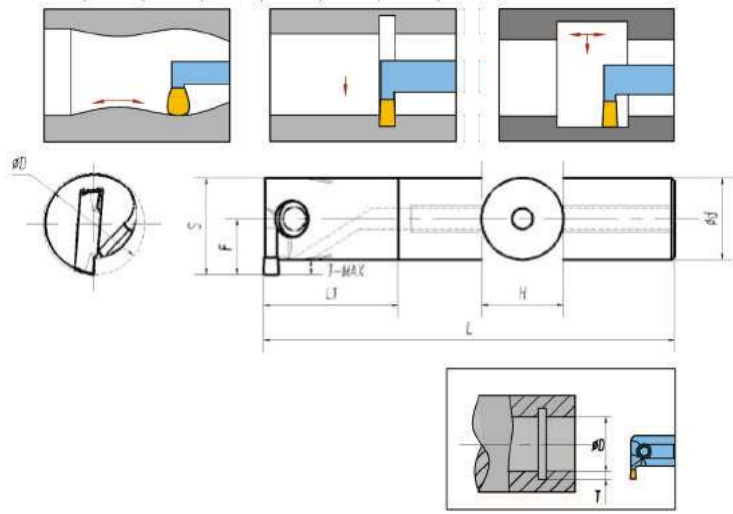
## ZLHR





ORDERING CODE	Dimension (mm)								Insert	Screw	Wrench
	H	B	L	F	E	Tmax	Dmin	Dmax			
ZLHR25-4T15 F90-130	25	25	150	-	18.5	15	90	130	MGMN400	HTM6x25L	L5
ZLHR25-4T15 F140-230	25	25	150	-	18.5	15	140	230		HTM6x25L	L5
ZLHR25-5T15 F70-110	25	25	150	-	22	15	70	110	MGMN500	HTM6x25L	L5
ZLHR25-5T15 F90-130	25	25	150	-	22	15	90	130		HTM6x25L	L5



## ZTIR/L



ORDERING CODE	Dimension (mm)						Insert	Screw	Wrench
	D	d	L	L1	T-MAX	F			
ZTIR/L 2016K-MG2-4	20	16	125	25	4	12	MGMN200	M4-12-5.6-60	T15
ZTIR/L 2520K-MG2-4	25	20	150	25	4	14.5	MGMN200	M5X12	L4
ZTIR/L 2620M-MG3-6	26	20	150	25	6	16	MGMN300	M5X12	L4
ZTIR/L 2620M-MG4-6	26	20	150	25	6	16	MGMN400	M5X12	L4
ZTIR/L 2925R-MG2-4	29	25	200	30	4	16.5	MGMN200	M5X12	L4
ZTIR/L 3125R-MG3-6	31	25	200	30	6	18.5	MGMN300	M5X12	L4
ZTIR/L 3125R-MG4-6	31	25	200	30	6	18.5	MGMN400	M5X12	L4
ZTIR/L 3125R-MG5-8	31	25	200	30	8	19.5	MGMG500	M6X16	L5
ZTIR/L 3832S-MG3-6	38	32	250	40	6	22	MGMN300	M5X12	L4
ZTIR/L 3832S-MG4-6	38	32	250	40	6	22	MGMN400	M5X12	L4
ZTIR/L 3832S-MG5-6	38	32	250	40	6	22	MGMN500	M6X20	L5

MGMN200 MGMN300 MGMN400 MGMN500

MG2 = MGMN200

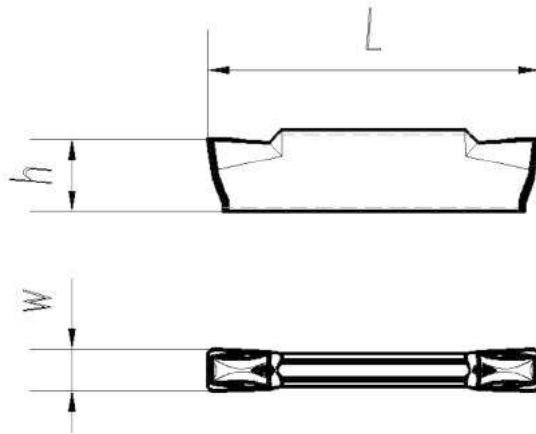
MG3 = MGMN300

MG4 = MGMN400

MG5 = MGMN500

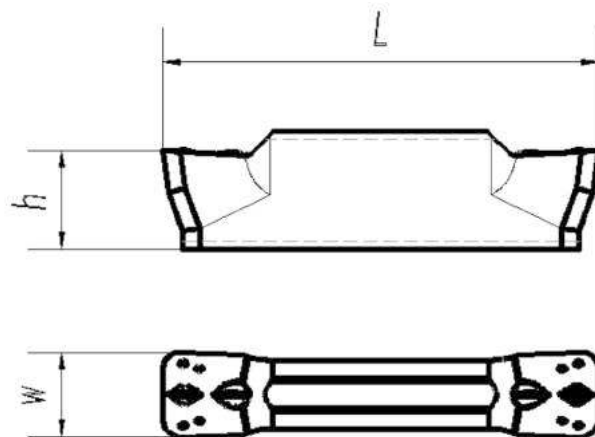


## MGMN



ORDERING CODE	Dimension (mm)			Grade			
	L	W	H	CV17	CV55	CV56	K10
MGMN 200-G	16	2.00	3.50	•	•	•	•
MGMN 250-G	18.50	2.50	3.85	•	•		

## MGMN



ORDERING CODE	Dimension (mm)			Grade			
	L	W	H	CV17	CV55	CV56	K10
MGMN 300-M	21	3	4.8	•	•	•	•
MGMN 400-M	21	4	4.8	•	•	•	•
MGMN 500-M	26	5	4.8	•	•		

• Marked: Make to order.

# 2023 Product Catalog



# HANWOO

PRECISION CUTTING TOOLS



## ISO STANDARD

High Productivity



STP90  
 $\kappa=90^\circ$



TEM  
 $\kappa=90^\circ$



SSE45  
 $\kappa=45^\circ$



\_\_\_\_\_

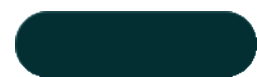
\_\_\_\_\_



TEKN



TPKN



SEKT



SEHW



GRADE	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40
P1080		■	■												
P2010			■	■											
M1010							■	■							
M1070							■	■							
K0050											■	■			
K1090												■	■		

GRADE	TaeguTec	Mitsubishi	Sumitomo	Tungaloy	Kyocera
P1080	TT7080	F7030	ACP200	GH330	PR730
P2010	TT9030	F7030	ACZ350	AH740	PR660
M1010	TT8010	VP15TF	ACP200	AH330	PR730
M1070	TT8080	AP20M	ACP300	AH120	PR660
K0050	TT6800	F5020	ACZ310	AH110	PR510
K1090	TT6080	F5010	ACK300	AH120	PR905



