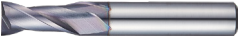
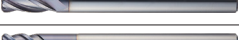
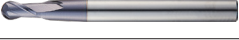
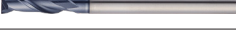
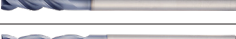
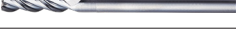
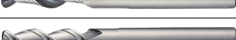


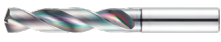
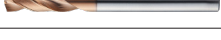
Series	Section		EDP No	Geometry	Material						Diameter(DC)		Multi Helix	Page
	Shape	Flute			H	P	K	N	M	S	Min	Max		
Zamus Thunder	Square	2F	ZE302P			⊙					1	20		306
		4F	ZE304P			⊙					1	20		307
		2F	ZE322			⊙					3	20		308
		4F	ZE324			⊙					3	20		309
	Radius	4F	ZR304H			⊙					3	12		310
		2F	ZR322			⊙					3	12		311
		4F	ZR324			⊙					3	12		312
		4F	ZR324H			⊙					6	12		313
	Ball	2F	DB312			⊙					1	20		314
		2F	DB342			⊙					1	12		315
		2F	TXB202			⊙					1	20		316
		4F	TXB204			⊙					2	20		317
		2F	TXB222			⊙					3	20		318
		2F	TXB232			⊙					3	20		319
		2F	TXB302			⊙					1	20		320
		4F	TXB304			⊙					1	20		321
X-Star	Square	3F	XCE503			○			⊙		2	25	○	325
		4F	XCE504			○			⊙		6	25	○	326
		4F	XE504			○			⊙		1	25	○	327
		5F	XE505			○			⊙		6	25	○	328
		4F	XE514			○			⊙		1	20	○	329
		5F	XE515			○			⊙		6	20	○	330
		4F	XE524			○			⊙		6	16	○	331
	Radius	3F	XCR503			○			⊙		5	25	○	332
		4F	XCR504			○			⊙		6	25	○	333
		4F	XR504			○			⊙		2	25	○	334
		5F	XR505			○			⊙		6	25	○	335

End Mill Series

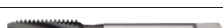
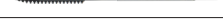
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	Shape	Flute			H	P	K	N	M	S	Min	Max		
X-Star	Radius	4F	XR514			○			⊙		2	20	○	336
	Ball	4F	XXB504			○			⊙		4	12	○	337
	Chamfer	3F	XCC503			○			⊙		2	25	○	338
		4F	XCC504			○			⊙		6	25	○	339
NEW S-Wing	Square	2F	SE502			○			⊙	○	1	20	○	343
		3F	SE503			○			⊙	○	1	20	○	344
		4F	SE504			○			⊙	○	1	20	○	345
		6F	SE506			○			⊙	○	6	20	○	347
	Radius	4F	SR504			○			⊙	○	1	20	○	348
		5F	SR505			○			⊙	○	6	20	○	350
		7F	SR507			○			⊙	○	6	20	○	351
	Ball	2F	SB502			○			⊙	○	1	12	○	352
		4F	SB504			○			⊙	○	3	20	○	353
	Roughing	3~5F	SF51H			○			⊙	○	3	20	○	354
NEW A-Wing	Square	1F	AWE311					○			1	12		359
			AWE311...C					○			1	20		361
		2F	AWE312					○			1	20		363
			AWE312...C					○			1.5	20		366
		3F	AWE313					○			1	20		368
	Radius	2F	AWR312					○			1	20		370
			AWR312...C					○			1	20		372
		3F	AWR313					○			1	20		373
	Ball	2F	AWB312					○			6	20		374
			AWB312...C					○			6	20		376
	Chip Breaker (Nick)	3F	AWN513					○			3	20		377
	Roughing	3F	AWF513					○			4	20		378
			AWF513...C					○			4	20		380
		3F	AWF583					○			4	20		382
Standard	Square	2F	E302			○					1	25		380
		4F	E304			○					2	25		381
		2F	E322			○					3	20		382

Series	Section		EDP No	Geometry	Material						Diameter(DC)		Multi Helix	Page
	Shape	Flute			H	P	K	N	M	S	Min	Max		
Standard	Square	4F	E324			○					3	20		383
		2F	EL422			○					3	10		384
		2F	EB302-W			○					14	50		385
		4F	EB304-W			○					14	50		386
		2F	EB322-W			○					14	26		388
		4F	EB324-W			○					14	50		389
	Ball	2F	B302			○					1	25		390
		4F	B304			○					3	25		391
		2F	BL422			○					3	20		392
		2F	BB302-W			○					15	32		393
Copper-Mate	Radius	2F	RC502			○		○			2	12		395
	Ball	2F	BC502			○		○			1	12		396
Gra-Mate	Square	2F	GE					◎			0.5	12		399
		4F	WGE504					◎			2	20		400
	Radius	2F	WGR502					◎			0.2	6		401
		4F	WGR504					◎			3	20		403
	Ball	2F	G					◎			0.5	12		405
		4F	WGB504					◎			1	20		408

Drill Series

Series	EDP No	Geometry	Length								Material					Internal coolant	Cutting Edge Tolerance	Page
			3D	4D	5D	7D	8D	10D	20D	H	P	K	N	M	S			
NEW Dolphin Drill	NDPG503		○								◎	○	○	○		External	h7	415
	NDPG504			○							◎	○	○	○		External	h7	418
	NDPG507					○					◎	○	○	○		External	h7	422
	NDPK504			○							○	◎				External	h7	426
	NDPK507					○					○	◎				External	h7	429
NEW Dolphin Oil Hole Drill	NDPGH503		○								◎	○	○	◎		Internal	m7	435
	NDPGH505				○						◎	○	○	◎		Internal	m7	441
	NDPGH508						○				◎	○	○	◎		Internal	m7	447
Power Max	PF503		○								○	◎	◎			External	h8	454
	PF505				○						○	◎	◎			External	h8	458
	SF503		○								○	◎	◎			Internal	h8	461
	SF505				○						○	◎	◎			Internal	h8	464
	SF508						○				○	◎	◎			Internal	h8	467
	SF510							○			○	◎	◎			Internal	h8	470
	SF520								○		○	◎	◎			Internal	h8	472
	HP503		○								○	◎	◎			External	m7	474
	HPI503		○								○	◎	◎			Internal	m7	476
	HPI505				○						○	◎	◎			Internal	m7	479
	HPI508-N						○				○	◎	◎			Internal	m7	483
	P503A(F)		○								○	◎	◎			External	m7	486
	P505A(F)				○						○	◎	◎			External	m7	489
Solid Spiral	SSD			○							○		◎			External	h8	494
	SSDL					○					○		◎			External	h8	497
	SSTD			○							○		◎			External	h8	499
	SSTDL					○					○		◎			External	h8	502
	APF505				○						○		◎			External	0 ~ -0.012	504

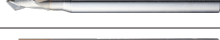
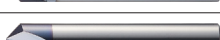
Tap Series

Series	Shape	EDP No	Geometry	Coated		Diameter(mm)		Page	
				Coated	Uncoated	Min	Max		
NEW Tap-Star	DIN / HSSE	Spiral	SVQAM		TiAlN		M2	M24	512
			SVQNM		Nitride		M2	M24	514
			SVQHM		Homo		M2	M24	516
			SVQOM			Bright	M2	M24	518
		Point	SVDAM		TiAlN		M2	M24	520
			SVDNM		Nitride		M2	M24	522
			SVDHM		Homo		M2	M24	524
			SVDOM			Bright	M2	M24	526
		Straight	SVGAM		TiAlN		M3	M24	528
		Roll	SVMOM			Bright	M3	M12	530
			SVMTM		TiN		M3	M12	532
			SVMCM		TiCN		M3	M12	534
	DIN / Carbide	Spiral	SWQOM			Bright	M3	M12	536
			SWQCM		TiCN		M3	M12	537
		Straight	SWGOM			Bright	M3	M12	538
			SWGCM		TiCN		M3	M12	540
		Roll	SWMOM			Bright	M3	M12	542
			SWMCM		TiCN		M3	M12	544
	JIS / HSSE	Spiral	SVPAM		TiAlN		M2	M24	546
			SVPNM		Nitride		M2	M24	548
			SVPHM		Homo		M2	M24	550
			SVPOM			Bright	M2	M24	552
		Point	SVNAM		TiAlN		M2	M24	554
			SVNNM		Nitride		M2	M24	556
SVNHM				Homo		M2	M24	558	
SVNOM					Bright	M2	M24	560	
Straight		SVSAM		TiAlN		M3	M24	562	

Tap Series

Series		Shape	EDP No	Geometry	Coated		Diameter(mm)		Page
					Coated	Uncoated	Min	Max	
NEW Tap-Star	JIS / HSSE	Roll	SVROM			Bright	M3	M12	564
			SVRTM		TiN		M3	M12	566
			SVRCM		TiCN		M3	M12	568
	JIS / Carbide	Spiral	SWPOM			Bright	M3	M12	570
			SWPCM		TiCN		M3	M12	571
		Straight	SWSOM			Bright	M3	M12	572
			SWSCM		TiCN		M3	M12	574
		Roll	SWROM			Bright	M3	M12	576
			SWRCM		TiCN		M3	M12	578

Centering Tool & Reamer Series

Series	Section		EDP No	Geometry	Material						Diameter(DC)		Page
	Shape	Flute			H	P	K	N	M	S	Min	Max	
Centering Tool	-	2F	CDS			○	○	○	○		1	5	583
	-	2F	LDS			○	○	○	○		3	20	584
	-	2F	LDF---W			○	○	○	○		3	12	586
	-	2F	CES302 (60°)			○	○	○	○		3	12	587
	-	2F	CES302 (90°)			○	○	○	○		3	20	588
	-	2F	CEM---W			○	○	○	○		10	20	589
	-	2F	CRC			○	○	○	○		2	20	590
	-	3~4F	CFT---W			○	○	○	○		6	12	591
	-	2F	CCT			○	○	○	○		3	12	592
	-	2F	CCF			○	○	○	○		2	12	593
Reamer	Straight	4&6F	SSR			○	○	○	○		2	12	596
	7° Left Helix	4&6F	SHR			○	○	○	○		2	12	597
		4&6F	HRS---W			○	○	○	○		1.98	12.05	598
	60° Left Helix	4&6F	SBR			○	○	○	○		3	20	601

End Mill Series

Zamus Star End Mill High Hardness HRc 50~70	P. 25
E-Star End Mill High Hardness HRc 50~63	P. 88
U-Wing End Mill NEW Mid Hardness HRc 30~50	P. 176
Zamus Thunder End Mill Low Hardness HRc 10~30	P. 296
X-Star End Mill Difficult To Cut Material and Low Hardness Material HRc ~35	P. 322
S-Wing End Mill NEW Stainless Steels	P. 340
A-Wing End Mill NEW Aluminum, Aluminum Alloy and Non-ferrous Materials	P. 356
Standard End Mill Low Hardness Materials under HRc 30	P. 378
Copper-Mate End Mill Copper, Bronze and Non-ferrous Materials	P. 394
Gra-Mate End Mill Graphite, Reinforced Plastics, Non-ferrous Materials	P. 398

Zamus Star End Mill

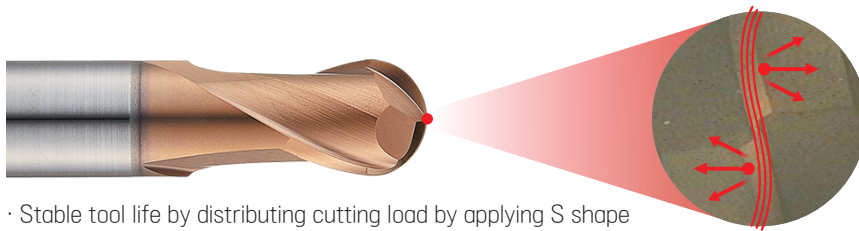
High Hardness HRc 50~70

Characteristics

- Suitable for high-speed processing of high-hardness workpieces (recommended: HRc 50 ~ 70) such as heat treated steel, alloy steel, and carbon steel
- Suitable for various type of machining with diverse specifications such as long neck, rib, and tapered neck

Features

- Enhanced cutting-edge wear resistance through ultra-fine grain carbide
- Maintains hardness of the blade and has high temperature oxidation resistance and during high-speed processing by applying AlTiN coating
- Stable performance with designed cutting edge suitable for high-speed machining of high-hardness workpieces



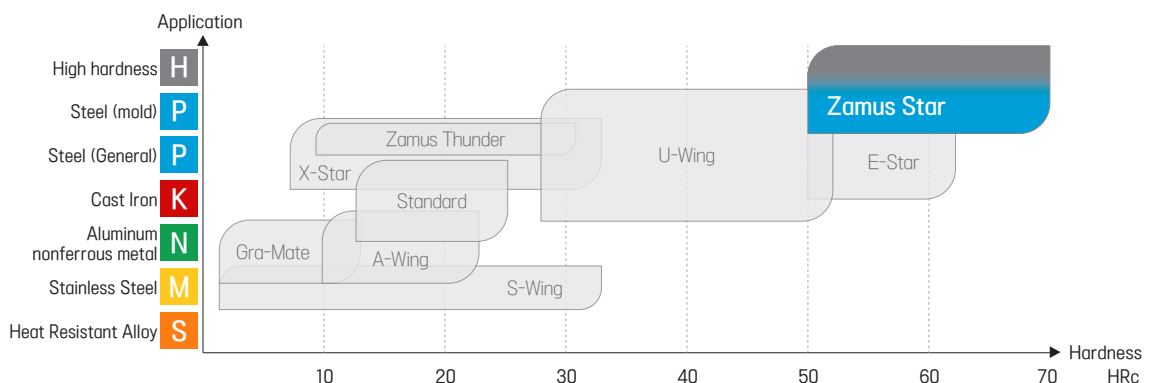
- Stable tool life by distributing cutting load by applying S shape
- Improved machining precision with 0.005mm radius Tolerance

Case Study

Geometry	Zamus Star	Competitor
Ball		
· Test tool : DB702120 · Material : SKD11 Heat treatment / RPM : 5,950 / FEED : 1,870 / ap : 0.25 / ae : 0.6		

Geometry	Zamus Star	Competitor
Corner Radius		
· Test tool : ZS2041001032 · Material : SKD11 Heat treatment / RPM : 5,500 / FEED : 1,100 / ap : 10 / ae : 0.5		

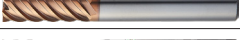
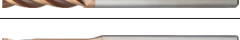
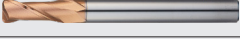
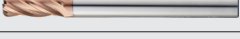
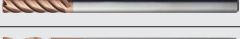
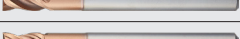
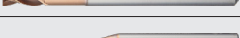
Applications



Zamus Star End Mill

High Hardness HRC 50~70

Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	ZE702		2 Flutes Neck Square End Mill	0.1	20	28
	4F	ZE704		4 Flutes Neck Square End Mill	1	20	29
	2F	ZE712		2 Flutes Square End Mill	1	12	30
	4F	ZE714		4 Flutes Square End Mill	1	12	31
	6F	ZE716		6 Flutes Square End Mill	6	20	32
	4F&6F	ZE724(6)		4&6 Flutes Neck Square End Mill	1	12	33
	4F	ZS124		4 Flutes Square End Mill	2	12	34
	2F	ZSLNS20		2 Flutes Long Neck Square End Mill	0.1	5	35
	4F	ZSLNS40		4 Flutes Long Neck Square End Mill	1	5	40
Radius	2F	ZR702		2 Flutes Neck Radius End Mill	1	12	43
	4F	ZR704		4 Flutes Neck Radius End Mill	1	12	49
	6F	ZR706		6 Flutes Neck Radius End Mill	6	12	53
	4F	ZR714		4 Flutes Radius End Mill	3	12	54
	4F	ZR724		4 Flutes Neck Radius End Mill	6	12	55
	2F	ZR732		2 Flutes Long Shank Radius End Mill	1	12	56
	4F	ZR734		4 Flutes Long Shank Radius End Mill	1	12	58
	6F	ZR736		6 Flutes Radius End Mill	6	12	60
	4F	ZS1(2)04		4 Flutes Neck Radius End Mill	1	12	61
	4F	ZS204		4 Flutes Neck Radius End Mill	2	12	62
	2F	ZSLNR20		2 Flutes Long Neck Radius End Mill	0.2	3	64
	2F	ZSTNR20		2 Flutes Tapered Neck Radius End Mill	0.2	3	68
	4F	ZSPM4		4 Flutes Neck Radius End Mill For High Speed Machining	3	12	71
	2F	DB702		2 Flutes Neck Ball End Mill	0.1	12	72
Ball	3F	DB703		3 Flutes Neck Ball End Mill	2.5	12	73
	2F	DB712		2 Flutes Ball End Mill	1	12	74

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Ball	4F	DB734		4Flutes 15° Helix Ball End Mill	2	10	75
	2F	ZSLNB20		2 Flutes Long Neck Ball End Mill	0.1	5	76
	2F	ZSTNB20		2 Flutes Tapered Neck Ball End Mill	0.2	10	81
	3F	ZSTNB30		3 Flutes Tapered Neck Ball End Mill	2	5	86

EDP No System

*If expressed as an integer, the decimal point is omitted.

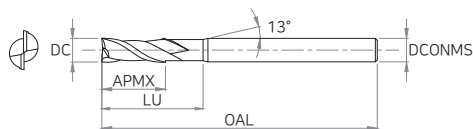
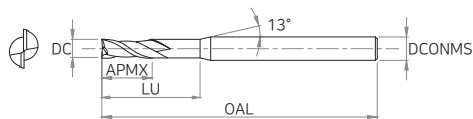
Z	R	7	0	4	020	03	06	S04
①	②	③	④	⑤	⑥	⑦	⑧	⑨

①	②	③	④	⑤	⑥	⑦	⑧	⑨
Section	Appearance	Grade	Length, Shank Type	Flutes	Cutting Dia	Corner R	Effective Length	Shank Dia
Z : Zamus	E : Square	7 : Grade	0 : Neck	2 : 2Flutes	0.05	0.05	For more information, Refer to the detail pages.	4
D : Dynamic	R : Radius		1 : Straight, Neck	3 : 3Flutes	~	~		~
ZS : Zamus Star	B : Ball		2 : Long Neck	4 : 4Flutes	20	3		20
	LNS : Long Neck Square		3 : Long Shank	5 : 5Flutes				
	LNR : Long Neck Radius							
	LNB : Long Neck Ball							
	PM : Power Mill							

EX) 4 Flutes / Cutting Dia $\varnothing$ 2 / Corner R 0.3 / Effective Length 6mm / Shank Dia 4 / 70 Grade / Corner Radius Neck Type Zamus End Mill

ZE702 2 Flutes Neck Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ZE702 001	0.1	0.2	-	40	4	ZE702 020	2	3	6	40	6
ZE702 002	0.2	0.4	-	40	4	ZE702 025	2.5	4	6	40	6
ZE702 003	0.3	0.5	-	40	4	ZE702 030	3	4	7	45	6
ZE702 004	0.4	0.7	-	40	4	ZE702 035	3.5	6	9	45	6
ZE702 005	0.5	1	-	40	4	ZE702 040	4	6	9	45	6
ZE702 006	0.6	1.2	-	40	4	ZE702 045	4.5	6	10	45	6
ZE702 007	0.7	1.4	-	40	4	ZE702 050	5	6	11	50	6
ZE702 008	0.8	1.6	-	40	4	ZE702 060	6	7	14	50	6
ZE702 009	0.9	2	-	40	4	ZE702 080	8	9	18	60	8
ZE702 010 S4	1	1.5	-	40	4	ZE702 100	10	12	25	75	10
ZE702 010	1	1.5	-	40	6	ZE702 120	12	15	30	75	12
ZE702 015	1.5	2.2	-	40	6	ZE702 160	16	18	38	90	16
ZE702 020 S4	2	3	6	40	4	ZE702 200	20	24	45	100	20

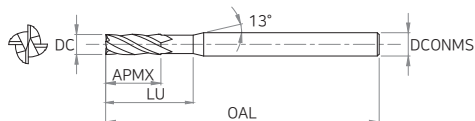
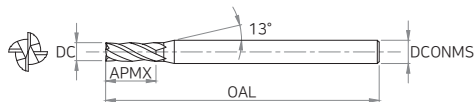
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZE704

4 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCONMS
ZE704 010 S4	1	1.5	-	40	4
ZE704 010	1	1.5	-	40	6
ZE704 015	1.5	2.2	-	40	6
ZE704 020 S4	2	3	6	40	4
ZE704 020	2	3	6	40	6
ZE704 025	2.5	4	6	40	6
ZE704 030	3	4	7	45	6
ZE704 035	3.5	5	9	45	6
ZE704 040	4	5	9	45	6
ZE704 045	4.5	6	10	45	6
ZE704 050	5	6	11	50	6
ZE704 060	6	7	14	50	6
ZE704 080	8	9	18	60	8
ZE704 100	10	12	25	75	10
ZE704 120	12	15	30	75	12
ZE704 160	16	18	38	90	16
ZE704 200	20	24	45	100	20

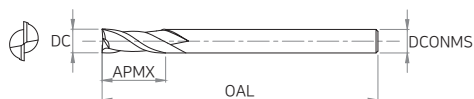
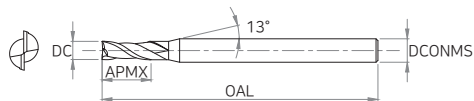
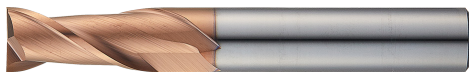
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZE712 2 Flutes Square End Mill

Endmill



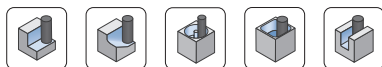
Zamus
Star

E-Star

► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5

U-Wing



Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

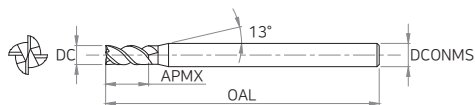
EDP No	DC	APMX	OAL	DCON MS	EDP No	DC	APMX	OAL	DCON MS
ZE712 010-02	1	2	40	6	ZE712 040	4	10	45	6
ZE712 010	1	3	40	6	ZE712 040-12	4	12	50	6
ZE712 010-04	1	4	40	6	ZE712 040-16	4	16	60	6
ZE712 012	1.2	3	40	6	ZE712 045	4.5	11	45	6
ZE712 015	1.5	4	40	6	ZE712 050	5	13	50	6
ZE712 015-06	1.5	6	40	6	ZE712 055	5.5	13	50	6
ZE712 015-08	1.5	8	40	6	ZE712 060	6	13	50	6
ZE712 020	2	5	40	6	ZE712 060-15	6	15	60	6
ZE712 020-08	2	8	40	6	ZE712 065	6.5	16	60	8
ZE712 020-10	2	10	50	6	ZE712 070	7	18	60	8
ZE712 025	2.5	6	40	6	ZE712 080	8	19	60	8
ZE712 030	3	8	45	6	ZE712 100	10	22	70	10
ZE712 030-10	3	10	50	6	ZE712 120	12	26	75	12
ZE712 030-12	3	12	50	6	ZE712 120-30	12	30	75	12
ZE712 035	3.5	10	45	6					

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

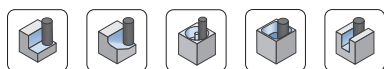
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZE714 4 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



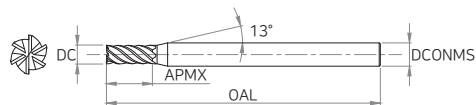
EDP No	DC	APMX	OAL	DCONMS
ZE714 010	1	2.5	40	6
ZE714 012	1.2	3	40	6
ZE714 015	1.5	4	40	6
ZE714 020	2	5	40	6
ZE714 025	2.5	6	40	6
ZE714 030	3	8	45	6
ZE714 035	3.5	9	45	6
ZE714 040	4	10	45	6
ZE714 050	5	13	50	6
ZE714 060	6	13	50	6
ZE714 060-15	6	15	60	6
ZE714 080	8	19	60	8
ZE714 100	10	22	70	10
ZE714 100-25	10	25	70	10
ZE714 120	12	26	75	12
ZE714 120-30	12	30	80	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

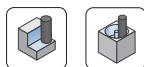
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZE716 6 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



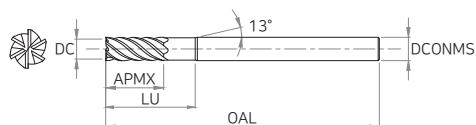
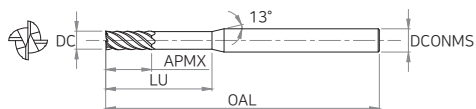
EDP No	DC	APMX	OAL	DCONMS
ZE716 060	6	13	50	6
ZE716 080	8	18	60	8
ZE716 100	10	22	70	10
ZE716 120	12	16	75	12
ZE716 160	16	35	90	16
ZE716 200	20	44	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

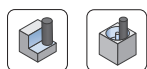
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZE724(6) 4&6 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



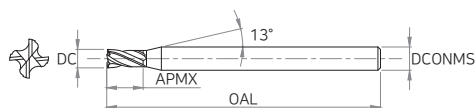
EDP No	DC	APMX	LU	OAL	DCONMS	NOF
ZE724 010	1	1.5	5	45	6	4
ZE724 015	1.5	2.2	6	45	6	4
ZE724 020	2	3	8	45	6	4
ZE724 030	3	4	9	50	6	4
ZE724 040	4	5	12	50	6	4
ZE724 050	5	6	15	50	6	4
ZE726 060	6	7	20	60	6	6
ZE726 080	8	9	25	70	8	6
ZE726 100	10	12	32	75	10	6
ZE726 120	12	15	38	80	12	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

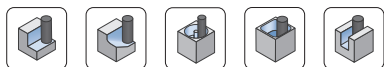
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZS124 4 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	APMX	OAL	DCONMS
ZS124 020	2	5	45	4
ZS124 030	3	8	45	6
ZS124 040	4	10	45	6
ZS124 060	6	16	50	6
ZS124 080	8	20	60	8
ZS124 100	10	25	75	10
ZS124 120	12	35	85	12

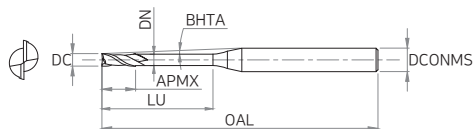
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNS20

2 Flutes Long Neck Square End Mill



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø0.5	0 ~ -0.012	h5
Ø0.6 ~ Ø5	0 ~ -0.015	



EDP No	DC	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS20 01-0.3	0.1	0.15	0.3	0.08	45	4	11.6	0.4	0.4	0.5	0.5	0.5
ZSLNS20 01-0.5	0.1	0.15	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ZSLNS20 01-1	0.1	0.15	1	0.08	45	4	10.9	1.2	1.2	1.2	1.3	1.4
ZSLNS20 02-0.5	0.2	0.3	0.5	0.17	50	4	11.3	1.2	1.3	1.5	1.7	2
ZSLNS20 02-1	0.2	0.3	1	0.17	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ZSLNS20 02-1.5	0.2	0.3	1.5	0.17	50	4	10.3	2.3	2.5	2.8	3	3.4
ZSLNS20 03-1	0.3	0.45	1	0.27	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ZSLNS20 03-1.5	0.3	0.45	1.5	0.27	50	4	10.3	2.3	2.5	2.8	3	3.4
ZSLNS20 03-2	0.3	0.45	2	0.27	50	4	9.8	2.8	3.1	3.4	3.6	4.1
ZSLNS20 03-2.5	0.3	0.45	2.5	0.27	50	4	9.4	3.4	3.7	4	4.3	4.7
ZSLNS20 03-3	0.3	0.45	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ZSLNS20 04-1	0.4	0.6	1	0.37	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ZSLNS20 04-1.5	0.4	0.6	1.5	0.37	50	4	10.2	2.3	2.5	2.8	3	3.4
ZSLNS20 04-2	0.4	0.6	2	0.37	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ZSLNS20 04-2.5	0.4	0.6	2.5	0.37	50	4	9.3	3.4	3.7	4	4.3	4.7
ZSLNS20 04-3	0.4	0.6	3	0.37	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ZSLNS20 04-3.5	0.4	0.6	3.5	0.37	50	4	8.6	4.5	4.9	5.2	5.5	6
ZSLNS20 04-4	0.4	0.6	4	0.37	50	4	8.2	5	5.4	5.8	6.1	6.6
ZSLNS20 04-5	0.4	0.6	5	0.37	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ZSLNS20 04-6	0.4	0.6	6	0.37	50	4	7.1	7.2	7.7	8.1	8.4	9

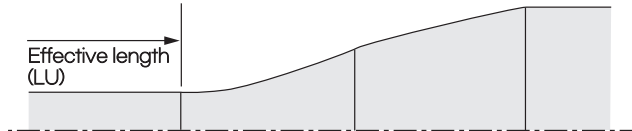
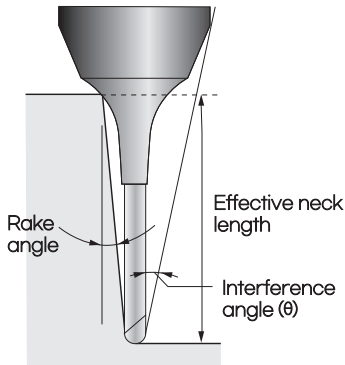
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNS20

2 Flutes Long Neck Square End Mill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS20 05-1	0.5	0.75	1	0.47	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ZSLNS20 05-1.5	0.5	0.75	1.5	0.47	50	4	10.2	2.3	2.5	2.8	3	3.4
ZSLNS20 05-2	0.5	0.75	2	0.47	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ZSLNS20 05-2.5	0.5	0.75	2.5	0.47	50	4	9.3	3.4	3.7	4	4.3	4.7
ZSLNS20 05-3	0.5	0.75	3	0.47	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ZSLNS20 05-4	0.5	0.75	4	0.47	50	4	8.1	5	5.4	5.8	6.1	6.6
ZSLNS20 05-5	0.5	0.75	5	0.47	50	4	7.5	6.1	6.6	6.9	7.3	7.8
ZSLNS20 05-6	0.5	0.75	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ZSLNS20 05-8	0.5	0.75	8	0.47	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ZSLNS20 06-2	0.6	0.9	2	0.57	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ZSLNS20 06-4	0.6	0.9	4	0.57	50	4	8.1	5	5.4	5.8	6.1	6.6
ZSLNS20 06-6	0.6	0.9	6	0.57	50	4	6.9	7.2	7.7	8.1	8.4	9
ZSLNS20 06-8	0.6	0.9	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11.4
ZSLNS20 06-10	0.6	0.9	10	0.57	50	4	5.4	11.5	12.1	12.6	13	13.7
ZSLNS20 07-2	0.7	1.05	2	0.67	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ZSLNS20 07-4	0.7	1.05	4	0.67	50	4	8	5	5.4	5.8	6.1	6.6
ZSLNS20 07-6	0.7	1.05	6	0.67	50	4	6.9	7.2	7.7	8.1	8.4	9
ZSLNS20 07-8	0.7	1.05	8	0.67	50	4	6	9.3	9.9	10.3	10.7	11.4
ZSLNS20 07-10	0.7	1.05	10	0.67	50	4	5.3	11.5	12.1	12.6	13	13.7
ZSLNS20 08-4	0.8	1.2	4	0.77	50	4	7.9	5	5.4	5.8	6.1	6.6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
◎	◎		○	○						

