

# 2016 **WIDIN** Products

Taps / Endmills / Drills / Reamers / Tool Holders / Carbide Rods



# Global Cutting Tool manufacturer

*Our aim is your success!*



**S**ince its establishment in 1988, WIDIN Co.,Ltd. has been contributed to pursue the utmost customer satisfaction for the current and potential customers in the globalized market. With continuously doing development and creativeness of the new technology through the great initiative, we, WIDIN Co.,Ltd. is always ready to response of customer needs in customer mind and eye. To cope with the enormous, various customer demands and satisfaction from popular products to high value added products in the cutting tools industry, WIDIN Co.,Ltd. will put its best effort and will play a role of marketing initiator to lead the new 21st era by production and marketing linkage. Aim to provide the best for money, ne tuned price, utmost quality, excellent customer services based on professionalism, all WIDIN Co.,Ltd. will promise to do its best effort at time and where it is.

Thank you.

A handwritten signature in Korean calligraphy, reading '권 동 현' (Kwon Dong Hyun).



























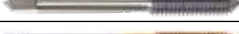



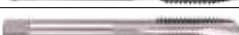







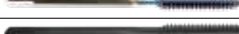


President and CEO Dong Hyun Kwon



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# 01 TAPS






























SERIES	FEATURE	TYPE	COATING	ITEM	EDP.NO.	Standard range	
						MIN~MAX	
CARBIDE TAP SERIES	For Mass production		UNCOATED	STRAIGHT TAPS	WSOM	M3~M12	
			TiCN	STRAIGHT TAPS	WSCM	M3~M12	
	For blind hole		UNCOATED	SPIRAL TAPS	WPOM	M3~M12	
			TiCN	SPIRAL TAPS	WPCM	M3~M12	
	For nonferrous metal Steel and nonferrous alloy		UNCOATED	ROLL TAPS	WROM	M3~M12	
			TiCN	ROLL TAPS	WRCM	M3~M12	
For nonferrous metal		UNCOATED	SPIRAL ROLL TAPS	WFOM	M3~M6		
		TiCN	SPIRAL ROLL TAPS	WFCM	M3~M6		
HSSE TAP SERIES (JIS)	General Purpose		UNCOATED	STRAIGHT TAPS	VSOM	M3~M20	
			TiN	STRAIGHT TAPS	VSTM	M3~M20	
			TiCN	STRAIGHT TAPS	VSCM	M3~M20	
			HOMO	STRAIGHT TAPS	VSHM	M3~M20	
	For through hole		UNCOATED	POINT TAPS	VNOM	M3~M20	
			TiN	POINT TAPS	VNTM	M3~M20	
			TiCN	POINT TAPS	VNCM	M3~M20	
			HOMO	POINT TAPS	VNHM	M3~M20	
	For blind hole		UNCOATED	SPIRAL TAPS	VPOM	M3~M20	
			TiN	SPIRAL TAPS	VPTM	M3~M20	
			TiCN	SPIRAL TAPS	VPCM	M3~M20	
			HOMO	SPIRAL TAPS	VPHM	M3~M20	
	For nonferrous alloys		UNCOATED	ROLL TAPS	VROM	M3~M12	
	Applicable regardless of steel of Nonferrous alloys		TiN	ROLL TAPS	VRTM	M3~M12	
			TiCN	ROLL TAPS	VRCM	M3~M12	
	Suitable for tapping		UNCOATED	SPIRAL ROLL TAPS	VFOM	M3~M6	
			TiN	SPIRAL ROLL TAPS	VFTM	M3~M6	
			TiCN	SPIRAL ROLL TAPS	VFCM	M3~M6	
	HSSE TAP SERIES (DIN)	General Purpose		TiN	POINT TAPS	VDTM	M3~M24
				TiCN	POINT TAPS	VDCM	M3~M24
				HOMO	POINT TAPS	VDHM	M3~M24
				UNCOATED	POINT TAPS	VDOM	M3~M24
				TiN	SPIRAL TAPS	VQTM	M3~M24
				TiCN	SPIRAL TAPS	VQCM	M3~M24
			HOMO	SPIRAL TAPS	VQHM	M3~M24	
			UNCOATED	SPIRAL TAPS	VQOM	M3~M24	
			TiN	STRAIGHT TAPS	VGTM	M3~M24	
			TiCN	STRAIGHT TAPS	VGCM	M3~M24	
			HOMO	STRAIGHT TAPS	VGHM	M3~M24	
			UNCOATED	STRAIGHT TAPS	VGOM	M3~M24	
			UNCOATED	ROLL TAPS	VMOM	M3~M12	
			TiN	ROLL TAPS	VMTM	M3~M12	
			TiCN	ROLL TAPS	VMCM	M3~M12	

※Applicable Working Material(TAPS)

Low Carbon Steels	Medium Carbon Steels	High Carbon Steels	Alloy Steels	Hardened Steels			Stainless Steels	Tool Steels	Cast Steels	Cast Iron	Ductile Cast Iron	Copper	Brass	Brass Casting	Bronze	Aluminum Rolled	Aluminum Alloy Casting	Magnesium Alloy Casting	Zinc Alloy Casting	Titanium Alloys	Nickel Alloys	Thermo Setting Plastic	Thermo Plastic	
C ~0.25%	C 0.25%~0.45%	C 0.45%~	SOM	25~45 HRC	45~55 HRC	50~60 HRC	SUS	SKD	SC	FC	FCD	Cu	Bs	BsC	BRZ	AL	AC, ADC	MC	ZDC					
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○ General Application ◎ The most suitable Application

