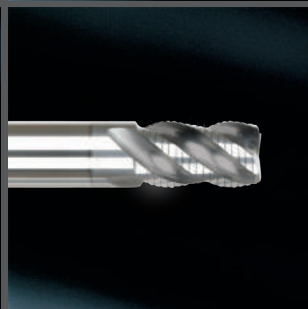




Endmills for difficult to cut Materials





SUS WAVE SERIES

ENDMILL
SERIES

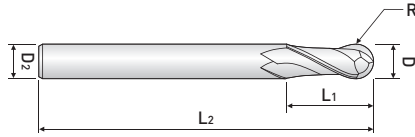


Endmills for difficult to cut materials _ SUS WAVE SERIES

WIDIN

EDP. No.	APPEARANCE	FEATURE	INCH & METRIC	STOCK	PAGE
DS502 ...series		BALL NOSE REGULAR & LONG LENGTH	METRIC	•	354
SM503 ...series		REGULAR LENGTH	METRIC	•	355
SM504 ...series		REGULAR LENGTH, CORNER RADIUS	METRIC	•	356
ZF62 ...series		ROUGHING END MILL	METRIC	•	357

Endmills for difficult to cut materials *SUS WAVE Series*



2 FLUTE, BALL NOSE REGULAR & LONG LENGTH

- Designed to machine tool steel, alloy steel, mold steel and other high hardened materials
- For copy-milling machines

DS502 ...series



EDP. No.	D	R	L ₁	L ₂	D ₂
DS502010	1	0.5	3	50	6
DS502020	2	1	6	50	6
DS502030	3	1.5	8	50	6
DS502031				70	
DS502040	4	2	10	50	6
DS502041				70	
DS502050	5	2.5	13	50	6
DS502051				80	
DS502060	6	3	13	50	6
DS502061				90	
DS502080	8	4	19	60	8
DS502081				100	
DS502100	10	5	22	70	10
DS502101				100	
DS502120	12	6	26	75	12
DS502121				110	

Endmills for difficult to cut materials – SUS WAVE Series

■ Applicable Working Material

Carbon Steels (S45C, S55C...) ~HB225	Alloy Steels (SCM, SK...) HB22 ~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	~HRC55 SKD11					
○	○	○			○				◎

○:General Application ◎:The most suitable Application

■ Tolerance

Mill Dia. (mm)	Shank Dia.
0~-0.02	h6

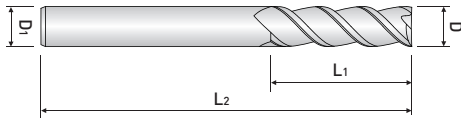
※ These tools are manufactured based on order received.

Endmills for difficult to cut materials *SUS WAVE Series*



3 FLUTE, REGULAR LENGTH

- Suitable for Stainless steel, Titanium, Inconel



SM503 ...series



ULTRA FINE



HELIX



HELIX



HELIX



p.991

EDP. No.	D	L ₁	L ₂	D ₂
SM503010	1	2	45	4
SM503015	1.5	3	45	4
SM503020	2	4	50	6
SM503030	3	6	50	6
SM503040	4	8	50	6
SM503050	5	10	50	6
SM503060	6	13	60	6
SM503080	8	19	70	8
SM503100	10	22	80	10
SM503120	12	26	90	12
SM503140	14	26	90	12
SM503160	16	30	110	16
SM503180	18	32	110	18
SM503200	20	32	140	20

■ Applicable Working Material

Carbon Steels (S45C, S55C...) ~HB225	Alloy Steels (SCM, SK...) HB22 ~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	~HRc55 SKD11					
○	○	○			○				◎

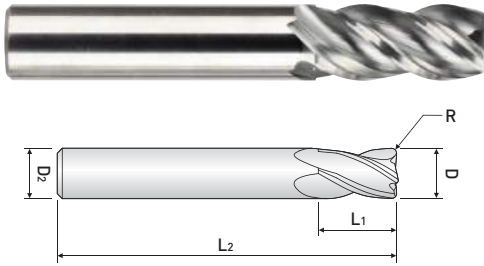
○:General Application ◎:The most suitable Application

■ Tolerance

Mill Dia. (mm)	Shank Dia.
0~-0.02	h6

※ These tools are manufactured based on order received.