ZSLNS20

2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS20 08-6	0.8	1.2	6	0.77	50	4	6.8	7.2	7.7	8.1	8.4	9
ZSLNS20 08-8	0.8	1.2	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ZSLNS20 08-10	0.8	1.2	10	0.77	50	4	5.2	11.5	12.1	12.6	13	13.7
ZSLNS20 08-12	0.8	1.2	12	0.77	55	4	4.7	13.6	14.2	14.8	15.2	16
ZSLNS20 09-6	0.9	1.35	6	0.86	50	4	6.7	7.2	7.7	8.1	8.4	9.1
ZSLNS20 09-8	0.9	1.35	8	0.86	50	4	5.8	9.4	9.9	10.4	10.7	11.4
ZSLNS20 09-10	0.9	1.35	10	0.86	50	4	5.1	11.5	12.1	12.6	13	13.7
ZSLNS20 09-12	0.9	1.35	12	0.86	55	4	4.6	13.6	14.3	14.8	15.2	16
ZSLNS20 10-2	1	1.5	2	0.96	50	4	9.4	2.9	3.2	3.4	3.7	4.1
ZSLNS20 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ZSLNS20 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ZSLNS20 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ZSLNS20 10-10	1	1.5	10	0.96	50	4	5	11.5	12.1	12.6	13	13.7
ZSLNS20 10-12	1	1.5	12	0.96	55	4	4.5	13.6	14.3	14.8	15.2	16
ZSLNS20 10-14	1	1.5	14	0.96	55	4	4.1	15.7	16.4	17	17.4	18.7
ZSLNS20 10-16	1	1.5	16	0.96	60	4	3.8	17.8	18.6	19.1	19.6	21.3
ZSLNS20 10-20	1	1.5	20	0.96	60	4	3.2	22	22.8	23.5	24	26.6
ZSLNS20 12-6	1.2	1.8	6	1.15	50	4	6.3	7.3	7.7	8.1	8.5	9.1
ZSLNS20 12-8	1.2	1.8	8	1.15	50	4	5.5	9.4	9.9	10.4	10.8	11.4
ZSLNS20 12-10	1.2	1.8	10	1.15	50	4	4.8	11.5	12.1	12.6	13	13.7
ZSLNS20 12-12	1.2	1.8	12	1.15	55	4	4.3	13.6	14.3	14.8	15.2	16
ZSLNS20 12-16	1.2	1.8	16	1.15	55	4	3.6	17.8	18.6	19.2	19.7	21.3
ZSLNS20 14-6	1.4	2.1	6	1.34	50	4	6.1	7.3	7.8	8.1	8.5	9.1
ZSLNS20 14-8	1.4	2.1	8	1.34	50	4	5.3	9.4	10	10.4	10.8	11.5
ZSLNS20 14-10	1.4	2.1	10	1.34	50	4	4.6	11.6	12.1	12.6	13	13.8
ZSLNS20 14-12	1.4	2.1	12	1.34	55	4	4.1	13.7	14.3	14.8	15.3	16.1
ZSLNS20 14-14	1.4	2.1	14	1.34	55	4	3.7	15.8	16.5	17	17.5	18.7
ZSLNS20 14-16	1.4	2.1	16	1.34	55	4	3.4	17.9	18.6	19.2	19.7	21.4
ZSLNS20 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ZSLNS20 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ZSLNS20 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ZSLNS20 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ZSLNS20 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ZSLNS20 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNS20

2 Flutes Long Neck Square End Mill

Endmill

	EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
Zamus Star	ZSLNS20 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
	ZSLNS20 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
	ZSLNS20 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
	ZSLNS20 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
	ZSLNS20 16-6	1.6	2.4	6	1.54	50	4	5.9	7.3	7.8	8.1	8.5	9.1
E-Star	ZSLNS20 16-8	1.6	2.4	8	1.54	50	4	5	9.4	10	10.4	10.8	11.5
	ZSLNS20 16-10	1.6	2.4	10	1.54	50	4	4.4	11.6	12.1	12.6	13	13.8
	ZSLNS20 16-12	1.6	2.4	12	1.54	55	4	3.9	13.7	14.3	14.8	15.3	16.1
U-Wing	ZSLNS20 16-14	1.6	2.4	14	1.54	55	4	3.5	15.8	16.5	17	17.5	18.7
	ZSLNS20 16-16	1.6	2.4	16	1.54	55	4	3.2	17.9	18.6	19.2	19.7	21.4
	ZSLNS20 16-18	1.6	2.4	18	1.54	60	4	2.9	20	20.7	21.3	21.9	-
Zamus Thunder	ZSLNS20 16-20	1.6	2.4	20	1.54	60	4	2.7	22	22.9	23.5	24.1	-
	ZSLNS20 18-6	1.8	2.7	6	1.73	50	4	5.6	7.4	7.8	8.2	8.5	9.1
	ZSLNS20 18-8	1.8	2.7	8	1.73	50	4	4.8	9.5	10	10.4	10.8	11.5
X-Star	ZSLNS20 18-10	1.8	2.7	10	1.73	50	4	4.2	11.6	12.2	12.6	13	13.8
	ZSLNS20 18-12	1.8	2.7	12	1.73	55	4	3.7	13.7	14.3	14.8	15.3	16.1
	ZSLNS20 18-14	1.8	2.7	14	1.73	55	4	3.3	15.8	16.5	17	17.5	18.8
S-Wing	ZSLNS20 18-16	1.8	2.7	16	1.73	55	4	3	17.9	18.6	19.2	19.7	-
	ZSLNS20 18-18	1.8	2.7	18	1.73	60	4	2.7	20	20.7	21.3	21.9	-
	ZSLNS20 18-20	1.8	2.7	20	1.73	60	4	2.5	22.1	22.9	23.5	24.1	-
A-Wing	ZSLNS20 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
	ZSLNS20 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
	ZSLNS20 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
Standard	ZSLNS20 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
	ZSLNS20 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
	ZSLNS20 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8
Copper-Mate	ZSLNS20 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
	ZSLNS20 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
	ZSLNS20 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
Gra-Mate	ZSLNS20 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
	ZSLNS20 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
	ZSLNS20 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
	ZSLNS20 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
	ZSLNS20 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNS20

2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS20 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ZSLNS20 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ZSLNS20 25-18	2.5	3.75	18	2.4	60	4	2	20.1	20.8	21.4	-	-
ZSLNS20 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ZSLNS20 25-25	2.5	3.75	25	2.4	65	4	1.5	27.3	28.2	-	-	-
ZSLNS20 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ZSLNS20 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ZSLNS20 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ZSLNS20 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ZSLNS20 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ZSLNS20 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ZSLNS20 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2
ZSLNS20 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
ZSLNS20 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
ZSLNS20 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
ZSLNS20 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
ZSLNS20 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
ZSLNS20 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
ZSLNS20 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
ZSLNS20 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
ZSLNS20 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
ZSLNS20 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
ZSLNS20 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
ZSLNS20 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
ZSLNS20 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
ZSLNS20 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
ZSLNS20 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
ZSLNS20 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
ZSLNS20 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
ZSLNS20 50-30	5	7.5	30	4.85	70	6	0.9	32.6	-	-	-	-
ZSLNS20 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
ZSLNS20 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
ZSLNS20 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

Gra -Mate

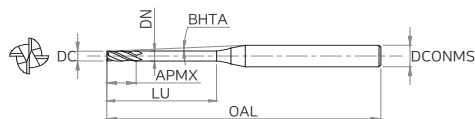
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

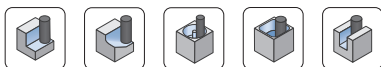
ZSLNS40

4 Flutes Long Neck Square End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.015	h5



EDP No	DC	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS40 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ZSLNS40 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ZSLNS40 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ZSLNS40 10-10	1	1.5	10	0.96	50	4	5	11.5	12.1	12.6	13	13.7
ZSLNS40 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ZSLNS40 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ZSLNS40 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ZSLNS40 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ZSLNS40 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ZSLNS40 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7
ZSLNS40 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
ZSLNS40 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
ZSLNS40 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
ZSLNS40 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
ZSLNS40 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
ZSLNS40 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
ZSLNS40 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
ZSLNS40 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
ZSLNS40 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
ZSLNS40 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8

► Applicable Working Material

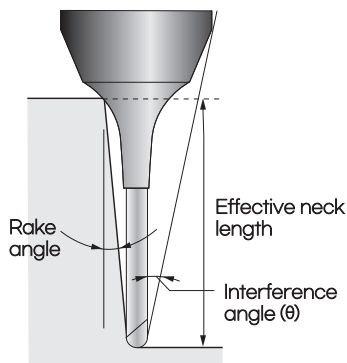
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
◎	◎		○	○						

ZSLNS40

4 Flutes Long Neck Square End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ZSLNS40 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
ZSLNS40 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
ZSLNS40 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ZSLNS40 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
ZSLNS40 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ZSLNS40 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
ZSLNS40 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
ZSLNS40 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-
ZSLNS40 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ZSLNS40 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ZSLNS40 25-18	2.5	3.75	18	2.4	60	4	2	20.1	20.8	21.4	-	-
ZSLNS40 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ZSLNS40 25-25	2.5	3.75	25	2.4	65	4	1.5	27.3	28.2	-	-	-
ZSLNS40 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ZSLNS40 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ZSLNS40 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ZSLNS40 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ZSLNS40 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ZSLNS40 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ZSLNS40 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNS40

4 Flutes Long Neck Square End Mill

Endmill

	EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
Zamus Star	ZSLNS40 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
	ZSLNS40 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
	ZSLNS40 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
	ZSLNS40 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
	ZSLNS40 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
E-Star	ZSLNS40 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
	ZSLNS40 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
	ZSLNS40 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
U-Wing	ZSLNS40 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
	ZSLNS40 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
	ZSLNS40 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
Zamus Thunder	ZSLNS40 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
	ZSLNS40 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
	ZSLNS40 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
X-Star	ZSLNS40 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
	ZSLNS40 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
	ZSLNS40 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
	ZSLNS40 50-30	5	7.5	30	4.85	60	6	0.9	32.6	-	-	-	-
	ZSLNS40 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
S-Wing	ZSLNS40 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
	ZSLNS40 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

A-Wing

Standard

Copper
-Mate

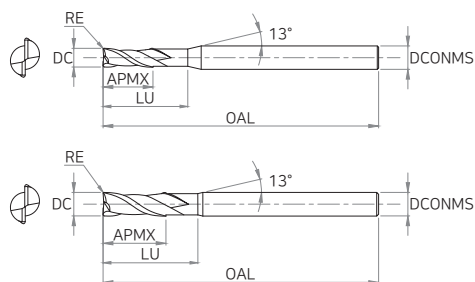
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

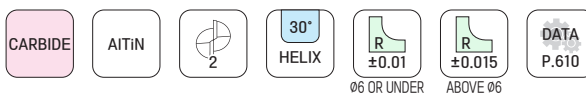
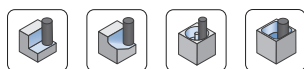
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR702 2 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR702 01000503S4	1	0.05	1.5	3	50	4
ZR702 01000504S4	1	0.05	1.5	4	50	4
ZR702 01000506S4	1	0.05	1.5	6	50	4
ZR702 01000508S4	1	0.05	1.5	8	50	4
ZR702 01000510S4	1	0.05	1.5	10	50	4
ZR702 0100103S4	1	0.1	1.5	3	50	4
ZR702 0100104S4	1	0.1	1.5	4	50	4
ZR702 0100106S4	1	0.1	1.5	6	50	4
ZR702 0100108S4	1	0.1	1.5	8	50	4
ZR702 0100110S4	1	0.1	1.5	10	50	4
ZR702 0100203S4	1	0.2	1.5	3	50	4
ZR702 0100204S4	1	0.2	1.5	4	50	4
ZR702 0100206S4	1	0.2	1.5	6	50	4
ZR702 0100208S4	1	0.2	1.5	8	50	4
ZR702 0100210S4	1	0.2	1.5	10	50	4
ZR702 0100303S4	1	0.3	1.5	3	50	4
ZR702 0100304S4	1	0.3	1.5	4	50	4
ZR702 0100306S4	1	0.3	1.5	6	50	4
ZR702 0100308S4	1	0.3	1.5	8	50	4
ZR702 0100310S4	1	0.3	1.5	10	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR702

2 Flutes Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCONMS
Zamus Star	ZR702 0100104	1	0.1	1.5	4	50	6
	ZR702 0100106	1	0.1	1.5	6	50	6
	ZR702 0100204	1	0.2	1.5	4	50	6
	ZR702 0100206	1	0.2	1.5	6	50	6
	ZR702 0100210	1	0.2	1.5	10	50	6
	ZR702 0100212	1	0.2	1.5	12	50	6
E-Star	ZR702 0120208	1.2	0.2	2	8	50	6
	ZR702 0120212	1.2	0.2	2	12	50	6
U-Wing	ZR702 01500504S4	1.5	0.05	2.5	4	50	4
	ZR702 01500506S4	1.5	0.05	2.5	6	50	4
	ZR702 01500508S4	1.5	0.05	2.5	8	50	4
	ZR702 01500510S4	1.5	0.05	2.5	10	50	4
Zamus Thunder	ZR702 01500512S4	1.5	0.05	2.5	12	50	4
	ZR702 0150104S4	1.5	0.1	2.5	4	50	4
	ZR702 0150106S4	1.5	0.1	2.5	6	50	4
	ZR702 0150108S4	1.5	0.1	2.5	8	50	4
X-Star	ZR702 0150110S4	1.5	0.1	2.5	10	50	4
	ZR702 0150112S4	1.5	0.1	2.5	12	50	4
S-Wing	ZR702 0150204S4	1.5	0.2	2.5	4	50	4
	ZR702 0150206S4	1.5	0.2	2.5	6	50	4
	ZR702 0150208S4	1.5	0.2	2.5	8	50	4
	ZR702 0150210S4	1.5	0.2	2.5	10	50	4
A-Wing	ZR702 0150212S4	1.5	0.2	2.5	12	50	4
	ZR702 0150304S4	1.5	0.3	2.5	4	50	4
	ZR702 0150306S4	1.5	0.3	2.5	6	50	4
	ZR702 0150308S4	1.5	0.3	2.5	8	50	4
Standard	ZR702 0150310S4	1.5	0.3	2.5	10	50	4
	ZR702 0150312S4	1.5	0.3	2.5	12	50	4
	ZR702 0150504S4	1.5	0.5	2.5	4	50	4
	ZR702 0150506S4	1.5	0.5	2.5	6	50	4
Copper -Mate	ZR702 0150508S4	1.5	0.5	2.5	8	50	4
	ZR702 0150510S4	1.5	0.5	2.5	10	50	4
Gra -Mate	ZR702 0150512S4	1.5	0.5	2.5	12	50	4
	ZR702 0150204	1.5	0.2	2.5	4	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZR702

2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR702 0150206	1.5	0.2	2.5	6	50	6
ZR702 0150208	1.5	0.2	2.5	8	50	6
ZR702 0150210	1.5	0.2	2.5	10	50	6
ZR702 0150215	1.5	0.2	2.5	15	50	6
ZR702 0200106S4	2	0.1	3	6	50	4
ZR702 0200108S4	2	0.1	3	8	50	4
ZR702 0200110S4	2	0.1	3	10	50	4
ZR702 0200112S4	2	0.1	3	12	50	4
ZR702 0200116S4	2	0.1	3	16	50	4
ZR702 0200120S4	2	0.1	3	20	50	4
ZR702 0200206S4	2	0.2	3	6	50	4
ZR702 0200208S4	2	0.2	3	8	50	4
ZR702 0200210S4	2	0.2	3	10	50	4
ZR702 0200212S4	2	0.2	3	12	50	4
ZR702 0200216S4	2	0.2	3	16	50	4
ZR702 0200220S4	2	0.2	3	20	50	4
ZR702 0200306S4	2	0.3	3	6	50	4
ZR702 0200308S4	2	0.3	3	8	50	4
ZR702 0200310S4	2	0.3	3	10	50	4
ZR702 0200312S4	2	0.3	3	12	50	4
ZR702 0200316S4	2	0.3	3	16	50	4
ZR702 0200320S4	2	0.3	3	20	50	4
ZR702 0200506S4	2	0.5	3	6	50	4
ZR702 0200508S4	2	0.5	3	8	50	4
ZR702 0200510S4	2	0.5	3	10	50	4
ZR702 0200512S4	2	0.5	3	12	50	4
ZR702 0200516S4	2	0.5	3	16	50	4
ZR702 0200520S4	2	0.5	3	20	50	4
ZR702 0200108	2	0.1	3	8	50	6
ZR702 0200112	2	0.1	3	12	50	6
ZR702 0200206	2	0.2	3	6	50	6
ZR702 0200209	2	0.2	3	9	50	6
ZR702 0200216	2	0.2	3	16	50	6
ZR702 0200306	2	0.3	3	6	50	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR702

2 Flutes Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCONMS
Zamus Star	ZR702 0200506	2	0.5	3	6	50	6
	ZR702 0200509	2	0.5	3	9	50	6
	ZR702 0200512	2	0.5	3	12	50	6
	ZR702 0200516	2	0.5	3	16	50	6
E-Star	ZR702 0250208S4	2.5	0.2	3.5	8	50	4
	ZR702 0250210S4	2.5	0.2	3.5	10	50	4
	ZR702 0250212S4	2.5	0.2	3.5	12	50	4
	ZR702 0250216S4	2.5	0.2	3.5	16	50	4
U-Wing	ZR702 0250308S4	2.5	0.3	3.5	8	50	4
	ZR702 0250310S4	2.5	0.3	3.5	10	50	4
	ZR702 0250312S4	2.5	0.3	3.5	12	50	4
	ZR702 0250316S4	2.5	0.3	3.5	16	50	4
Zamus Thunder	ZR702 0250508S4	2.5	0.5	3.5	8	50	4
	ZR702 0250510S4	2.5	0.5	3.5	10	50	4
	ZR702 0250512S4	2.5	0.5	3.5	12	50	4
	ZR702 0250516S4	2.5	0.5	3.5	16	50	4
X-Star	ZR702 0300108	3	0.1	4.5	8	55	6
	ZR702 0300110	3	0.1	4.5	10	55	6
	ZR702 0300112	3	0.1	4.5	12	55	6
	ZR702 0300116	3	0.1	4.5	16	55	6
S-Wing	ZR702 0300120	3	0.1	4.5	20	60	6
	ZR702 0300208	3	0.2	4.5	8	55	6
	ZR702 0300209	3	0.2	4.5	9	55	6
	ZR702 0300210	3	0.2	4.5	10	55	6
A-Wing	ZR702 0300212	3	0.2	4.5	12	55	6
	ZR702 0300216	3	0.2	4.5	16	55	6
	ZR702 0300220	3	0.2	4.5	20	60	6
	ZR702 0300308	3	0.3	4.5	8	55	6
Standard	ZR702 0300309	3	0.3	4.5	9	55	6
	ZR702 0300310	3	0.3	4.5	10	55	6
	ZR702 0300312	3	0.3	4.5	12	55	6
	ZR702 0300314	3	0.3	4.5	14	55	6
Copper -Mate	ZR702 0300316	3	0.3	4.5	16	55	6
	ZR702 0300320	3	0.3	4.5	20	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR702

2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR702 0300508	3	0.5	4.5	8	55	6
ZR702 0300509	3	0.5	4.5	9	55	6
ZR702 0300510	3	0.5	4.5	10	55	6
ZR702 0300512	3	0.5	4.5	12	55	6
ZR702 0300516	3	0.5	4.5	16	55	6
ZR702 0300520	3	0.5	4.5	20	60	6
ZR702 0301008	3	1	4.5	8	55	6
ZR702 0301010	3	1	4.5	10	55	6
ZR702 0301012	3	1	4.5	12	55	6
ZR702 0301016	3	1	4.5	16	55	6
ZR702 0301020	3	1	4.5	20	60	6
ZR702 0301025	3	1	4.5	25	60	6
ZR702 0400110	4	0.1	6	10	55	6
ZR702 0400112	4	0.1	6	12	55	6
ZR702 0400116	4	0.1	6	16	55	6
ZR702 0400120	4	0.1	6	20	60	6
ZR702 0400125	4	0.1	6	25	60	6
ZR702 0400210	4	0.2	6	10	55	6
ZR702 0400212	4	0.2	6	12	55	6
ZR702 0400216	4	0.2	6	16	55	6
ZR702 0400220	4	0.2	6	20	60	6
ZR702 0400225	4	0.2	6	25	60	6
ZR702 0400310	4	0.3	6	10	55	6
ZR702 0400312	4	0.3	6	12	55	6
ZR702 0400316	4	0.3	6	16	55	6
ZR702 0400320	4	0.3	6	20	60	6
ZR702 0400325	4	0.3	6	25	60	6
ZR702 0400510	4	0.5	6	10	55	6
ZR702 0400512	4	0.5	6	12	55	6
ZR702 0400516	4	0.5	6	16	55	6
ZR702 0400520	4	0.5	6	20	60	6
ZR702 0400525	4	0.5	6	25	60	6
ZR702 0400530	4	0.5	6	30	70	6
ZR702 0401010	4	1	6	10	55	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR702

2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR702 0401012	4	1	6	12	55	6
ZR702 0401016	4	1	6	16	55	6
ZR702 0401020	4	1	6	20	60	6
ZR702 0401025	4	1	6	25	60	6
ZR702 0401030	4	1	6	30	70	6
ZR702 0500318	5	0.3	8	18	60	6
ZR702 0600220	6	0.2	9	20	60	6
ZR702 0600320	6	0.3	9	20	60	6
ZR702 0600520	6	0.5	9	20	60	6
ZR702 0601020	6	1	9	20	60	6
ZR702 0601520	6	1.5	9	20	60	6
ZR702 0602020	6	2	9	20	60	6
ZR702 0800225	8	0.2	12	25	60	8
ZR702 0800325	8	0.3	12	25	60	8
ZR702 0800525	8	0.5	12	25	60	8
ZR702 0801025	8	1	12	25	60	8
ZR702 0801525	8	1.5	12	25	60	8
ZR702 1000232	10	0.2	15	32	70	10
ZR702 1000332	10	0.3	15	32	70	10
ZR702 1000532	10	0.5	15	32	70	10
ZR702 1001032	10	1	15	32	70	10
ZR702 1001532	10	1.5	15	32	70	10
ZR702 1002032	10	2	15	32	70	10
ZR702 1200338	12	0.3	18	38	80	12
ZR702 1200538	12	0.5	18	38	80	12
ZR702 1201038	12	1	18	38	80	12
ZR702 1201538	12	1.5	18	38	80	12
ZR702 1202038	12	2	18	38	80	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

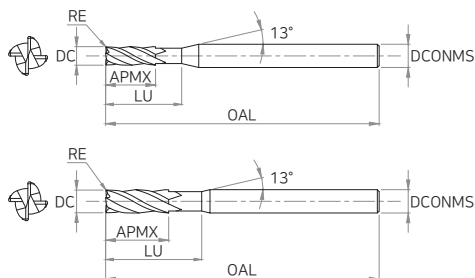
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

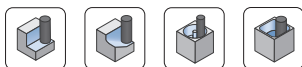
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZR704 4 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER

ABOVE Ø6

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR704 0100103S4	1	0.1	2	3	50	4
ZR704 0100104S4	1	0.1	2	4	50	4
ZR704 0100106S4	1	0.1	2	6	50	4
ZR704 0100203S4	1	0.2	2	3	50	4
ZR704 0100204S4	1	0.2	2	4	50	4
ZR704 0100206S4	1	0.2	2	6	50	4
ZR704 0100303S4	1	0.3	2	3	50	4
ZR704 0100304S4	1	0.3	2	4	50	4
ZR704 0100306S4	1	0.3	2	6	50	4
ZR704 0150104S4	1.5	0.1	2.5	4	50	4
ZR704 0150106S4	1.5	0.1	2.5	6	50	4
ZR704 0150204S4	1.5	0.2	2.5	4	50	4
ZR704 0150206S4	1.5	0.2	2.5	6	50	4
ZR704 0150304S4	1.5	0.3	2.5	4	50	4
ZR704 0150306S4	1.5	0.3	2.5	6	50	4
ZR704 0200106S4	2	0.1	3	6	50	4
ZR704 0200108S4	2	0.1	3	8	50	4
ZR704 0200206S4	2	0.2	3	6	50	4
ZR704 0200208S4	2	0.2	3	8	50	4
ZR704 0200306S4	2	0.3	3	6	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ZR704 4 Flutes Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCONMS
Zamus Star	ZR704 0200308S4	2	0.3	3	8	50	4
	ZR704 0200506S4	2	0.5	3	6	50	4
	ZR704 0200508S4	2	0.5	3	8	50	4
	ZR704 0200208	2	0.2	3	8	50	6
	ZR704 0200210	2	0.2	3	10	50	6
E-Star	ZR704 0200212	2	0.2	3	12	50	6
	ZR704 0250106S4	2.5	0.1	3.5	6	50	4
	ZR704 0300108	3	0.1	4	8	55	6
U-Wing	ZR704 0300110	3	0.1	4	10	55	6
	ZR704 0300112	3	0.1	4	12	55	6
	ZR704 0300116	3	0.1	4	16	55	6
Zamus Thunder	ZR704 0300120	3	0.1	4	20	60	6
	ZR704 0300208	3	0.2	4	8	55	6
	ZR704 0300210	3	0.2	4	10	55	6
	ZR704 0300212	3	0.2	4	12	55	6
	ZR704 0300216	3	0.2	4	16	55	6
X-Star	ZR704 0300220	3	0.2	4	20	60	6
	ZR704 0300308	3	0.3	4	8	55	6
	ZR704 0300309	3	0.3	4	9	55	6
S-Wing	ZR704 0300310	3	0.3	4	10	55	6
	ZR704 0300312	3	0.3	4	12	55	6
	ZR704 0300316	3	0.3	4	16	55	6
A-Wing	ZR704 0300320	3	0.3	4	20	60	6
	ZR704 0300508	3	0.5	4	8	55	6
	ZR704 0300509	3	0.5	4	9	55	6
Standard	ZR704 0300510	3	0.5	4	10	55	6
	ZR704 0300512	3	0.5	4	12	55	6
	ZR704 0300516	3	0.5	4	16	55	6
Copper -Mate	ZR704 0300520	3	0.5	4	20	60	6
	ZR704 0301008	3	1	4	8	55	6
	ZR704 0301010	3	1	4	10	55	6
Gra -Mate	ZR704 0301012	3	1	4	12	55	6
	ZR704 0301016	3	1	4	16	55	6
	ZR704 0301020	3	1	4	20	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR704

4 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR704 0400110	4	0.1	6	10	55	6
ZR704 0400112	4	0.1	6	12	55	6
ZR704 0400116	4	0.1	6	16	55	6
ZR704 0400120	4	0.1	6	20	60	6
ZR704 0400125	4	0.1	6	25	60	6
ZR704 0400210	4	0.2	6	10	55	6
ZR704 0400212	4	0.2	6	12	55	6
ZR704 0400216	4	0.2	6	16	55	6
ZR704 0400220	4	0.2	6	20	60	6
ZR704 0400225	4	0.2	6	25	60	6
ZR704 0400310	4	0.3	6	10	55	6
ZR704 0400312	4	0.3	6	12	55	6
ZR704 0400316	4	0.3	6	16	55	6
ZR704 0400320	4	0.3	6	20	60	6
ZR704 0400325	4	0.3	6	25	55	6
ZR704 0400510	4	0.5	6	10	55	6
ZR704 0400512	4	0.5	6	12	55	6
ZR704 0400516	4	0.5	6	16	55	6
ZR704 0400520	4	0.5	6	20	60	6
ZR704 0400525	4	0.5	6	25	60	6
ZR704 0401010	4	1	6	10	55	6
ZR704 0401012	4	1	6	12	55	6
ZR704 0401016	4	1	6	16	55	6
ZR704 0401020	4	1	6	20	60	6
ZR704 0401025	4	1	6	25	60	6
ZR704 0600220	6	0.2	9	20	60	6
ZR704 0600320	6	0.3	9	20	60	6
ZR704 0600520	6	0.5	9	20	60	6
ZR704 0601020	6	1	9	20	60	6
ZR704 0601520	6	1.5	9	20	60	6
ZR704 0602020	6	2	9	20	60	6
ZR704 0800225	8	0.2	12	25	60	8
ZR704 0800325	8	0.3	12	25	60	8
ZR704 0800525	8	0.5	12	25	60	8

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR704

4 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR704 0801025	8	1	12	25	60	8
ZR704 0801525	8	1.5	12	25	60	8
ZR704 0802025	8	2	12	25	60	8
ZR704 1000232	10	0.2	15	32	70	10
ZR704 1000332	10	0.3	15	32	70	10
ZR704 1000532	10	0.5	15	32	70	10
ZR704 1001032	10	1	15	32	70	10
ZR704 1001532	10	1.5	15	32	70	10
ZR704 1002032	10	2	15	32	70	10
ZR704 1200338	12	0.3	18	38	80	12
ZR704 1200538	12	0.5	18	38	80	12
ZR704 1201038	12	1	18	38	80	12
ZR704 1201538	12	1.5	18	38	80	12
ZR704 1202038	12	2	18	38	80	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

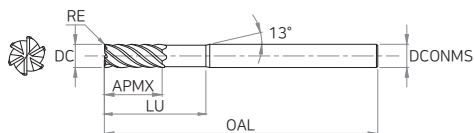
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

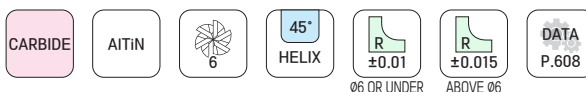
ZR706

6 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR706 0600314	6	0.3	6	14	50	6
ZR706 0600514	6	0.5	6	14	50	6
ZR706 0800524	8	0.5	8	24	60	8
ZR706 0801024	8	1	8	24	60	8
ZR706 1000530	10	0.5	10	30	70	10
ZR706 1001030	10	1	10	30	70	10
ZR706 1200530	12	0.5	12	30	75	12
ZR706 1201030	12	1	12	30	75	12

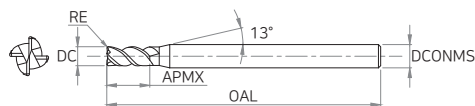
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR714 4 Flutes Radius End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



CARBIDE

AITIN



Ø6 OR UNDER

ABOVE Ø6

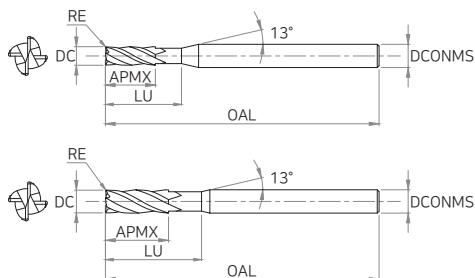
EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ZR714 0303	3	0.3	8	50	6	ZR714 1005	10	0.5	25	70	10
ZR714 0305	3	0.5	8	50	6	ZR714 1010	10	1	25	70	10
ZR714 0403	4	0.3	11	50	6	ZR714 1015	10	1.5	25	70	10
ZR714 0405	4	0.5	11	50	6	ZR714 1020	10	2	25	70	10
ZR714 0410	4	1	11	50	6	ZR714 1025	10	2.5	25	70	10
ZR714 0603	6	0.3	15	60	6	ZR714 1030	10	3	25	70	10
ZR714 0605	6	0.5	15	60	6	ZR714 1203	12	0.3	30	80	12
ZR714 0610	6	1	15	60	6	ZR714 1205	12	0.5	30	80	12
ZR714 0803	8	0.3	20	60	8	ZR714 1210	12	1	30	80	12
ZR714 0805	8	0.5	20	60	8	ZR714 1215	12	1.5	30	80	12
ZR714 0810	8	1	20	60	8	ZR714 1220	12	2	30	80	12
ZR714 0815	8	1.5	20	60	8	ZR714 1225	12	2.5	30	80	12
ZR714 0820	8	2	20	60	8	ZR714 1230	12	3	30	80	12
ZR714 1003	10	0.3	25	70	10						