# 02 ENDMILLS

































SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP.NO.	Standard range
							MIN~MAX
<b>HRC70</b> High Hardened Material  <b>ZAMUS STAR</b>	Rib type  * Hardened Steels (~HRC70)  * High Speed Cutting	SQUARE		2F	LONG NECK	ZSLNS20	0,1~5
				4F	LONG NECK	ZSLNS40	1~5
		BALL		2F	LONG NECK	ZSLNB	0,05~5
		RADIUS		2F	LONG NECK & BACK DRAFT TYPE	ZSLNR	0,2~3
		BALL		2F	TAPER NECK & BACK DRAFT TYPE	ZSTNB20	0,2~10
				3F	TAPER NECK & BACK DRAFT TYPE	ZSTNB30	1~2,5
		RADIUS		2F	TAPER NECK & BACK DRAFT TYPE	ZSTNR	0,2~3
		SQUARE		4F	LONG CUT LENGTH VARIABLE INDEX	ZS124	2~12
		SQUARE & RADIUS		4F	CORNER RADIUS VARIABLE INDEX	ZS1(2)04	1~12
				4F	CORNER RADIUS VARIABLE INDEX	ZS204	2~12
	* High speed & High feed rates	RADIUS		4F	STUB CUT LENGTH, WITH EXTENDED NECK	ZSPM4	3~10
	* Hardened Steels (~HRC70)  * High Speed Cutting	BALL		2F	STUB CUT LENGTH, BALL NOSE WITH EXTENDED NECK	DB702	0,1~12
				2F	REGULAR LENGTH, BALL NOSE	DB712	1~12
				3F	BALL NOSE FOR FINISHING MOLD & DIE	DB703	2~12
				4F	TAPER NECK FOR FINISHING MOLD & DIE	DB734	2~10
		SQUARE		2F	STUB CUT LENGTH, WITH EXTENDED NECK	ZE702	0,1~20
				4F	STUB CUT LENGTH, WITH EXTENDED NECK	ZE704	1~20
				4&6F	FINISHING FOR MOLD & DIE	ZE724(6)	1~12
		RADIUS		2F	STUB CUT LENGTH, CORNER RADIUS WITH EXTENDED NECK	ZR702	1~12
				2F	CORNER RADIUS WITH LONG SHANK	ZR732	1~12
				4F	STUB CUT LENGTH, CORNER RADIUS WITH EXTENDED NECK	ZR704	1~12
				4F	45° HELIX FINISHING MOLD & DIE	ZR714	3~12
				4F	STUB CUT LENGTH, CORNER RADIUS WITH LONG SHANK	ZR724	6~12
				4F	CORNER RADIUS WITH LONG SHANK	ZR734	1~12
				6F	45° HELIX STUB CUT LENGTH, CORNER RADIUS WITH EXTENDED NECK	ZR706	6~12
				6F	45° HELIX, LONG SHANK, CORNER RADIUS	ZR736	6~12
		SQUARE		2F	35° HELIX REGULAR LENGTH	ZE712	1~12
				4F	45° HELIX REGULAR LENGTH	ZE714	1~12
				6F	50° HELIX REGULAR LENGTH	ZE716	6~20

※Applicable Working Material(ZAMUS STAR)

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	HRc55~ SKD11					
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○ General Application    ◎ The most suitable Application

# 02 ENDMILLS

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP.NO.	Standard range
							MIN~MAX
<b>HRc55</b> Hardened Material  <b>ZAMUS</b> <b>CLASSIC</b>	* Hardened Steels (~HRc55)  * High Speed Cutting  * General Speed Cutting	SQUARE		4F	MEDIUM CUT, LONG SHANK TYPE	ZM524	3~20
				2F	LONG TYPE	ZE522	3~20
				4F	LONG TYPE	ZE524	3~20
				4F	EXTRA LONG LENGTH	ZE534	4~25
				2F	35° HELIX REGULAR LENGTH	ZE512	1~12
				4F	45° HELIX REGULAR LENGTH	ZE514	2~12
				6F	50° HELIX REGULAR LENGTH	ZE516	6~20
		LONG NECK SQUARE		2F	RIB PROCESSING ENDMILL	ZE612	0.4~5
		LONG NECK BALL		2F	RIB PROCESSING BALL ENDMILL	DB612	0.5~5
		RADIUS		2F	STUB CUT LENGTH, CORNER RADIUS WITH EXTENDED NECK	ZR502	4~12
				4F	STUB CUT LENGTH, CORNER RADIUS WITH EXTENDED NECK	ZR504	4~12
				2F	REGULAR LENGTH, CORNER RADIUS	ZR512	6~20
				4F	REGULAR LENGTH, CORNER RADIUS	ZR514	6~20
				2F	LONG LENGTH, CORNER	ZR522	3~12
				4F	LONG LENGTH RADIUS	ZR524	3~12
		BALL		MULTIPLE	TAPER BALL, RIB PROCESSING	TPRB4-050	0.6~2.5
				MULTIPLE	TAPER BALL, RIB PROCESSING	TPRB4-075	0.6~2.5
				MULTIPLE	TAPER BALL, RIB PROCESSING	TPRB4-100	0.6~2.5
				MULTIPLE	TAPER BALL, RIB PROCESSING	TPRB4-150	0.6~2.5
				MULTIPLE	TAPER BALL, RIB PROCESSING	TPRB4-200	0.6~2.5
		SQUARE		MULTIPLE	TAPER, RIB PROCESSING	TPRE4-050	0.4~2.5
				MULTIPLE	TAPER, RIB PROCESSING	TPRE4-075	0.4~3
				MULTIPLE	TAPER, RIB PROCESSING	TPRE4-100	0.4~3
				MULTIPLE	TAPER, RIB PROCESSING	TPRE4-150	0.4~3
				MULTIPLE	TAPER, RIB PROCESSING	TPRE4-200	0.4~3
				MULTIPLE	TAPER, RIB PROCESSING	TPRE4-300	0.5~3
		TAPER		3F	TAPER ENDMILL	TE503	3~10
		TAPER BALL		3F	TAPER BALL ENDMILL	TB503	3~12
				4F	TAPER BALL ENDMILL	TB504	5~12
		ROUGHING		3~6F	ROUGHING ENDMILL-FINE PITCH	ZF60	4~32
				3~5F	ROUGHING ENDMILL-FINE PITCH	ZF61	4~25
				3F	Z - AXIS ROUGHING ENDMILL	PK503	6~20











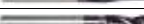
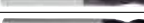





























**※Applicable Working Material(ZAMUS CLASSIC)**

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~ SKD11					
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○ General Application    ◎ The most suitable Application

# 02 ENDMILLS

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP.NO.	Standard range
							MIN~MAX
HRC55  ZAMUS CLASSIC	* Hardened Steels (~HRC55)  * High Speed Cutting	BALL		2F	SHORT LENGTH, BALL NOSE	DB402	1~20
				2F	15° HELIX STUB CUT LENGTH, BALL NOSE WITH EXTENDED NECK	DB412	1~10
				2F	LONG LENGTH, BALL NOSE	DB512	1~25
				4F	LONG LENGTH, BALL NOSE	DB514	3~25
				2F	STUB CUT LENGTH, BALL NOSE WITH EXTENDED NECK	DB502	1~12
				2F	EXTENDED NECK-LONG SHANK	DB522	3~16
				2F	MMC-SPHERE TYPE	DB532	3~16
				4F	MMC-SPHERE TYPE	DB534	5~16
				2F	BALL NOSE WITH TAPER NECK	DB54(5)2	2~12
	* General Speed Cutting	SQUARE		2F	REGULAR LENGTH	ZE502	1~25
				4F	REGULAR LENGTH	ZE504	1~25
				3F	REGULAR LENGTH	ZE503	6~32
				6F	REGULAR & LONG LENGTH	ZE506	6~32
				2F	MEDIUM LENGTH	ZM502	2~25
				4F	MEDIUM LENGTH	ZM504	2~25
				2F	MEDIUM CUT, LONG SHANK TYPE	ZM522	3~20