# MILLING INSERT DESIGNATION SYSTEM

**6 THICKNESS (MM)**

01t=1.59	05t=5.56
02t=2.38	06t=6.35
03t=3.18	07t=7.94
T3t=3.97	09t=9.52
04t=4.76	

**7 NOSE RADIUS (mm)**

00R=SHARP	
02R=0.2	15R=1.5
04R=0.4	16R=1.6
05R=0.5	24R=2.4
08R=0.8	32R=3.2
10R=1.0	40R=4.0
12R=1.2	

**8 EDGE CONDITION**

F

E

T

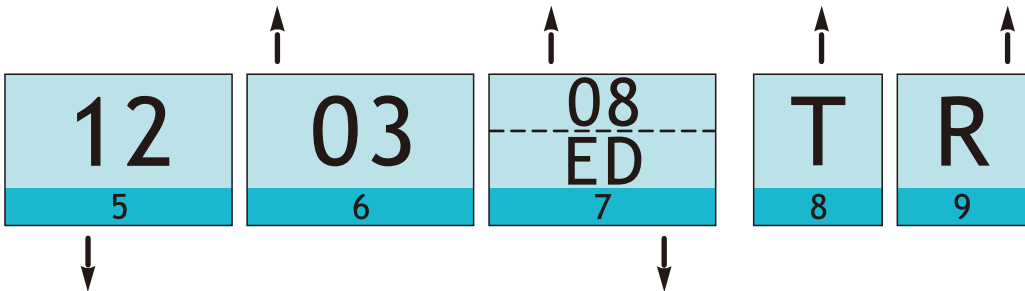
S

**9 HAND OF TOOL**

R

L

N



**5 EDGE LENGTH (mm)**

I.C	C	R,S	T	H	O
5.56			09		
6.35	06	06	11		
7.94	08		13		
9.525	09	09	16		
12.7	12	12	22		05
15.875	16	15	27	09	
17.94					07
19.05	19	19	33	10	
25.4	25	25			

L

**7 PARALLEL LAND**

**ENTERING ANGLE**

1st

A = 45°  
 D = 60°  
 E = 75°  
 F = 85°  
 P = 90°  
 Z = Special

**CLEARANCE ANGLE OF LAND**

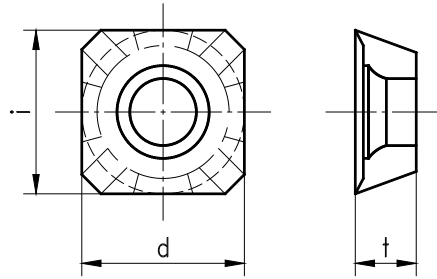
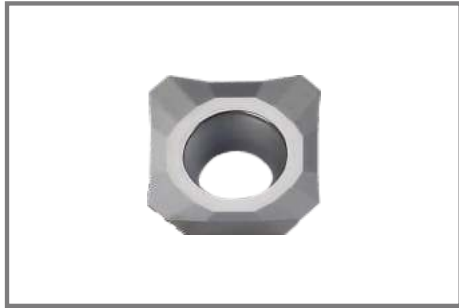
2nd

B = 5°      F = 25°  
 C = 7°      G = 30°  
 D = 15°     N = 0°  
 E = 20°     P = 11°  
 Z = Special



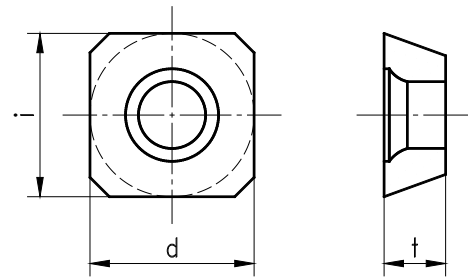
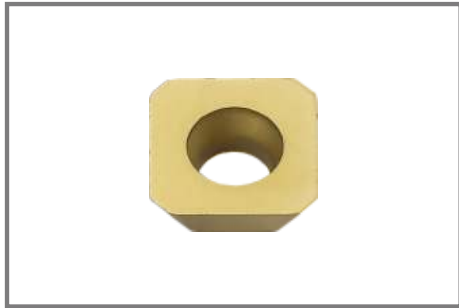


## SEKT 1204 AFFN-AH1



ORDERING CODE	Dimension				GRADE
	d	i	t	r	K10
SEKT 1204 AFFN-AH1	12.70	12.70	4.76	-	•

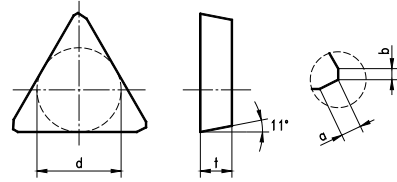
## SEHW



ORDERING CODE	Dimension				GRADE
	d	i	t	r	S30P
SEHW 1204 AFTN	12.70	12.70	4.76	-	•

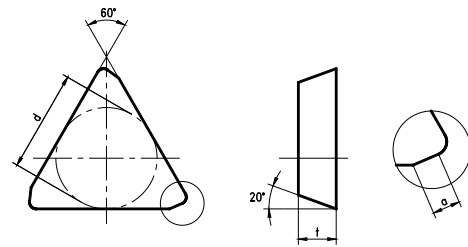


### TPKN □□□□ PETR



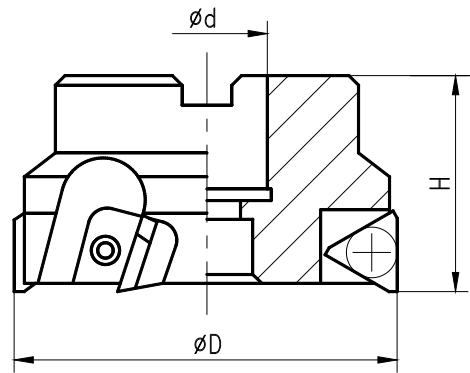
ORDERING CODE	Dimension				GRADE		
	d	t	a	b	S30P	P30	K10
TPKN 2204 PETR	12.70	4.76	0.4	0.7	•	•	•

### TEKN □□□□ PETR



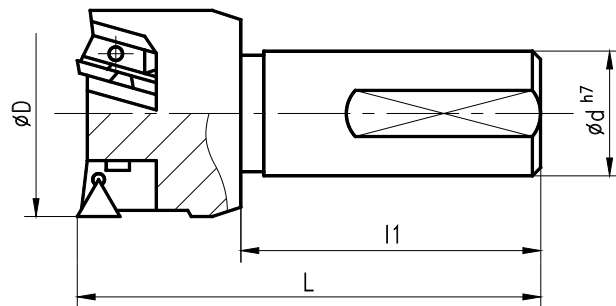
ORDERING CODE	Dimension				GRADE		
	d	t	a		S30P	P30	K10
TEKN 2204 PETR	12.70	4.76	2		•	•	•

## M500TE



ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Clamp	Clamp Screw	Wrench
	D	d	H							
M500TE03R 22B	80	1"	50	4	TEKN 2204	ATE54R	HCM 040708	WTE54R	WS 081015	4.0mm
M500TE04R 22B	100	1-1/4"	55	5						
M500TE05R 22B	125	1-1/2"	63	6						
M500TE06R 22B	150	2"	63	8						
M500TE08R 22B	200	1-7/8"	63	10						
M500TE10R 22B	250	1-7/8"	63	12						
M500TE12R 22B	300	1-7/8"	80	14						