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FC500					
◎	◎		○	○						

ZR724 4 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR724 0600520	6	0.5	9	20	90	6
ZR724 0601020	6	1	9	20	90	6
ZR724 0800525	8	0.5	12	25	100	8
ZR724 0801025	8	1	12	25	100	8
ZR724 1000532	10	0.5	15	32	100	10
ZR724 1001032	10	1	15	32	100	10
ZR724 1002032	10	2	15	32	100	10
ZR724 1200538	12	0.5	18	38	110	12
ZR724 1201038	12	1	18	38	110	12
ZR724 1202038	12	2	18	38	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	◎		○	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

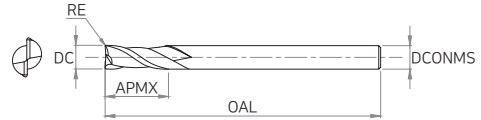
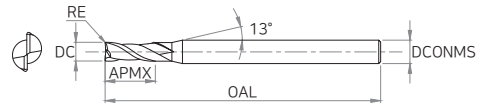
Standard

Copper
-Mate

Gra
-Mate

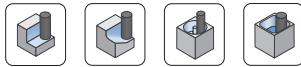
ZR732

2 Flutes Long Shank Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	OAL	DCONMS
ZR732 01001	1	0.1	2	50	6
ZR732 01002	1	0.2	2	50	6
ZR732 01003	1	0.3	2	50	6
ZR732 01501	1.5	0.1	3	50	6
ZR732 01502	1.5	0.2	3	50	6
ZR732 01503	1.5	0.3	3	50	6
ZR732 01505	1.5	0.5	3	50	6
ZR732 02001	2	0.1	5	50	6
ZR732 02002	2	0.2	5	50	6
ZR732 02003	2	0.3	5	50	6
ZR732 02005	2	0.5	5	50	6
ZR732 02501	2.5	0.1	7	60	6
ZR732 02502	2.5	0.2	7	60	6
ZR732 02503	2.5	0.3	7	60	6
ZR732 02505	2.5	0.5	7	60	6
ZR732 03001	3	0.1	8	60	6
ZR732 03002	3	0.2	8	60	6
ZR732 03003	3	0.3	8	60	6
ZR732 03005	3	0.5	8	60	6
ZR732 04001	4	0.1	10	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FC500					
◎	◎		○	○						

ZR732

2 Flutes Long Shank Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCONMS
ZR732 04002	4	0.2	10	70	6
ZR732 04003	4	0.3	10	70	6
ZR732 04005	4	0.5	10	70	6
ZR732 04010	4	1	10	70	6
ZR732 05001	5	0.1	13	80	6
ZR732 05002	5	0.2	13	80	6
ZR732 05003	5	0.3	13	80	6
ZR732 05005	5	0.5	13	80	6
ZR732 05010	5	1	13	80	6
ZR732 06001	6	0.1	15	90	6
ZR732 06002	6	0.2	15	90	6
ZR732 06003	6	0.3	15	90	6
ZR732 06005	6	0.5	15	90	6
ZR732 06010	6	1	15	90	6
ZR732 08001	8	0.1	20	100	8
ZR732 08002	8	0.2	20	100	8
ZR732 08003	8	0.3	20	100	8
ZR732 08005	8	0.5	20	100	8
ZR732 08010	8	1	20	100	8
ZR732 08020	8	2	20	100	8
ZR732 10002	10	0.2	25	100	10
ZR732 10003	10	0.3	25	100	10
ZR732 10005	10	0.5	25	100	10
ZR732 10010	10	1	25	100	10
ZR732 10020	10	2	25	100	10
ZR732 12002	12	0.2	30	110	12
ZR732 12003	12	0.3	30	110	12
ZR732 12005	12	0.5	30	110	12
ZR732 12010	12	1	30	110	12
ZR732 12020	12	2	30	110	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

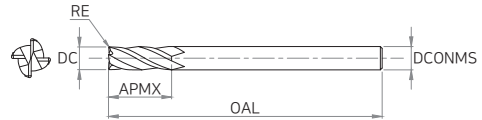
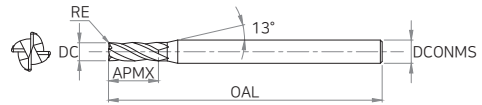
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

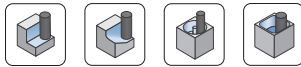
ZR734 4 Flutes Long Shank Radius End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



CARBIDE

AITIN

4

30°
HELIX

R
±0.01

R
±0.015

DATA
P.611

Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	OAL	DCON MS
ZR734 01001	1	0.1	2	50	6
ZR734 01002	1	0.2	2	50	6
ZR734 01003	1	0.3	2	50	6
ZR734 01501	1.5	0.1	3	50	6
ZR734 01502	1.5	0.2	3	50	6
ZR734 01503	1.5	0.3	3	50	6
ZR734 01505	1.5	0.5	3	50	6
ZR734 02001	2	0.1	5	50	6
ZR734 02002	2	0.2	5	50	6
ZR734 02003	2	0.3	5	50	6
ZR734 02005	2	0.5	5	50	6
ZR734 02501	2.5	0.1	7	60	6
ZR734 02502	2.5	0.2	7	60	6
ZR734 02503	2.5	0.3	7	60	6
ZR734 02505	2.5	0.5	7	60	6
ZR734 03001	3	0.1	8	60	6
ZR734 03002	3	0.2	8	60	6
ZR734 03003	3	0.3	8	60	6
ZR734 03005	3	0.5	8	60	6
ZR734 04001	4	0.1	10	70	6

EDP No	DC	RE	APMX	OAL	DCON MS
ZR734 04002	4	0.2	10	70	6
ZR734 04003	4	0.3	10	70	6
ZR734 04005	4	0.5	10	70	6
ZR734 04010	4	1	10	70	6
ZR734 05001	5	0.1	13	80	6
ZR734 05002	5	0.2	13	80	6
ZR734 05003	5	0.3	13	80	6
ZR734 05005	5	0.5	13	80	6
ZR734 05010	5	1	13	80	6
ZR734 06001	6	0.1	15	90	6
ZR734 06002	6	0.2	15	90	6
ZR734 06003	6	0.3	15	90	6
ZR734 06005	6	0.5	15	90	6
ZR734 06010	6	1	15	90	6
ZR734 08001	8	0.1	20	100	8
ZR734 08002	8	0.2	20	100	8
ZR734 08003	8	0.3	20	100	8
ZR734 08005	8	0.5	20	100	8
ZR734 08010	8	1	20	100	8
ZR734 08020	8	2	20	100	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZR734

4 Flutes Long Shank Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS
ZR734 10002	10	0.2	25	100	10
ZR734 10003	10	0.3	25	100	10
ZR734 10005	10	0.5	25	100	10
ZR734 10010	10	1	25	100	10
ZR734 10020	10	2	25	100	10

EDP No	DC	RE	APMX	OAL	DCON MS
ZR734 12002	12	0.2	30	110	12
ZR734 12003	12	0.3	30	110	12
ZR734 12005	12	0.5	30	110	12
ZR734 12010	12	1	30	110	12
ZR734 12020	12	2	30	110	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

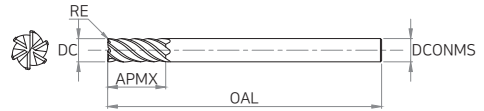
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

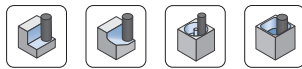
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZR736 6 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



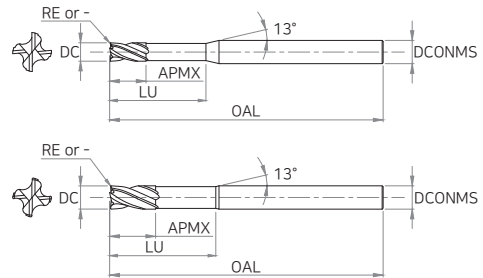
EDP No	DC	RE	APMX	OAL	DCONMS
ZR736 06005	6	0.5	15	90	6
ZR736 06010	6	1	15	90	6
ZR736 08005	8	0.5	20	100	8
ZR736 08010	8	1	20	100	8
ZR736 10005	10	0.5	25	100	10
ZR736 10010	10	1	25	100	10
ZR736 12005	12	0.5	30	110	12
ZR736 12010	12	1	30	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

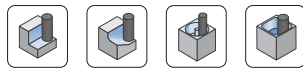
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZS1(2)04 4 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZS104 010	1	-	1.5	4	45	4
ZS204 010	1	0.05	1.5	4	45	4
ZS104 020	2	-	3	6	45	4
ZS204 020	2	0.05	3	6	45	4
ZS104 030	3	-	4	7	45	6
ZS204 030	3	0.1	4	7	45	6
ZS104 040	4	-	5	9	45	6
ZS204 040	4	0.1	5	9	45	6
ZS104 060	6	-	7	14	50	6
ZS204 060	6	0.2	7	14	50	6
ZS104 080	8	-	9	18	60	8
ZS204 080	8	0.2	9	18	60	8
ZS104 100	10	-	12	25	75	10
ZS204 100	10	0.2	12	25	75	10
ZS104 120	12	-	15	30	75	12
ZS204 120	12	0.3	15	30	75	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZS204 4 Flutes Neck Radius End Mill

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

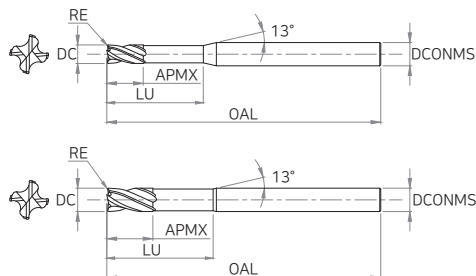
S-Wing

A-Wing

Standard

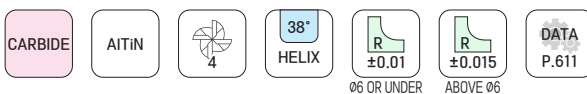
Copper
-Mate

Gra
-Mate



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZS204 02000507	2	0.05	2.5	7	50	4
ZS204 0200107	2	0.1	2.5	7	50	4
ZS204 0300109	3	0.1	4	9	55	6
ZS204 0300209	3	0.2	4	9	55	6
ZS204 0300309	3	0.3	4	9	55	6
ZS204 0300312	3	0.3	4	12	55	6
ZS204 0300316	3	0.3	4	16	55	6
ZS204 0400212	4	0.2	5	12	55	6
ZS204 0400312	4	0.3	5	12	55	6
ZS204 0400316	4	0.3	5	16	55	6
ZS204 0400320	4	0.3	5	20	55	6
ZS204 0400512	4	0.5	5	12	55	6
ZS204 0400516	4	0.5	5	16	55	6
ZS204 0400520	4	0.5	5	20	55	6
ZS204 0401012	4	1	5	12	55	6
ZS204 0500116	5	0.1	6	16	60	6
ZS204 0500216	5	0.2	6	16	60	6
ZS204 0500316	5	0.3	6	16	60	6
ZS204 0500516	5	0.5	6	16	60	6
ZS204 0501016	5	1	6	16	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZS204

4 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZS204 0600120	6	0.1	7	20	60	6
ZS204 0600220	6	0.2	7	20	60	6
ZS204 0600320	6	0.3	7	20	60	6
ZS204 0600520	6	0.5	7	20	60	6
ZS204 0601020	6	1	7	20	60	6
ZS204 0601520	6	1.5	7	20	60	6
ZS204 0800125	8	0.1	9	25	60	8
ZS204 0800225	8	0.2	9	25	60	8
ZS204 0800325	8	0.3	9	25	60	8
ZS204 0800525	8	0.5	9	25	60	8
ZS204 0801025	8	1	9	25	60	8
ZS204 0801525	8	1.5	9	25	60	8
ZS204 0802025	8	2	9	25	60	8
ZS204 1000232	10	0.2	11	32	75	10
ZS204 1000332	10	0.3	11	32	75	10
ZS204 1000532	10	0.5	11	32	75	10
ZS204 1001032	10	1	11	32	75	10
ZS204 1001532	10	1.5	11	32	75	10
ZS204 1002032	10	2	11	32	75	10
ZS204 1200238	12	0.2	12	38	75	12
ZS204 1200338	12	0.3	12	38	75	12
ZS204 1200538	12	0.5	12	38	75	12
ZS204 1201038	12	1	12	38	75	12
ZS204 1201538	12	1.5	12	38	75	12
ZS204 1202038	12	2	12	38	75	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

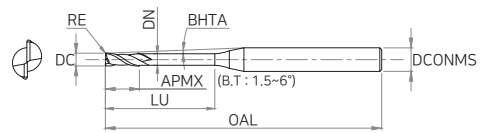
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

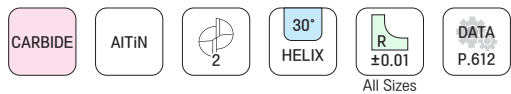
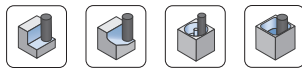
ZSLNR20

2 Flutes Long Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



All Sizes

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNR20 02-0.5-005	0.2	0.05	0.15	0.5	0.17	50	4	11.4	0.9	1	1	1.1	12
ZSLNR20 02-1-005	0.2	0.05	0.15	1	0.17	50	4	10.9	1.6	1.7	1.9	2	2.3
ZSLNR20 02-1.5-005	0.2	0.05	0.15	1.5	0.17	50	4	10.3	2.1	2.3	2.5	2.7	3
ZSLNR20 02-2-005	0.2	0.05	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ZSLNR20 03-1-005	0.3	0.05	0.25	1	0.27	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ZSLNR20 03-1.5-005	0.3	0.05	0.25	1.5	0.27	50	4	10.3	2.1	2.3	2.5	2.7	3
ZSLNR20 03-2-005	0.3	0.05	0.25	2	0.27	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ZSLNR20 03-2.5-005	0.3	0.05	0.25	2.5	0.27	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ZSLNR20 03-3-005	0.3	0.05	0.25	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ZSLNR20 04-1-005	0.4	0.05	0.3	1	0.37	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ZSLNR20 04-1.5-005	0.4	0.05	0.3	1.5	0.37	50	4	10.3	2	2.1	2.2	2.3	2.5
ZSLNR20 04-2-005	0.4	0.05	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ZSLNR20 04-2.5-005	0.4	0.05	0.3	2.5	0.37	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ZSLNR20 04-3-005	0.4	0.05	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ZSLNR20 04-3.5-005	0.4	0.05	0.3	3.5	0.37	50	4	8.6	4.3	4.6	4.9	5.1	5.5
ZSLNR20 04-4-005	0.4	0.05	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ZSLNR20 04-2-01	0.4	0.1	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ZSLNR20 04-3-01	0.4	0.1	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ZSLNR20 04-4-01	0.4	0.1	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ZSLNR20 05-1-005	0.5	0.05	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9

► Applicable Working Material

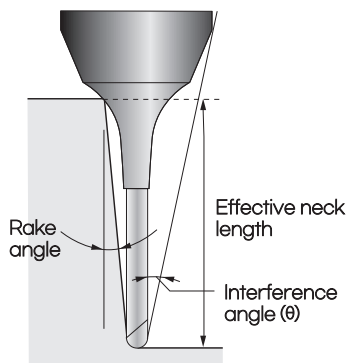
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSLNR20

2 Flutes Long Neck Radius End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNR20 05-2-005	0.5	0.05	0.35	2	0.47	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ZSLNR20 05-3-005	0.5	0.05	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ZSLNR20 05-4-005	0.5	0.05	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ZSLNR20 05-5-005	0.5	0.05	0.35	5	0.47	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ZSLNR20 05-6-005	0.5	0.05	0.35	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ZSLNR20 05-1-01	0.5	0.1	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ZSLNR20 05-2-01	0.5	0.1	0.35	2	0.47	50	4	9.8	2.5	2.6	2.8	2.9	3.1
ZSLNR20 05-3-01	0.5	0.1	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ZSLNR20 05-4-01	0.5	0.1	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ZSLNR20 05-5-01	0.5	0.1	0.35	5	0.47	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ZSLNR20 05-6-01	0.5	0.1	0.35	6	0.47	50	4	7.1	7.2	7.7	8.1	8.4	9
ZSLNR20 06-2-01	0.6	0.1	0.4	2	0.57	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ZSLNR20 06-4-01	0.6	0.1	0.4	4	0.57	50	4	8.1	4.8	5.2	5.4	5.7	6.1
ZSLNR20 06-6-01	0.6	0.1	0.4	6	0.57	50	4	7	7.2	7.7	8.1	8.4	9
ZSLNR20 06-8-01	0.6	0.1	0.4	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11
ZSLNR20 06-10-01	0.6	0.1	0.4	10	0.57	50	4	5.5	11.5	12.1	12.5	13	13.7
ZSLNR20 08-4-01	0.8	0.1	0.5	4	0.77	50	4	8	4.8	5.2	5.4	5.7	6.1
ZSLNR20 08-6-01	0.8	0.1	0.5	6	0.77	50	4	6.8	7	7.4	7.7	7.9	8.4
ZSLNR20 08-8-01	0.8	0.1	0.5	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ZSLNR20 08-12-01	0.8	0.1	0.5	12	0.77	50	4	4.7	13.6	14.2	14.7	15.2	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNR20

2 Flutes Long Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
										0.5°	1°	1.5°	2°	3°
Zamus Star	ZSLNR20 08-4-02	0.8	0.2	0.5	4	0.77	50	4	8	4.8	5.1	5.4	5.6	6.1
	ZSLNR20 08-6-02	0.8	0.2	0.5	6	0.77	50	4	6.9	7	7.3	7.7	7.9	8.4
	ZSLNR20 10-4-01	1	0.1	0.8	4	0.94	50	4	7.7°	4.7	4.9	5.1	5.2	5.5
	ZSLNR20 10-6-01	1	0.1	0.8	6	0.94	50	4	6.6°	7.1	7.4	7.7	8	8.5
	ZSLNR20 10-8-01	1	0.1	0.8	8	0.94	50	4	5.7°	9.2	9.6	9.9	10.2	10.8
E-Star	ZSLNR20 10-10-01	1	0.1	0.8	10	0.94	50	4	5.1°	11.6	12.1	12.6	13	13.7
	ZSLNR20 10-4-02	1	0.2	0.8	4	0.94	50	4	7.8°	4.7	4.9	5.1	5.2	5.5
	ZSLNR20 10-6-02	1	0.2	0.8	6	0.94	50	4	6.6°	7.1	7.4	7.7	8	8.5
U-Wing	ZSLNR20 10-8-02	1	0.2	0.8	8	0.94	50	4	5.8°	9.2	9.6	9.9	10.2	10.8
	ZSLNR20 10-10-02	1	0.2	0.8	10	0.94	50	4	5.1°	11.6	12.1	12.6	13	13.7
	ZSLNR20 10-6-03	1	0.3	0.8	6	0.94	50	4	6.7°	7.1	7.4	7.7	8	8.4
Zamus Thunder	ZSLNR20 10-10-03	1	0.3	0.8	10	0.94	50	4	5.1°	11.5	12.1	12.6	13	13.7
	ZSLNR20 10-12-01	1	0.1	0.8	12	0.94	55	4	4.5°	13.7	14.3	14.8	15.3	16
	ZSLNR20 10-12-02	1	0.2	0.8	12	0.94	55	4	4.6°	13.7	14.3	14.8	15.2	16
X-Star	ZSLNR20 10-16-01	1	0.1	0.8	16	0.94	60	4	3.8°	17.9	18.6	19.2	19.7	21.3
	ZSLNR20 10-20-01	1	0.1	0.8	20	0.94	60	4	3.2°	22	22.8	23.5	24	26.7
	ZSLNR20 10-16-02	1	0.2	0.8	16	0.94	60	4	3.8°	17.9	18.6	19.2	19.7	21.3
S-Wing	ZSLNR20 10-20-02	1	0.2	0.8	20	0.94	60	4	3.2°	22	22.8	23.5	24	26.6
	ZSLNR20 10-16-03	1	0.3	0.8	16	0.94	60	4	3.8°	17.9	18.6	19.1	19.6	21.3
	ZSLNR20 10-20-03	1	0.3	0.8	20	0.94	60	4	3.2°	22	22.8	23.5	24	26.6
A-Wing	ZSLNR20 15-4-01	1.5	0.1	1.35	4	1.42	50	4	7.2	4.8	4.9	5.1	5.3	5.5
	ZSLNR20 15-8-01	1.5	0.1	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
	ZSLNR20 15-12-01	1.5	0.1	1.35	12	1.42	55	4	4	13.4	13.9	14.3	14.7	16.1
Standard	ZSLNR20 15-15-01	1.5	0.1	1.35	15	1.42	55	4	3.5	16.9	17.6	18.1	18.6	20.1
	ZSLNR20 15-20-01	1.5	0.1	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
	ZSLNR20 15-4-02	1.5	0.2	1.35	4	1.42	50	4	7.3	4.7	4.9	5.1	5.3	5.5
Copper -Mate	ZSLNR20 15-8-02	1.5	0.2	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
	ZSLNR20 15-12-02	1.5	0.2	1.35	12	1.42	55	4	4.1	13.4	13.9	14.3	14.7	16.1
	ZSLNR20 15-15-02	1.5	0.2	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
Gra -Mate	ZSLNR20 15-20-02	1.5	0.2	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
	ZSLNR20 15-8-03	1.5	0.3	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
	ZSLNR20 15-15-03	1.5	0.3	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
	ZSLNR20 15-20-03	1.5	0.3	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24	-
	ZSLNR20 20-6-02	2	0.2	1.7	6	1.92	50	4	5.4	6.8	7.1	7.3	7.5	8.1

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSLNR20

2 Flutes Long Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNR20 20-8-02	2	0.2	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.8
ZSLNR20 20-12-02	2	0.2	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.7	16.1
ZSLNR20 20-16-02	2	0.2	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
ZSLNR20 20-20-02	2	0.2	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ZSLNR20 20-25-02	2	0.2	1.7	25	1.92	65	4	2	27.3	28.2	28.8	-	-
ZSLNR20 20-30-02	2	0.2	1.7	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ZSLNR20 20-8-03	2	0.3	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.7
ZSLNR20 20-16-03	2	0.3	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
ZSLNR20 20-20-03	2	0.3	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
ZSLNR20 20-6-05	2	0.5	1.7	6	1.92	50	4	5.5	6.8	7.1	7.3	7.4	8
ZSLNR20 20-8-05	2	0.5	1.7	8	1.92	50	4	4.7	8.9	9.2	9.4	9.6	10.7
ZSLNR20 20-12-05	2	0.5	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.6	16
ZSLNR20 20-16-05	2	0.5	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
ZSLNR20 20-20-05	2	0.5	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
ZSLNR20 20-25-05	2	0.5	1.7	25	1.92	65	4	2	27.3	28.1	28.8	-	-
ZSLNR20 20-30-05	2	0.5	1.7	30	1.92	70	4	1.7	32.5	33.4	34.3	-	-
ZSLNR20 20-8-08	2	0.8	1.7	8	1.92	50	4	4.8	8.9	9.2	9.4	9.6	10.6
ZSLNR20 20-16-08	2	0.8	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
ZSLNR20 20-20-08	2	0.8	1.7	20	1.92	60	4	2.4	22.1	22.8	23.5	24	-
ZSLNR20 30-8-02	3	0.2	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
ZSLNR20 30-12-02	3	0.2	2.5	12	2.86	60	6	4.5	13.1	13.5	14	14.7	16.2
ZSLNR20 30-16-02	3	0.2	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.5	21.6
ZSLNR20 30-20-02	3	0.2	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.9
ZSLNR20 30-30-02	3	0.2	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
ZSLNR20 30-35-02	3	0.2	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.2	-
ZSLNR20 30-8-03	3	0.3	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
ZSLNR20 30-16-03	3	0.3	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
ZSLNR20 30-20-03	3	0.3	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
ZSLNR20 30-30-03	3	0.3	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
ZSLNR20 30-8-05	3	0.5	2.5	8	2.86	55	6	5.8	9	9.3	9.5	9.8	10.8
ZSLNR20 30-12-05	3	0.5	2.5	12	2.86	60	6	4.6	13.1	13.5	13.9	14.6	16.2
ZSLNR20 30-16-05	3	0.5	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
ZSLNR20 30-20-05	3	0.5	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
ZSLNR20 30-30-05	3	0.5	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.1	-
ZSLNR20 30-35-05	3	0.5	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.1	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

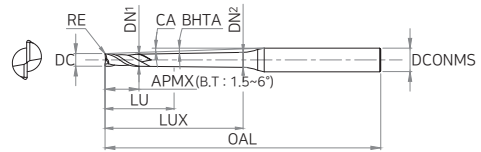
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

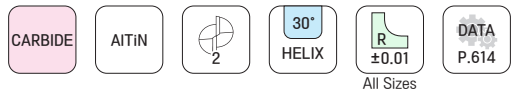
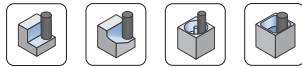
ZSTNR20

2 Flutes Tapered Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



All Sizes

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCONMS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNR20 02-2-09005	0.2	0.05	0.15	2	0.9	0.17	0.23	50	4	1.1	10	x	2.8	3.1	3.4	3.9
ZSTNR20 04-4-09005	0.4	0.05	0.3	4	0.9	0.37	0.49	50	4	1.25	8.4	x	4.9	5.3	5.7	6.3
ZSTNR20 04-5-09005	0.4	0.05	0.3	5	0.9	0.37	0.52	50	4	1.25	7.8	x	5.9	6.4	6.8	7.5
ZSTNR20 04-4-0901	0.4	0.1	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	x	4.9	5.3	5.7	6.3
ZSTNR20 04-5-0901	0.4	0.1	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	x	5.9	6.4	6.8	7.5
ZSTNR20 05-5-0901	0.5	0.1	0.35	5	0.9	0.47	0.62	50	4	1.3	7.8	x	5.9	6.4	6.8	7.5
ZSTNR20 05-8-0901	0.5	0.1	0.35	8	0.9	0.47	0.71	50	4	1.3	6.4	x	9	9.7	10.2	11
ZSTNR20 05-10-0901	0.5	0.1	0.35	10	0.9	0.47	0.77	55	4	1.3	5.8	x	11	11.8	12.4	13.2
ZSTNR20 06-12-0901	0.6	0.1	0.4	12	0.9	0.57	0.93	55	4	1.35	5.1	x	13	13.9	14.5	15.5
ZSTNR20 06-15-0901	0.6	0.1	0.4	15	0.9	0.57	1.03	55	4	1.35	4.5	x	16.1	17.1	17.8	18.8
ZSTNR20 08-6-0402	0.8	0.2	0.5	6	0.4	0.77	0.85	50	4	2.64	7	6.6	7.1	7.5	7.8	8.3
ZSTNR20 08-12-0902	0.8	0.2	0.5	12	0.9	0.77	1.13	55	4	1.45	5	x	13	13.9	14.5	15.5
ZSTNR20 10-8-0402	1	0.2	0.8	8	0.4	0.94	1.04	55	6	5.09	7.4	8.8	9.3	9.7	10.1	10.6
ZSTNR20 10-10-0902	1	0.2	0.8	10	0.9	0.94	1.23	55	6	5.09	6.8	x	11.2	11.9	12.4	13.3
ZSTNR20 10-15-0902	1	0.2	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	x	16.3	17.2	17.8	18.8
ZSTNR20 10-20-0902	1	0.2	0.8	20	0.9	0.94	1.54	65	6	2.7	4.8	x	21.3	22.4	23.2	24.7
ZSTNR20 10-25-0902	1	0.2	0.8	25	0.9	0.94	1.7	70	6	2.7	4.1	x	26.4	27.6	28.5	30.9
ZSTNR20 10-30-0902	1	0.2	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	x	31.5	32.8	33.7	37
ZSTNR20 10-35-0902	1	0.2	0.8	35	0.9	0.94	2.02	80	6	2.7	3.3	x	36.5	38	39	43.2
ZSTNR20 10-8-0403	1	0.3	0.8	8	0.4	0.94	1.04	55	6	2.7	7.4	8.8	9.3	9.7	10	10.6

► Applicable Working Material

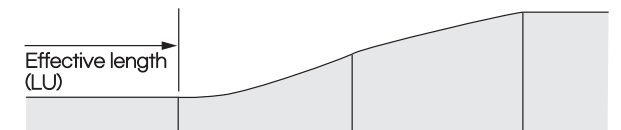
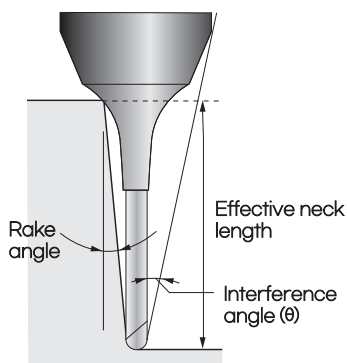
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSTNR20

2 Flutes Tapered Neck Radius End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNR20 10-15-0903	1	0.3	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	x	16.3	17.2	17.8	18.8
ZSTNR20 10-25-0903	1	0.3	0.8	25	0.9	0.94	1.7	70	6	2.7	4.2	x	26.4	27.6	28.5	30.8
ZSTNR20 10-30-0903	1	0.3	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	x	31.5	32.8	33.7	37
ZSTNR20 15-10-0402	1.5	0.2	1.35	10	0.4	1.42	1.54	55	6	7.07	6.4	11	11.5	11.9	12.3	13
ZSTNR20 15-15-0902	1.5	0.2	1.35	15	0.9	1.42	1.85	60	6	7.07	5.3	x	16.4	17.3	17.9	18.9
ZSTNR20 15-20-0902	1.5	0.2	1.35	20	0.9	1.42	2.01	65	6	3.89	4.5	x	21.5	22.5	23.2	24.9
ZSTNR20 15-25-0902	1.5	0.2	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	x	26.6	27.7	28.5	31
ZSTNR20 15-30-0902	1.5	0.2	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	x	31.6	32.9	33.8	37.1
ZSTNR20 15-10-0403	1.5	0.3	1.35	10	0.4	1.42	1.54	55	6	3.89	6.4	11	11.5	11.9	12.3	13
ZSTNR20 15-20-0903	1.5	0.3	1.35	20	0.9	1.42	2.01	65	6	3.89	4.5	x	21.5	22.5	23.2	24.8
ZSTNR20 15-25-0903	1.5	0.3	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	x	26.5	27.7	28.5	31
ZSTNR20 15-30-0903	1.5	0.3	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	x	31.6	32.9	33.8	37.1
ZSTNR20 20-30-0902	2	0.2	1.7	30	0.9	1.92	2.81	70	6	7.42	3.1	x	31.6	32.9	33.8	37.2
ZSTNR20 20-40-0902	2	0.2	1.7	40	0.9	1.92	3.12	80	6	7.42	2.5	x	41.8	43.3	44.6	-
ZSTNR20 20-50-0902	2	0.2	1.7	50	0.9	1.92	3.44	90	6	7.42	2.1	x	51.9	53.6	55.7	-
ZSTNR20 20-12-0403	2	0.3	1.7	12	0.4	1.92	2.06	55	6	7.42	5.5	13	13.6	14.1	14.5	15.6
ZSTNR20 20-20-0903	2	0.3	1.7	20	0.9	1.92	2.5	65	6	4.24	4.1	x	21.5	22.5	23.2	24.9
ZSTNR20 20-30-0903	2	0.3	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	x	31.6	32.9	33.8	37.1
ZSTNR20 20-40-0903	2	0.3	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	x	41.7	43.3	44.6	-
ZSTNR20 20-50-0903	2	0.3	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	x	51.8	53.6	55.7	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNR20