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP.NO.	Standard range	
							MIN~MAX	
HRC45 Economic Type  ZAMUS THUNDER	* Hardened Steels (~HRC45) * High Speed Cutting * General Speed Cutting	BALL		2F	LONG LENGTH, BALL NOSE	DB312	1~20	
				2F	BALL NOSE WITH TAPER NECK	DB342	1~12	
		SQUARE		2F	REGULAR LENGTH	ZE302	1~20	
				4F	REGULAR LENGTH	ZE304	2~20	
				2F	LONG LENGTH	ZE322	3~20	
				4F	LONG LENGTH	ZE324	3~20	
		RADIUS		2F	CORNER RADIUS LONG LENGTH	ZR322	3~12	
				4F	CORNER RADIUS LONG LENGTH	ZR324	3~12	
				4F	45° HELIX STUB CUT LENGTH, CORNER RADIUS, EXTENDED NECK	ZR304H	3~12	
				4F	45° HELIX STUB CUT LENGTH, CORNER RADIUS, LONG SHANK	ZR324H	6~12	
		* Hardened Steels (~HRC45) * High Speed Cutting * General Speed Cutting * Economic Type	SQUARE		2F	REGULAR LENGTH	TX302	1~20
					4F	REGULAR LENGTH	TX304	1~20
				4F	45° HELIX, REGULAR LENGTH	TX304H	3~20	
	BALL			2F	REGULAR LENGTH, BALL NOSE	TXB302	1~20	
				4F	REGULAR LENGTH, BALL NOSE	TXB304	1~20	
	SQUARE		2F	SHORT LENGTH	TX202	1~20		
	* Hardened Steels (~HRC45) * High Speed Cutting * General Speed Cutting * Economic Type	SQUARE		2F	LONG LENGTH	TX222	3~20	
				4F	SHORT LENGTH	TX204	1~20	
				4F	LONG LENGTH	TX224	3~20	
BALL			2F	REGULAR LENGTH, BALL NOSE	TXB202	1~20		
			2F	LONG LENGTH, BALL NOSE	TXB222	3~20		
			2F	LONG REACH, BALL NOSE	TXB232	3~20		
			4F	REGULAR LENGTH, BALL NOSE	TXB204	2~20		



※Applicable Working Material(ZAMUS CLASSIC)

Carbon Steels (S45C,S55C,...) ~HB225	Alloy Steels (SCM,SK,...) HB225~325	Prehardened Steels(NAK,...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD6	HRc55~SKD11					
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○ General Application ◎ The most suitable Application

※Applicable Working Material(ZAMUS TUNDR)










Carbon Steels (S45C,S55C,...) ~HB225	Alloy Steels (SCM,SK,...) HB225~325	Prehardened Steels(NAK,...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD6	HRc55~SKD11					
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○ General Application ◎ The most suitable Application









# 02 ENDMILLS

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP,NO.	Standard range
							MIN~MAX
STANDARD ENDMILL	* General & Multi-purpose	SQUARE		2F	REGULAR LENGTH	E302	1~25
				4F	REGULAR LENGTH	E304	2~25
		BALL		2F	BALL NOSE LONG LENGTH	B302	1~25
				2F	BALL NOSE EXTRA LONG LENGTH	BL422	3~20
				4F	BALL NOSE LONG LENGTH	B304	3~25
		SQUARE		2F	LONG LENGTH	E322	3~20
				4F	LONG LENGTH	E324	3~20
				2F	REGULAR LENGTH - BRAZED TYPE	EB302	14~50
				4F	REGULAR LENGTH - BRAZED TYPE	EB304	14~50
				2F	LONG LENGTH - BRAZED TYPE	EB322	14~45
				4F	LONG LENGTH - BRAZED TYPE	EB324	14~50
		BALL		2F	BALL NOSE REGULAR LENGTH - BRAZE TYPE	BB302	15~32

## ALU-WAVE SERIES

SERIES	FEATURE	APPEARANCE	No. of Teeth	EDP NO.	PROPERTY	Standard range
						MIN~MAX
ALU-WAVE SERIES	BALL		2F	WAB312	STUB CUT BALL NOSE	6~20
	SQUARE		1F	WAE301	1 FLUTE-FOR PLASTIC AND NONFERROUS	0.2~12
			2F	WAE302	45° HELIX-FOR ALUMINUM	1~25
			3F	WAE30(2)3	5° LONG & EXTRA LONG LENGTH	1~16
			2F	WAR302	45° HELIX CORNER RADIUS	6~20
			3F	WAR303	45° HELIX CORNER RADIUS	6~20
			2F	WAR502	CORNER RADIUS WITH D.L.C COATED -FOR ALUMINUM & NONFERROUS	1~12
			3F	WAR503	CORNER RADIUS WITH D.L.C COATED -FOR ALUMINUM & NONFERROUS	4~20
			3F	WAF303	ROUGHING ENDMILL	4~20

## 1 FLUTE ENDMILL SERIES

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	ITEM	EDP,NO.	Standard range
							MIN~MAX
HARD MATERIAL	* Nonferrous, nonmetal	SQUARE		1F	1 FLUTE ENDMILL TYPE	E3010-	0.2~12
ZAMUS SUS-MATE	* Stainless Steels * Titanium * Inconell	BALL		2F	BALL NOSE REGULAR & LONG LENGTH	DS502	1~12
		SQUARE		3F	REGULAR ENDMILL	SM503	2~20
		ROUGHING		4~6F	ROUGHING ENDMILL	ZF62	6~20
ZAMUS COPPER-MATE	* Copper & non-ferrous material	BALL		2F	STUB CUT WITH EXTENDED NECK	BC502	1~12
		RADIUS		2F	STUB CUT WITH EXTENDED NECK	RC502	2~12
ZAMUS GRA-MATE	* Graphite & non-ferrous material	BALL		2F	DIAMOND COATING BALL NOSE	G	0.5~12
		SQUARE		2F	DIAMOND COATING ENDMILL	GE	0.5~12

**※Applicable Working Material(STANDARD ENDMILL)**

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~SKD11					
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○ General Application    ◎ The most suitable Application

**※Applicable Working Material(ALU-WAVE SERIES)**

Carbon Steels (S45C,S55C...) ~ HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~SKD11					
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○ General Application    ◎ The most suitable Application









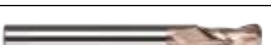






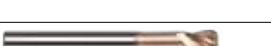






**※Applicable Working Material(1 FLUTE ENDMILL SERIES)**

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~SKD11					
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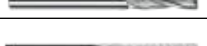
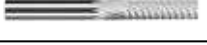
○ General Application    ◎ The most suitable Application