## TEM

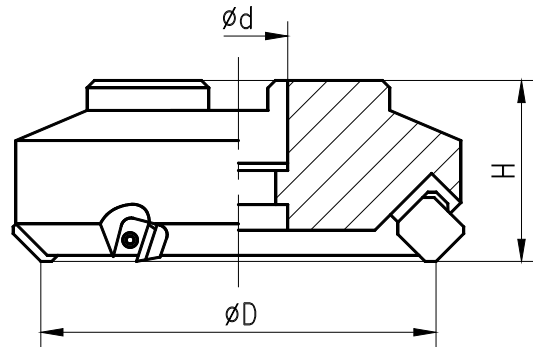


ORDERING CODE	Dimension					Insert	Shim	Shim Screw	Clamp	Clamp Screw	Wrench
	D	d	l1	L							
TEM 350R 2050	50	20	80	115	3	TEKN 2204	ATEM 350R	HCM 0305060	WTEMR	WS 081015	4.0mm
TEM 350R 2550	50	25	80	115	3						
TEM 350R 2563	63	25	80	115	3						
TEM 350R 3250	50	32	80	120	3						
TEM 350R 3263	63	32	80	120	3						



## M545SE

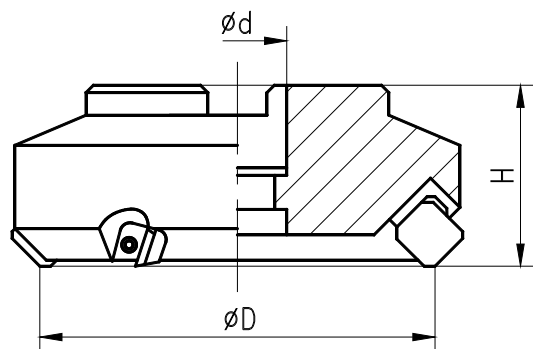
### FACE MILLS



ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Clamp	Clamp Screw	Wrench
	D	d	H							
M545SE03R 15B	80	1"	50	4	SEKN 1504	ASE55R	HCM 040708	WTE54R	WS 081015	4.0 mm
M545SE04R 15B	100	1-1/4"	55	5						
M545SE05R 15B	125	1-1/2"	63	6						
M545SE06R 15B	150	2"	63	8						
M545SE08R 15B	200	1-7/8"	63	10						
M545SE10R 15B	250	1-7/8"	63	12						
M545SE12R 15B	300	1-7/8"	80	14						

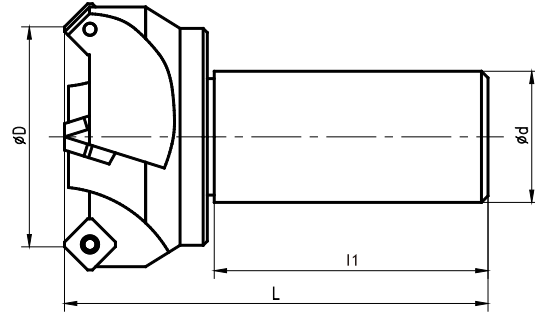
## SP4000

### FACE MILLS



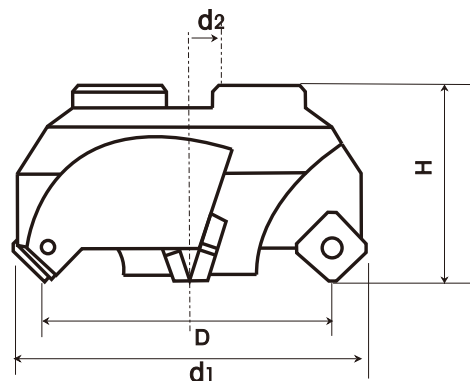
ORDERING CODE	Dimension				Insert	Shim	Shim Screw	Clamp	Clamp Screw	Wrench
	D	d	H							
SP4080 R/L	80	1"	50	5	SP□□ 1203	SPL602	HCM 030506	CP50-2	WS079 W24	4.0 mm
SP4100 R/L	100	1-1/4"	55	6						
SP4125 R/L	125	1-1/2"	55	8						
SP4160 R/L	160	2"	60	10						
SP4200 R/L	200	1-7/8"	60	14						
SP4250 R/L	250	1-7/8"	65	16						
SP4315 R/L	315	1-7/8"	65	18						
SP4360 R/L	360	1-7/8"	65	20						

## SSE45



ORDERING CODE	Dimension					Insert	Screw	Wrench
	D	d	l1	L				
SSE45 2040	40	20	80	115	3	 SEEW 1204 SEHT 1204 SEHW 1204 SEKT 1204	 S045110	 T15
SSE45 2050	50	20	80	115	4			
SSE45 2540	40	25	80	115	3			
SSE45 2550	50	25	80	115	4			
SSE45 2563	63	25	80	115	4			
SSE45 3240	40	32	80	120	3			
SSE45 3250	50	32	80	120	4			
SSE45 3263	63	32	80	120	4			

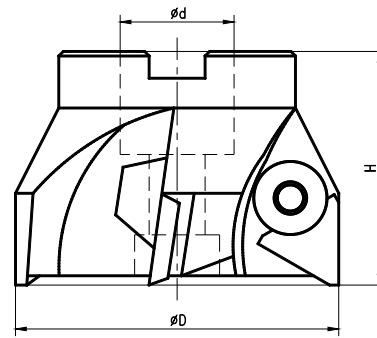
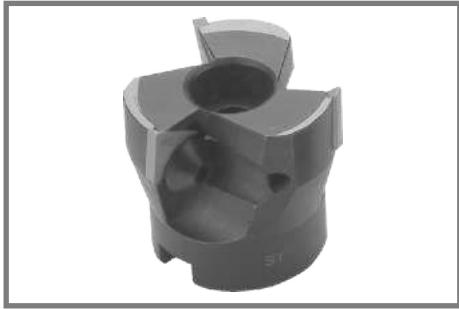
## S45SE



ORDERING CODE	Dimension					Insert	Screw	Wrench
	D	d1	d2	H				
50A04R-S45SE12	50	64	22	40	4	 SEEW 1204 SEHT 1204 SEHW 1204 SEKT 1204	 S045110	 T15
63A05R-S45SE12	63	77	22	40	5			
80B06R-S45SE12	80	93	25.4	50	6			
100B06R-S45SE12	100	114	31.75	50	6			
125B07R-S45SE12	125	139	38.1	50	7			

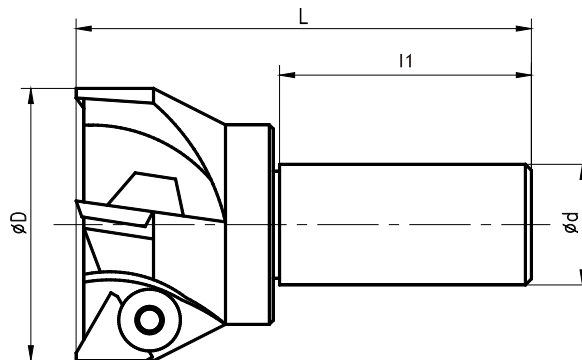


## STP90 面銑刀



ORDERING CODE	Dimension				Insert	Screw	Wrench
	D	d	H				
STP90 I050R	50	22	46	3	TP□ N 1603	SAE 2	4.0 mm
STP90 I063R	63	22	46	4	TP□ N 2204	SAE 3	5.0 mm