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNR20 20-8-0405	2	0.5	1.7	8	0.4	1.92	2.01	50	6	4.24	6.8	8.7	9	9.3	9.5	10.4
ZSTNR20 20-12-0405	2	0.5	1.7	12	0.4	1.92	2.06	55	6	4.24	5.6	13	13.6	14.1	14.4	15.5
ZSTNR20 20-16-0405	2	0.5	1.7	16	0.4	1.92	2.12	60	6	4.24	4.7	17	17.8	18.3	18.7	20.7
ZSTNR20 20-20-0905	2	0.5	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	x	21.5	22.5	23.2	24.8
ZSTNR20 20-25-0905	2	0.5	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	x	26.6	27.7	28.5	30.9
ZSTNR20 20-30-0905	2	0.5	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	x	31.6	32.9	33.8	37.1
ZSTNR20 20-40-0905	2	0.5	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	x	41.7	43.2	44.6	-
ZSTNR20 20-50-0905	2	0.5	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	x	51.8	53.6	55.6	-
ZSTNR20 30-40-0902	3	0.2	2.5	40	0.9	2.86	4.04	80	6	6.95	2	x	42	43.4	-	-
ZSTNR20 30-50-0902	3	0.2	2.5	50	0.9	2.86	4.35	90	6	6.95	1.6	x	52.1	53.7	-	-
ZSTNR20 30-60-0902	3	0.2	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	x	62.2	-	-	-
ZSTNR20 30-40-0903	3	0.3	2.5	40	0.9	2.86	4.04	80	6	6.95	2	x	42	43.4	-	-
ZSTNR20 30-50-0903	3	0.3	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	x	52.1	53.7	-	-
ZSTNR20 30-60-0903	3	0.3	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	x	62.2	-	-	-
ZSTNR20 30-40-0905	3	0.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	x	42	43.4	-	-
ZSTNR20 30-50-0905	3	0.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	x	52.1	53.7	-	-
ZSTNR20 30-60-0905	3	0.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	x	62.1	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

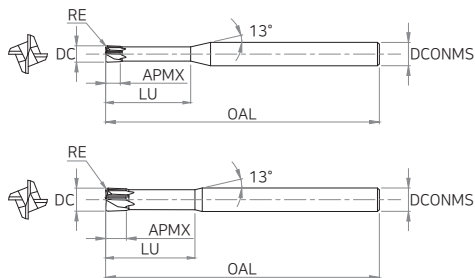
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSPM4

4 Flutes Neck Radius End Mill For High Speed Machining



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZSPM4 030-05	3	0.5	1.2	8	50	6
ZSPM4 040-05	4	0.5	1.5	10	50	6
ZSPM4 060-05	6	0.5	2.5	12	60	6
ZSPM4 060-10	6	1	2.5	12	60	6
ZSPM4 060-15	6	1.5	2.5	12	60	6
ZSPM4 060-15L	6	1.5	2.5	12	90	6
ZSPM4 080-10	8	1	3.5	16	60	8
ZSPM4 080-20	8	2	3.5	16	60	8
ZSPM4 080-20L	8	2	3.5	16	100	8
ZSPM4 100-10	10	1	4	20	70	10
ZSPM4 100-20	10	2	4	20	70	10
ZSPM4 100-20L	10	2	4	20	100	10
ZSPM4 120-20	12	2	5	25	80	12
ZSPM4 120-30	12	3	5	25	80	12
ZSPM4 120-30L	12	3	5	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

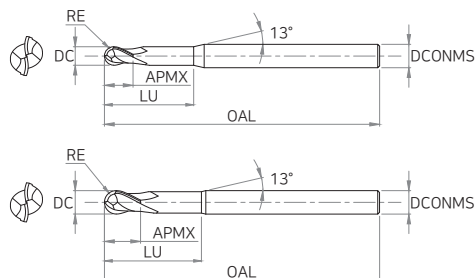
Standard

Copper
-Mate

Gra
-Mate

DB702 2 Flutes Neck Ball End Mill

Endmill



Zamus
Star

E-Star

► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5

U-Wing



CARBIDE

AITIN



R3 OR UNDER

ABOVE R3

DATA
P.616

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

EDP No	DC	RE	APMX	LU	OAL	DCON MS
DB702 001	0.1	0.05	0.15	-	40	4
DB702 002	0.2	0.1	0.3	-	40	4
DB702 003	0.3	0.15	0.5	-	40	4
DB702 004	0.4	0.2	0.6	-	40	4
DB702 005	0.5	0.25	0.7	-	40	4
DB702 006	0.6	0.3	0.9	-	40	4
DB702 007	0.7	0.35	1.1	-	40	4
DB702 008	0.8	0.4	1.2	-	40	4
DB702 009	0.9	0.45	1.4	-	40	4
DB702 010 S4	1	0.5	1.5	-	45	4
DB702 010	1	0.5	1.5	3	50	6
DB702 015 S4	1.5	0.75	2	-	45	4
DB702 015	1.5	0.75	2	4	50	6
DB702 020 S4	2	1	2.5	-	45	4
DB702 020	2	1	2.5	5	50	6
DB702 025	2.5	1.25	3	7	50	6
DB702 030S4	3	1.5	4	-	45	4

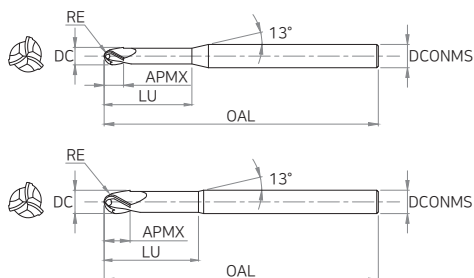
EDP No	DC	RE	APMX	LU	OAL	DCON MS
DB702 030S	3	1.5	4	10	50	6
DB702 030	3	1.5	4	10	60	6
DB702 031	3	1.5	4	10	70	6
DB702 040 S4	4	2	5	-	45	4
DB702 040 S	4	2	5	10	50	6
DB702 040	4	2	5	10	60	6
DB702 041	4	2	5	10	70	6
DB702 050	5	2.5	6	12	60	6
DB702 060	6	3	7	12	60	6
DB702 061	6	3	7	12	90	6
DB702 080	8	4	9	15	70	8
DB702 081	8	4	9	15	100	8
DB702 100	10	5	11	25	75	10
DB702 101	10	5	11	25	100	10
DB702 120	12	6	12	25	80	12
DB702 121	12	6	12	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

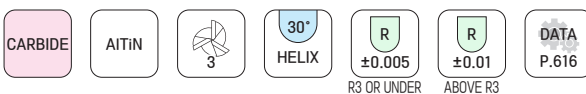
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

DB703 3 Flutes Neck Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS
DB703 025	2.5	1.25	3	7	50	6
DB703 030S	3	1.5	4	10	50	6
DB703 030	3	1.5	4	10	60	6
DB703 031	3	1.5	4	10	70	6
DB703 040S	4	2	5	10	50	6
DB703 040	4	2	5	10	60	6
DB703 041	4	2	5	10	70	6
DB703 050	5	2.5	6	12	60	6
DB703 060	6	3	7	12	60	6
DB703 061	6	3	7	12	90	6
DB703 080	8	4	9	15	70	8
DB703 081	8	4	9	15	100	8
DB703 100	10	5	11	25	75	10
DB703 101	10	5	11	25	100	10
DB703 120	12	6	12	25	80	12
DB703 121	12	6	12	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	◎		○	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

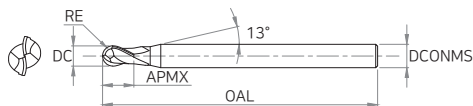
Standard

Copper
-Mate

Gra
-Mate

DB712 2 Flutes Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



CARBIDE

AITIN

2

30°
HELIX

R
±0.005
R3 OR UNDER

R
±0.01
ABOVE R3

DATA
P.616

EDP No	DC	RE	APMX	OAL	DCON MS
DB712 010S	1	0.5	1.5	40	6
DB712 010S4	1	0.5	2.5	50	4
DB712 010	1	0.5	2.5	50	6
DB712 012	1.2	0.6	3	50	6
DB712 015S	1.5	0.75	2.5	40	6
DB712 015S4	1.5	0.75	4	50	4
DB712 015	1.5	0.75	4	50	6
DB712 020S	2	1	3	40	6
DB712 020S4	2	1	5	50	4
DB712 020	2	1	5	50	6
DB712 025	2.5	1.25	7	60	6
DB712 030S	3	1.5	4.5	50	6
DB712 030S4	3	1.5	8	60	4

EDP No	DC	RE	APMX	OAL	DCON MS
DB712 030	3	1.5	8	60	6
DB712 040S	4	2	6	50	6
DB712 040	4	2	8	70	6
DB712 050S	5	2.5	7.5	50	6
DB712 050	5	2.5	10	80	6
DB712 060S	6	3	9	50	6
DB712 060	6	3	12	90	6
DB712 080S	8	4	12	50	8
DB712 081	8	4	14	100	8
DB712 100S	10	5	15	60	10
DB712 100	10	5	18	100	10
DB712 120S	12	6	18	60	12
DB712 120	12	6	22	110	12

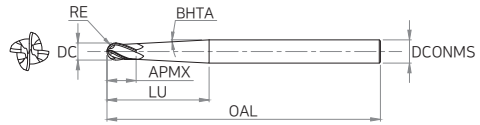
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FC500					
◎	◎		○	○						

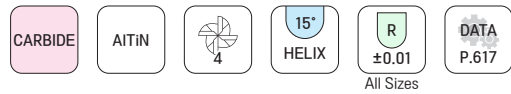
DB734

4Flutes 15° Helix Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



EDP No	DC	RE	APMX	LU	OAL	BHTA	DCONMS
DB734 020-2.5	2	1	2	25	60	2.5	4
DB734 020-3.5	2	1	2	18	60	3.5	4
DB734 025-2.5	2.5	1.25	3	20	60	2.5	4
DB734 025-3.0	2.5	1.25	3	17	60	3	4
DB734 030-2.0	3	1.5	3	46	70	2	6
DB734 030-2.5	3	1.5	3	37	70	2.5	6
DB734 040-2.0	4	2	4	33	70	2	6
DB734 040-2.5	4	2	4	27	70	2.5	6
DB734 050-2.5	5	2.5	5	16	70	2.5	6
DB734 060-1.5	6	3	6	44	100	1.5	8
DB734 060-2.5	6	3	6	29	100	2.5	8
DB734 080-1.5	8	4	8	46	100	1.5	10
DB734 080-2.5	8	4	8	31	100	2.5	10
DB734 100-1.5	10	5	10	48	110	1.5	12
DB734 100-2.5	10	5	10	33	110	2.5	12

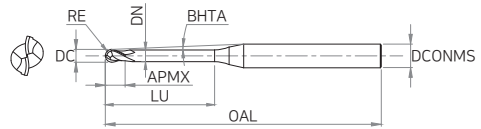
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

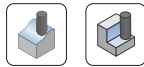
ZSLNB20

2 Flutes Long Neck Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



All Sizes

EDP No	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNB20 01-0.2	0.1	0.05	0.08	0.2	0.08	45	4	11.8	0.3	0.3	0.3	0.4	0.4
ZSLNB20 01-0.3	0.1	0.05	0.08	0.3	0.08	45	4	11.7	0.4	0.4	0.5	0.5	0.5
ZSLNB20 01-0.5	0.1	0.05	0.08	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ZSLNB20 02-0.5	0.2	0.1	0.15	0.5	0.17	50	4	11.5	1.2	1.3	1.5	1.6	2
ZSLNB20 02-1	0.2	0.1	0.15	1	0.17	50	4	10.9	1.7	1.9	2.1	2.3	2.7
ZSLNB20 02-1.5	0.2	0.1	0.15	1.5	0.17	50	4	10.4	2.3	2.5	2.8	3	3.4
ZSLNB20 02-2	0.2	0.1	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ZSLNB20 02-2.5	0.2	0.1	0.15	2.5	0.17	50	4	9.5	3.4	3.7	4	4.2	4.7
ZSLNB20 02-3.0	0.2	0.1	0.15	3	0.17	50	4	9.1	3.9	4.3	4.6	4.9	5.4
ZSLNB20 03-1	0.3	0.15	0.25	1	0.27	50	4	10.9	1.7	1.9	2.1	2.3	5.4
ZSLNB20 03-1.5	0.3	0.15	0.25	1.5	0.27	50	4	10.4	2.3	2.5	2.7	3	3.4
ZSLNB20 03-2	0.3	0.15	0.25	2	0.27	50	4	9.9	2.8	3.1	3.4	3.6	4
ZSLNB20 03-2.5	0.3	0.15	0.25	2.5	0.27	50	4	9.5	3.4	3.7	4	4.2	4.7
ZSLNB20 03-3	0.3	0.15	0.25	3	0.27	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ZSLNB20 04-1	0.4	0.2	0.3	1	0.37	50	4	11	1.7	1.9	2.1	2.3	2.7
ZSLNB20 04-1.5	0.4	0.2	0.3	1.5	0.37	50	4	10.4	2.3	2.5	2.7	2.9	3.4
ZSLNB20 04-2	0.4	0.2	0.3	2	0.37	50	4	9.9	2.8	3.1	3.4	3.6	4
ZSLNB20 04-2.5	0.4	0.2	0.3	2.5	0.37	50	4	9.5	3.4	3.7	4	4.2	4.7
ZSLNB20 04-3	0.4	0.2	0.3	3	0.37	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ZSLNB20 04-3.5	0.4	0.2	0.3	3.5	0.37	50	4	8.7	4.5	4.8	5.2	5.4	6

► Applicable Working Material

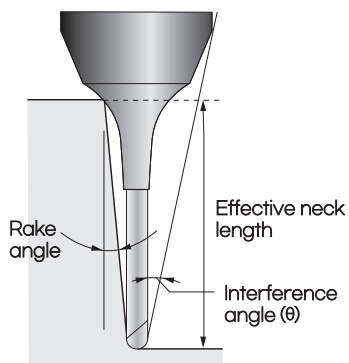
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSLNB20

2 Flutes Long Neck Ball End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNB20 04-4	0.4	0.2	0.3	4	0.37	50	4	8.3	5	5.4	5.7	6	6.6
ZSLNB20 04-4.5	0.4	0.2	0.3	4.5	0.37	50	4	8	5.6	6	6.3	6.6	7.2
ZSLNB20 05-1	0.5	0.25	0.35	1	0.47	50	4	11	1.7	1.9	2.1	2.3	2.6
ZSLNB20 05-2	0.5	0.25	0.35	2	0.47	50	4	9.9	2.8	3.1	3.3	3.6	4
ZSLNB20 05-3	0.5	0.25	0.35	3	0.47	50	4	9	3.9	4.3	4.6	4.8	5.3
ZSLNB20 05-4	0.5	0.25	0.35	4	0.47	50	4	8.3	5	5.4	5.7	6	6.6
ZSLNB20 05-5	0.5	0.25	0.35	5	0.47	50	4	7.7	6.1	6.5	6.9	7.2	7.8
ZSLNB20 05-6	0.5	0.25	0.35	6	0.47	50	4	7.1	7.2	7.6	8	8.4	9
ZSLNB20 05-8	0.5	0.25	0.35	8	0.47	50	4	6.3	9.3	9.9	10.3	10.7	11.4
ZSLNB20 06-1	0.6	0.3	0.4	1	0.57	50	4	11	1.7	1.9	2.1	2.3	2.6
ZSLNB20 06-2	0.6	0.3	0.4	2	0.57	50	4	9.9	2.8	3.1	3.3	3.6	4
ZSLNB20 06-3	0.6	0.3	0.4	3	0.57	50	4	9	3.9	4.3	4.5	4.8	5.3
ZSLNB20 06-4	0.6	0.3	0.4	4	0.57	50	4	8.3	5	5.4	5.7	6	6.6
ZSLNB20 06-5	0.6	0.3	0.4	5	0.57	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ZSLNB20 06-6	0.6	0.3	0.4	6	0.57	50	4	7.1	7.2	7.6	8	8.4	9
ZSLNB20 06-7	0.6	0.3	0.4	7	0.57	50	4	6.6	8.3	8.8	9.2	9.5	10.2
ZSLNB20 06-8	0.6	0.3	0.4	8	0.57	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ZSLNB20 06-9	0.6	0.3	0.4	9	0.57	50	4	5.8	10.4	10.9	11.4	11.8	12.5
ZSLNB20 06-10	0.6	0.3	0.4	10	0.57	50	4	5.5	11.4	12	12.5	12.9	13.7
ZSLNB20 06-12	0.6	0.3	0.4	12	0.57	50	4	5	13.6	14.2	14.7	15.2	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNB20

2 Flutes Long Neck Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
										0.5°	1°	1.5°	2°	3°
Zamus Star	ZSLNB20 08-2	0.8	0.4	0.5	2	0.77	50	4	9.9	2.8	3.1	3.3	3.5	4
	ZSLNB20 08-4	0.8	0.4	0.5	4	0.77	50	4	8.2	5	5.4	5.7	6	6.5
	ZSLNB20 08-5	0.8	0.4	0.5	5	0.77	50	4	7.5	6.1	6.5	6.9	7.2	7.8
	ZSLNB20 08-6	0.8	0.4	0.5	6	0.77	50	4	7	7.2	7.6	8	8.4	9
	ZSLNB20 08-8	0.8	0.4	0.5	8	0.77	50	4	6.1	9.3	9.8	10.3	10.7	11.3
	ZSLNB20 08-10	0.8	0.4	0.5	10	0.77	50	4	5.4	11.4	12	12.5	12.9	13.7
E-Star	ZSLNB20 10-2	1	0.5	0.8	2	0.96	50	4	9.9	2.9	3.1	3.3	3.5	4
	ZSLNB20 10-3	1	0.5	0.8	3	0.96	50	4	8.9	4	4.3	4.5	4.8	5.3
U-Wing	ZSLNB20 10-4	1	0.5	0.8	4	0.96	50	4	8.1	5	5.4	5.7	6	6.5
	ZSLNB20 10-5	1	0.5	0.8	5	0.96	50	4	7.4	6.1	6.5	6.9	7.2	7.8
	ZSLNB20 10-6	1	0.5	0.8	6	0.96	50	4	6.8	7.2	7.7	8	8.4	9
Zamus Thunder	ZSLNB20 10-7	1	0.5	0.8	7	0.96	50	4	6.3	8.3	8.8	9.2	9.5	10.2
	ZSLNB20 10-8	1	0.5	0.8	8	0.96	50	4	5.9	9.3	9.9	10.3	10.7	11.3
	ZSLNB20 10-9	1	0.5	0.8	9	0.96	50	4	5.5	10.4	11	11.4	11.8	12.5
	ZSLNB20 10-10	1	0.5	0.8	10	0.96	50	4	5.2	11.5	12	12.5	12.9	13.7
X-Star	ZSLNB20 10-12	1	0.5	0.8	12	0.96	55	4	4.6	13.6	14.2	14.7	15.2	15.9
	ZSLNB20 10-14	1	0.5	0.8	14	0.96	55	4	4.2	15.7	16.4	16.9	17.4	18.5
	ZSLNB20 10-16	1	0.5	0.8	16	0.96	55	4	3.8	17.8	18.5	19.1	19.6	21.2
	ZSLNB20 10-18	1	0.5	0.8	18	0.96	60	4	3.5	19.9	20.7	21.3	21.8	23.8
S-Wing	ZSLNB20 10-20	1	0.5	0.8	20	0.96	60	4	3.3	22	22.8	23.4	24	26.5
	ZSLNB20 12-4	1.2	0.6	1.1	4	1.15	50	4	7.9	5.1	5.4	5.7	6	6.5
A-Wing	ZSLNB20 12-6	1.2	0.6	1.1	6	1.15	50	4	6.6	7.2	7.7	8	8.4	9
	ZSLNB20 12-8	1.2	0.6	1.1	8	1.15	50	4	5.7	9.4	9.9	10.3	10.7	11.3
	ZSLNB20 12-10	1.2	0.6	1.1	10	1.15	50	4	5	11.5	12.1	12.5	12.9	13.7
	ZSLNB20 12-12	1.2	0.6	1.1	12	1.15	55	4	4.5	13.6	14.2	14.7	15.2	15.9
Standard	ZSLNB20 14-8	1.4	0.7	1.3	8	1.34	50	4	5.5	9.4	9.9	10.3	10.7	11.3
	ZSLNB20 14-12	1.4	0.7	1.3	12	1.34	55	4	4.3	13.6	14.2	14.7	15.2	15.9
	ZSLNB20 14-16	1.4	0.7	1.3	16	1.34	55	4	3.5	17.8	18.5	19.1	19.6	21.2
Copper -Mate	ZSLNB20 15-4	1.5	0.75	1.35	4	1.44	50	4	7.7	5.1	5.4	5.7	6	6.5
	ZSLNB20 15-6	1.5	0.75	1.35	6	1.44	50	4	6.4	7.3	7.7	8	8.4	9
	ZSLNB20 15-8	1.5	0.75	1.35	8	1.44	50	4	5.4	9.4	9.9	10.3	10.7	11.3
Gra -Mate	ZSLNB20 15-10	1.5	0.75	1.35	10	1.44	50	4	4.7	11.5	12.1	12.5	12.9	13.7
	ZSLNB20 15-12	1.5	0.75	1.35	12	1.44	55	4	4.2	13.6	14.2	14.7	15.2	15.9
	ZSLNB20 15-14	1.5	0.75	1.35	14	1.44	55	4	3.8	15.7	16.4	16.9	17.4	18.5

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSLNB20

2 Flutes Long Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ZSLNB20 15-16	1.5	0.75	1.35	16	1.44	55	4	3.4	17.8	18.5	19.1	19.6	21.1
ZSLNB20 15-20	1.5	0.75	1.35	20	1.44	60	4	2.9	22	22.8	23.4	24	-
ZSLNB20 16-8	1.6	0.8	1.4	8	1.54	50	4	5.3	9.4	9.9	10.3	10.7	11.3
ZSLNB20 16-10	1.6	0.8	1.4	10	1.54	50	4	4.6	11.5	12.1	12.5	12.9	13.7
ZSLNB20 16-12	1.6	0.8	1.4	12	1.54	55	4	4.1	13.6	14.2	14.7	15.2	15.9
ZSLNB20 16-16	1.6	0.8	1.4	16	1.54	55	4	3.3	17.8	18.5	19.1	19.6	21.1
ZSLNB20 16-20	1.6	0.8	1.4	20	1.54	60	4	2.8	22	22.8	23.4	24	-
ZSLNB20 18-8	1.8	0.9	1.6	8	1.73	50	4	5.1	9.4	9.9	10.3	10.7	11.3
ZSLNB20 18-12	1.8	0.9	1.6	12	1.73	55	4	3.9	13.7	14.3	14.7	15.2	15.9
ZSLNB20 18-16	1.8	0.9	1.6	16	1.73	55	4	3.1	17.9	18.6	19.1	19.6	21.1
ZSLNB20 18-20	1.8	0.9	1.6	20	1.73	60	4	2.6	22	22.8	23.4	24	-
ZSLNB20 20-3	2	1	1.7	3	1.92	50	4	8.3	4.1	4.4	4.6	4.8	5.2
ZSLNB20 20-4	2	1	3	4	1.92	50	4	7.3	5.2	5.5	5.8	6	6.5
ZSLNB20 20-6	2	1	3	6	1.92	50	4	5.8	7.3	7.7	8.1	8.4	9
ZSLNB20 20-8	2	1	3	8	1.92	50	4	4.9	9.5	9.9	10.3	10.7	11.3
ZSLNB20 20-10	2	1	3	10	1.92	50	4	4.2	11.6	12.1	12.6	12.9	13.6
ZSLNB20 20-12	2	1	3	12	1.92	55	4	3.7	13.7	14.3	14.8	15.2	15.9
ZSLNB20 20-14	2	1	3	14	1.92	55	4	3.2	15.8	16.4	16.9	17.4	18.5
ZSLNB20 20-16	2	1	3	16	1.92	55	4	2.9	17.9	18.6	19.1	19.6	-
ZSLNB20 20-18	2	1	3	18	1.92	60	4	2.7	20	20.7	21.3	21.8	-
ZSLNB20 20-20	2	1	3	20	1.92	60	4	2.4	22.1	22.8	23.4	24	-
ZSLNB20 20-22	2	1	3	22	1.92	60	4	2.3	24.1	24.9	25.6	26.3	-
ZSLNB20 20-25	2	1	3	25	1.92	65	4	2	27.3	28.1	28.8	-	-
ZSLNB20 20-30	2	1	3	30	1.92	70	4	1.7	32.4	33.4	34.2	-	-
ZSLNB20 20-35	2	1	3	35	1.92	75	4	1.5	37.6	38.6	-	-	-
ZSLNB20 20-40	2	1	3	40	1.92	80	4	1.4	42.8	43.8	-	-	-
ZSLNB20 25-10	2.5	1.25	4	10	2.4	50	4	3.4	11.6	12.1	12.6	13	13.6
ZSLNB20 25-16	2.5	1.25	4	16	2.4	55	4	2.3	17.9	18.6	19.1	19.6	-
ZSLNB20 25-20	2.5	1.25	4	20	2.4	60	4	1.9	22.1	22.8	23.5	-	-
ZSLNB20 30-8	3	1.5	4	8	2.88	55	6	6.2	9.6	10	10.4	10.7	11.3
ZSLNB20 30-10	3	1.5	4	10	2.88	55	6	5.5	11.7	12.2	12.6	13	13.6
ZSLNB20 30-13	3	1.5	4	13	2.88	60	6	4.6	14.8	15.4	15.9	16.3	17.1
ZSLNB20 30-16	3	1.5	4	16	2.88	60	6	4	18	18.6	19.1	19.6	21.1
ZSLNB20 30-18	3	1.5	4	18	2.88	60	6	3.6	20	20.7	21.3	21.8	23.7

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSLNB20

2 Flutes Long Neck Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
										0.5°	1°	1.5°	2°	3°
Zamus Star	ZSLNB20 30-20	3	1.5	4	20	2.88	65	6	3.4	22.1	22.9	23.5	24	26.4
	ZSLNB20 30-25	3	1.5	4	25	2.88	70	6	2.8	27.3	28.2	28.8	29.9	-
	ZSLNB20 30-30	3	1.5	4	30	2.88	75	6	2.5	32.5	33.4	34.3	35.9	-
	ZSLNB20 30-35	3	1.5	4	35	2.88	80	6	2.2	37.7	38.7	40	41.9	-
	ZSLNB20 40-10	4	2	5	10	3.9	55	6	4.5	11.6	12.1	12.5	12.9	13.5
E-Star	ZSLNB20 40-13	4	2	5	13	3.9	60	6	3.6	14.7	15.3	15.8	16.2	17
	ZSLNB20 40-16	4	2	5	16	3.9	60	6	3.1	17.9	18.5	19.1	19.5	20.9
	ZSLNB20 40-20	4	2	5	20	3.9	65	6	2.5	22.1	22.8	23.4	23.9	-
U-Wing	ZSLNB20 40-25	4	2	5	25	3.9	70	6	2.1	27.3	28.1	28.8	29.8	-
	ZSLNB20 40-30	4	2	5	30	3.9	75	6	1.8	32.4	33.4	34.2	-	-
	ZSLNB20 40-35	4	2	5	35	3.9	80	6	1.6	37.6	38.6	39.9	-	-
	ZSLNB20 40-40	4	2	5	40	3.9	80	6	1.4	42.8	43.8	-	-	-
Zamus Thunder	ZSLNB20 40-45	4	2	5	45	3.9	90	6	1.2	47.9	49.1	-	-	-
	ZSLNB20 40-50	4	2	5	50	3.9	100	6	1.1	53.1	54.5	-	-	-
	ZSLNB20 50-20	5	2.5	6	20	4.9	65	6	1.4	22	22.8	-	-	-
X-Star	ZSLNB20 50-25	5	2.5	6	25	4.9	70	6	1.2	27.2	28.1	-	-	-
	ZSLNB20 50-30	5	2.5	6	30	4.9	75	6	1	32.4	-	-	-	-
	ZSLNB20 50-35	5	2.5	6	35	4.9	80	6	0.8	42.8	-	-	-	-
	ZSLNB20 50-40	5	2.5	6	40	4.9	90	6	0.7	42.8	-	-	-	-

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

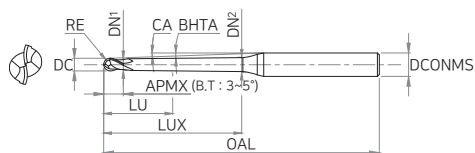
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNB20

2 Flutes Tapered Neck Ball End Mill



* R2 and below are not back draft Type

► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 2002-1-04	0.2	0.1	0.15	1	0.4	0.17	0.18	50	4	1.35	10.9	1.5	1.7	1.8	2	2.3
ZSTNB 2002-1.5-04	0.2	0.1	0.15	1.5	0.4	0.17	0.19	50	4	1.77	10.4	2	2.2	2.4	2.6	2.9
ZSTNB 2002-2-09	0.2	0.1	0.15	2	0.9	0.17	0.23	50	4	1.1	10.1	x	2.8	3.1	3.4	3.9
ZSTNB 2002-2.5-09	0.2	0.1	0.15	2.5	0.9	0.17	0.24	50	4	1.1	9.6	x	3.3	3.7	4	4.5
ZSTNB 2003-2-04	0.3	0.15	0.25	2	0.4	0.27	0.29	50	4	2.19	10	2.5	2.8	3	3.2	3.5
ZSTNB 2003-3-09	0.3	0.15	0.25	3	0.9	0.27	0.36	50	4	1.2	9.3	x	3.8	4.2	4.5	5.1
ZSTNB 2003-4-09	0.3	0.15	0.25	4	0.9	0.27	0.39	50	4	1.2	8.6	x	4.8	5.3	5.7	6.3
ZSTNB 2004-2-04	0.4	0.2	0.3	2	0.4	0.37	0.39	50	4	2.2	10	2.5	2.8	3	3.2	3.5
ZSTNB 2004-3-04	0.4	0.2	0.3	3	0.4	0.37	0.41	50	4	2.44	9.1	3.6	3.9	4.1	4.4	4.8
ZSTNB 2004-4-04	0.4	0.2	0.3	4	0.4	0.37	0.42	50	4	2.44	8.4	4.7	5.2	5.6	5.9	6.5
ZSTNB 2004-4-09	0.4	0.2	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	x	4.8	5.3	5.7	6.3
ZSTNB 2004-5-04	0.4	0.2	0.3	5	0.4	0.37	0.44	50	4	2.44	7.8	5.7	6.3	6.7	7.1	7.7
ZSTNB 2004-5-09	0.4	0.2	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	x	5.9	6.4	6.8	7.5
ZSTNB 2005-4-04	0.5	0.25	0.35	4	0.4	0.47	0.52	50	4	2.49	8.4	4.6	5	5.3	5.5	5.9
ZSTNB 2005-8-09	0.5	0.25	0.35	8	0.9	0.47	0.71	50	4	1.3	6.5	x	8.9	9.6	10.1	10.9
ZSTNB 2005-12-09	0.5	0.25	0.35	12	0.9	0.47	0.84	50	4	1.3	5.3	x	13	13.9	14.5	15.4
ZSTNB 20054-2-04	0.54	0.27	0.37	2	0.4	0.51	0.53	50	4	1.8	10	2.3	2.5	2.7	2.8	3
ZSTNB 20054-4-04	0.54	0.27	0.37	4	0.4	0.51	0.56	50	4	1.8	8.4	4.5	4.9	5.2	5.5	5.9
ZSTNB 20054-5-04	0.54	0.27	0.37	5	0.4	0.51	0.58	50	4	1.8	7.8	5.5	6	6.3	6.6	7.1
ZSTNB 20054-6-04	0.54	0.27	0.37	6	0.4	0.51	0.59	50	4	1.8	7.2	6.7	7.3	7.8	8.2	8.8