# 02 ENDMILLS

## WINNER SERIES

FEATURE	APPEARANCE	No. of Teeth	EDP NO.	PROPERTY	Standard range
					MIN~MAX
BALL (Mold&Die)		2F	WB502---	SHORT LENGTH + REGULAR LENGTH + LONG LENGTH	0.1~25
			WHPB902	APPLIED ULTRA-HIGH PRECISION R TOLERANCE	0.1~12
			WB502---P	HIGH PRECISION	0.1~12
			WB512---	FOR RIB PROCESSING	0.1~12
			WB512---S6	FOR RIB PROCESSING (SHANK-6)	0.5~2
			WB542---	TAPER NECK	0.1~12
			WB532---	MILLING MACHINE COPY	3~12
			WSB502---	STRAIGHT FLUTE	3~20
		3F	WB503---	HIGH FEED & CENTER MATCH	1~12
		4F	WB504---	HIGH FEED	1~12
			WGB504---	DIAMOND COATING BALL	1~20
	CORNER RADIUS (Mold&Die)		2F	WR502---	SHORT LENGTH + REGULAR LENGTH + LONG LENGTH
		WR512---		LONG NECK	0.2~20
		WR542---		TAPER NECK	0.2~4
		3F	WDR503---	DOUBLE CORNER RADIUS	6~20
		4F	WXR504---	SHORT LENGTH+REGULAR LENGTH + LONG SHANK+VARIABLE INDEX GEOMETRY	1~20
			WXR514---	LONG NECK + A VARIABLE INDEX GEOMETRY	1~20
			WR544---	TAPER NECK	1~4
			WSPM4---	HIGH FEED	1~20
			WR504---	SHORT LENGTH + REGULAR LENGTH + END TEETH A VARIABLE INDEX GEOMETRY	3~20
		WR514---	LONG NECK CORNER RADIUS	6~12	
	6F	WR506---	45° CORNER RADIUS	6~20	

## AEROSPACE INDUSTRY SERIES

SERIES	TYPE	APPEARANCE	No. of Teeth	EDP.NO.	ITEM	Standard range
						MIN~MAX
DIAMOND COATING SERIES	BALL	 <i>New</i>	4F	WGB504	DIAMOND COATING BALL	8~20
	CORNER RADIUS	 <i>New</i>	4F	WGR502	30° HELIX + DIAMOND COATING	0.2~6
		 <i>New</i>	4F	WGR504	30° HELIX + DIAMOND COATING	3~20
	SQUARE	 <i>New</i>	4F	WGE504	30° HELIX + DIAMOND COATING	2~20
WROU SERIES	SQUARE	 <i>New</i>	8~12F	WROU	15° / 50° HELIX + DIAMOND COATING	6~12

WINNER SERIES					
FEATURE	APPEARANCE	No. of Teeth	EDP NO.	PROPERTY	Standard range
					MIN~MAX
RADIUS		4	WGR504---	DIAMOND COATED RADIUS	3~20
SQUARE (Mold&Die)		2F	WME502---	$\phi 0.03\sim$	0.03~25
			WE502---S4	$\phi 0.1 + \text{SHANK } 4$	1~4
			WE502---S3	SHANK 3	0.1~3
			WE502---	SHORT + REGULAR + LONG LENGTH	0.1~20
			WE522---	LONG	1~25
			WE512---	LONG NECK	0.1~12
		4F	WME504---	A VARIABLE INDEX GEOMETRY	0.8~25
			WXE504---	SHORT+REGULAR+LONG LENGTH+A VARIABLE INDEX GEOMETRY	1~20
			WE524---	LONG	1~25
			WE514---	LONG NECK	1~12
			WE504---H	45° HELIX + REGULAR + LONG	1~20
		6F	WE506---	45° HELIX + REGULAR + LONG	6~20
	4F	WGE504---	30° HELIX + DIAMOND COATING	2~20	
ROUGHING		3~5F	WF61---	ROUGHING ENDMILL	3~25
		3~5F	WF60---	ROUGHING ENDMILL-CORNER R	3~25
SQUARE TAPER		2F	WTE502---	TAPER	0.3~10
		4F	WTE504---	TAPER	3~10
SQUARE TAPER RIB		4F	WTE514---	RIB	0.8~2.5
BALL TAPER		2F	WTB502---	TAPER BALL	0.3~2
CORNER RADIUS TAPER		4F	WTR504---	TAPER CORNER RADIUS	0.8~2.5

## ※ Applicable Working Material(AEROSPACE INDUSTRY SERIES)

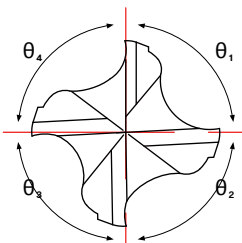
Carbon Steels (S45C,S55C,...) ~HB225	Alloy Steels (SCM,SK,...) HB225~325	Prehardened Steels(NAK,...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	HRc55~SKD11					
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○ General Application    ◎ The most suitable Application

# 02 ENDMILLS

## Variable Index Geometry SERIES

SERIES	FEATURE	TYPE	APPEARANCE	No. of Teeth	EDP.NO.	ITEM	Standard range
							MIN~MAX
ZAMUS STAR	* Hardened Steels (~HRC70)	SQUARE & RADIUS		4F	ZS124	LONG CUT LENGTH A VARIABLE INDEX GEOMETRY	2~12
	* High Speed Cutting			4F	ZS1(2)04	CORNER RADIUS A VARIABLE INDEX GEOMETRY	1~12
				4F	ZS204	CORNER RADIUS A VARIABLE INDEX GEOMETRY	2~12
Variable Helix  NEO CLASSIC X-STAR	* High performance & High efficiency (~HRC45)	BALL		4F	XXB504	REGULAR LENGTH, BALL NOSE	4~12
		SQUARE		4F	XCE504	REGULAR LENGTH	6~25
		CHAMFER		4F	XCC504	REGULAR LENGTH	6~25
		RADIUS		4F	XCR504	REGULAR LENGTH	6~25
		RADIUS		4F	XCE503	REGULAR LENGTH	2~25
		CHAMFER		4F	XCC503	REGULAR LENGTH	2~25
		RADIUS		4F	XCR503	REGULAR LENGTH	5~25
		SQUARE		3F	XE504	REGULAR LENGTH	1~25
		SQUARE		5F	XE505	REGULAR CUT LENGTH	6~25
		SQUARE		3F	XR504	REGULAR LENGTH	2~25
		RADIUS		5F	XR505	REGULAR CUT LENGTH CORNER RADIUS	6~25
		CHAMFER		3F	XE514	STUB CUT LENGTH WITH EXTENDED NECK	1~20
		SQUARE		5F	XE515	LONG CUT LENGTH	6~20
		CHAMFER		4F	XE524	STUB CUT LENGTH WITH EXTENDED LONG NECK	6~16
		RADIUS		4F	XR514	REGULAR LENGTH CORNER RADIUS A VARIABLE INDEX GEOMETRY	2~20
	* High Performance & High efficiency (~HRC45)	SQUARE		5F	XE505A	STUB CUT LENGTH	1/4~1
				5F	XE515A	REGULAR CUT LENGTH	1/4~1
		RADIUS		5F	XR505A	STUB CUT LENGTH CORNER RADIUS	1/4~1
			5F	XR515A	REGULAR CUT LENGTH CORNER RADIUS	1/4~3/4	
			5F	XR525A	REGULAR CUT LENGTH WITH EXTENDED NECK	1/4~1	
			5F	XR535A	REGULAR CUT LENGTH WITH LONG EXTENDED NECK	3/8~1	
ZAMUS SUS-MATE	* Stainless Steels * Titanium * Inconel	SQUARE		4F	SM504	REGULAR LENGTH	2~20



- High precision and excellent surface roughness due to each 4F variable index geometry.