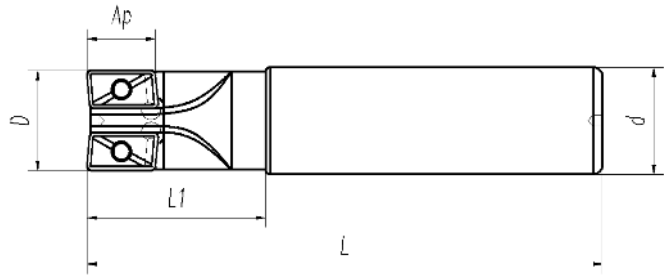
## STP90





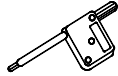
ORDERING CODE	Dimension					Insert	Screw	Wrench
	D	d	l1	L				
STP90 2025	25	20	74	100	3	TPMN 11 TPUN 11 TPKN 11	SAE1	3.0 mm
STP90 2030	30	20	74	100	3			
STP90 2525	25	25	74	100	3			
STP90 2035	35	20	70	115	2	TPMN 1603 TPUN 1603 TPKN 1603 TPMR 1603	SAE2	4.0 mm
STP90 2040	40	20	70	115	3			
STP90 2050	50	20	70	115	3			
STP90 2535	35	25	70	115	2			
STP90 2540	40	25	70	115	3			
STP90 2550	50	25	70	115	3			
STP90 3235	35	32	70	115	3			
STP90 3240	40	32	70	115	3			
STP90 3250	50	32	70	115	3			
STP90 3263	63	32	70	115	4			



## BAP

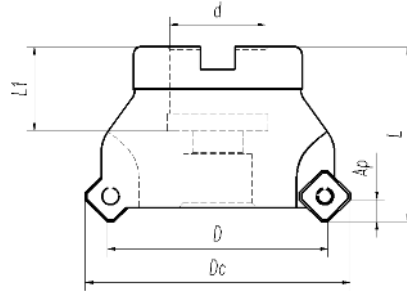


Unit:mm

ORDERING CODE	Dimension					Insert	Screw	Wrench				
	D	L	L1	d	T							
BAP300R162SN16-120	16	120	35	16	2	AP..1135PDER	TS2507	TK08				
BAP300R172SN16-120	17			20								
BAP300R202SN20-150	20			150	40				25	2		
BAP300R203SN20-150	20	3										
BAP300R213SN20-150	21		45		32				3			
BAP400R252SN25-150	25	170								40	25	2
BAP400R262SN25-150	26											
BAP400R302SN25-150	30											
BAP400R323SN32-150	32		4									
BAP400R353SN32-150	35											
BAP400R404SN32-170	40	160	45	16	2	AP..1135PDER	TS2507	TK08				
BAP300R162SN16-160	16											
BAP300R172SN16-160	17											
BAP300R202SN20-200	20								50	20	2	
BAP300R212SN20-200	21											
BAP400R252SN25-200	25								70	25	2	
BAP400R252SN25-250	25											
BAP400R262SN25-200	26											
BAP400R302SN25-200	30								50	25	2	
BAP400R323SN32-200	32											
BAP400R323SN32-250	32	80	32	3	AP..1604PDER	TS4004	TK15					
BAP400R323SN32-300	32											
BAP400R353SN32-200	35											
BAP400R353SN32-250	35	50	32	3								
BAP400R353SN32-300	35											
BAP400R353SN32-200	35											
BAP400R404SN32-200	40	200	25	2								
BAP400R404SN32-300	40											
BAP400R404SN32-200	40	200	25	2								
BAP400R404SN32-300	40											



## ASX445

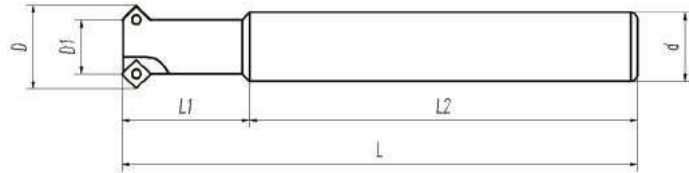





MILLING SYSTEM

E  
14

ORDERING CODE	Dimension							Insert							
	D	Dc	d	L	L1	T	Ap								
ASX445R050-22-4T	50	63.0	22	40	20	4	5.5	JIS SE..13T3AGEN ISO SE..12T3AGSN							
ASX445R063-22-5T	63	75.9	22			5									
ASX445R063-25.4-5T			25.4												
ASX445R080-27-6T	80	93.2	27	50	26	6				5.5	JIS SE..13T3AGEN ISO SE..12T3AGSN				
ASX445R080-25.4-6T			25.4												
ASX445R100-32-7T	100	113.2	32			7									
ASX445R100-31.75-7T			31.75												
ASX445R125-40-8T	125	138.0	40	63	38	8							5.5	JIS SE..13T3AGEN ISO SE..12T3AGSN	
ASX445R125-38.1-8T			38.1												
ASX445R160-40-10T	160	173.0	40			10									
ASX445R160-50.8-10T			50.8												
ASX445R200-60-12T	200	212.9	60			12									
ASX445R200-47.625-12T			47.625												
ASX445R250-60-14T	250	262.9	60	14											
ASX445R250-47.625-14T			47.625												

Shim	Screw	Screw	Wrench	Wrench
AS445N	PS35T	TS3505	TK15	TY3.5

**CDR**


ORDERING CODE	Dimension						Insert	Screw	Wrench
	D	D1	d	L1	L2	L			
CDR 1510C12-2T	15	10	12	20	100	120	SPGT 050204	TS2003	TK6
CDR 1913C16-3T	19	13	16	30	120	150			
CDR 2418C20-4T	24	18	20	35	115	150			
CDR 3019C20-2T	30	19	20	40	110	150	SPGT 090408	TS2003	TK15
CDR 4029C25-3T	40	29	25	40	110	150			
CDR 5039C25-4T	50	39	25	40	110	150			

# 2023 Product Catalog





# HANWOO

*PRECISION CUTTING TOOLS*

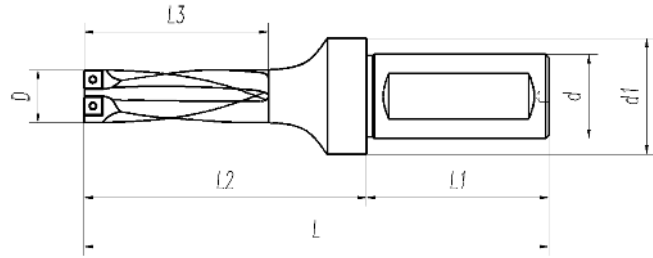






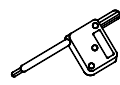
Insert	ORDERING CODE	Recommended Cutting Condition		Grade / Vc(m/min)					
		feed (mm/rev)	ap (mm)	P1080	P2010	M1010	M1070	K0050	K1090
	WCMX 030208					•	•		
	WCMX 040208					•	•		
	WCMX 050308					•	•		
	WCMX 06T308					•	•		
	WCMX 080412					•	•		
	SPGT 050204					•	•		
	SPGT 060204					•	•		
	SPGT 07T308					•	•		
	SPGT 090408					•	•		
	SPGT 110408					•	•		
	SPGT 140512					•	•		