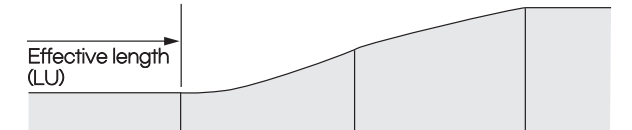
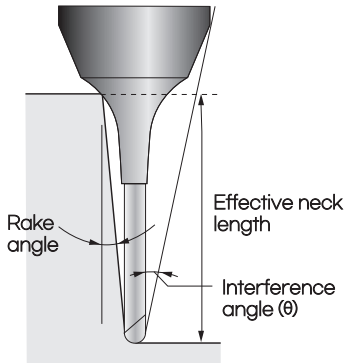
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNB20

2 Flutes Tapered Neck Ball End Mill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 20054-6.5-04	0.54	0.27	0.37	6.5	0.4	0.51	0.6	50	4	1.8	7	7.2	7.9	8.3	8.7	9.4
ZSTNB 20054-7-04	0.54	0.27	0.37	7	0.4	0.51	0.6	50	4	1.8	6.8	7.7	8.4	8.9	9.3	10
ZSTNB 2006-2-04	0.6	0.3	0.4	2	0.4	0.57	0.59	50	4	2.17	10	2.4	2.5	2.7	2.8	3
ZSTNB 2006-4-04	0.6	0.3	0.4	4	0.4	0.57	0.62	50	4	2.54	8.4	4.6	5	5.2	5.5	5.9
ZSTNB 2006-6-04	0.6	0.3	0.4	6	0.4	0.57	0.65	50	4	2.54	7.2	6.8	7.4	7.8	8.2	8.8
ZSTNB 2006-6-09	0.6	0.3	0.4	6	0.9	0.57	0.75	50	4	1.35	7.3	x	6.9	7.5	7.9	8.6
ZSTNB 2006-8-09	0.6	0.3	0.4	8	0.9	0.57	0.81	50	4	1.35	6.4	x	8.9	9.6	10.1	10.9
ZSTNB 2006-10-04	0.6	0.3	0.4	10	0.4	0.57	0.7	50	4	2.54	5.6	10.8	11.7	12.2	12.7	13.5
ZSTNB 2006-10-09	0.6	0.3	0.4	10	0.9	0.57	0.87	50	4	1.35	5.7	x	11	11.8	12.3	13.2
ZSTNB 2006-12-09	0.6	0.3	0.4	12	0.9	0.57	0.93	55	4	1.35	5.2	x	13	13.9	14.5	15.4
ZSTNB 2006-15-04	0.6	0.3	0.4	15	0.4	0.57	0.77	55	4	2.54	4.4	15.9	17	17.6	18.2	19.2
ZSTNB 2006-15-09	0.6	0.3	0.4	15	0.9	0.57	1.03	55	4	1.35	4.5	x	16.1	17.1	17.7	18.8
ZSTNB 2008-4-04	0.8	0.4	0.5	4	0.4	0.77	0.82	50	4	2.64	8.3	4.6	4.9	5.2	5.5	5.9
ZSTNB 2008-6-04	0.8	0.4	0.5	6	0.4	0.77	0.85	50	4	2.64	7.1	6.6	7.1	7.5	7.7	8.3
ZSTNB 2008-8-09	0.8	0.4	0.5	8	0.9	0.77	1.01	50	4	1.45	6.3	x	8.9	9.6	10.1	10.9
ZSTNB 2008-12-09	0.8	0.4	0.5	12	0.9	0.77	1.13	55	4	1.45	5	x	13	13.9	14.5	15.4
ZSTNB 2008-16-09	0.8	0.4	0.5	16	0.9	0.77	1.26	55	4	1.45	4.2	x	17.1	18.1	18.8	19.9
ZSTNB 2009-4-04	0.9	0.45	0.6	4	0.4	0.86	0.91	50	4	3.46	8.2	4.5	4.7	4.9	5.1	5.4
ZSTNB 2009-8-04	0.9	0.45	0.6	8	0.4	0.86	0.96	55	4	3.46	6.1	8.7	9.3	9.7	10	10.6
ZSTNB 2009-12-04	0.9	0.45	0.6	12	0.4	0.86	1.02	55	4	3.46	4.8	12.9	13.8	14.4	14.9	15.7

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	◎		○	○						

ZSTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 2009-16-04	0.9	0.45	0.6	16	0.4	0.86	1.08	60	4	3.46	4	17	18	18.7	19.3	20.5
ZSTNB 2009-18-04	0.9	0.45	0.6	18	0.4	0.86	1.1	65	4	3.46	3.7	19.1	20.1	20.9	21.5	23.1
ZSTNB 2009-20-04	0.9	0.45	0.6	20	0.4	0.86	1.13	65	4	3.46	3.4	21.1	22.2	23	23.6	25.6
ZSTNB 2009-22-04	0.9	0.45	0.6	22	0.4	0.86	1.16	65	4	3.46	3.2	23.1	24.3	25.1	25.8	28.2
ZSTNB 2009-24-04	0.9	0.45	0.6	24	0.4	0.86	1.19	70	4	3.46	3	25.2	26.4	27.2	27.9	-
ZSTNB 2010-6-04	1	0.5	0.8	6	0.4	0.94	1.01	50	6	5.09	8.3	6.8	7.2	7.5	7.8	8.3
ZSTNB 2010-8-04	1	0.5	0.8	8	0.4	0.94	1.04	55	6	5.09	7.5	8.8	9.3	9.7	10	10.6
ZSTNB 2010-10-04	1	0.5	0.8	10	0.4	0.94	1.07	55	6	5.09	6.8	11	11.7	12.3	12.7	13.5
ZSTNB 2010-10-09	1	0.5	0.8	10	0.9	0.94	1.23	55	6	2.7	6.9	x	11.2	11.9	12.4	13.2
ZSTNB 2010-15-09	1	0.5	0.8	15	0.9	0.94	1.39	60	6	2.7	5.7	x	16.2	17.1	17.8	18.8
ZSTNB 2010-20-04	1	0.5	0.8	20	0.4	0.94	1.21	65	6	5.09	4.7	21.2	22.3	23	23.6	25.7
ZSTNB 2010-20-09	1	0.5	0.8	20	0.4	0.94	1.54	65	6	2.7	4.8	x	21.3	22.4	23.1	24.6
ZSTNB 2010-25-09	1	0.5	0.8	25	0.4	0.94	1.7	70	6	2.7	4.2	x	26.4	27.6	28.4	30.8
ZSTNB 2010-30-04	1	0.5	0.8	30	0.4	0.94	1.35	75	6	5.09	3.6	31.3	32.7	33.6	34.8	38.5
ZSTNB 2010-30-09	1	0.5	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	x	31.4	32.8	33.7	36.9
ZSTNB 2010-35-09	1	0.5	0.8	35	0.9	0.94	2.02	80	6	2.7	3.3	x	36.5	38	39	43.1
ZSTNB 2010-40-09	1	0.5	0.8	40	0.9	0.94	2.17	85	6	2.7	3	x	41.6	43.2	44.4	-
ZSTNB 2010-50-09	1	0.5	0.8	50	0.9	0.94	2.49	95	6	2.7	2.5	x	51.7	53.5	55.5	-
ZSTNB 2010-60-09	1	0.5	0.8	60	0.9	0.94	2.8	105	6	2.7	2.2	x	61.8	63.8	66.6	-
ZSTNB 2010-70-09	1	0.5	0.8	70	0.9	0.94	3.11	115	6	2.7	1.9	x	71.9	74	-	-
ZSTNB 2015-8-04	1.5	0.75	1.35	8	0.4	1.42	1.51	55	6	7.07	7.3	8.9	9.4	9.7	10	10.6
ZSTNB 2015-10-04	1.5	0.75	1.35	10	0.4	1.42	1.54	55	6	7.07	6.6	10.9	11.5	11.9	12.2	12.9
ZSTNB 2015-12-04	1.5	0.75	1.35	12	0.4	1.42	1.57	55	6	7.07	6	13	13.6	14	14.4	15.4
ZSTNB 2015-15-09	1.5	0.75	1.35	15	0.9	1.42	1.85	60	6	3.89	5.4	x	16.4	17.2	17.8	18.8
ZSTNB 2015-20-09	1.5	0.75	1.35	20	0.9	1.42	2.01	65	6	3.89	4.5	x	21.4	22.4	23.2	24.7
ZSTNB 2015-30-09	1.5	0.75	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	x	31.5	32.9	33.7	37
ZSTNB 2018-4-04	1.8	0.9	1.6	4	0.4	1.73	1.76	50	6	4.38	9.2	4.6	4.8	4.9	5.1	5.4
ZSTNB 2018-8-04	1.8	0.9	1.6	8	0.4	1.73	1.82	50	6	6.61	7.1	8.6	9	9.2	9.4	10.2
ZSTNB 2018-12-04	1.8	0.9	1.6	12	0.4	1.73	1.88	55	6	6.61	5.8	12.9	13.5	14	14.4	15.4
ZSTNB 2018-16-04	1.8	0.9	1.6	16	0.4	1.73	1.93	60	6	6.61	4.9	17	17.7	18.3	18.7	20.5
ZSTNB 2018-20-04	1.8	0.9	1.6	20	0.4	1.73	1.99	65	6	6.61	4.3	21.2	22.3	23	23.6	25.6
ZSTNB 2018-24-04	1.8	0.9	1.6	24	0.4	1.73	2.04	65	6	6.61	3.8	25.3	26.5	27.3	27.9	30.8
ZSTNB 2018-28-04	1.8	0.9	1.6	28	0.4	1.73	2.1	70	6	6.61	3.4	29.4	30.6	31.5	32.4	35.9
ZSTNB 2018-32-04	1.8	0.9	1.6	32	0.4	1.73	2.15	70	6	6.61	3	33.4	34.8	35.7	37.1	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
													0.5°	1°	1.5°	2°	3°
Zamus Star	ZSTNB 2018-36-04	1.8	0.9	1.6	36	0.4	1.73	2.21	75	6	6.61	2.8	37.5	38.9	39.9	41.7	-
	ZSTNB 2018-38-04	1.8	0.9	1.6	38	0.4	1.73	2.24	80	6	6.61	2.7	39.5	41	42	44	-
	ZSTNB 2018-40-04	1.8	0.9	1.6	40	0.4	1.73	2.27	80	6	6.61	2.6	41.5	43.1	44.2	46.3	-
	ZSTNB 2020-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
	ZSTNB 2020-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
E-Star	ZSTNB 2020-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
	ZSTNB 2020-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
	ZSTNB 2020-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	x	21.4	22.4	23.2	24.6
U-Wing	ZSTNB 2020-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	x	26.5	27.7	28.5	30.8
	ZSTNB 2020-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
	ZSTNB 2020-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	x	31.6	32.9	33.7	36.9
	ZSTNB 2020-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	x	36.6	38	39	-
Zamus Thunder	ZSTNB 2020-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
	ZSTNB 2020-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	x	41.7	43.2	44.5	-
	ZSTNB 2020-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	x	51.5	53.5	55.5	-
X-Star	ZSTNB 2020-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	x	61.9	63.8	-	-
	ZSTNB 2020-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.8	x	72	74.1	-	-
	ZSTNB 2030-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
	ZSTNB 2030-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
S-Wing	ZSTNB 2030-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
	ZSTNB 2030-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
	ZSTNB 2030-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	x	31.8	33	33.8	-
A-Wing	ZSTNB 2030-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-
	ZSTNB 2030-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	x	41.9	43.3	-	-
	ZSTNB 2030-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	x	52	53.6	-	-
	ZSTNB 2030-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	x	62.1	-	-	-
Standard	ZSTNB 2030-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	x	72.1	-	-	-
	ZSTNB 2040-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
	ZSTNB 2040-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.51	22	31.6	32.5	33.2	34.16
Copper -Mate	ZSTNB 2040-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
	ZSTNB 2040-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
	ZSTNB 2040-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
Gra -Mate	ZSTNB 2050-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
	ZSTNB 2050-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 2050-60-10	5	2.5	10	60	1	4.86	6.61	110	8	14.01	1.5	25.5	62.1	-	-	-
ZSTNB 2060-30-10	6	3	12	30	1	5.86	6.49	80	8	16.01	1.9	29	31.8	32.6	-	-
ZSTNB 2060-40-10	6	3	12	40	1	5.86	6.84	90	8	16.01	1.5	29	41.8	-	-	-
ZSTNB 2060-50-10	6	3	12	50	1	5.86	7.19	100	8	16.01	1.2	29	51.8	-	-	-
ZSTNB 2060-60-10	6	3	12	60	1	5.86	7.54	110	10	16.01	1.9	29	62.2	63.9	-	-
ZSTNB 2060-70-10	6	3	12	70	1	5.86	7.89	120	10	16.01	1.7	29	72.2	74.1	-	-
ZSTNB 2060-80-10	6	3	12	80	1	5.86	8.23	130	10	16.01	1.5	29	82.2	-	-	-
ZSTNB 2080-50-10	8	4	14	50	1	7.86	9.12	110	10	18.01	1.2	32	51.9	-	-	-
ZSTNB 2080-60-10	8	4	14	60	1	7.86	9.47	120	10	18.01	1	32	-	-	-	-
ZSTNB 2080-70-10	8	4	14	70	1	7.86	9.82	130	10	18.01	0.9	32	-	-	-	-
ZSTNB 2080-80-10	8	4	14	80	1	7.86	10.16	140	12	18.01	1.5	32	82.3	-	-	-
ZSTNB 2100-60-10	10	5	18	60	1	9.86	11.33	130	12	22.01	1.1	39	62.1	-	-	-
ZSTNB 2100-75-10	10	5	18	75	1	9.86	11.85	140	12	22.01	0.9	39	-	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

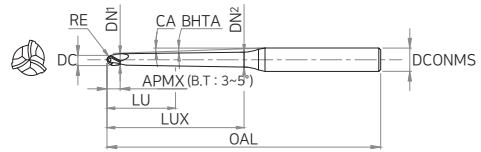
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	◎		○	○						

ZSTNB30

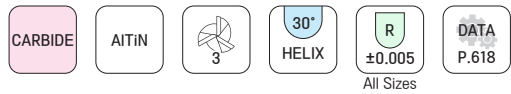
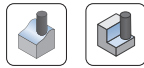
3 Flutes Tapered Neck Ball End Mill



* R2 and below are not back draft Type

► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCONMS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 3020-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
ZSTNB 3020-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
ZSTNB 3020-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
ZSTNB 3020-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
ZSTNB 3020-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	x	21.4	22.4	23.2	24.6
ZSTNB 3020-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	x	26.5	27.7	28.5	30.8
ZSTNB 3020-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
ZSTNB 3020-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	x	31.6	32.9	33.7	36.9
ZSTNB 3020-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	x	36.6	38	39	-
ZSTNB 3020-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
ZSTNB 3020-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	x	41.7	43.2	44.5	-
ZSTNB 3020-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	x	51.8	53.5	55.5	-
ZSTNB 3020-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	x	61.9	63.8	-	-
ZSTNB 3020-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.6	x	72	74.1	-	-
ZSTNB 3030-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
ZSTNB 3030-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
ZSTNB 3030-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
ZSTNB 3030-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
ZSTNB 3030-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	x	31.8	33	33.8	-
ZSTNB 3030-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-

► Applicable Working Material

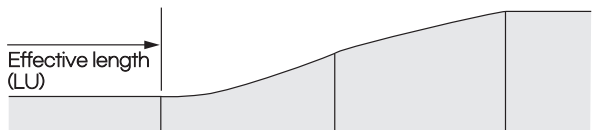
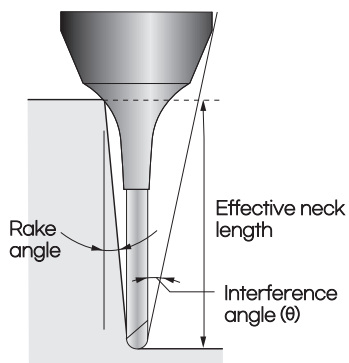
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
◎	◎		○	○						

ZSTNB30

3 Flutes Tapered Neck Ball End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ZSTNB 3030-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	x	41.9	43.3	-	-
ZSTNB 3030-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	x	52	53.6	-	-
ZSTNB 3030-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	x	62.1	-	-	-
ZSTNB 3030-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	x	72.1	-	-	-
ZSTNB 3040-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
ZSTNB 3040-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.6	22	31.6	32.5	33.2	34.1
ZSTNB 3040-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
ZSTNB 3040-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
ZSTNB 3040-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
ZSTNB 3050-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
ZSTNB 3050-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-
ZSTNB 3050-60-10	5	2.5	10	60	1	4.86	6.61	110	8	12.52	1.5	25.5	62.1	-	-	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	◎		○	○						

E-Star End Mill

High Hardness HRc 50~63

Characteristics

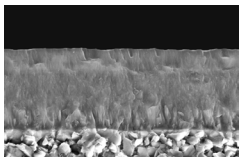
- Suitable for High Hardness HRc 50 ~ 63
- Excellent Coating in high temperature hardness and heat resistance
- High precision Tolerance for precision machining

Features

- HRc50~63 Carbide endmill for high hardness steel
- Appropriate for precision machining by applying high precision tolerance on Cutting Diameter and radius

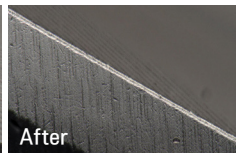
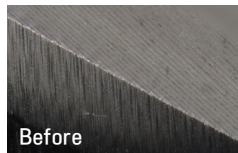
Adopt a high hardness coating

- Improved wear resistance
- Improved heat resistance



Treatment of Cutting Edge

- Improved chipping resistance
- Improved wear resistance, induce to stable work

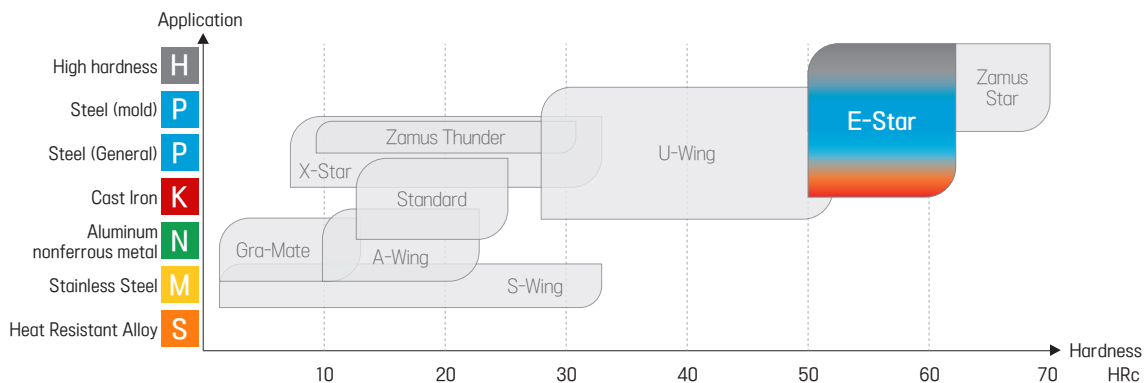


Adopt a high hardness raw-material

- Expansion of versatility by special toughness



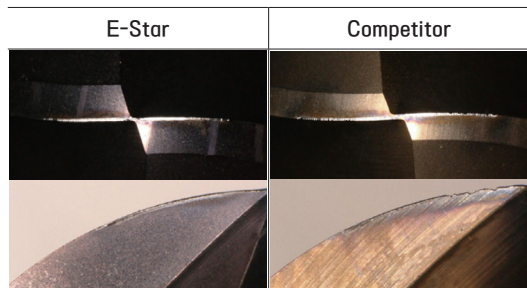
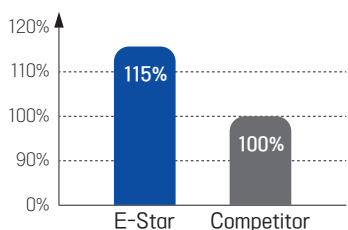
Applications



Case Study

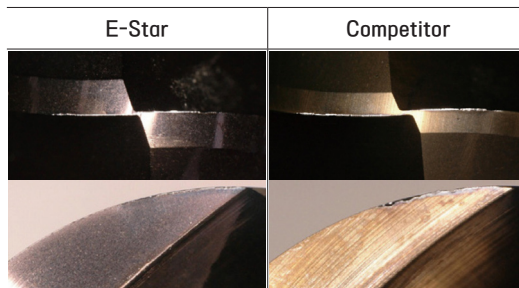
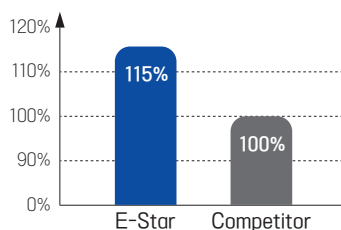
► 2F D12.0 Ball End Mill

STD61(HRc50~55)



· Cutting Condition : rpm : 3,450 / vc : 130 / vf : 828 / fz : 0.06
/ ap : 12 / ae : 0.4 / o claont : AIR

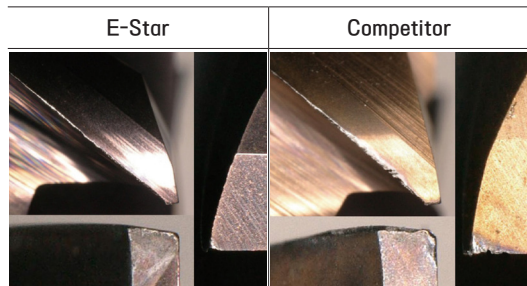
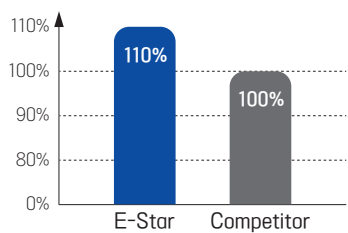
STD11(HRc60~63)



· Cutting Condition : rpm : 3,981 / vc : 150 / vf : 955 / fz : 0.12
/ ap : 0.4 / ae : 0.6 / o claont : AIR

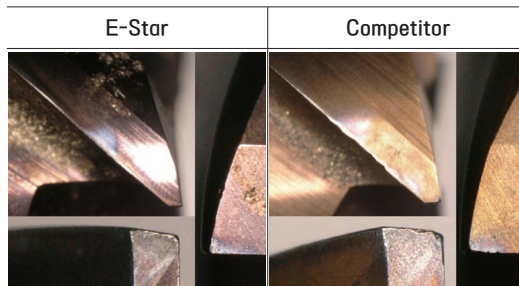
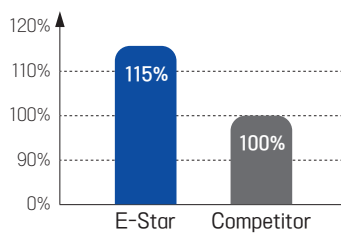
► 4F D12.0 Square End Mill

STD61(HRc50~55)



· Cutting Condition : rpm : 3,450 / vc : 130 / vf : 828 / fz : 0.06
/ ap : 12 / ae : 0.4 / o claont : AIR

STD11(HRc60~63)

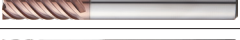
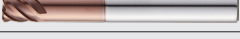
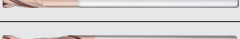
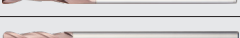
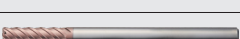
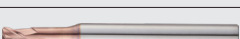
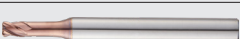


· Cutting Condition : rpm : 1,858 / vc : 70 / vf : 297 / fz : 0.04
/ ap : 12 / ae : 0.4 / o claont : AIR

E-Star Endmill

High Hardness HRc 50~63

Contents

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	4F	ESR734		4 Flutes Long Shank Radius End Mill	1	12	127
	6F	ESR736		6 Flutes Radius End Mill	6	12	129
	2F	ESRR712		2 Flutes Rib Radius End Mill	0.2	16	130
	4F	ESRR714		4 Flutes Rib Radius End Mill	0.5	20	137
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Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Radius	2F	ESTNR20		2 Flutes Tapered Neck Radius End Mill	0.2	3	151
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	3F	ESB703		3 Flutes Neck Ball End Mill	2	12	156
	2F	ESB712		2 Flutes Ball End Mill	1	12	157
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E-Star Endmill

High Hardness HRC 50~63

EDP No. System

*If expressed as an integer, the decimal point is omitted.

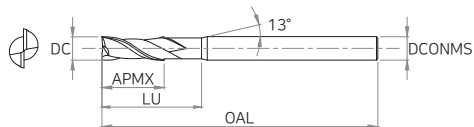
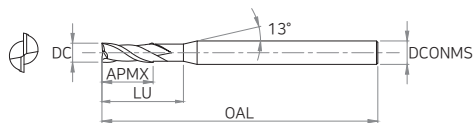
ES	R	7	0	4	100	15	32	10
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① Section	② Appearance	③ Grade	④ Length, Shank Type	⑤ Flutes	⑥ Cutting Dia	⑦ Corner R	⑧ Effective length	⑨ Shank Dia
ES : E-Star	E : Square	7 : Grade	0 : Neck	2 : 2Flutes	010 : Ø1.0	05 : R0.5	10 : 10mm	06 : Ø6.0
	R : Radius		1 : Straight, Neck	3 : 3Flutes	060 : Ø6.0	15 : R1.5	12 : 12mm	10 : Ø10.0
	B : Ball		2 : Long Shank Neck	4 : 4Flutes	065 : Ø6.5	20 : R2.0	32 : 32mm	12 : Ø12.0
	XE : Square (Unequal)		3 : Long Shank	6 : 6Flutes	100 : Ø10.0			
	XR : Radius (Unequal)		4 : High Helix					
	PM : Power Mill							
	RE : Rib Square							
	RR : Rib Radius							
	RB : Rib Ball							
	LNB : Long Neck Ball							
	TNB : Taper Neck Ball							
	LNS : Long Neck Square							
	LNR : Long Neck Radius							

EX) 4 Flute / Cutting Dia Ø2 / Corner R 0.3 / Neck Length 6mm / Shank Dia 10 / 70Grade / Corner Radius Neck Type E-Star End Mill

ESE702

2 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCON MS
ESE702 001	0.1	0.2	-	40	4
ESE702 002	0.2	0.4	-	40	4
ESE702 003	0.3	0.5	-	40	4
ESE702 004	0.4	0.7	-	40	4
ESE702 005	0.5	1	-	40	4
ESE702 006	0.6	1.2	-	40	4
ESE702 007	0.7	1.4	-	40	4
ESE702 008	0.8	1.6	-	40	4
ESE702 009	0.9	2	-	40	4
ESE702 010	1	1.5	-	40	6
ESE702 010S4	1	1.5	-	40	4
ESE702 015	1.5	2.2	-	40	6
ESE702 020	2	3	6	40	6

EDP No	DC	APMX	LU	OAL	DCON MS
ESE702 020S4	2	3	6	40	4
ESE702 025	2.5	4	6	40	6
ESE702 030	3	4	7	45	6
ESE702 035	3.5	6	9	45	6
ESE702 040	4	6	9	45	6
ESE702 045	4.5	6	10	45	6
ESE702 050	5	6	11	50	6
ESE702 060	6	7	14	50	6
ESE702 080	8	9	18	60	8
ESE702 100	10	12	25	75	10
ESE702 120	12	15	30	75	12
ESE702 160	16	18	38	90	16
ESE702 200	20	24	45	100	20

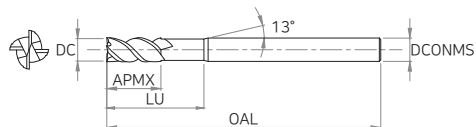
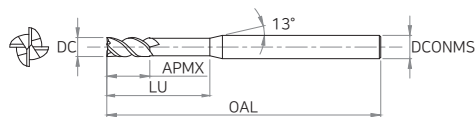
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESE704 4 Flutes Neck Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	

Zamus
Star

E-Star

U-Wing



Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

EDP No	DC	APMX	LU	OAL	DCONMS
ESE704 010	1	1.5	-	40	6
ESE704 010S4	1	1.5	-	40	4
ESE704 015	1.5	2.2	-	40	6
ESE704 015S4	1.5	2.2	-	40	4
ESE704 020	2	3	6	40	6
ESE704 020S4	2	3	6	40	4
ESE704 025	2.5	4	6	40	6
ESE704 025S4	2.5	4	6	40	4
ESE704 030	3	4	7	45	6
ESE704 030S4	3	4	7	45	4
ESE704 035	3.5	5	9	45	6
ESE704 040	4	5	9	45	6
ESE704 040S4	4	5	9	45	4
ESE704 045	4.5	6	10	45	6
ESE704 050	5	6	11	50	6
ESE704 060	6	7	14	50	6
ESE704 080	8	9	18	60	8
ESE704 100	10	12	25	75	10
ESE704 120	12	15	30	75	12
ESE704 160	16	18	38	90	16
ESE704 200	20	24	45	100	20

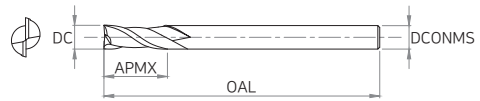
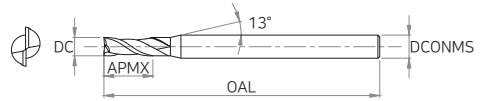
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
◎	○		○	◎						

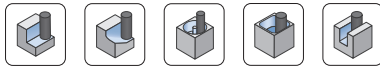
ESE712

2 Flutes Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø6.5 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCON MS	EDP No	DC	APMX	OAL	DCON MS
ESE712 010	1	3	40	6	ESE712 030-12	3	12	50	6
ESE712 010-02	1	2	40	6	ESE712 035	3.5	10	45	6
ESE712 010-02S4	1	2	40	4	ESE712 040	4	10	45	6
ESE712 010-04	1	4	40	6	ESE712 040S4	4	10	45	4
ESE712 012	1.2	3	40	6	ESE712 040-12	4	12	50	6
ESE712 015	1.5	4	40	6	ESE712 040-16	4	16	60	6
ESE712 015S4	1.5	4	40	4	ESE712 045	4.5	11	45	6
ESE712 015-06	1.5	6	40	6	ESE712 050	5	13	50	6
ESE712 015-08	1.5	8	40	6	ESE712 055	5.5	13	50	6
ESE712 020	2	5	40	6	ESE712 060	6	13	50	6
ESE712 020S4	2	5	40	4	ESE712 060-15	6	15	60	6
ESE712 020-08	2	8	40	6	ESE712 065	6.5	16	60	8
ESE712 020-10	2	10	50	6	ESE712 070	7	18	60	8
ESE712 025	2.5	6	40	6	ESE712 080	8	19	60	8
ESE712 025S4	2.5	6	40	4	ESE712 100	10	22	70	10
ESE712 030	3	8	45	6	ESE712 100-25	10	25	70	10
ESE712 030S4	3	8	45	4	ESE712 120	12	26	75	12
ESE712 030-10	3	10	50	6	ESE712 120-30	12	30	75	12