- The unique patented design decrease chatter and resonance, can achieve a **Axial Depth 1XD** slotting operation.

$$\theta_1 \neq \theta_2 \neq \theta_3 \neq \theta_4$$







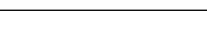










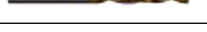






※Applicable Working Material(Variable Index Geometry SERIES)

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	HRc55~SKD11					
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○ General Application    ◎ The most suitable Application

# 03 DRILLS

SERIES	Feature	Type	Appearance	No. of Teeth	Item	EDP.NO.	Standard range
							MIN~MAX
POWER MAX DRILL	* High Speed & General Speed Cutting	FACET		2F	3 X D	PF503	2~20
				2F	5 X D	PF505	3~20
				2F	3 X D / INTERNAL COOLANT	SF503	3~20
				2F	5 X D / INTERNAL COOLANT	SF505	3.1~20
		FACET		2F	10 X D / INTERNAL COOLANT	SF510	3~13
				2F	20 X D / INTERNAL COOLANT	SF520	4.1~10
				2F	HIGH PRECISION 3 X D	HP503	3~16
				2F	HIGH PRECISION 3 X D INTERNAL COOLANT	HPI 503	3,175~20
				2F	HIGH PRECISION 5 X D INTERNAL COOLANT	HPI 505	3,175~20
				2F	HIGH PRECISION 8 X D INTERNAL COOLANT	HPI 508	3,157~20
		RELIEF		2F	STUB / DIN 6537K	P503A(F)	3~20
		FACET		2F	STUB INTERLNL COOLANT/DIN 6537K	PI503A(F)	3~20
				2F	MEDIUM INTERLNL COOLANT /DIN 6537L	PI505A(F)	4~20
				2F	REGULAR LENGTH(3XD)	SSTD	0,5~13
POWER DRILL	* General Speed Cutting	RELIEF		2F	STUB TYPE - 3 X D	PDS	1~24
		FACET		2F	MEDIUM TYPE - 5 X D	PDM	3~20
				2F	STUB TYPE - 3 x D	PDSI	3~20
				2F	MEDIUM TYPE - 5 x D	PDMI	3.1~20
SOLID SPIRAL DRILL	* General Purpose	FACET		2F	REGULAR LENGTH	SSD	1~13
				2F	LONG LENGTH	SSDL	3~10

## ※Applicable Working Material(DRILLS)






Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	HRc55~SKD11					
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○ General Application    ◎ The most suitable Application

# 04 REAMER

SERIES	FEATURE	TYPE	APPEARANCE	No.of Teeth	ITEM	EDP.NO.	Standard range
							MIN~MAX
REAMER	Multi-Purpose	STRAIGHT		4F&6F	STRAIGHT FLUTE REAMERS	SSR	2~12
		7° LEFT HELIX		4F&6F	HELICAL FLUTE REAMERS	SHR	2~12
		60° LEFT HELIX		4F&6F	BROACH REAMERS	SBR	3~20

# 05 CENTERING TOOL

SERIES	FEATURE	TYPE	APPEARANCE	No.of Teeth	Item	EDP.NO.	Standard range
							MIN~MAX
CENTERING TOOL	Multi-Purpose			2F	CENTER DRILL SOLID	CDS	1~5
				2F	NC SPOTTING DRILL -90°, 120°	LDS	3~20
				2F	CENTERING ENDMILL SOLID - 90°	CES302	3~20
				2F	CENTERING ENDMILL BRAZED TYPE - 90°	CEM	10~20
				2F	CORNER ROUNDING CUTTER	CRC	0,9~3,9

## ※Applicable Working Material(REAMER)

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~ SKD11					
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○ General Application    ◎ The most suitable Application

## ※Applicable Working Material(CENTERING TOOL)

Carbon Steels (S45C,S55C...) ~HB225	Alloy Steels (SCM,SK...) HB225~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	HRC55~ SKD11					
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○ General Application    ◎ The most suitable Application

# 06 ROTATING TOOL HOLDER

## AXIAL ROTATING TOOL HOLDER

- Special design for Low-noise & High-rigidity
- Use thermal material to minimum variation of accuracy
- Every precision spindle spends long-hours on a special test bench



## RADIAL ROTATING TOOL HOLDER

- Use special bevel gear for Low-noise & Low-vibration.
- Special design of bearing structure.
- All of our productions are designed & manufactured in order to customizing.



### ▼ Specification

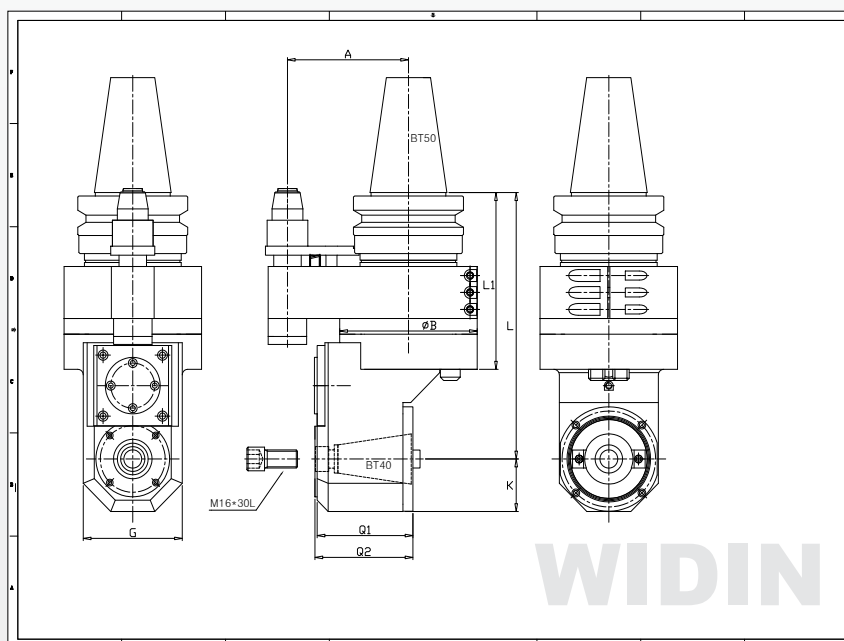
Division	Item				
Shank	BMT45	BMT55	BMT65	BMT75	BMT85
ER, ET Collet Size	20	25	32	40	50
Drill Size	1~13	1~16	2~20	3~26	10~34