## DDR

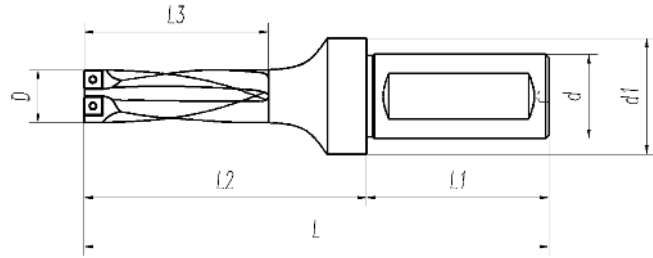


Unit:mm



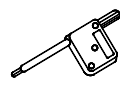
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR2125-20T2-05	12.5	20	25	94	26	44	50	SPGT050204	TS2003	TK06
DDR2130-20T2-05	13			96	28	46				
DDR2135-20T2-05	13.5			99	30	49				
DDR2140-20T2-05	14									
DDR2145-20T2-05	14.5									
DDR2150-20T2-05	15									
DDR2155-25T2-06	15.5	25	33	108	32	52	56	SPGT060204	TS2202	TK06
DDR2160-25T2-06	16			110	34	54				
DDR2165-25T2-06	16.5			113	36	57				
DDR2170-25T2-06	17									
DDR2175-25T2-06	17.5									
DDR2180-25T2-06	18									
DDR2185-25T2-06	18.5									
DDR2190-25T2-06	19									
DDR2195-25T2-06	19.5									
DDR2200-25T2-06	20									
DDR2205-25T2-06	20.5									
DDR2210-25T2-06	21									
DDR2215-25T2-06	21.5									
DDR2220-25T2-07	22									
DDR2225-32T2-07	22.5	32	43	131	46	71	60	SPGT07T308	TS2511	TK08
DDR2230-32T2-07	23			134	48	74				
DDR2235-32T2-07	23.5			137	50	77				
DDR2240-32T2-07	24									
DDR2245-32T2-07	24.5									
DDR2250-32T2-07	25									
DDR2255-32T2-07	25.5									
DDR2260-32T2-07	26									



## DDR

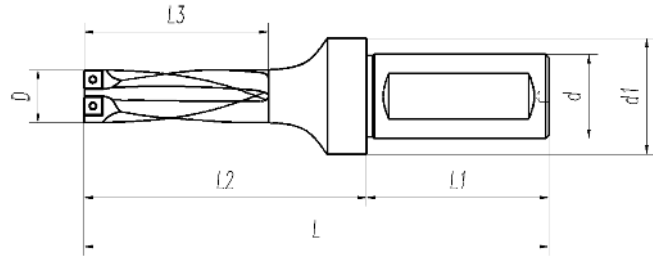


Unit:mm



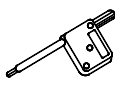
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR2265-32T2-07	26.5	32	43	142	54	81	60	SPGT07T308	TS2511	TK08
DDR2270-32T2-07	27									
DDR2275-32T2-07	27.5									
DDR2280-32T2-09	28									
DDR2285-32T2-09	28.5									
DDR2290-32T2-09	29									
DDR2295-32T2-09	29.5									
DDR2300-32T2-09	30									
DDR2305-32T2-09	30.5									
DDR2310-32T2-09	31									
DDR2315-32T2-09	31.5									
DDR2320-32T2-09	32									
DDR2325-32T2-09	32.5									
DDR2330-32T2-09	33									
DDR2340-32T2-11	34									
DDR2350-32T2-11	35									
DDR2360-32T2-11	36									
DDR2370-32T2-11	37									
DDR2380-32T2-11	38									
DDR2390-32T2-11	39									
DDR2400-40T2-11	40	40	53	185	80	115	70	SPGT140512	TS5009	TK20
DDR2410-40T2-11	41									
DDR2420-40T2-14	42									
DDR2430-40T2-14	43									
DDR2440-40T2-14	44									
DDR2450-40T2-14	45									
DDR2460-40T2-14	46									
DDR2470-40T2-14	47									
DDR2480-40T2-14	48									
DDR2490-40T2-14	49									
DDR2500-40T2-14	50									



## DDR

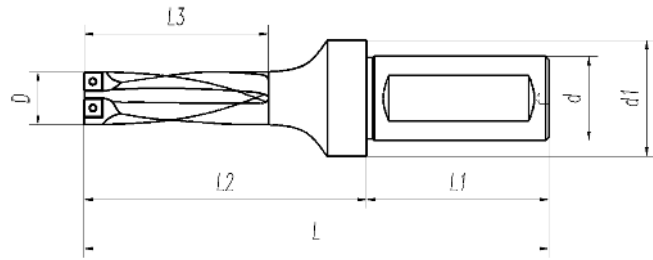


Unit:mm



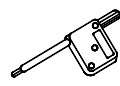
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR3125-20T2-05	12.5	20	25	107	39	57	50	SPGT050204	TS2003	TK06
DDR3130-20T2-05	13			110	42	60				
DDR3135-20T2-05	13.5			114	45	64				
DDR3140-20T2-05	14									
DDR3145-20T2-05	14.5									
DDR3150-20T2-05	15									
DDR3155-25T2-06	15.5	25	33	124	48	68	56	SPGT060204	TS2202	TK06
DDR3160-25T2-06	16			127	51	71				
DDR3165-25T2-06	16.5			131	54	75				
DDR3170-25T2-06	17			134	57	78				
DDR3175-25T2-06	17.5			139	60	83				
DDR3180-25T2-06	18			142	63	86				
DDR3185-25T2-06	18.5			145	66	89				
DDR3190-25T2-06	19									
DDR3195-25T2-06	19.5									
DDR3200-25T2-06	20									
DDR3205-25T2-06	20.5									
DDR3210-25T2-06	21									
DDR3215-25T2-06	21.5									
DDR3220-25T2-07	22									
DDR3225-32T2-07	22.5	32	43	154	69	94	60	SPGT07T308	TS2511	TK08
DDR3230-32T2-07	23			158	72	98				
DDR3235-32T2-07	23.5			162	75	102				
DDR3240-32T2-07	24									
DDR3245-32T2-07	24.5									
DDR3250-32T2-07	25									
DDR3255-32T2-07	25.5									
DDR3260-32T2-07	26									