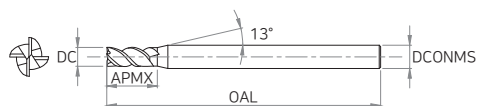
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

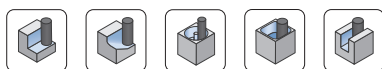
ESE714 4 Flutes High Helix Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCON MS	EDP No	DC	APMX	OAL	DCON MS
ESE714 010	1	2.5	40	6	ESE714 040S4	4	10	45	4
ESE714 010S4	1	2.5	40	4	ESE714 050	5	13	50	6
ESE714 012	1.2	3	40	6	ESE714 060	6	13	50	6
ESE714 015	1.5	4	40	6	ESE714 060-15	6	15	60	6
ESE714 015S4	1.5	4	40	4	ESE714 060-15L	6	15	90	6
ESE714 020	2	5	40	6	ESE714 080	8	19	60	8
ESE714 020S4	2	5	40	4	ESE714 080L	8	19	100	8
ESE714 025	2.5	6	40	6	ESE714 100	10	22	70	10
ESE714 025S4	2.5	6	40	4	ESE714 100-25	10	25	70	10
ESE714 030	3	8	45	6	ESE714 100-25L	10	25	100	10
ESE714 030S4	3	8	45	4	ESE714 120	12	26	75	12
ESE714 035	3.5	9	45	6	ESE714 120-30	12	30	80	12
ESE714 040	4	10	45	6	ESE714 120-30L	12	30	100	12

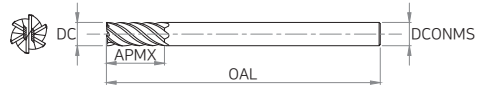
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

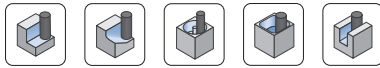
ESE716

6 Flutes High Helix Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCONMS
ESE716 060	6	13	50	6
ESE716 080	8	18	60	8
ESE716 100	10	22	70	10
ESE716 120	12	26	75	12
ESE716 160	16	35	90	16
ESE716 200	20	44	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

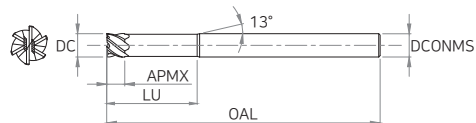
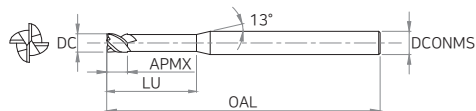
Standard

Copper
-Mate

Gra
-Mate

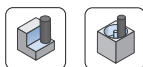
ESE724(6)

4&6 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCONMS	NOF
ESE724 010	1	1.5	5	45	6	4
ESE724 015	1.5	2.2	6	45	6	4
ESE724 020	2	3	8	45	6	4
ESE724 030	3	4	9	50	6	4
ESE724 040	4	5	12	50	6	4
ESE724 040S4L	4	5	12	75	4	4
ESE724 050	5	6	15	50	6	4
ESE726 060	6	7	20	60	6	6
ESE726 080	8	9	25	70	8	6
ESE726 100	10	12	32	75	10	6
ESE726 120	12	15	38	80	12	6

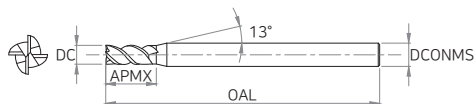
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
◎	○		○	◎						

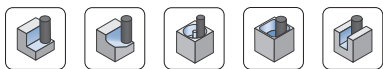
ESE744

4 Flutes High Helix Square End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCON MS
ESE744 010S3	1	2.5	40	3
ESE744 010S4	1	2.5	40	4
ESE744 010	1	2.5	40	6
ESE744 012S3	1.2	3	40	3
ESE744 012S4	1.2	3	40	4
ESE744 015S3	1.5	4	40	3
ESE744 015S4	1.5	4	40	4
ESE744 015	1.5	4	40	6
ESE744 020S3	2	6	40	3
ESE744 020S4	2	6	40	4
ESE744 020	2	6	40	6
ESE744 025S3	2.5	8	45	3
ESE744 025S4	2.5	8	45	4
ESE744 025	2.5	8	45	6

EDP No	DC	APMX	OAL	DCON MS
ESE744 030S3	3	8	50	3
ESE744 030S4	3	8	45	4
ESE744 030	3	8	45	6
ESE744 035	3.5	10	45	6
ESE744 040S4	4	11	45	4
ESE744 040	4	11	45	6
ESE744 045	4.5	11	45	6
ESE744 050	5	13	50	6
ESE744 055	5.5	13	50	6
ESE744 060	6	13	50	6
ESE744 080	8	19	60	8
ESE744 100	10	22	70	10
ESE744 120	12	26	75	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

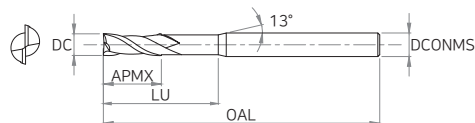
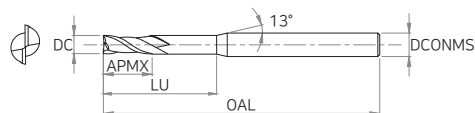
Standard

Copper
-Mate

Gra
-Mate

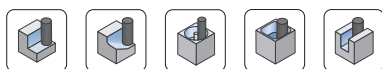
ESRE712 2 Flutes Rib Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE712 001003	0.1	0.15	0.3	40	4	ESRE712 00405	0.4	0.6	5	40	4
ESRE712 001005	0.1	0.15	0.5	40	4	ESRE712 00406	0.4	0.6	6	40	4
ESRE712 00101	0.1	0.15	1	40	4	ESRE712 00408	0.4	0.6	8	40	4
ESRE712 002005	0.2	0.3	0.5	40	4	ESRE712 00410	0.4	0.6	10	40	4
ESRE712 002015	0.2	0.3	1.5	40	4	ESRE712 005015	0.5	0.7	1.5	45	4
ESRE712 00201	0.2	0.3	1	40	4	ESRE712 00501	0.5	0.7	1	45	4
ESRE712 00202	0.2	0.3	2	40	4	ESRE712 005025	0.5	0.7	2.5	45	4
ESRE712 003015	0.3	0.5	1.5	40	4	ESRE712 00502	0.5	0.7	2	45	4
ESRE712 00301	0.3	0.5	1	40	4	ESRE712 00503	0.5	0.7	3	45	4
ESRE712 003025	0.3	0.5	2.5	40	4	ESRE712 00504	0.5	0.7	4	45	4
ESRE712 00302	0.3	0.5	2	40	4	ESRE712 00505	0.5	0.7	5	45	4
ESRE712 00303	0.3	0.5	3	40	4	ESRE712 00506	0.5	0.7	6	45	4
ESRE712 00304	0.3	0.5	4	40	4	ESRE712 00508	0.5	0.7	8	45	4
ESRE712 00305	0.3	0.5	5	40	4	ESRE712 00510	0.5	0.7	10	45	4
ESRE712 004015	0.4	0.6	1.5	40	4	ESRE712 00512	0.5	0.7	12	45	4
ESRE712 00401	0.4	0.6	1	40	4	ESRE712 00514	0.5	0.7	14	45	4
ESRE712 004025	0.4	0.6	2.5	40	4	ESRE712 00516	0.5	0.7	16	45	4
ESRE712 00402	0.4	0.6	2	40	4	ESRE712 00602	0.6	0.9	2	45	4
ESRE712 00403	0.4	0.6	3	40	4	ESRE712 00603	0.6	0.9	3	45	4
ESRE712 00404	0.4	0.6	4	40	4	ESRE712 00604	0.6	0.9	4	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRE712

2 Flutes Rib Square End Mill

Endmill

EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE712 00605	0.6	0.9	5	45	4	ESRE712 01010	1	1.5	10	50	4
ESRE712 00606	0.6	0.9	6	45	4	ESRE712 01012	1	1.5	12	50	4
ESRE712 00608	0.6	0.9	8	45	4	ESRE712 01014	1	1.5	14	50	4
ESRE712 00610	0.6	0.9	10	45	4	ESRE712 01016	1	1.5	16	50	4
ESRE712 00612	0.6	0.9	12	45	4	ESRE712 01018	1	1.5	18	50	4
ESRE712 00614	0.6	0.9	14	45	4	ESRE712 01020	1	1.5	20	50	4
ESRE712 00616	0.6	0.9	16	45	4	ESRE712 01022	1	1.5	22	60	4
ESRE712 00702	0.7	1.2	2	45	4	ESRE712 01026	1	1.5	26	60	4
ESRE712 00704	0.7	1.2	4	45	4	ESRE712 01030	1	1.5	30	70	4
ESRE712 00706	0.7	1.2	6	45	4	ESRE712 01040	1	1.5	40	80	4
ESRE712 00708	0.7	1.2	8	45	4	ESRE712 01050	1	1.5	50	100	4
ESRE712 00710	0.7	1.2	10	45	4	ESRE712 01204	1.2	1.8	4	50	4
ESRE712 00712	0.7	1.2	12	45	4	ESRE712 01206	1.2	1.8	6	50	4
ESRE712 00802	0.8	1.2	2	45	4	ESRE712 01208	1.2	1.8	8	50	4
ESRE712 00803	0.8	1.2	3	45	4	ESRE712 01210	1.2	1.8	10	50	4
ESRE712 00804	0.8	1.2	4	45	4	ESRE712 01212	1.2	1.8	12	50	4
ESRE712 00805	0.8	1.2	5	45	4	ESRE712 01214	1.2	1.8	14	50	4
ESRE712 00806	0.8	1.2	6	45	4	ESRE712 01216	1.2	1.8	16	50	4
ESRE712 00808	0.8	1.2	8	45	4	ESRE712 01220	1.2	1.8	20	50	4
ESRE712 00810	0.8	1.2	10	45	4	ESRE712 01226	1.2	1.8	26	60	4
ESRE712 00812	0.8	1.2	12	45	4	ESRE712 01230	1.2	1.8	30	70	4
ESRE712 00814	0.8	1.2	14	45	4	ESRE712 01406	1.4	2.1	6	50	4
ESRE712 00816	0.8	1.2	16	45	4	ESRE712 01408	1.4	2.1	8	50	4
ESRE712 00820	0.8	1.2	20	50	4	ESRE712 01410	1.4	2.1	10	50	4
ESRE712 00906	0.9	1.3	6	45	4	ESRE712 01414	1.4	2.1	14	50	4
ESRE712 00908	0.9	1.3	8	45	4	ESRE712 01416	1.4	2.1	16	50	4
ESRE712 00910	0.9	1.3	10	45	4	ESRE712 01420	1.4	2.1	20	50	4
ESRE712 01002	1	1.5	2	50	4	ESRE712 01504	1.5	2.3	4	50	4
ESRE712 01003	1	1.5	3	50	4	ESRE712 01505	1.5	2.3	5	50	4
ESRE712 01004	1	1.5	4	50	4	ESRE712 01506	1.5	2.3	6	50	4
ESRE712 01005	1	1.5	5	50	4	ESRE712 01507	1.5	2.3	7	50	4
ESRE712 01006	1	1.5	6	50	4	ESRE712 01508	1.5	2.3	8	50	4
ESRE712 01007	1	1.5	7	50	4	ESRE712 01510	1.5	2.3	10	50	4
ESRE712 01008	1	1.5	8	50	4	ESRE712 01512	1.5	2.3	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N				M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy	
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500						
◎	○		○	◎							

ESRE712

2 Flutes Rib Square End Mill

Endmill

	EDP No	DC	APMX	LU	OAL	DCON MS		EDP No	DC	APMX	LU	OAL	DCON MS
Zamus Star	ESRE712 01514	1.5	2.3	14	50	4		ESRE712 02510	2.5	4	10	50	4
	ESRE712 01516	1.5	2.3	16	50	4		ESRE712 02512	2.5	4	12	50	4
	ESRE712 01518	1.5	2.3	18	50	4		ESRE712 02514	2.5	4	14	50	4
	ESRE712 01520	1.5	2.3	20	50	4		ESRE712 02516	2.5	4	16	50	4
	ESRE712 01522	1.5	2.3	22	60	4		ESRE712 02518	2.5	4	18	50	4
E-Star	ESRE712 01526	1.5	2.3	26	60	4		ESRE712 02520	2.5	4	20	50	4
	ESRE712 01530	1.5	2.3	30	70	4		ESRE712 02522	2.5	4	22	60	4
	ESRE712 01608	1.6	2.3	8	50	4		ESRE712 02526	2.5	4	26	60	4
	ESRE712 01610	1.6	2.3	10	50	4		ESRE712 02530	2.5	4	30	70	4
	ESRE712 01612	1.6	2.3	12	50	4		ESRE712 02535	2.5	4	35	70	4
U-Wing	ESRE712 01616	1.6	2.3	16	50	4		ESRE712 02540	2.5	4	40	80	4
	ESRE712 01620	1.6	2.3	20	50	4		ESRE712 02545	2.5	4	45	90	4
	ESRE712 01808	1.8	2.7	8	50	4		ESRE712 02550	2.5	4	50	100	4
	ESRE712 01810	1.8	2.7	10	50	4		ESRE712 03006	3	4.5	6	50	6
	ESRE712 01812	1.8	2.7	12	50	4		ESRE712 03008	3	4.5	8	50	6
Zamus Thunder	ESRE712 01816	1.8	2.7	16	50	4		ESRE712 03010	3	4.5	10	50	6
	ESRE712 01820	1.8	2.7	20	50	4		ESRE712 03012	3	4.5	12	50	6
	ESRE712 02006	2	3	6	50	4		ESRE712 03014	3	4.5	14	60	6
	ESRE712 02008	2	3	8	50	4		ESRE712 03016	3	4.5	16	60	6
	ESRE712 02010	2	3	10	50	4		ESRE712 03018	3	4.5	18	60	6
S-Wing	ESRE712 02012	2	3	12	50	4		ESRE712 03020	3	4.5	20	60	6
	ESRE712 02014	2	3	14	50	4		ESRE712 03022	3	4.5	22	65	6
	ESRE712 02016	2	3	16	50	4		ESRE712 03026	3	4.5	26	65	6
	ESRE712 02018	2	3	18	50	4		ESRE712 03030	3	4.5	30	70	6
	ESRE712 02020	2	3	20	50	4		ESRE712 03035	3	4.5	35	70	6
A-Wing	ESRE712 02022	2	3	22	60	4		ESRE712 03040	3	4.5	40	80	6
	ESRE712 02026	2	3	26	60	4		ESRE712 03045	3	4.5	45	90	6
	ESRE712 02030	2	3	30	70	4		ESRE712 03050	3	4.5	50	100	6
	ESRE712 02035	2	3	35	70	4		ESRE712 03060	3	4.5	60	100	6
	ESRE712 02040	2	3	40	80	4		ESRE712 04008	4	6	8	50	6
Standard	ESRE712 02045	2	3	45	90	4		ESRE712 04010	4	6	10	50	6
	ESRE712 02050	2	3	50	100	4		ESRE712 04012	4	6	12	50	6
	ESRE712 02060	2	3	60	110	4		ESRE712 04014	4	6	14	60	6
	ESRE712 02508	2.5	4	8	50	4		ESRE712 04016	4	6	16	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRE712

2 Flutes Rib Square End Mill

Endmill

EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE712 04018	4	6	18	60	6	ESRE712 05050	5	8	50	90	6
ESRE712 04020	4	6	20	60	6	ESRE712 05060	5	8	60	100	6
ESRE712 04022	4	6	22	65	6	ESRE712 06015	6	9	15	60	6
ESRE712 04026	4	6	26	65	6	ESRE712 06020	6	9	20	60	6
ESRE712 04030	4	6	30	70	6	ESRE712 06030	6	9	30	70	6
ESRE712 04035	4	6	35	70	6	ESRE712 06032	6	9	32	90	6
ESRE712 04040	4	6	40	80	6	ESRE712 08025	8	12	25	70	8
ESRE712 04045	4	6	45	90	6	ESRE712 08030	8	12	30	80	8
ESRE712 04050	4	6	50	100	6	ESRE712 08042	8	12	42	100	8
ESRE712 04060	4	6	60	100	6	ESRE712 10030	10	15	30	75	10
ESRE712 05016	5	8	16	60	6	ESRE712 10035	10	15	35	80	10
ESRE712 05020	5	8	20	60	6	ESRE712 10045	10	15	45	100	10
ESRE712 05026	5	8	26	65	6	ESRE712 12035	12	20	35	80	12
ESRE712 05030	5	8	30	70	6	ESRE712 12040	12	20	40	90	12
ESRE712 05035	5	8	35	75	6	ESRE712 12050	12	20	50	110	12
ESRE712 05040	5	8	40	80	6						

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

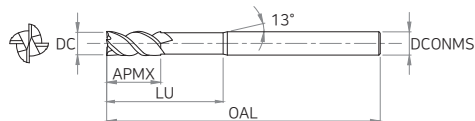
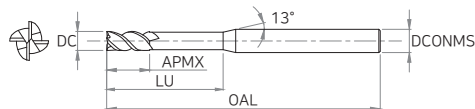
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

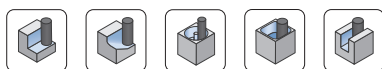
ESRE714 4 Flutes Rib Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE714 00501	0.5	0.5	1	40	4	ESRE714 00708	0.7	0.7	8	45	4
ESRE714 00502	0.5	0.5	2	40	4	ESRE714 00710	0.7	0.7	10	50	4
ESRE714 00503	0.5	0.5	3	45	4	ESRE714 00801	0.8	0.8	1	40	4
ESRE714 00504	0.5	0.5	4	45	4	ESRE714 00802	0.8	0.8	2	40	4
ESRE714 00505	0.5	0.5	5	45	4	ESRE714 00803	0.8	0.8	3	40	4
ESRE714 00506	0.5	0.5	6	45	4	ESRE714 00804	0.8	0.8	4	40	4
ESRE714 00508	0.5	0.5	8	45	4	ESRE714 00805	0.8	0.8	5	40	4
ESRE714 00510	0.5	0.5	10	50	4	ESRE714 00806	0.8	0.8	6	40	4
ESRE714 00601	0.6	0.6	1	45	4	ESRE714 00808	0.8	0.8	8	40	4
ESRE714 00602	0.6	0.6	2	45	4	ESRE714 00810	0.8	0.8	10	50	4
ESRE714 00603	0.6	0.6	3	45	4	ESRE714 00812	0.8	0.8	12	50	4
ESRE714 00604	0.6	0.6	4	45	4	ESRE714 00816	0.8	0.8	16	50	4
ESRE714 00605	0.6	0.6	5	45	4	ESRE714 01002	1	1	2	45	4
ESRE714 00606	0.6	0.6	6	45	4	ESRE714 01003	1	1	3	45	4
ESRE714 00608	0.6	0.6	8	45	4	ESRE714 01004	1	1	4	45	4
ESRE714 00610	0.6	0.6	10	50	4	ESRE714 01006	1	1	6	45	4
ESRE714 00612	0.6	0.6	12	50	4	ESRE714 01008	1	1	8	45	4
ESRE714 00702	0.7	0.7	2	45	4	ESRE714 01010	1	1	10	50	4
ESRE714 00704	0.7	0.7	4	45	4	ESRE714 01012	1	1	12	50	4
ESRE714 00706	0.7	0.7	6	45	4	ESRE714 01014	1	1	14	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRE714 4 Flutes Rib Square End Mill

Endmill

EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE714 01016	1	1	16	50	4	ESRE714 01620	1.6	1.6	20	60	4
ESRE714 01018	1	1	18	60	4	ESRE714 01625	1.6	1.6	25	70	4
ESRE714 01020	1	1	20	60	4	ESRE714 01806	1.8	1.8	6	45	4
ESRE714 01204	1.2	1.2	4	45	4	ESRE714 01808	1.8	1.8	8	45	4
ESRE714 01206	1.2	1.2	6	45	4	ESRE714 01810	1.8	1.8	10	50	4
ESRE714 01208	1.2	1.2	8	45	4	ESRE714 01812	1.8	1.8	12	50	4
ESRE714 01210	1.2	1.2	10	50	4	ESRE714 01816	1.8	1.8	16	50	4
ESRE714 01212	1.2	1.2	12	50	4	ESRE714 01820	1.8	1.8	20	60	4
ESRE714 01216	1.2	1.2	16	50	4	ESRE714 01825	1.8	1.8	25	70	4
ESRE714 01218	1.2	1.2	18	60	4	ESRE714 02004	2	2	4	45	4
ESRE714 01220	1.2	1.2	20	60	4	ESRE714 02006	2	2	6	45	4
ESRE714 01406	1.4	1.4	6	45	4	ESRE714 02008	2	2	8	45	4
ESRE714 01408	1.4	1.4	8	45	4	ESRE714 02010	2	2	10	50	4
ESRE714 01410	1.4	1.4	10	50	4	ESRE714 02012	2	2	12	50	4
ESRE714 01412	1.4	1.4	12	50	4	ESRE714 02014	2	2	14	50	4
ESRE714 01414	1.4	1.4	14	50	4	ESRE714 02016	2	2	16	50	4
ESRE714 01416	1.4	1.4	16	50	4	ESRE714 02018	2	2	18	50	4
ESRE714 01504	1.5	1.5	4	45	4	ESRE714 02020	2	2	20	50	4
ESRE714 01506	1.5	1.5	6	45	4	ESRE714 02022	2	2	22	60	4
ESRE714 01508	1.5	1.5	8	45	4	ESRE714 02025	2	2	25	60	4
ESRE714 01510	1.5	1.5	10	50	4	ESRE714 02030	2	2	30	70	4
ESRE714 01512	1.5	1.5	12	50	4	ESRE714 02510	2.5	2.5	10	50	4
ESRE714 01516	1.5	1.5	16	50	4	ESRE714 02512	2.5	2.5	12	50	4
ESRE714 01518	1.5	1.5	18	60	4	ESRE714 02516	2.5	2.5	16	50	4
ESRE714 01520	1.5	1.5	20	60	4	ESRE714 02520	2.5	2.5	20	50	4
ESRE714 01525	1.5	1.5	25	60	4	ESRE714 02525	2.5	2.5	25	60	4
ESRE714 01530	1.5	1.5	30	70	4	ESRE714 02530	2.5	2.5	30	70	4
ESRE714 01606	1.6	1.6	6	45	4	ESRE714 03006	3	3	6	45	6
ESRE714 01608	1.6	1.6	8	45	4	ESRE714 03008	3	3	8	45	6
ESRE714 01610	1.6	1.6	10	50	4	ESRE714 03010	3	3	10	50	6
ESRE714 01612	1.6	1.6	12	50	4	ESRE714 03012	3	3	12	50	6
ESRE714 01614	1.6	1.6	14	50	4	ESRE714 03016	3	3	16	55	6
ESRE714 01616	1.6	1.6	16	50	4	ESRE714 03020	3	3	20	60	6
ESRE714 01618	1.6	1.6	18	60	4	ESRE714 03025	3	3	25	65	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRE714 4 Flutes Rib Square End Mill

Endmill

EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
ESRE714 03030	3	3	30	70	6	ESRE714 04516	4.5	4.5	16	55	6
ESRE714 03035	3	3	35	75	6	ESRE714 04520	4.5	4.5	20	60	6
ESRE714 03040	3	3	40	80	6	ESRE714 04525	4.5	4.5	25	65	6
ESRE714 03045	3	3	45	90	6	ESRE714 04530	4.5	4.5	30	70	6
ESRE714 03050	3	3	50	100	6	ESRE714 04540	4.5	4.5	40	80	6
ESRE714 03060	3	3	60	110	6	ESRE714 05016	5	5	16	60	6
ESRE714 03512	3.5	3.5	12	50	6	ESRE714 05020	5	5	20	60	6
ESRE714 03516	3.5	3.5	16	55	6	ESRE714 05025	5	5	25	65	6
ESRE714 03520	3.5	3.5	20	60	6	ESRE714 05030	5	5	30	70	6
ESRE714 03525	3.5	3.5	25	65	6	ESRE714 05040	5	5	40	80	6
ESRE714 03530	3.5	3.5	30	70	6	ESRE714 05050	5	5	50	100	6
ESRE714 03535	3.5	3.5	35	75	6	ESRE714 05060	5	5	60	110	6
ESRE714 03540	3.5	3.5	40	80	6	ESRE714 06020	6	6	20	60	6
ESRE714 04006	4	4	6	50	6	ESRE714 06030	6	6	30	75	6
ESRE714 04008	4	4	8	50	6	ESRE714 06040	6	6	40	80	6
ESRE714 04010	4	4	10	50	6	ESRE714 06050	6	6	50	90	6
ESRE714 04012	4	4	12	50	6	ESRE714 06060	6	6	60	100	6
ESRE714 04016	4	4	16	55	6	ESRE714 08025	8	12	25	65	8
ESRE714 04020	4	4	20	60	6	ESRE714 08040	8	12	40	100	8
ESRE714 04025	4	4	25	65	6	ESRE714 08050	8	12	50	110	8
ESRE714 04030	4	4	30	70	6	ESRE714 10030	10	15	30	70	10
ESRE714 04040	4	4	40	80	6	ESRE714 10050	10	15	50	100	10
ESRE714 04045	4	4	45	90	6	ESRE714 10060	10	15	60	120	10
ESRE714 04050	4	4	50	100	6	ESRE714 12040	12	18	40	80	12
ESRE714 04060	4	4	60	110	6	ESRE714 12060	12	18	60	110	12
ESRE714 04512	4.5	4.5	12	50	6	ESRE714 12070	12	18	70	130	12

Standard

Copper
-Mate

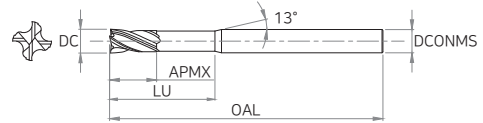
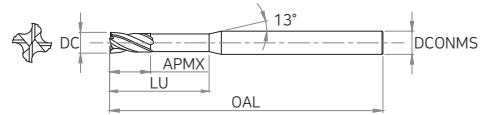
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

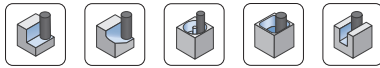
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESXE704 4 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



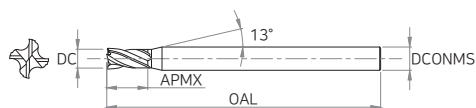
EDP No	DC	APMX	LU	OAL	DCONMS
ESXE704 010	1	1.5	4	45	4
ESXE704 020	2	3	6	45	4
ESXE704 030	3	4	7	45	6
ESXE704 040	4	5	9	45	6
ESXE704 060	6	7	14	50	6
ESXE704 080	8	9	18	60	8
ESXE704 100	10	12	25	75	10
ESXE704 120	12	15	30	75	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

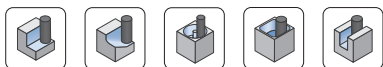
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESXE714 4 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



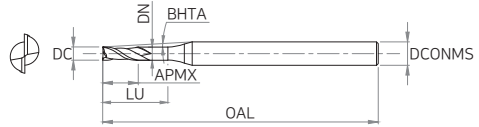
EDP No	DC	APMX	OAL	DCONMS
ESXE714 020	2	5	45	4
ESXE714 030	3	8	45	6
ESXE714 040	4	10	45	6
ESXE714 040S4	4	10	45	4
ESXE714 060	6	16	50	6
ESXE714 080	8	20	60	8
ESXE714 100	10	25	75	10
ESXE714 120	12	35	85	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

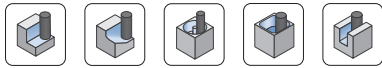
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNS20 2 Flutes Long Neck Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS20 01-0.3	0.1	0.15	0.3	0.08	45	4	11.6	0.4	0.4	0.5	0.5	0.5
ESLNS20 01-0.5	0.1	0.15	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ESLNS20 01-1	0.1	0.15	1	0.08	45	4	10.9	1.2	1.2	1.2	1.3	1.4
ESLNS20 02-0.5	0.2	0.3	0.5	0.17	50	4	11.3	1.2	1.3	1.5	1.7	2
ESLNS20 02-1	0.2	0.3	1	0.17	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ESLNS20 02-1.5	0.2	0.3	1.5	0.17	50	4	10.3	2.3	2.5	2.8	3	3.4
ESLNS20 03-1	0.3	0.45	1	0.27	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ESLNS20 03-1.5	0.3	0.45	1.5	0.27	50	4	10.3	2.3	2.5	2.8	3	3.4
ESLNS20 03-2	0.3	0.45	2	0.27	50	4	9.8	2.8	3.1	3.4	3.6	4.1
ESLNS20 03-2.5	0.3	0.45	2.5	0.27	50	4	9.4	3.4	3.7	4	4.3	4.7
ESLNS20 03-3	0.3	0.45	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ESLNS20 04-1	0.4	0.6	1	0.37	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ESLNS20 04-1.5	0.4	0.6	1.5	0.37	50	4	10.2	2.3	2.5	2.8	3	3.4
ESLNS20 04-2	0.4	0.6	2	0.37	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ESLNS20 04-2.5	0.4	0.6	2.5	0.37	50	4	9.3	3.4	3.7	4	4.3	4.7
ESLNS20 04-3	0.4	0.6	3	0.37	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ESLNS20 04-3.5	0.4	0.6	3.5	0.37	50	4	8.6	4.5	4.9	5.2	5.5	6
ESLNS20 04-4	0.4	0.6	4	0.37	50	4	8.2	5	5.4	5.8	6.1	6.6
ESLNS20 04-5	0.4	0.6	5	0.37	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ESLNS20 04-6	0.4	0.6	6	0.37	50	4	7.1	7.2	7.7	8.1	8.4	9

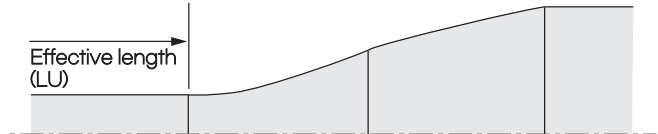
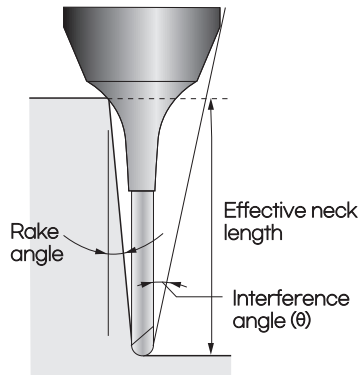
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNS20

2 Flutes Long Neck Square End Mill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS20 05-1	0.5	0.75	1	0.47	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ESLNS20 05-1.5	0.5	0.75	1.5	0.47	50	4	10.2	2.3	2.5	2.8	3	3.4
ESLNS20 05-2	0.5	0.75	2	0.47	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ESLNS20 05-2.5	0.5	0.75	2.5	0.47	50	4	9.3	3.4	3.7	4	4.3	4.7
ESLNS20 05-3	0.5	0.75	3	0.47	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ESLNS20 05-4	0.5	0.75	4	0.47	50	4	8.1	5	5.4	5.8	6.1	6.6
ESLNS20 05-5	0.5	0.75	5	0.47	50	4	7.5	6.1	6.6	6.9	7.3	7.8
ESLNS20 05-6	0.5	0.75	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ESLNS20 05-8	0.5	0.75	8	0.47	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ESLNS20 06-2	0.6	0.9	2	0.57	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ESLNS20 06-4	0.6	0.9	4	0.57	50	4	8.1	5	5.4	5.8	6.1	6.6
ESLNS20 06-6	0.6	0.9	6	0.57	50	4	6.9	7.2	7.7	8.1	8.4	9
ESLNS20 06-8	0.6	0.9	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11.4
ESLNS20 06-10	0.6	0.9	10	0.57	50	4	5.4	11.5	12.1	12.6	13	13.7
ESLNS20 07-2	0.7	1.05	2	0.67	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ESLNS20 07-4	0.7	1.05	4	0.67	50	4	8	5	5.4	5.8	6.1	6.6
ESLNS20 07-6	0.7	1.05	6	0.67	50	4	6.9	7.2	7.7	8.1	8.4	9
ESLNS20 07-8	0.7	1.05	8	0.67	50	4	6	9.3	9.9	10.3	10.7	11.4
ESLNS20 07-10	0.7	1.2	10	0.77	50	4	5.3	11.5	12.1	12.6	13	13.7
ESLNS20 08-4	0.8	1.2	4	0.77	50	4	7.9	5	5.4	5.8	6.1	6.6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNS20