# 07 ANGLE HEAD



## WAN 50-40

- Arbor type of Angle Head for high efficiency and precision machining
- Wide Range of CNC Machining. High performance to General Purpose



### Code









Classification	Code	Code Description		
		Fixed	Parameter value	Parameter value
ANGLE HEAD	WAN 50-40	WAN	50	40
			BT50 for Machine Side	BT40 for Tool Side
UNIVERSAL HEAD	WUN A-B	WUN	A	B
			Taper of Machine Side	Taper of Tool Side
BORING HEAD	WBO	WBO	-	-
TILTING HEAD	WTI A-B	WTI	A	B
			Taper of Machine Side	Taper of Tool Side

### Size

WAN 50-40	L	L1	K	G	Q1	Q2	ØB	A	Tool	W(kg)
	236	156.5	46.5	90	87	89	125	110	BT40	15




# 05 TOOL HOLDER

	HYDRAULIC CHUCK
	REDUCTION SLEEVE
	SHRINK FIT CHUCK
	MILLING CHUCK
	DOUBLE BEARING MILLING CHUCK
	MILLING CHUCK COLLET
	QUICK CHANGE ARBOR
	ER COLLET CHUCK

	ER COLLET & ACCESSORIES
	WSK COLLET CHUCK
	WSK COLLET & ACCESSORIES
	DRILL CHUCK
	JACOBS TAPER ARBOR
	MORES TAPER ADAPTOR
	END MILL HOLDER
	SIDE CUTTER ARBOR