## DDR

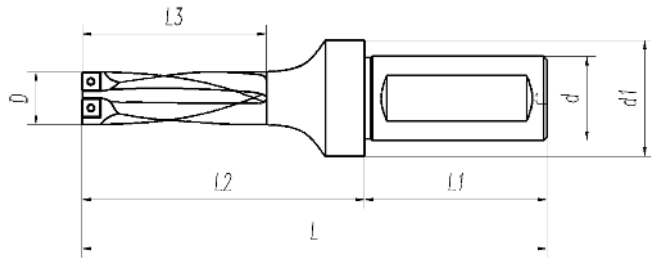


Unit:mm



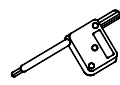
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR3265-32T2-07	26.5	32	43	169	81	108	60	SPGT07T308	TS2511	TK08
DDR3270-32T2-07	27									
DDR3275-32T2-07	27.5									
DDR3280-32T2-09	28									
DDR3285-32T2-09	28.5									
DDR3290-32T2-09	29									
DDR3295-32T2-09	29.5									
DDR3300-32T2-09	30									
DDR3305-32T2-09	30.5									
DDR3310-32T2-09	31									
DDR3315-32T2-09	31.5									
DDR3320-32T2-09	32									
DDR3325-32T2-09	32.5									
DDR3330-32T2-09	33									
DDR3340-32T2-11	34									
DDR3350-32T2-11	35									
DDR3360-32T2-11	36									
DDR3370-32T2-11	37									
DDR3380-32T2-11	38									
DDR3390-32T2-11	39									
DDR3400-40T2-11	40	40	53	225	120	155	70	SPGT110408	TS4006	TK15
DDR3410-40T2-11	41									
DDR3420-40T2-14	42									
DDR3430-40T2-14	43									
DDR3440-40T2-14	44									
DDR3450-40T2-14	45									
DDR3460-40T2-14	46									
DDR3470-40T2-14	47									
DDR3480-40T2-14	48									
DDR3490-40T2-14	49									
DDR3500-40T2-14	50									
DDR3400-40T2-11	40									
DDR3410-40T2-11	41									
DDR3420-40T2-14	42									
DDR3430-40T2-14	43									
DDR3440-40T2-14	44									
DDR3450-40T2-14	45									
DDR3460-40T2-14	46									
DDR3470-40T2-14	47									
DDR3480-40T2-14	48									
DDR3490-40T2-14	49									
DDR3500-40T2-14	50									



## DDR

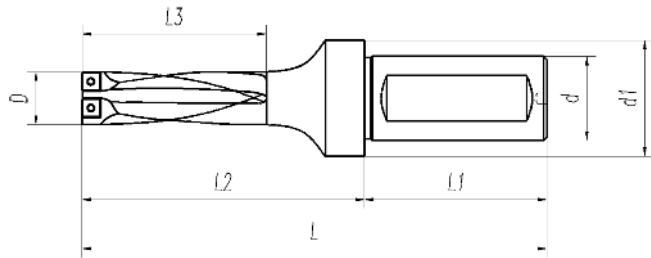


Unit:mm



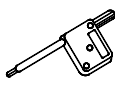
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR4125-20T2-05	12.5	20	25	120	52	70	50	SPGT050204	TS2003	TK06
DDR4130-20T2-05	13			124	56	74				
DDR4135-20T2-05	13.5			129	60	79				
DDR4140-20T2-05	14									
DDR4145-20T2-05	14.5									
DDR4150-20T2-05	15									
DDR4155-25T2-06	15.5	25	33	140	64	84	56	SPGT060204	TS2202	TK06
DDR4160-25T2-06	16			144	68	88				
DDR4165-25T2-06	16.5			148	72	92				
DDR4170-25T2-06	17			152	76	96				
DDR4175-25T2-06	17.5			156	80	100				
DDR4180-25T2-06	18			160	84	104				
DDR4185-25T2-06	18.5			164	88	108				
DDR4190-25T2-06	19									
DDR4195-25T2-06	19.5									
DDR4200-25T2-06	20									
DDR4205-25T2-06	20.5									
DDR4210-25T2-06	21									
DDR4215-25T2-06	21.5									
DDR4220-25T2-07	22									
DDR4225-32T2-07	22.5	32	43	177	92	117	60	SPGT07T308	TS2511	TK08
DDR4230-32T2-07	23			181	96	121				
DDR4235-32T2-07	23.5			185	100	125				
DDR4240-32T2-07	24			189	104	129				
DDR4245-32T2-07	24.5									
DDR4250-32T2-07	25									
DDR4255-32T2-07	25.5									
DDR4260-32T2-07	26									



## DDR



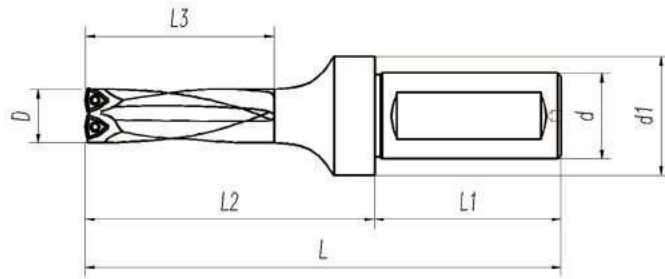
Unit:mm

ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
DDR4265-32T2-07	26.5	32	43	196	108	136	60	SPGT07T308	TS2511	TK08
DDR4270-32T2-07	27			200	112	140				
DDR4275-32T2-07	27.5			204	116	144				
DDR4280-32T2-09	28			208	120	148				
DDR4285-32T2-09	28.5			212	124	152				
DDR4290-32T2-09	29			216	128	156				
DDR4295-32T2-09	29.5			220	132	160				
DDR4300-32T2-09	30			224	136	164				
DDR4305-32T2-09	30.5			228	140	168				
DDR4310-32T2-09	31			232	144	172				
DDR4315-32T2-09	31.5			236	148	176				
DDR4320-32T2-09	32			240	152	180				
DDR4325-32T2-09	32.5			244	156	184				
DDR4330-32T2-09	33			248	160	188				
DDR4340-32T2-11	34			252	164	192				
DDR4350-32T2-11	35			256	168	196				
DDR4360-32T2-11	36			260	172	200				
DDR4370-32T2-11	37			264	176	204				
DDR4380-32T2-11	38			268	180	208				
DDR4390-32T2-11	39	272	184	212						
DDR4400-40T2-11	40	40	53	265	160	195	70	SPGT140512	TS5009	TK20
DDR4410-40T2-11	41			269	164	199				
DDR4420-40T2-14	42			273	168	203				
DDR4430-40T2-14	43			277	172	207				
DDR4440-40T2-14	44			281	176	211				
DDR4450-40T2-14	45			285	180	215				
DDR4460-40T2-14	46			289	184	219				
DDR4470-40T2-14	47			293	188	223				
DDR4480-40T2-14	48			297	192	227				
DDR4490-40T2-14	49			301	196	231				
DDR4500-40T2-14	50			305	200	235				