2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS20 08-6	0.8	1.2	6	0.77	50	4	6.8	7.2	7.7	8.1	8.4	9
ESLNS20 08-8	0.8	1.2	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ESLNS20 08-10	0.8	1.2	10	0.77	55	4	5.2	11.5	12.1	12.6	13	13.7
ESLNS20 08-12	0.8	1.2	12	0.77	55	4	4.7	13.6	14.2	14.8	15.2	16
ESLNS20 09-6	0.9	1.35	6	0.86	50	4	6.7	7.2	7.7	8.1	8.4	9.1
ESLNS20 09-8	0.9	1.35	8	0.86	50	4	5.8	9.4	9.9	10.4	10.7	11.4
ESLNS20 09-10	0.9	1.35	10	0.86	55	4	5.1	11.5	12.1	12.6	13	13.7
ESLNS20 09-12	0.9	1.35	12	0.86	55	4	4.6	13.6	14.3	14.8	15.2	16
ESLNS20 10-2	1	1.5	2	0.96	50	4	9.4	2.9	3.2	3.4	3.7	4.1
ESLNS20 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ESLNS20 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ESLNS20 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ESLNS20 10-10	1	1.5	10	0.96	55	4	5	11.5	12.1	12.6	13	13.7
ESLNS20 10-12	1	1.5	12	0.96	55	4	4.5	13.6	14.3	14.8	15.2	16
ESLNS20 10-14	1	1.5	14	0.96	60	4	4.1	15.7	16.4	17	17.4	18.7
ESLNS20 10-16	1	1.5	16	0.96	60	4	3.8	17.8	18.6	19.1	19.6	21.3
ESLNS20 10-20	1	1.5	20	0.96	60	4	3.2	22	22.8	23.5	24	26.6
ESLNS20 12-6	1.2	1.8	6	1.15	50	4	6.3	7.3	7.7	8.1	8.5	9.1
ESLNS20 12-8	1.2	1.8	8	1.15	50	4	5.5	9.4	9.9	10.4	10.8	11.4
ESLNS20 12-10	1.2	1.8	10	1.15	50	4	4.8	11.5	12.1	12.6	13	13.7
ESLNS20 12-12	1.2	1.8	12	1.15	55	4	4.3	13.6	14.3	14.8	15.2	16
ESLNS20 12-16	1.2	1.8	16	1.15	55	4	3.6	17.8	18.6	19.2	19.7	21.3
ESLNS20 14-6	1.4	2.1	6	1.34	50	4	6.1	7.3	7.8	8.1	8.5	9.1
ESLNS20 14-8	1.4	2.1	8	1.34	50	4	5.3	9.4	10	10.4	10.8	11.5
ESLNS20 14-10	1.4	2.1	10	1.34	50	4	4.6	11.6	12.1	12.6	13	13.8
ESLNS20 14-12	1.4	2.1	12	1.34	55	4	4.1	13.7	14.3	14.8	15.3	16.1
ESLNS20 14-14	1.4	2.1	14	1.34	55	4	3.7	15.8	16.5	17	17.5	18.7
ESLNS20 14-16	1.4	2.1	16	1.34	55	4	3.4	17.9	18.6	19.2	19.7	21.4
ESLNS20 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ESLNS20 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ESLNS20 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ESLNS20 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ESLNS20 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ESLNS20 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNS20

2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS20 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
ESLNS20 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
ESLNS20 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
ESLNS20 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
ESLNS20 16-6	1.6	2.4	6	1.54	50	4	5.9	7.3	7.8	8.1	8.5	9.1
ESLNS20 16-8	1.6	2.4	8	1.54	50	4	5	9.4	10	10.4	10.8	11.5
ESLNS20 16-10	1.6	2.4	10	1.54	50	4	4.4	11.6	12.1	12.6	13	13.8
ESLNS20 16-12	1.6	2.4	12	1.54	55	4	3.9	13.7	14.3	14.8	15.3	16.1
ESLNS20 16-14	1.6	2.4	14	1.54	55	4	3.5	15.8	16.5	17	17.5	18.7
ESLNS20 16-16	1.6	2.4	16	1.54	55	4	3.2	17.9	18.6	19.2	19.7	21.4
ESLNS20 16-18	1.6	2.4	18	1.54	60	4	2.9	20	20.7	21.3	21.9	-
ESLNS20 16-20	1.6	2.4	20	1.54	60	4	2.7	22	22.9	23.5	24.1	-
ESLNS20 18-6	1.8	2.7	6	1.73	50	4	5.6	7.4	7.8	8.2	8.5	9.1
ESLNS20 18-8	1.8	2.7	8	1.73	50	4	4.8	9.5	10	10.4	10.8	11.5
ESLNS20 18-10	1.8	2.7	10	1.73	50	4	4.2	11.6	12.2	12.6	13	13.8
ESLNS20 18-12	1.8	2.7	12	1.73	55	4	3.7	13.7	14.3	14.8	15.3	16.1
ESLNS20 18-14	1.8	2.7	14	1.73	55	4	3.3	15.8	16.5	17	17.5	18.8
ESLNS20 18-16	1.8	2.7	16	1.73	55	4	3	17.9	18.6	19.2	19.7	-
ESLNS20 18-18	1.8	2.7	18	1.73	60	4	2.7	20	20.7	21.3	21.9	-
ESLNS20 18-20	1.8	2.7	20	1.73	60	4	2.5	22.1	22.9	23.5	24.1	-
ESLNS20 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
ESLNS20 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
ESLNS20 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
ESLNS20 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
ESLNS20 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
ESLNS20 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8
ESLNS20 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
ESLNS20 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
ESLNS20 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ESLNS20 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
ESLNS20 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ESLNS20 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
ESLNS20 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
ESLNS20 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNS20

2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS20 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ESLNS20 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ESLNS20 25-18	2.5	3.75	18	2.4	55	4	2	20.1	20.8	21.4	-	-
ESLNS20 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ESLNS20 25-25	2.5	3.75	25	2.4	60	4	1.5	27.3	28.2	-	-	-
ESLNS20 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ESLNS20 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ESLNS20 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ESLNS20 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ESLNS20 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ESLNS20 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ESLNS20 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2
ESLNS20 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
ESLNS20 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
ESLNS20 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
ESLNS20 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
ESLNS20 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
ESLNS20 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
ESLNS20 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
ESLNS20 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
ESLNS20 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
ESLNS20 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
ESLNS20 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
ESLNS20 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
ESLNS20 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
ESLNS20 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
ESLNS20 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
ESLNS20 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
ESLNS20 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
ESLNS20 50-30	5	7.5	30	4.85	70	6	0.9	32.6	-	-	-	-
ESLNS20 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
ESLNS20 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
ESLNS20 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

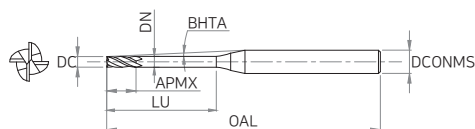
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNS40

4 Flutes Long Neck Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS40 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ESLNS40 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ESLNS40 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ESLNS40 10-10	1	1.5	10	0.96	50	4	5	11.5	12.1	12.6	13	13.7
ESLNS40 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ESLNS40 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ESLNS40 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ESLNS40 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ESLNS40 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ESLNS40 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7
ESLNS40 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
ESLNS40 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
ESLNS40 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
ESLNS40 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
ESLNS40 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
ESLNS40 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
ESLNS40 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
ESLNS40 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
ESLNS40 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
ESLNS40 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8

► Applicable Working Material

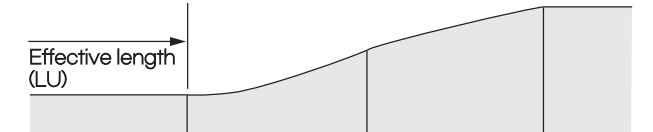
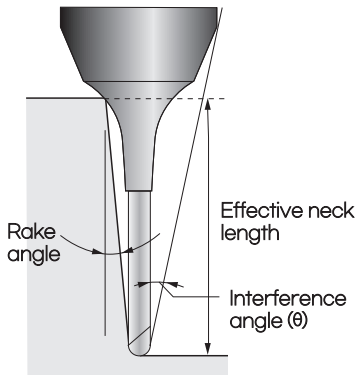
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNS40

4 Flutes Long Neck Square End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS40 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
ESLNS40 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
ESLNS40 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ESLNS40 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
ESLNS40 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ESLNS40 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
ESLNS40 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
ESLNS40 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-
ESLNS40 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ESLNS40 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ESLNS40 25-18	2.5	3.75	18	2.4	60	4	2	20.1	20.8	21.4	-	-
ESLNS40 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ESLNS40 25-25	2.5	3.75	25	2.4	65	4	1.5	27.3	28.2	-	-	-
ESLNS40 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ESLNS40 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ESLNS40 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ESLNS40 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ESLNS40 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ESLNS40 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ESLNS40 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ESLNS40

4 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
								0.5°	1°	1.5°	2°	3°
ESLNS40 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
ESLNS40 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
ESLNS40 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
ESLNS40 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
ESLNS40 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
ESLNS40 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
ESLNS40 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
ESLNS40 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
ESLNS40 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
ESLNS40 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
ESLNS40 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
ESLNS40 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
ESLNS40 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
ESLNS40 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
ESLNS40 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
ESLNS40 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
ESLNS40 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
ESLNS40 50-30	5	7.5	30	4.85	70	6	0.9	32.6	-	-	-	-
ESLNS40 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
ESLNS40 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
ESLNS40 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

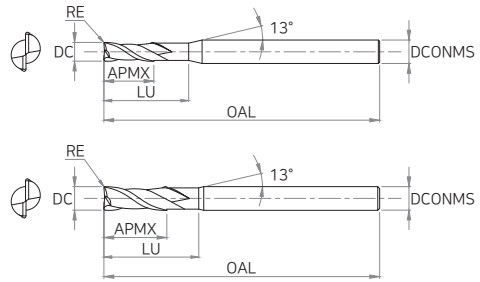
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

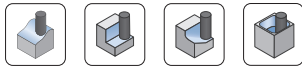
ESR702

2 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESR702 01000503S4	1	0.05	1.5	3	50	4	ESR702 0100212	1	0.2	1.5	12	50	6
ESR702 01000504S4	1	0.05	1.5	4	50	4	ESR702 0100303S4	1	0.3	1.5	3	50	4
ESR702 01000506S4	1	0.05	1.5	6	50	4	ESR702 0100304S4	1	0.3	1.5	4	50	4
ESR702 01000508S4	1	0.05	1.5	8	50	4	ESR702 0100306S4	1	0.3	1.5	6	50	4
ESR702 01000510S4	1	0.05	1.5	10	50	4	ESR702 0100308S4	1	0.3	1.5	8	50	4
ESR702 0100103S4	1	0.1	1.5	3	50	4	ESR702 0100310S4	1	0.3	1.5	10	50	4
ESR702 0100104	1	0.1	1.5	4	50	6	ESR702 0120208	1.2	0.2	2	8	50	6
ESR702 0100104S4	1	0.1	1.5	4	50	4	ESR702 0120212	1.2	0.2	2	12	50	6
ESR702 0100106	1	0.1	1.5	6	50	6	ESR702 01500504S4	1.5	0.05	2.5	4	50	4
ESR702 0100106S4	1	0.1	1.5	6	50	4	ESR702 01500506S4	1.5	0.05	2.5	6	50	4
ESR702 0100108S4	1	0.1	1.5	8	50	4	ESR702 01500508S4	1.5	0.05	2.5	8	50	4
ESR702 0100110S4	1	0.1	1.5	10	50	4	ESR702 01500510S4	1.5	0.05	2.5	10	50	4
ESR702 0100203S4	1	0.2	1.5	3	50	4	ESR702 01500512S4	1.5	0.05	2.5	12	50	4
ESR702 0100204	1	0.2	1.5	4	50	6	ESR702 0150104S4	1.5	0.1	2.5	4	50	4
ESR702 0100204S4	1	0.2	1.5	4	50	4	ESR702 0150106S4	1.5	0.1	2.5	6	50	4
ESR702 0100206	1	0.2	1.5	6	50	6	ESR702 0150108S4	1.5	0.1	2.5	8	50	4
ESR702 0100206S4	1	0.2	1.5	6	50	4	ESR702 0150110S4	1.5	0.1	2.5	10	50	4
ESR702 0100208S4	1	0.2	1.5	8	50	4	ESR702 0150112S4	1.5	0.1	2.5	12	50	4
ESR702 0100210	1	0.2	1.5	10	50	6	ESR702 0150204	1.5	0.2	2.5	4	50	6
ESR702 0100210S4	1	0.2	1.5	10	50	4	ESR702 0150204S4	1.5	0.2	2.5	4	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ESR702 2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESR702 0150206	1.5	0.2	2.5	6	50	6	ESR702 0200306S4	2	0.3	3	6	50	4
ESR702 0150206S4	1.5	0.2	2.5	6	50	4	ESR702 0200308S4	2	0.3	3	8	50	4
ESR702 0150208	1.5	0.2	2.5	8	50	6	ESR702 0200310S4	2	0.3	3	10	50	4
ESR702 0150208S4	1.5	0.2	2.5	8	50	4	ESR702 0200312S4	2	0.3	3	12	50	4
ESR702 0150210	1.5	0.2	2.5	10	50	6	ESR702 0200316S4	2	0.3	3	16	50	4
ESR702 0150210S4	1.5	0.2	2.5	10	50	4	ESR702 0200320S4	2	0.3	3	20	50	4
ESR702 0150212S4	1.5	0.2	2.5	12	50	4	ESR702 0200506	2	0.5	3	6	50	6
ESR702 0150215	1.5	0.2	2.5	15	50	6	ESR702 0200506S4	2	0.5	3	6	50	4
ESR702 0150304S4	1.5	0.3	2.5	4	50	4	ESR702 0200508S4	2	0.5	3	8	50	4
ESR702 0150306S4	1.5	0.3	2.5	6	50	4	ESR702 0200509	2	0.5	3	9	50	6
ESR702 0150308S4	1.5	0.3	2.5	8	50	4	ESR702 0200510S4	2	0.5	3	10	50	4
ESR702 0150310S4	1.5	0.3	2.5	10	50	4	ESR702 0200512	2	0.5	3	12	50	6
ESR702 0150312S4	1.5	0.3	2.5	12	50	4	ESR702 0200512S4	2	0.5	3	12	50	4
ESR702 0150504S4	1.5	0.5	2.5	4	50	4	ESR702 0200516	2	0.5	3	16	50	6
ESR702 0150506S4	1.5	0.5	2.5	6	50	4	ESR702 0200516S4	2	0.5	3	16	50	4
ESR702 0150508S4	1.5	0.5	2.5	8	50	4	ESR702 0200520S4	2	0.5	3	20	50	4
ESR702 0150510S4	1.5	0.5	2.5	10	50	4	ESR702 0250208S4	2.5	0.2	3.5	8	50	4
ESR702 0150512S4	1.5	0.5	2.5	12	50	4	ESR702 0250210S4	2.5	0.2	3.5	10	50	4
ESR702 0200106S4	2	0.1	3	6	50	4	ESR702 0250212S4	2.5	0.2	3.5	12	50	4
ESR702 0200108	2	0.1	3	8	50	6	ESR702 0250216S4	2.5	0.2	3.5	16	50	4
ESR702 0200108S4	2	0.1	3	8	50	4	ESR702 0250308S4	2.5	0.3	3.5	8	50	4
ESR702 0200110S4	2	0.1	3	10	50	4	ESR702 0250310S4	2.5	0.3	3.5	10	50	4
ESR702 0200112	2	0.1	3	12	50	6	ESR702 0250312S4	2.5	0.3	3.5	12	50	4
ESR702 0200112S4	2	0.1	3	12	50	4	ESR702 0250316S4	2.5	0.3	3.5	16	50	4
ESR702 0200116S4	2	0.1	3	16	50	4	ESR702 0250508S4	2.5	0.5	3.5	8	50	4
ESR702 0200120S4	2	0.1	3	20	50	4	ESR702 0250510S4	2.5	0.5	3.5	10	50	4
ESR702 0200206	2	0.2	3	6	50	6	ESR702 0250512S4	2.5	0.5	3.5	12	50	4
ESR702 0200206S4	2	0.2	3	6	50	4	ESR702 0250516S4	2.5	0.5	3.5	16	50	4
ESR702 0200208S4	2	0.2	3	8	50	4	ESR702 0300108	3	0.1	4.5	8	55	6
ESR702 0200209	2	0.2	3	9	50	6	ESR702 0300110	3	0.1	4.5	10	55	6
ESR702 0200210S4	2	0.2	3	10	50	4	ESR702 0300112	3	0.1	4.5	12	55	6
ESR702 0200212S4	2	0.2	3	12	50	4	ESR702 0300116	3	0.1	4.5	16	55	6
ESR702 0200216	2	0.2	3	16	50	6	ESR702 0300120	3	0.1	4.5	20	60	6
ESR702 0200216S4	2	0.2	3	16	50	4	ESR702 0300208	3	0.2	4.5	8	55	6
ESR702 0200220S4	2	0.2	3	20	50	4	ESR702 0300209	3	0.2	4.5	9	55	6
ESR702 0200306	2	0.3	3	6	50	6	ESR702 0300210	3	0.2	4.5	10	55	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESR702

2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESR702 0300212	3	0.2	4.5	12	55	6	ESR702 0400325	4	0.3	6	25	60	6
ESR702 0300216	3	0.2	4.5	16	55	6	ESR702 0400510	4	0.5	6	10	55	6
ESR702 0300220	3	0.2	4.5	20	60	6	ESR702 0400512	4	0.5	6	12	55	6
ESR702 0300308	3	0.3	4.5	8	55	6	ESR702 0400516	4	0.5	6	16	55	6
ESR702 0300309	3	0.3	4.5	9	55	6	ESR702 0400520	4	0.5	6	20	60	6
ESR702 0300310	3	0.3	4.5	10	55	6	ESR702 0400525	4	0.5	6	25	60	6
ESR702 0300312	3	0.3	4.5	12	55	6	ESR702 0400530	4	0.5	6	30	70	6
ESR702 0300314	3	0.3	4.5	14	55	6	ESR702 0401010	4	1	6	10	55	6
ESR702 0300316	3	0.3	4.5	16	55	6	ESR702 0401012	4	1	6	12	55	6
ESR702 0300320	3	0.3	4.5	20	60	6	ESR702 0401016	4	1	6	16	55	6
ESR702 0300508	3	0.5	4.5	8	55	6	ESR702 0401020	4	1	6	20	60	6
ESR702 0300509	3	0.5	4.5	9	55	6	ESR702 0401025	4	1	6	25	60	6
ESR702 0300510	3	0.5	4.5	10	55	6	ESR702 0401030	4	1	6	30	70	6
ESR702 0300512	3	0.5	4.5	12	55	6	ESR702 0500318	5	0.3	8	18	60	6
ESR702 0300516	3	0.5	4.5	16	55	6	ESR702 0600220	6	0.2	9	20	60	6
ESR702 0300520	3	0.5	4.5	20	60	6	ESR702 0600320	6	0.3	9	20	60	6
ESR702 0301008	3	1	4.5	8	55	6	ESR702 0600520	6	0.5	9	20	60	6
ESR702 0301010	3	1	4.5	10	55	6	ESR702 0601020	6	1	9	20	60	6
ESR702 0301012	3	1	4.5	12	55	6	ESR702 0601520	6	1.5	9	20	60	6
ESR702 0301016	3	1	4.5	16	55	6	ESR702 0602020	6	2	9	20	60	6
ESR702 0301020	3	1	4.5	20	60	6	ESR702 0800225	8	0.2	12	25	60	8
ESR702 0301025	3	1	4.5	25	60	6	ESR702 0800325	8	0.3	12	25	60	8
ESR702 0400110	4	0.1	6	10	55	6	ESR702 0800525	8	0.5	12	25	60	8
ESR702 0400112	4	0.1	6	12	55	6	ESR702 0801025	8	1	12	25	60	8
ESR702 0400116	4	0.1	6	16	55	6	ESR702 0801525	8	1.5	12	25	60	8
ESR702 0400120	4	0.1	6	20	60	6	ESR702 1000232	10	0.2	15	32	70	10
ESR702 0400125	4	0.1	6	25	60	6	ESR702 1000332	10	0.3	15	32	70	10
ESR702 0400210	4	0.2	6	10	55	6	ESR702 1000532	10	0.5	15	32	70	10
ESR702 0400212	4	0.2	6	12	55	6	ESR702 1001032	10	1	15	32	70	10
ESR702 0400216	4	0.2	6	16	55	6	ESR702 1001532	10	1.5	15	32	70	10
ESR702 0400220	4	0.2	6	20	60	6	ESR702 1002032	10	2	15	32	70	10
ESR702 0400225	4	0.2	6	25	60	6	ESR702 1200338	12	0.3	18	38	80	12
ESR702 0400310	4	0.3	6	10	55	6	ESR702 1200538	12	0.5	18	38	80	12
ESR702 0400312	4	0.3	6	12	55	6	ESR702 1201038	12	1	18	38	80	12
ESR702 0400316	4	0.3	6	16	55	6	ESR702 1201538	12	1.5	18	38	80	12
ESR702 0400320	4	0.3	6	20	60	6	ESR702 1202038	12	2	18	38	80	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

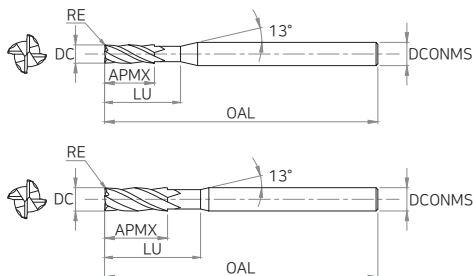
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	○		○	◎						

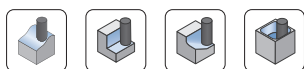
ESR704 4 Flutes Neck Radius End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESR704 0100103S4	1	0.1	2	3	50	4	ESR704 0200210	2	0.2	3	10	50	6
ESR704 0100104S4	1	0.1	2	4	50	4	ESR704 0200212	2	0.2	3	12	50	6
ESR704 0100106S4	1	0.1	2	6	50	4	ESR704 0200306S4	2	0.3	3	6	50	4
ESR704 0100203S4	1	0.2	2	3	50	4	ESR704 0200308S4	2	0.3	3	8	50	4
ESR704 0100204S4	1	0.2	2	4	50	4	ESR704 0200506S4	2	0.5	3	6	50	4
ESR704 0100206S4	1	0.2	2	6	50	4	ESR704 0200508S4	2	0.5	3	8	50	4
ESR704 0100303S4	1	0.3	2	3	50	4	ESR704 0250106S4	2.5	0.1	3.5	6	50	4
ESR704 0100304S4	1	0.3	2	4	50	4	ESR704 0300108	3	0.1	4	8	55	6
ESR704 0100306S4	1	0.3	2	6	50	4	ESR704 0300110	3	0.1	4	10	55	6
ESR704 0150104S4	1.5	0.1	2.5	4	50	4	ESR704 0300112	3	0.1	4	12	55	6
ESR704 0150106S4	1.5	0.1	2.5	6	50	4	ESR704 0300116	3	0.1	4	16	55	6
ESR704 0150204S4	1.5	0.2	2.5	4	50	4	ESR704 0300120	3	0.1	4	20	60	6
ESR704 0150206S4	1.5	0.2	2.5	6	50	4	ESR704 0300208	3	0.2	4	8	55	6
ESR704 0150304S4	1.5	0.3	2.5	4	50	4	ESR704 0300210	3	0.2	4	10	55	6
ESR704 0150306S4	1.5	0.3	2.5	6	50	4	ESR704 0300212	3	0.2	4	12	55	6
ESR704 0200106S4	2	0.1	3	6	50	4	ESR704 0300216	3	0.2	4	16	55	6
ESR704 0200108S4	2	0.1	3	8	50	4	ESR704 0300220	3	0.2	4	20	60	6
ESR704 0200206S4	2	0.2	3	6	50	4	ESR704 0300308	3	0.3	4	8	55	6
ESR704 0200208	2	0.2	3	8	50	6	ESR704 0300309	3	0.3	4	9	55	6
ESR704 0200208S4	2	0.2	3	8	50	4	ESR704 0300310	3	0.3	4	10	55	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESR704 4 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESR704 0300312	3	0.3	4	12	55	6	ESR704 0400516	4	0.5	6	16	55	6
ESR704 0300316	3	0.3	4	16	55	6	ESR704 0400520	4	0.5	6	20	60	6
ESR704 0300320	3	0.3	4	20	60	6	ESR704 0400525	4	0.5	6	25	60	6
ESR704 0300508	3	0.5	4	8	55	6	ESR704 0401010	4	1	6	10	55	6
ESR704 0300509	3	0.5	4	9	55	6	ESR704 0401012	4	1	6	12	55	6
ESR704 0300510	3	0.5	4	10	55	6	ESR704 0401016	4	1	6	16	55	6
ESR704 0300512	3	0.5	4	12	55	6	ESR704 0401020	4	1	6	20	60	6
ESR704 0300516	3	0.5	4	16	55	6	ESR704 0401025	4	1	6	25	60	6
ESR704 0300520	3	0.5	4	20	60	6	ESR704 0600220	6	0.2	9	20	60	6
ESR704 0301008	3	1	4	8	55	6	ESR704 0600320	6	0.3	9	20	60	6
ESR704 0301010	3	1	4	10	55	6	ESR704 0600520	6	0.5	9	20	60	6
ESR704 0301012	3	1	4	12	55	6	ESR704 0601020	6	1	9	20	60	6
ESR704 0301016	3	1	4	16	55	6	ESR704 0601520	6	1.5	9	20	60	6
ESR704 0301020	3	1	4	20	60	6	ESR704 0602020	6	2	9	20	60	6
ESR704 0400110	4	0.1	6	10	55	6	ESR704 0800225	8	0.2	12	25	60	8
ESR704 0400112	4	0.1	6	12	55	6	ESR704 0800325	8	0.3	12	25	60	8
ESR704 0400116	4	0.1	6	16	55	6	ESR704 0800525	8	0.5	12	25	60	8
ESR704 0400120	4	0.1	6	20	60	6	ESR704 0801025	8	1	12	25	60	8
ESR704 0400125	4	0.1	6	25	60	6	ESR704 0801525	8	1.5	12	25	60	8
ESR704 0400210	4	0.2	6	10	55	6	ESR704 0802025	8	2	12	25	60	8
ESR704 0400212	4	0.2	6	12	55	6	ESR704 1000232	10	0.2	15	32	70	10
ESR704 0400216	4	0.2	6	16	55	6	ESR704 1000332	10	0.3	15	32	70	10
ESR704 0400220	4	0.2	6	20	60	6	ESR704 1000532	10	0.5	15	32	70	10
ESR704 0400225	4	0.2	6	25	60	6	ESR704 1001032	10	1	15	32	70	10
ESR704 0400310	4	0.3	6	10	55	6	ESR704 1001532	10	1.5	15	32	70	10
ESR704 0400312	4	0.3	6	12	55	6	ESR704 1002032	10	2	15	32	70	10
ESR704 0400316	4	0.3	6	16	55	6	ESR704 1200338	12	0.3	18	38	80	12
ESR704 0400320	4	0.3	6	20	60	6	ESR704 1200538	12	0.5	18	38	80	12
ESR704 0400325	4	0.3	6	25	60	6	ESR704 1201038	12	1	18	38	80	12
ESR704 0400510	4	0.5	6	10	55	6	ESR704 1201538	12	1.5	18	38	80	12
ESR704 0400512	4	0.5	6	12	55	6	ESR704 1202038	12	2	18	38	80	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

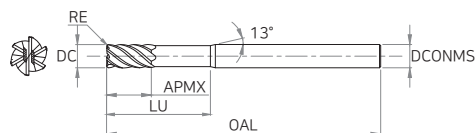
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

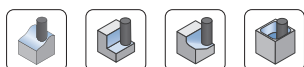
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESR706 6 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



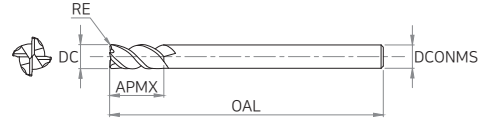
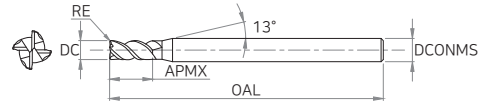
EDP No	DC	RE	APMX	LU	OAL	DCONMS
ESR706 0600314	6	0.3	6	14	50	6
ESR706 0600514	6	0.5	6	14	50	6
ESR706 0800524	8	0.5	8	24	60	8
ESR706 0801024	8	1	8	24	60	8
ESR706 1000530	10	0.5	10	30	70	10
ESR706 1001030	10	1	10	30	70	10
ESR706 1200530	12	0.5	12	30	75	12
ESR706 1201030	12	1	12	30	75	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

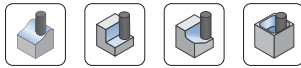
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESR714 4 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ESR714 0303	3	0.3	8	50	6	ESR714 1003	10	0.3	25	70	10
ESR714 0305S4	3	0.5	8	50	4	ESR714 1005	10	0.5	25	70	10
ESR714 0305	3	0.5	8	50	6	ESR714 1010	10	1	25	70	10
ESR714 0403	4	0.3	11	50	6	ESR714 1015	10	1.5	25	70	10
ESR714 0405	4	0.5	11	50	6	ESR714 1020	10	2	25	70	10
ESR714 0405S4	4	0.5	11	50	4	ESR714 1025	10	2.5	25	70	10
ESR714 0410	4	1	11	50	6	ESR714 1030	10	3	25	70	10
ESR714 0603	6	0.3	15	60	6	ESR714 1203	12	0.3	30	80	12
ESR714 0605	6	0.5	15	60	6	ESR714 1205	12	0.5	30	80	12
ESR714 0610	6	1	15	60	6	ESR714 1210	12	1	30	80	12
ESR714 0803	8	0.3	20	60	8	ESR714 1215	12	1.5	30	80	12
ESR714 0805	8	0.5	20	60	8	ESR714 1220	12	2	30	80	12
ESR714 0810	8	1	20	60	8	ESR714 1225	12	2.5	30	80	12
ESR714 0815	8	1.5	20	60	8	ESR714 1230	12	3	30	80	12
ESR714 0820	8	2	20	60	8						

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

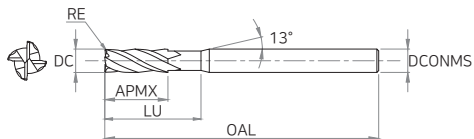
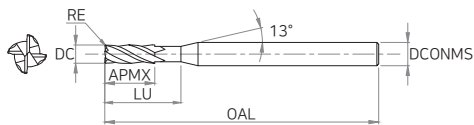
Standard