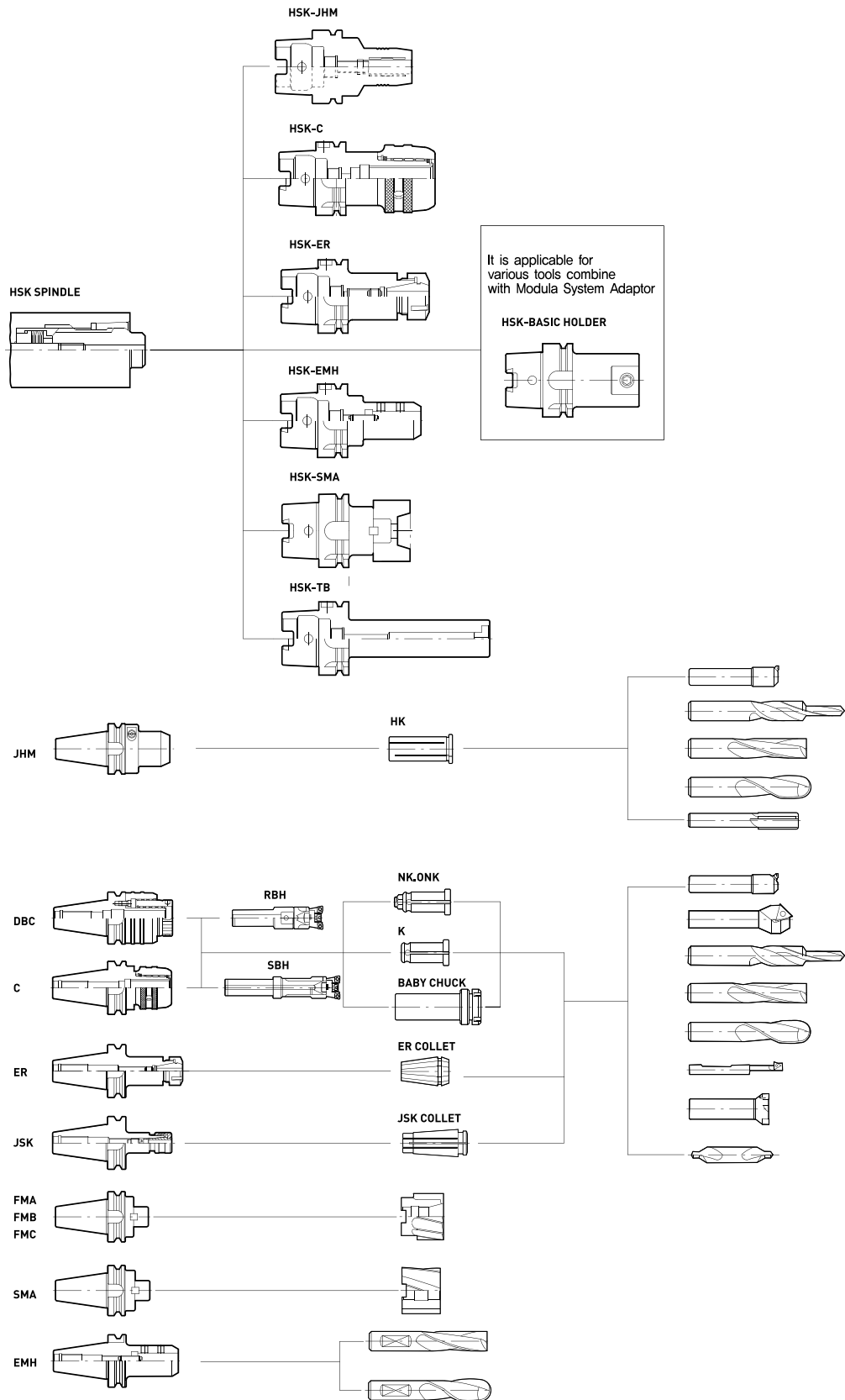


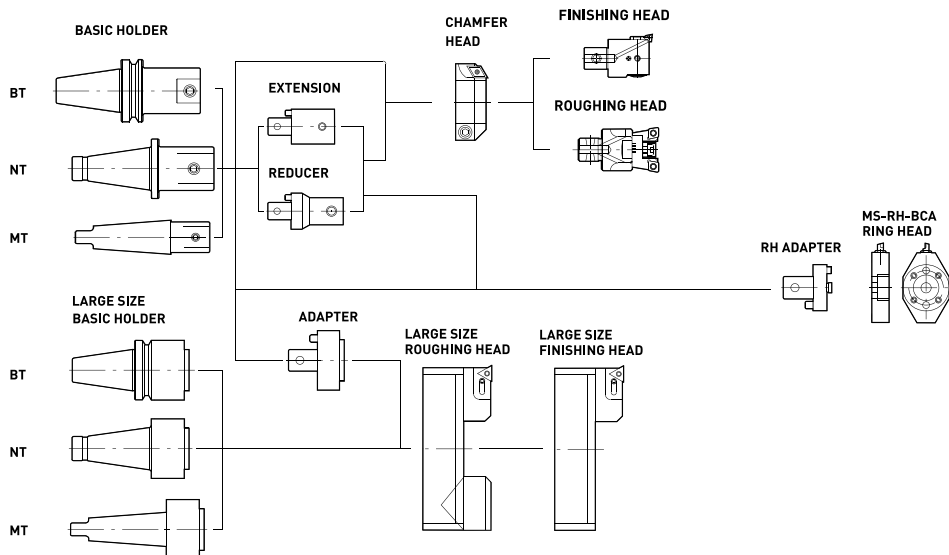
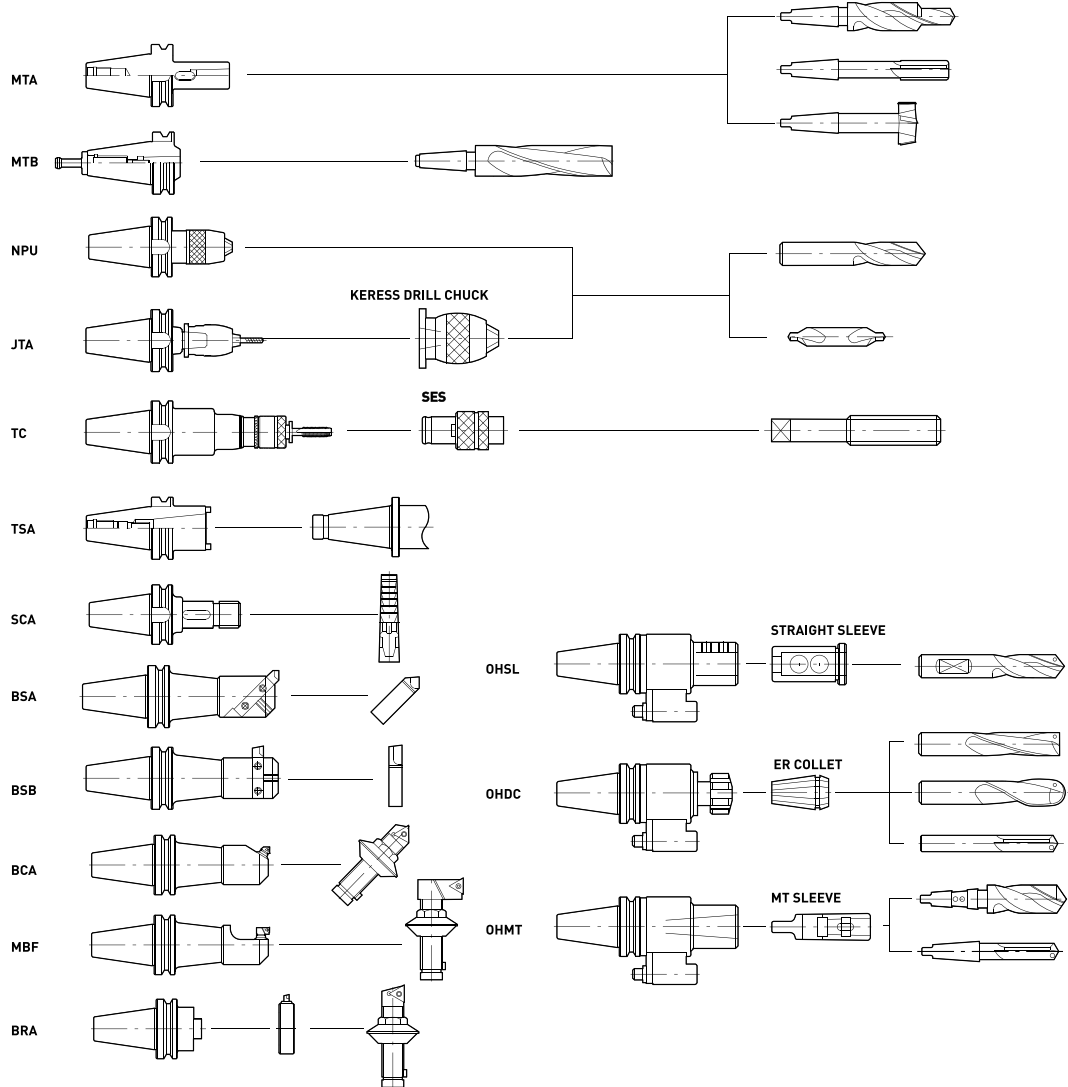
	FACE MILL ARBOR
	SHELL MILL ARBOR
	TAPPING CHUCK
	TAP COLLET
	OIL HOLE HOLDER
	MICRO BORING BAR
	BORING HEAD
	BASIC HOLDER

	DRILL TAPER CHUCK
	TOOL SETTING STAND
	BASE MASTER BOLT
	PULL STUD BOLT
	ANGLE HEAD
	SPINDLE SPEEDER



# 05 TOOL HOLDER





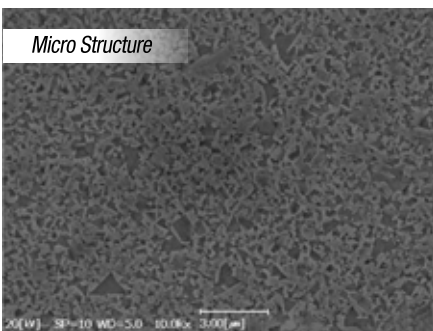
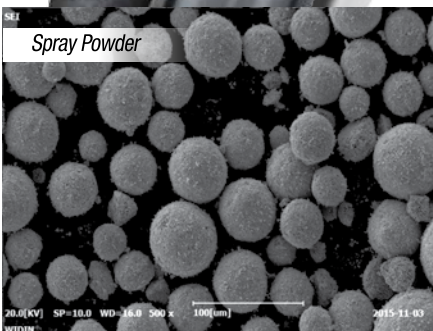
# 06 CARBIDE RODS & BLANKS