Endmills for difficult to cut materials *SUS WAVE Series*



4 FLUTE, REGULAR LENGTH

- Suitable for Stainless steel, Titanium, Inconel
- Variable helix Type
- High performance by applying corner radius to prevent chipping
(Not suitable for a work which requires R shape)

SM504 ...series



EDP. No.	D	R	L ₁	L ₂	D ₂
SM504020	2	0.1	6	45	6
SM504030	3	0.1	10	45	6
SM504040	4	0.2	12	50	6
SM504050	5	0.2	13	50	6
SM504060	6	0.2	13	50	6
SM504070	7	0.2	16	60	8
SM504080	8	0.2	16	60	8
SM504090	9	0.2	19	70	10
SM504100	10	0.3	22	70	10
SM504120	12	0.3	26	75	12
SM504140	14	0.3	26	82	14
SM504160	16	0.3	32	90	16
SM504180	18	0.3	32	100	18
SM504200	20	0.3	38	100	20

■ Applicable Working Material

Carbon Steels (S45C, S55C...) ~HB225	Alloy Steels (SCM, SK...) HB22 ~325	Prehardened Steels(NAK...) HRC30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRC55 SKD61	~HRC55 SKD11					
○	○	○			○				◎

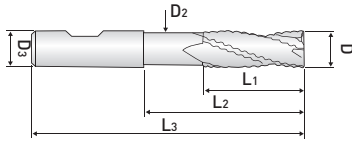
○:General Application ◎:The most suitable Application

■ Tolerance

Mill Dia. (mm)		Shank Dia.
Diameter	Tolerance	
up to 12	0 ~ -0.02	h6
over 12	0 ~ -0.03	

※ These tools are manufactured based on order received.

Endmills for difficult to cut materials SUS WAVE Series



4~6 FLUTE, ROUGHING END MILL DIN6527 / DIN6535-HA, DIN6535-HB

- Designed to machine tool steel, alloy steel, stainless steel and other low hardness materials
- Fast chip ejection

ZF62series



EDP. No.		D	L ₁	L ₂	D ₂	L ₃	D ₃	Z
PLAIN SHANK	FLAT SHANK							
ZF624060	ZF624060F	6	7	-	-	54	6	4
ZF624061	ZF624061F		16	-	-	57		
ZF624062	ZF624062F			20	5.5			
ZF624080	ZF624080F	8	9	-	-	58	8	4
ZF624081	ZF624081F		16	-	-	63		
ZF624082	ZF624082F			26	7.5			
ZF624100	ZF624100F	10	14	-	-	66	10	4
ZF624101	ZF624101F		22	-	-	72		
ZF624102	ZF624102F			31	9.5			
ZF624120	ZF624120F	12	16	-	-	73	12	4
ZF624121	ZF624121F		26	-	-	83		
ZF624122	ZF624122F			37	11.5			
ZF625160	ZF625160F	16	22	-	-	82	16	5
ZF625161	ZF625161F		32	-	-	92		
ZF625162	ZF625162F			51	15.5	100		
ZF626200	ZF626200F	20	26	-	-	92	20	6
ZF626201	ZF626201F		38	-	-	104		
ZF626202	ZF626202F			59	19.2	110		

■ Applicable Working Material

Carbon Steels (S45C, S55C...) ~HB225	Alloy Steels (SCM, SK...) HB22 ~325	Prehardened Steels(NAK...) HRc30~50	Hardened Steels		Copper	Graphite	Cast Iron FCD400, 500~	Aluminum	Stainless Steels
			~HRc55 SKD61	~HRc55 SKD11					
○	○	○			○				◎

○:General Application ◎:The most suitable Application

■ Tolerance

μm = 1/1000mm

Tolerance	Dia.	φ 1~φ 3	φ 3~φ 6	φ 6~φ 10	φ 10~φ 18	φ 18~φ 30
Cutting Edge(h10)		0	0	0	0	0
		-40	-48	-58	-70	-84
Shank(h6)		0	0	0	0	0
		-6	-8	-9	-11	-13