## SDR

DRILLING SYSTEM



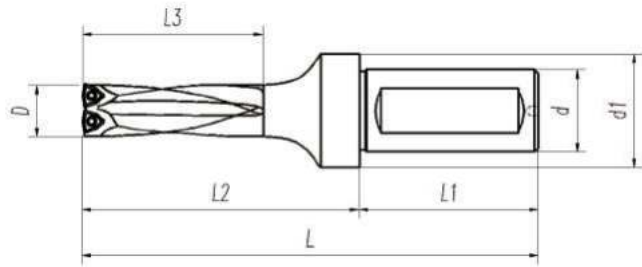
Unit:mm

ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
SDR2140-25T2-03	14	25	38	114	28	58	60			
SDR2145-25T2-03	14.5									
SDR2150-25T2-03	15									
SDR2155-25T2-03	15.5									
SDR2160-25T2-03	16									
SDR2165-25T2-03	16.5									
SDR2170-25T2-03	17									
SDR2175-25T2-03	17.5									
SDR2180-25T2-03	18									
SDR2185-25T2-03	18.5									
SDR2190-25T2-03	19									
SDR2195-25T2-03	19.5									
SDR2200-25T2-03	20									
SDR2205-25T2-03	20.5									
SDR2210-25T2-04	21									
SDR2215-25T2-04	21.5									
SDR2220-32T2-04	22	32	43	136	44	76	70			
SDR2225-32T2-04	22.5									
SDR2230-32T2-04	23									
SDR2235-32T2-04	23.5									
SDR2240-32T2-04	24									
SDR2245-32T2-04	24.5									
SDR2250-32T2-04	25									
SDR2255-32T2-04	25.5									
SDR2260-32T2-05	26									
SDR2270-32T2-05	27									
SDR2280-32T2-05	28			144	52	84				
SDR2290-32T2-05	29									
SDR2300-32T2-05	30									
SDR2270-32T2-05	27									
SDR2280-32T2-05	28									
SDR2290-32T2-05	29									
SDR2300-32T2-05	30									

TK08



## SDR



Unit:mm

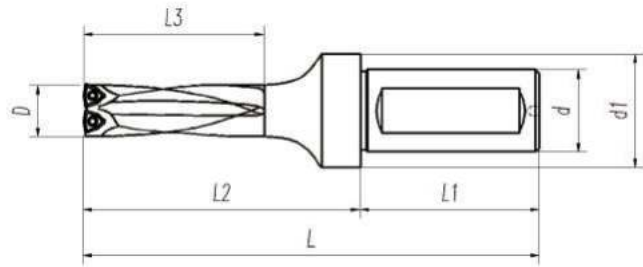
ORDERING CODE	Dimension							Insert	Screw	Wrench	
	D	d	d1	L	L3	L2	L1				
SDR2310-32T2-06	31	32	43	154	62	94	60	WCMX06T308	TS3502	TK15	
SDR2320-32T2-06	32			156	64	96					
SDR2330-32T2-06	33			159	66	99					
SDR2340-32T2-06	34			160	68	100					
SDR2350-32T2-06	35			162	70	102					
SDR2360-32T2-06	36			164	72	104					
SDR2370-32T2-06	37			166	74	106					
SDR2380-32T2-06	38			168	76	106					
SDR2390-32T2-06	39			170	78	110					
SDR2400-40T2-06	40			40	54	185					80
SDR2410-40T2-06	41	187	82			117					
SDR2420-40T2-08	42	189	84			119					
SDR2430-40T2-08	43	191	86			121					
SDR2440-40T2-08	44	194	88			124					
SDR2450-40T2-08	45	195	90			125					
SDR2460-40T2-08	46	197	92			127					
SDR2470-40T2-08	47	199	94			129					
SDR2480-40T2-08	48	201	96			131					
SDR2490-40T2-08	49	202	98			132					
SDR2500-40T2-08	50	204	100			134					
SDR2510-40T2-08	51	206	102			136					
SDR2520-40T2-08	52	208	104			138					
SDR2530-40T2-08	53	210	106			140					
SDR2540-40T2-08	54	212	108			142					
SDR2550-40T2-08	55	58	215			110	145				
SDR2560-40T2-08	56		217			112	147				
SDR2570-40T2-08	57		219			114	149				
SDR2580-40T2-08	58	59	221			116	151				
SDR2590-40T2-08	59		223			118	153				
SDR2600-40T2-08	60	63	225	120	155						





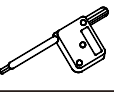
## SDR

DRILLING SYSTEM

F10

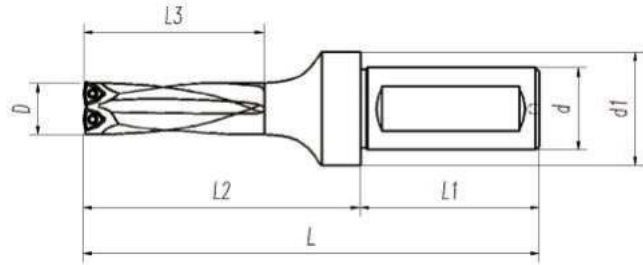


Unit:mm

ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
SDR3140-25T2-03	14	25	38	128	42	72	56	WCMX030208	TS2502	TK08
SDR3145-25T2-03	14.5									
SDR3150-25T2-03	15									
SDR3155-25T2-03	15.5									
SDR3160-25T2-03	16									
SDR3165-25T2-03	16.5									
SDR3170-25T2-03	17									
SDR3175-25T2-03	17.5									
SDR3180-25T2-03	18									
SDR3185-25T2-03	18.5									
SDR3190-25T2-03	19									
SDR3195-25T2-03	19.5									
SDR3200-25T2-03	20									
SDR3205-25T2-03	20.5									
SDR3210-25T2-04	21	32	43	149	63	93	60	WCMX040208	TS2507	TK08
SDR3215-25T2-04	21.5									
SDR3220-32T2-04	22									
SDR3225-32T2-04	22.5									
SDR3230-32T2-04	23									
SDR3235-32T2-04	23.5									
SDR3240-32T2-04	24									
SDR3245-32T2-04	24.5									
SDR3250-32T2-04	25									
SDR3255-32T2-04	25.5									
SDR3260-32T2-05	26									
SDR3270-32T2-05	27									
SDR3280-32T2-05	28									
SDR3290-32T2-05	29									
SDR3300-32T2-05	30	30.5	125	182	90	122	WCMX050308	TS3007	TK10	
SDR3305-32T2-06	30.5									
SDR3310-32T2-06	31									
				182	93	125		WCMX06T308	TS3502	TK15