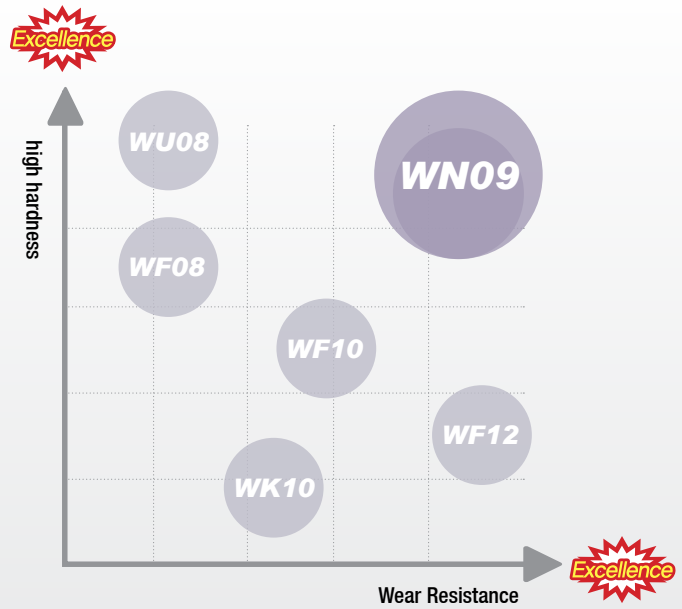
## Tungsten Carbide Rods & Blanks

- **WF12** E/M Series
- **WF08** Winner Series
- **WU08** 0.3 $\mu$ m Series 

## Carbide Grades

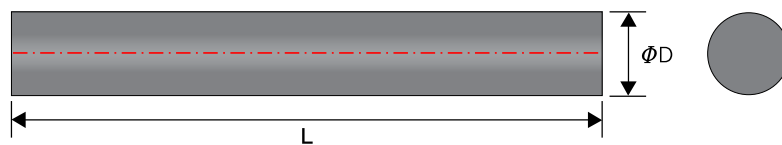


Grade		WN09	WU08	WF08	WF10	WF12	WK10
ISO-Range		K01-K05	K05-K10	K10	K15	K20	K30
Diameter	mm	3.0 ~ 25.0					
Length	mm	330					
Co	wt%	9	8	8	10	12	10
Density	g/cm <sup>3</sup>	14.25	14.30	14.40	14.20	14.10	14.10
Hv10	kg/mm <sup>2</sup>	2130 ↑	2080	2000	1850	1730	1650
HRA	ISO3738	94.5 ↑	94.2	93.5	92.5	92.0	91.0
TRS	N/mm <sup>2</sup>	4200 ↑	3,800 ≥	3,800 ≥	4,000 ≥	4,100 ≥	3,900 ≥
A <10 $\mu$ m		≤ 02	≤ 02	≤ 02	≤ 02	≤ 02	≤ 02
B >10 $\mu$ m		00	00	00	00	00	00
C (F.C)		00	00	00	00	00	00
WC grain size ( $\mu$ m)		≤ 0.2	0.3	0.5	0.5	0.5	0.8



Provide the best grade for customer demand.

Product	Unground & Cutting	Ground & Polished Rods
Shape		
Grinding		
Size		
Tolerance		h6
Grade		



$(\phi D)$ mm	$\phi D$ Tolerance	(L)mm	L Tolerance	Grade
3.0 ~ 10.0	0.2 ~ 0.4	330	0.1 ~ 6.0	K10 : WK10
11.0 ~ 15.0	0.3 ~ 0.6			K10, K15, K20 : WF08, WF10, WF12
16.0 ~ 25.0	0.3 ~ 0.8			K05~K10 : WU08

The structure of EDP No. for Tap JIS, **Tap** DIN standard series

**The First Letter - Series Name**

**Sample**

W - Carbide

V - Vanadium HSSE

**The Second Letter - Appearance**

F - Spiral roll tap

N - Point tap

P - Spiral tap

R - Radius

S - Straight tap

D - Point tap(DIN)

G - Straight tap(DIN)

M - Roll tap(DIN)

Q - Spiral tap(DIN)

**The Third Letter - Coating**

C - TiCN Coating

O - Uncoated

T - TiN Coating

H - HOMO



The structure of EDP No. for **Endmill** series

**The First Letter - Series Name**

**Sample**

Z - Zamus Star

D - Dynamic

GE - Graphite Endmill

X - Variable index geometry

TX - For export

SM - Sus Mate

**The Second Letter - Appearance**

B - Ball

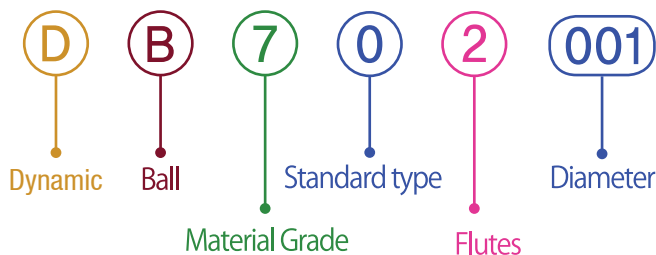
C - Corner, Chamfer

E - Square

R - Radius

M - Medium

T - Taper



The structure of EDP No. for **Winner** series

**The First Letter - Series Name**

**Sample**

W - Winner

**The Second Letter - Appearance**

B - Ball

D - Double

X - Variable index geometry

R - Corner Radius

E - Square Endmill

H - High Helix

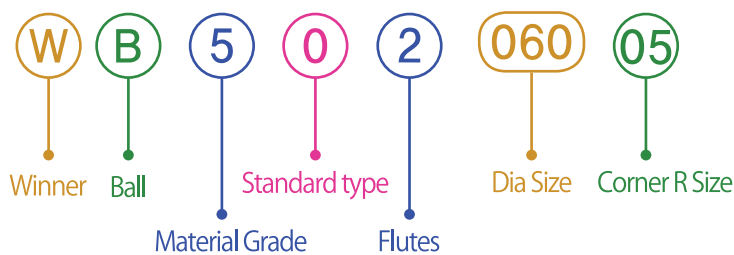
S - Straight

P - High Precision

M - Miniature

F - Fine Pitch

T - Taper



The structure of EDP No. for **1 Flute** series

**The First Letter - Series Name**

**Sample**

E - Square

ZS - Zamus Star

G - Graphite

GE - Graphite Square

SM - Sue Mate

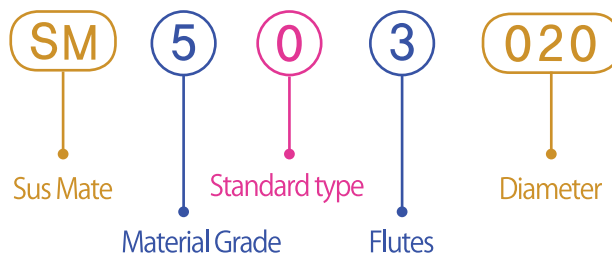
**The Second Letter - Appearance**

B - Ball

C - Chamfer

E - Square

R - Radius



※ This EDP NO. structure is for your reference. Actual number can be different.

**The structure of EDP No. for Reamer series**

The First Letter - Series Name	Sample
S - Solid	
The Second Letter - Appearance	
B - Broach	
H - Helical	
S - Straight	

**The structure of EDP No. for Drill series**

The First Letter - Series Name	Sample
P - Power	
S - Super	
H - High	
S - Solid	
The Second Letter - Appearance	
D - Drill	
F - Facet	
I - Internal coolant	
P - Precision	
S - Spiral	

**The structure of EDP No. for Centering Tools series**

The First Letter - Series Name	Sample
C - Corner	
C - Centering	
L - Leading	
The Second Letter - Appearance	
D - Drill	
E - Endmill	
R - Rounding	

**The structure of EDP No. for variable index geometry series**

The First Letter - Series Name	Sample
ZS - Zamus Star	
X - Variable index geometry	
SM - Sus Mate	
The Second Letter - Appearance	
B - Ball	
C - Chamfer	
E - Square	
R - Radius	

※ This EDP NO. structure is for your reference. Actual number can be different.

# 2016

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