## SDR



Unit:mm

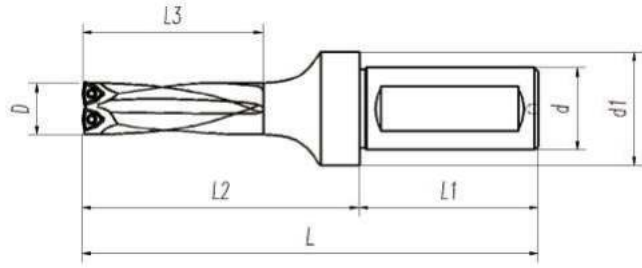
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
SDR3315-32T2-06	31.5	32	43	185	93	125	60	WCMX06T308	SO35100	T15
SDR3320-32T2-06	32			188	96	128				
SDR3325-32T2-06	32.5			188	96	128				
SDR3330-32T2-06	33			191	99	131				
SDR3340-32T2-06	34			194	102	134				
SDR3350-32T2-06	35			197	105	137				
SDR3360-32T2-06	36			200	108	140				
SDR3370-32T2-06	37			203	111	143				
SDR3380-32T2-06	38			206	114	146				
SDR3390-32T2-06	39			209	117	149				
SDR3400-40T2-06	40	40	54	225	120	155	70	WCMX080412	TS4004	
SDR3410-40T2-06	41			228	123	158				
SDR3420-40T2-08	42			231	126	161				
SDR3430-40T2-08	43			234	129	164				
SDR3440-40T2-08	44			238	132	168				
SDR3450-40T2-08	45			240	135	170				
SDR3460-40T2-08	46			243	138	173				
SDR3470-40T2-08	47			246	141	176				
SDR3480-40T2-08	48			249	144	179				
SDR3490-40T2-08	49			253	147	182				
SDR3500-40T2-08	50	58	59	254	150	184	70	WCMX080412	TS4004	
SDR3510-40T2-08	51			257	153	187				
SDR3520-40T2-08	52			260	156	190				
SDR3530-40T2-08	53			263	159	193				
SDR3540-40T2-08	54			266	162	196				
SDR3550-40T2-08	55			270	165	200				
SDR3560-40T2-08	56			273	168	203				
SDR3570-40T2-08	57			276	171	205				
SDR3580-40T2-08	58	59	63	279	174	209	70	WCMX080412	TS4004	
SDR3590-40T2-08	59			282	177	212				
SDR3600-40T2-08	60	285	180	215	70	WCMX080412	TS4004	T15		





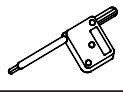
## SDR

DRILLING SYSTEM

F12

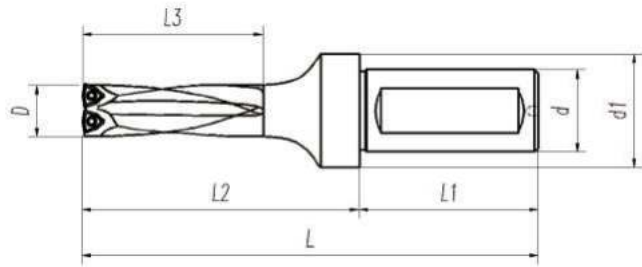


Unit:mm



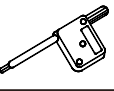
ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
SDR4140-25T2-03	14	25	38	142	56	86	56	WCMX030208	TS2502	TK08
SDR4150-25T2-03	15			146	60	90				
SDR4160-25T2-03	16			150	64	94				
SDR4170-25T2-03	17			154	68	98				
SDR4180-25T2-03	18			158	72	102				
SDR4190-25T2-03	19			162	76	106				
SDR4200-25T2-03	20			166	80	110				
SDR4210-25T2-04	21			170	84	114				
SDR4220-32T2-04	22	32	43	180	88	120	60	WCMX040208	TS2507	TK08
SDR4230-32T2-04	23			184	92	124				
SDR4240-32T2-04	24			188	96	128				
SDR4250-32T2-04	25			192	100	132				
SDR4260-32T2-05	26			196	104	136				
SDR4270-32T2-05	27			200	108	140				
SDR4280-32T2-05	28			204	112	144				
SDR4290-32T2-05	29			208	116	148				
SDR4300-32T2-05	30			212	120	152				
SDR4310-32T2-06	31			216	124	156				
SDR4320-32T2-06	32			220	128	160				
SDR4330-32T2-06	33	224	132	164						
SDR4340-32T2-06	34	228	136	168						
SDR4350-32T2-06	35	232	140	172						
SDR4360-32T2-06	36	236	144	176						
SDR4370-32T2-06	37	240	148	180						
								WCMX050308	TS3007	TK10
								WCMX06T308	TS3502	TK15



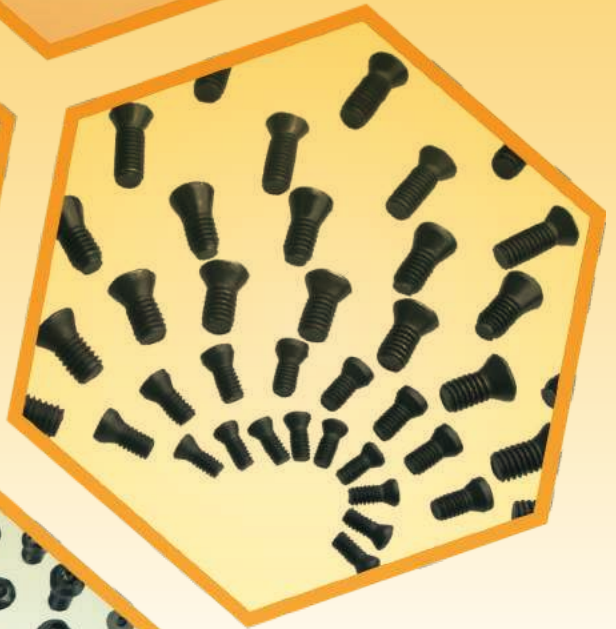
## SDR



Unit:mm

ORDERING CODE	Dimension							Insert	Screw	Wrench
	D	d	d1	L	L3	L2	L1			
SDR4380-32T2-06	38	32	43	244	152	184	60	WCMX06T308	TS3502	TK15
SDR4390-32T2-06	39			248	156	188				
SDR4400-40T2-06	40	265	160	195						
SDR4410-40T2-06	41	269	164	199						
SDR4420-40T2-08	42	40	54	273	168	203	70	WCMX080412	TS4004	TK15
SDR4430-40T2-08	43			277	172	207				
SDR4440-40T2-08	44			282	176	212				
SDR4450-40T2-08	45			285	180	215				
SDR4460-40T2-08	46			289	184	219				
SDR4470-40T2-08	47			293	188	223				
SDR4480-40T2-08	48			297	192	227				
SDR4490-40T2-08	49			301	196	231				
SDR4500-40T2-08	50			305	200	235				
SDR4510-40T2-08	54			58	54	309				
SDR4520-40T2-08	52	313	208			243				
SDR4530-40T2-08	53	317	212			247				
SDR4540-40T2-08	54	59	54	320	216	250	70	WCMX080412	TS4004	TK15
SDR4550-40T2-08	55			325	220	255				
SDR4560-40T2-08	56	59	58	329	224	259	70	WCMX080412	TS4004	TK15
SDR4570-40T2-08	57			333	228	263				
SDR4580-40T2-08	58	60	59	337	232	267	70	WCMX080412	TS4004	TK15
SDR4590-40T2-08	59			341	236	271				
SDR4600-40T2-08	60	63	59	345	240	275	70	WCMX080412	TS4004	TK15

# Turning & Milling Tools



# Turning & Milling Tools