Copper
-Mate

Gra
-Mate

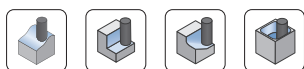
ESR724 4 Flutes Neck Radius End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER

ABOVE Ø6

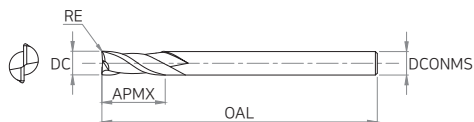
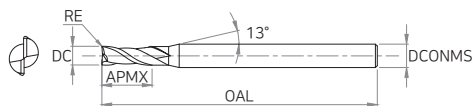
EDP No	DC	RE	APMX	LU	OAL	DCONMS
ESR724 0600520	6	0.5	9	20	90	6
ESR724 0601020	6	1	9	20	90	6
ESR724 0800525	8	0.5	12	25	100	8
ESR724 0801025	8	1	12	25	100	8
ESR724 1000532	10	0.5	15	32	100	10
ESR724 1001032	10	1	15	32	100	10
ESR724 1002032	10	2	15	32	100	10
ESR724 1200538	12	0.5	18	38	110	12
ESR724 1201038	12	1	18	38	110	12
ESR724 1202038	12	2	18	38	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESR732 2 Flutes Long Shank Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ERS732 01001	1	0.1	2	50	6	ERS732 04002	4	0.2	10	70	6
ERS732 01002	1	0.2	2	50	6	ERS732 04003	4	0.3	10	70	6
ERS732 01003	1	0.3	2	50	6	ERS732 04005	4	0.5	10	70	6
ERS732 01501	1.5	0.1	3	50	6	ERS732 04010	4	1	10	70	6
ERS732 01502	1.5	0.2	3	50	6	ERS732 05001	5	0.1	13	80	6
ERS732 01503	1.5	0.3	3	50	6	ERS732 05002	5	0.2	13	80	6
ERS732 01505	1.5	0.5	3	50	6	ERS732 05003	5	0.3	13	80	6
ERS732 02001	2	0.1	5	50	6	ERS732 05005	5	0.5	13	80	6
ERS732 02002	2	0.2	5	50	6	ERS732 05010	5	1	13	80	6
ERS732 02003	2	0.3	5	50	6	ERS732 06001	6	0.1	15	90	6
ERS732 02005	2	0.5	5	50	6	ERS732 06002	6	0.2	15	90	6
ERS732 02501	2.5	0.1	7	60	6	ERS732 06003	6	0.3	15	90	6
ERS732 02502	2.5	0.2	7	60	6	ERS732 06005	6	0.5	15	90	6
ERS732 02503	2.5	0.3	7	60	6	ERS732 06010	6	1	15	90	6
ERS732 02505	2.5	0.5	7	60	6	ERS732 08001	8	0.1	20	100	8
ERS732 03001	3	0.1	8	60	6	ERS732 08002	8	0.2	20	100	8
ERS732 03002	3	0.2	8	60	6	ERS732 08003	8	0.3	20	100	8
ERS732 03003	3	0.3	8	60	6	ERS732 08005	8	0.5	20	100	8
ERS732 03005	3	0.5	8	60	6	ERS732 08010	8	1	20	100	8
ERS732 04001	4	0.1	10	70	6	ERS732 08020	8	2	20	100	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ESR732

2 Flutes Long Shank Radius End Mill

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

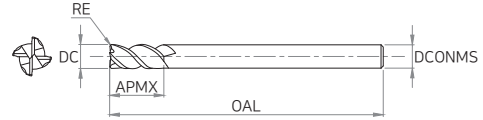
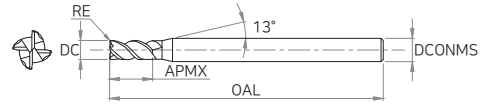
EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ERS732 10002	10	0.2	25	100	10	ERS732 12002	12	0.2	30	110	12
ERS732 10003	10	0.3	25	100	10	ERS732 12003	12	0.3	30	110	12
ERS732 10005	10	0.5	25	100	10	ERS732 12005	12	0.5	30	110	12
ERS732 10010	10	1	25	100	10	ERS732 12010	12	1	30	110	12
ERS732 10020	10	2	25	100	10	ERS732 12020	12	2	30	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

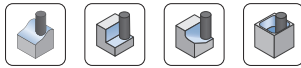
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESR734 4 Flutes Long Shank Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ESR734 01001	1	0.1	2	50	6	ESR734 04002	4	0.2	10	70	6
ESR734 01002	1	0.2	2	50	6	ESR734 04002S4	4	0.2	10	70	4
ESR734 01003	1	0.3	2	50	6	ESR734 04003	4	0.3	10	70	6
ESR734 01501	1.5	0.1	3	50	6	ESR734 04005	4	0.5	10	70	6
ESR734 01502	1.5	0.2	3	50	6	ESR734 04005S4	4	0.5	10	70	4
ESR734 01503	1.5	0.3	3	50	6	ESR734 04010	4	1	10	70	6
ESR734 01505	1.5	0.5	3	50	6	ESR734 05001	5	0.1	13	80	6
ESR734 02001	2	0.1	5	50	6	ESR734 05002	5	0.2	13	80	6
ESR734 02002	2	0.2	5	50	6	ESR734 05003	5	0.3	13	80	6
ESR734 02003	2	0.3	5	50	6	ESR734 05005	5	0.5	13	80	6
ESR734 02005	2	0.5	5	50	6	ESR734 05010	5	1	13	80	6
ESR734 02501	2.5	0.1	7	60	6	ESR734 06001	6	0.1	15	90	6
ESR734 02502	2.5	0.2	7	60	6	ESR734 06002	6	0.2	15	90	6
ESR734 02503	2.5	0.3	7	60	6	ESR734 06003	6	0.3	15	90	6
ESR734 02505	2.5	0.5	7	60	6	ESR734 06005	6	0.5	15	90	6
ESR734 03001	3	0.1	8	60	6	ESR734 06010	6	1	15	90	6
ESR734 03002	3	0.2	8	60	6	ESR734 08001	8	0.1	20	100	8
ESR734 03003	3	0.3	8	60	6	ESR734 08002	8	0.2	20	100	8
ESR734 03005	3	0.5	8	60	6	ESR734 08003	8	0.3	20	100	8
ESR734 04001	4	0.1	10	70	6	ESR734 08005	8	0.5	20	100	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ESR734 4 Flutes Long Shank Radius End Mil

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

EDP No	DC	RE	APMX	OAL	DCON MS
ESR734 08010	8	1	20	100	8
ESR734 08020	8	2	20	100	8
ESR734 10002	10	0.2	25	100	10
ESR734 10003	10	0.3	25	100	10
ESR734 10005	10	0.5	25	100	10
ESR734 10010	10	1	25	100	10
ESR734 10020	10	2	25	100	10

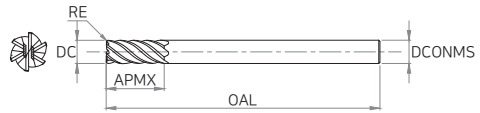
EDP No	DC	RE	APMX	OAL	DCON MS
ESR734 12002	12	0.2	30	110	12
ESR734 12003	12	0.3	30	110	12
ESR734 12005	12	0.5	30	110	12
ESR734 12010	12	1	30	110	12
ESR734 12010L	12	1	30	150	12
ESR734 12020	12	2	30	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

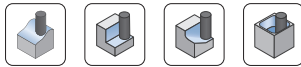
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESR736 6 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	OAL	DCONMS
ESR736 06005	6	0.5	15	90	6
ESR736 06010	6	1	15	90	6
ESR736 08005	8	0.5	20	100	8
ESR736 08010	8	1	20	100	8
ESR736 10005	10	0.5	25	100	10
ESR736 10010	10	1	25	100	10
ESR736 12005	12	0.5	30	110	12
ESR736 12010	12	1	30	110	12

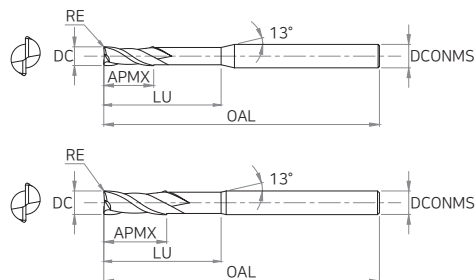
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

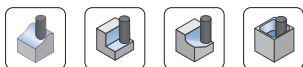
Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø16	0 ~ -0.015	

U-Wing



CARBIDE

AITIN



Ø6 OR UNDER

ABOVE Ø6

Zamus
Thunder

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 002002005	0.2	0.02	0.2	0.5	40	4	ESRR712 00401001	0.4	0.1	0.4	1	40	4
ESRR712 00200201	0.2	0.02	0.2	1	40	4	ESRR712 004010015	0.4	0.1	0.4	1.5	40	4
ESRR712 002002015	0.2	0.02	0.2	1.5	40	4	ESRR712 00401002	0.4	0.1	0.4	2	40	4
ESRR712 002005005	0.2	0.05	0.2	0.5	40	4	ESRR712 00401003	0.4	0.1	0.4	3	40	4
ESRR712 00200501	0.2	0.05	0.2	1	40	4	ESRR712 00401004	0.4	0.1	0.4	4	40	4
ESRR712 002005015	0.2	0.05	0.2	1.5	40	4	ESRR712 00500201	0.5	0.02	0.5	1	45	4
ESRR712 00300201	0.3	0.02	0.3	1	40	4	ESRR712 005002015	0.5	0.02	0.5	1.5	45	4
ESRR712 00300202	0.3	0.02	0.3	2	40	4	ESRR712 00500202	0.5	0.02	0.5	2	45	4
ESRR712 00300203	0.3	0.02	0.3	3	40	4	ESRR712 005002025	0.5	0.02	0.5	2.5	45	4
ESRR712 00300501	0.3	0.05	0.3	1	40	4	ESRR712 00500203	0.5	0.02	0.5	3	45	4
ESRR712 00300502	0.3	0.05	0.3	2	40	4	ESRR712 00500204	0.5	0.02	0.5	4	45	4
ESRR712 00300503	0.3	0.05	0.3	3	40	4	ESRR712 00500205	0.5	0.02	0.5	5	45	4
ESRR712 00400201	0.4	0.02	0.4	1	40	4	ESRR712 00500206	0.5	0.02	0.5	6	45	4
ESRR712 00400202	0.4	0.02	0.4	2	40	4	ESRR712 00500208	0.5	0.02	0.5	8	45	4
ESRR712 00400203	0.4	0.02	0.4	3	40	4	ESRR712 00500210	0.5	0.02	0.5	10	45	4
ESRR712 00400204	0.4	0.02	0.4	4	40	4	ESRR712 00500501	0.5	0.05	0.5	1	45	4
ESRR712 00400501	0.4	0.05	0.4	1	40	4	ESRR712 005005015	0.5	0.05	0.5	1.5	45	4
ESRR712 00400502	0.4	0.05	0.4	2	40	4	ESRR712 00500502	0.5	0.05	0.5	2	45	4
ESRR712 00400503	0.4	0.05	0.4	3	40	4	ESRR712 005005025	0.5	0.05	0.5	2.5	45	4
ESRR712 00400504	0.4	0.05	0.4	4	40	4	ESRR712 00500503	0.5	0.05	0.5	3	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 00500504	0.5	0.05	0.5	4	45	4	ESRR712 00601010	0.6	0.1	0.6	10	45	4
ESRR712 00500505	0.5	0.05	0.5	5	45	4	ESRR712 00601012	0.6	0.1	0.6	12	50	4
ESRR712 00500506	0.5	0.05	0.5	6	45	4	ESRR712 00701002	0.7	0.1	0.7	2	45	4
ESRR712 00500508	0.5	0.05	0.5	8	45	4	ESRR712 00701004	0.7	0.1	0.7	4	45	4
ESRR712 00500510	0.5	0.05	0.5	10	45	4	ESRR712 00701008	0.7	0.1	0.7	8	45	4
ESRR712 00501001	0.5	0.1	0.5	1	45	4	ESRR712 00701010	0.7	0.1	0.7	10	45	4
ESRR712 005010015	0.5	0.1	0.5	1.5	45	4	ESRR712 00800202	0.8	0.02	0.8	2	45	4
ESRR712 00501002	0.5	0.1	0.5	2	45	4	ESRR712 00800204	0.8	0.02	0.8	4	45	4
ESRR712 005010025	0.5	0.1	0.5	2.5	45	4	ESRR712 00800206	0.8	0.02	0.8	6	45	4
ESRR712 00501003	0.5	0.1	0.5	3	45	4	ESRR712 00800208	0.8	0.02	0.8	8	45	4
ESRR712 00501004	0.5	0.1	0.5	4	45	4	ESRR712 00800210	0.8	0.02	0.8	10	45	4
ESRR712 00501005	0.5	0.1	0.5	5	45	4	ESRR712 00800212	0.8	0.02	0.8	12	50	4
ESRR712 00501006	0.5	0.1	0.5	6	45	4	ESRR712 00800502	0.8	0.05	0.8	2	45	4
ESRR712 00501008	0.5	0.1	0.5	8	45	4	ESRR712 00800504	0.8	0.05	0.8	4	45	4
ESRR712 00501010	0.5	0.1	0.5	10	45	4	ESRR712 00800506	0.8	0.05	0.8	6	45	4
ESRR712 00600202	0.6	0.02	0.6	2	45	4	ESRR712 00800508	0.8	0.05	0.8	8	45	4
ESRR712 00600203	0.6	0.02	0.6	3	45	4	ESRR712 00800510	0.8	0.05	0.8	10	45	4
ESRR712 00600204	0.6	0.02	0.6	4	45	4	ESRR712 00800512	0.8	0.05	0.8	12	50	4
ESRR712 00600206	0.6	0.02	0.6	6	45	4	ESRR712 00801002	0.8	0.1	0.8	2	45	4
ESRR712 00600208	0.6	0.02	0.6	8	45	4	ESRR712 00801004	0.8	0.1	0.8	4	45	4
ESRR712 00600210	0.6	0.02	0.6	10	45	4	ESRR712 00801006	0.8	0.1	0.8	6	45	4
ESRR712 00600212	0.6	0.02	0.6	12	50	4	ESRR712 00801008	0.8	0.1	0.8	8	45	4
ESRR712 00600502	0.6	0.05	0.6	2	45	4	ESRR712 00801010	0.8	0.1	0.8	10	45	4
ESRR712 00600503	0.6	0.05	0.6	3	45	4	ESRR712 00801012	0.8	0.1	0.8	12	50	4
ESRR712 00600504	0.6	0.05	0.6	4	45	4	ESRR712 00802002	0.8	0.2	0.8	2	45	4
ESRR712 00600506	0.6	0.05	0.6	6	45	4	ESRR712 00802004	0.8	0.2	0.8	4	45	4
ESRR712 00600508	0.6	0.05	0.6	8	45	4	ESRR712 00802006	0.8	0.2	0.8	6	45	4
ESRR712 00600510	0.6	0.05	0.6	10	45	4	ESRR712 00802008	0.8	0.2	0.8	8	45	4
ESRR712 00600512	0.6	0.05	0.6	12	50	4	ESRR712 00802010	0.8	0.2	0.8	10	45	4
ESRR712 00601002	0.6	0.1	0.6	2	45	4	ESRR712 00802012	0.8	0.2	0.8	12	50	4
ESRR712 00601003	0.6	0.1	0.6	3	45	4	ESRR712 01000204	1	0.02	1	4	45	4
ESRR712 00601004	0.6	0.1	0.6	4	45	4	ESRR712 01000206	1	0.02	1	6	45	4
ESRR712 00601006	0.6	0.1	0.6	6	45	4	ESRR712 01000208	1	0.02	1	8	45	4
ESRR712 00601008	0.6	0.1	0.6	8	45	4	ESRR712 01000210	1	0.02	1	10	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 01000212	1	0.02	1	12	50	4	ESRR712 01003016	1	0.3	1	16	50	4
ESRR712 01000214	1	0.02	1	14	50	4	ESRR712 01003020	1	0.3	1	20	50	4
ESRR712 01000216	1	0.02	1	16	50	4	ESRR712 01200204	1.2	0.02	1.2	4	45	4
ESRR712 01000220	1	0.02	1	20	50	4	ESRR712 01200206	1.2	0.02	1.2	6	45	4
ESRR712 01000504	1	0.05	1	4	45	4	ESRR712 01200208	1.2	0.02	1.2	8	45	4
ESRR712 01000506	1	0.05	1	6	45	4	ESRR712 01200210	1.2	0.02	1.2	10	50	4
ESRR712 01000508	1	0.05	1	8	45	4	ESRR712 01200212	1.2	0.02	1.2	12	50	4
ESRR712 01000510	1	0.05	1	10	50	4	ESRR712 01200214	1.2	0.02	1.2	14	50	4
ESRR712 01000512	1	0.05	1	12	50	4	ESRR712 01200216	1.2	0.02	1.2	16	50	4
ESRR712 01000514	1	0.05	1	14	50	4	ESRR712 01200220	1.2	0.02	1.2	20	50	4
ESRR712 01000516	1	0.05	1	16	50	4	ESRR712 01200504	1.2	0.05	1.2	4	45	4
ESRR712 01000520	1	0.05	1	20	50	4	ESRR712 01200506	1.2	0.05	1.2	6	45	4
ESRR712 01001004	1	0.1	1	4	45	4	ESRR712 01200508	1.2	0.05	1.2	8	45	4
ESRR712 01001006	1	0.1	1	6	45	4	ESRR712 01200510	1.2	0.05	1.2	10	50	4
ESRR712 01001008	1	0.1	1	8	45	4	ESRR712 01200512	1.2	0.05	1.2	12	50	4
ESRR712 01001010	1	0.1	1	10	50	4	ESRR712 01200514	1.2	0.05	1.2	14	50	4
ESRR712 01001012	1	0.1	1	12	50	4	ESRR712 01200516	1.2	0.05	1.2	16	50	4
ESRR712 01001014	1	0.1	1	14	50	4	ESRR712 01200520	1.2	0.05	1.2	20	50	4
ESRR712 01001016	1	0.1	1	16	50	4	ESRR712 01201004	1.2	0.1	1.2	4	45	4
ESRR712 01001020	1	0.1	1	20	50	4	ESRR712 01201006	1.2	0.1	1.2	6	45	4
ESRR712 01002004	1	0.2	1	4	45	4	ESRR712 01201008	1.2	0.1	1.2	8	45	4
ESRR712 01002006	1	0.2	1	6	45	4	ESRR712 01201010	1.2	0.1	1.2	10	50	4
ESRR712 01002008	1	0.2	1	8	45	4	ESRR712 01201012	1.2	0.1	1.2	12	50	4
ESRR712 01002010	1	0.2	1	10	50	4	ESRR712 01201014	1.2	0.1	1.2	14	50	4
ESRR712 01002012	1	0.2	1	12	50	4	ESRR712 01201016	1.2	0.1	1.2	16	50	4
ESRR712 01002014	1	0.2	1	14	50	4	ESRR712 01201020	1.2	0.1	1.2	20	50	4
ESRR712 01002016	1	0.2	1	16	50	4	ESRR712 01202004	1.2	0.2	1.2	4	45	4
ESRR712 01002020	1	0.2	1	20	50	4	ESRR712 01202006	1.2	0.2	1.2	6	45	4
ESRR712 01003004	1	0.3	1	4	45	4	ESRR712 01202008	1.2	0.2	1.2	8	45	4
ESRR712 01003006	1	0.3	1	6	45	4	ESRR712 01202010	1.2	0.2	1.2	10	50	4
ESRR712 01003008	1	0.3	1	8	45	4	ESRR712 01202012	1.2	0.2	1.2	12	50	4
ESRR712 01003010	1	0.3	1	10	50	4	ESRR712 01202014	1.2	0.2	1.2	14	50	4
ESRR712 01003012	1	0.3	1	12	50	4	ESRR712 01202016	1.2	0.2	1.2	16	50	4
ESRR712 01003014	1	0.3	1	14	50	4	ESRR712 01202020	1.2	0.2	1.2	20	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	HB225 ~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 01203004	1.2	0.3	1.2	4	45	4	ESRR712 01502008	1.5	0.2	1.5	8	45	4
ESRR712 01203006	1.2	0.3	1.2	6	45	4	ESRR712 01502010	1.5	0.2	1.5	10	50	4
ESRR712 01203008	1.2	0.3	1.2	8	45	4	ESRR712 01502012	1.5	0.2	1.5	12	50	4
ESRR712 01203010	1.2	0.3	1.2	10	50	4	ESRR712 01502014	1.5	0.2	1.5	14	50	4
ESRR712 01203012	1.2	0.3	1.2	12	50	4	ESRR712 01502016	1.5	0.2	1.5	16	50	4
ESRR712 01203014	1.2	0.3	1.2	14	50	4	ESRR712 01502020	1.5	0.2	1.5	20	50	4
ESRR712 01203016	1.2	0.3	1.2	16	50	4	ESRR712 01503004	1.5	0.3	1.5	4	45	4
ESRR712 01203020	1.2	0.3	1.2	20	50	4	ESRR712 01503006	1.5	0.3	1.5	6	45	4
ESRR712 01500204	1.5	0.02	1.5	4	45	4	ESRR712 01503008	1.5	0.3	1.5	8	45	4
ESRR712 01500206	1.5	0.02	1.5	6	45	4	ESRR712 01503010	1.5	0.3	1.5	10	50	4
ESRR712 01500208	1.5	0.02	1.5	8	45	4	ESRR712 01503012	1.5	0.3	1.5	12	50	4
ESRR712 01500210	1.5	0.02	1.5	10	50	4	ESRR712 01503014	1.5	0.3	1.5	14	50	4
ESRR712 01500212	1.5	0.02	1.5	12	50	4	ESRR712 01503016	1.5	0.3	1.5	16	50	4
ESRR712 01500214	1.5	0.02	1.5	14	50	4	ESRR712 01503020	1.5	0.3	1.5	20	50	4
ESRR712 01500216	1.5	0.02	1.5	16	50	4	ESRR712 01505004	1.5	0.5	1.5	4	45	4
ESRR712 01500220	1.5	0.02	1.5	20	50	4	ESRR712 01505006	1.5	0.5	1.5	6	45	4
ESRR712 01500504	1.5	0.05	1.5	4	45	4	ESRR712 01505008	1.5	0.5	1.5	8	45	4
ESRR712 01500506	1.5	0.05	1.5	6	45	4	ESRR712 01505010	1.5	0.5	1.5	10	50	4
ESRR712 01500508	1.5	0.05	1.5	8	45	4	ESRR712 01505012	1.5	0.5	1.5	12	50	4
ESRR712 01500510	1.5	0.05	1.5	10	50	4	ESRR712 01505014	1.5	0.5	1.5	14	50	4
ESRR712 01500512	1.5	0.05	1.5	12	50	4	ESRR712 01505016	1.5	0.5	1.5	16	50	4
ESRR712 01500514	1.5	0.05	1.5	14	50	4	ESRR712 01505020	1.5	0.5	1.5	20	50	4
ESRR712 01500516	1.5	0.05	1.5	16	50	4	ESRR712 02000206	2	0.02	2	6	45	4
ESRR712 01500520	1.5	0.05	1.5	20	50	4	ESRR712 02000208	2	0.02	2	8	45	4
ESRR712 01501004	1.5	0.1	1.5	4	45	4	ESRR712 02000210	2	0.02	2	10	50	4
ESRR712 01501006	1.5	0.1	1.5	6	45	4	ESRR712 02000212	2	0.02	2	12	50	4
ESRR712 01501008	1.5	0.1	1.5	8	45	4	ESRR712 02000214	2	0.02	2	14	50	4
ESRR712 01501010	1.5	0.1	1.5	10	50	4	ESRR712 02000216	2	0.02	2	16	50	4
ESRR712 01501012	1.5	0.1	1.5	12	50	4	ESRR712 02000220	2	0.02	2	20	50	4
ESRR712 01501014	1.5	0.1	1.5	14	50	4	ESRR712 02000225	2	0.02	2	25	60	4
ESRR712 01501016	1.5	0.1	1.5	16	50	4	ESRR712 02000506	2	0.05	2	6	45	4
ESRR712 01501020	1.5	0.1	1.5	20	50	4	ESRR712 02000508	2	0.05	2	8	45	4
ESRR712 01502004	1.5	0.2	1.5	4	45	4	ESRR712 02000510	2	0.05	2	10	50	4
ESRR712 01502006	1.5	0.2	1.5	6	45	4	ESRR712 02000512	2	0.05	2	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 02000514	2	0.05	2	14	50	4	ESRR712 02005012	2	0.5	2	12	50	4
ESRR712 02000516	2	0.05	2	16	50	4	ESRR712 02005014	2	0.5	2	14	50	4
ESRR712 02000520	2	0.05	2	20	50	4	ESRR712 02005016	2	0.5	2	16	50	4
ESRR712 02000525	2	0.05	2	25	60	4	ESRR712 02005020	2	0.5	2	20	50	4
ESRR712 02001006	2	0.1	2	6	45	4	ESRR712 02005025	2	0.5	2	25	60	4
ESRR712 02001008	2	0.1	2	8	45	4	ESRR712 02005030	2	0.5	2	30	70	4
ESRR712 02001010	2	0.1	2	10	50	4	ESRR712 02501010	2.5	0.1	2.5	10	50	4
ESRR712 02001012	2	0.1	2	12	50	4	ESRR712 02501016	2.5	0.1	2.5	16	50	4
ESRR712 02001014	2	0.1	2	14	50	4	ESRR712 02501020	2.5	0.1	2.5	20	50	4
ESRR712 02001016	2	0.1	2	16	50	4	ESRR712 02501025	2.5	0.1	2.5	25	60	4
ESRR712 02001020	2	0.1	2	20	50	4	ESRR712 02501030	2.5	0.1	2.5	30	70	4
ESRR712 02001025	2	0.1	2	25	60	4	ESRR712 02502010	2.5	0.2	2.5	10	50	4
ESRR712 02001030	2	0.1	2	30	70	4	ESRR712 02502016	2.5	0.2	2.5	16	50	4
ESRR712 02002006	2	0.2	2	6	45	4	ESRR712 02502020	2.5	0.2	2.5	20	50	4
ESRR712 02002008	2	0.2	2	8	45	4	ESRR712 02503010	2.5	0.3	2.5	10	50	4
ESRR712 02002010	2	0.2	2	10	50	4	ESRR712 02503016	2.5	0.3	2.5	16	50	4
ESRR712 02002012	2	0.2	2	12	50	4	ESRR712 02503020	2.5	0.3	2.5	20	50	4
ESRR712 02002014	2	0.2	2	14	50	4	ESRR712 02505010	2.5	0.5	2.5	10	50	4
ESRR712 02002016	2	0.2	2	16	50	4	ESRR712 02505016	2.5	0.5	2.5	16	50	4
ESRR712 02002020	2	0.2	2	20	50	4	ESRR712 02505020	2.5	0.5	2.5	20	50	4
ESRR712 02002025	2	0.2	2	25	60	4	ESRR712 03001010	3	0.1	3	10	50	6
ESRR712 02002030	2	0.2	2	30	70	4	ESRR712 03001012	3	0.1	3	12	50	6
ESRR712 02003006	2	0.3	2	6	45	4	ESRR712 03001016	3	0.1	3	16	55	6
ESRR712 02003008	2	0.3	2	8	45	4	ESRR712 03001020	3	0.1	3	20	60	6
ESRR712 02003010	2	0.3	2	10	50	4	ESRR712 03001025	3	0.1	3	25	65	6
ESRR712 02003012	2	0.3	2	12	50	4	ESRR712 03001030	3	0.1	3	30	70	6
ESRR712 02003014	2	0.3	2	14	50	4	ESRR712 03001035	3	0.1	3	35	75	6
ESRR712 02003016	2	0.3	2	16	50	4	ESRR712 03001040	3	0.1	3	40	80	6
ESRR712 02003020	2	0.3	2	20	50	4	ESRR712 03002010	3	0.2	3	10	50	6
ESRR712 02003025	2	0.3	2	25	60	4	ESRR712 03002012	3	0.2	3	12	50	6
ESRR712 02003030	2	0.3	2	30	70	4	ESRR712 03002016	3	0.2	3	16	55	6
ESRR712 02005006	2	0.5	2	6	45	4	ESRR712 03002020	3	0.2	3	20	60	6
ESRR712 02005008	2	0.5	2	8	45	4	ESRR712 03002025	3	0.2	3	25	65	6
ESRR712 02005010	2	0.5	2	10	50	4	ESRR712 03002030	3	0.2	3	30	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 03002035	3	0.2	3	35	75	6	ESRR712 04002016	4	0.2	4	16	55	6
ESRR712 03002040	3	0.2	3	40	80	6	ESRR712 04002020	4	0.2	4	20	60	6
ESRR712 03003010	3	0.3	3	10	50	6	ESRR712 04002025	4	0.2	4	25	65	6
ESRR712 03003012	3	0.3	3	12	50	6	ESRR712 04002030	4	0.2	4	30	70	6
ESRR712 03003016	3	0.3	3	16	55	6	ESRR712 04002035	4	0.2	4	35	75	6
ESRR712 03003020	3	0.3	3	20	60	6	ESRR712 04002040	4	0.2	4	40	80	6
ESRR712 03003025	3	0.3	3	25	65	6	ESRR712 04003012	4	0.3	4	12	50	6
ESRR712 03003030	3	0.3	3	30	70	6	ESRR712 04003016	4	0.3	4	16	55	6
ESRR712 03003035	3	0.3	3	35	75	6	ESRR712 04003020	4	0.3	4	20	60	6
ESRR712 03003040	3	0.3	3	40	80	6	ESRR712 04003025	4	0.3	4	25	65	6
ESRR712 03005010	3	0.5	3	10	50	6	ESRR712 04003030	4	0.3	4	30	70	6
ESRR712 03005012	3	0.5	3	12	50	6	ESRR712 04003035	4	0.3	4	35	75	6
ESRR712 03005016	3	0.5	3	16	55	6	ESRR712 04003040	4	0.3	4	40	80	6
ESRR712 03005020	3	0.5	3	20	60	6	ESRR712 04005012	4	0.5	4	12	50	6
ESRR712 03005025	3	0.5	3	25	65	6	ESRR712 04005016	4	0.5	4	16	55	6
ESRR712 03005030	3	0.5	3	30	70	6	ESRR712 04005020	4	0.5	4	20	60	6
ESRR712 03005035	3	0.5	3	35	75	6	ESRR712 04005025	4	0.5	4	25	65	6
ESRR712 03005040	3	0.5	3	40	80	6	ESRR712 04005030	4	0.5	4	30	70	6
ESRR712 03010010	3	1	3	10	50	6	ESRR712 04005035	4	0.5	4	35	75	6
ESRR712 03010012	3	1	3	12	50	6	ESRR712 04005040	4	0.5	4	40	80	6
ESRR712 03010016	3	1	3	16	55	6	ESRR712 04010012	4	1	4	12	50	6
ESRR712 03010020	3	1	3	20	60	6	ESRR712 04010016	4	1	4	16	55	6
ESRR712 03010025	3	1	3	25	65	6	ESRR712 04010020	4	1	4	20	60	6
ESRR712 03010030	3	1	3	30	70	6	ESRR712 04010025	4	1	4	25	65	6
ESRR712 03010035	3	1	3	35	75	6	ESRR712 04010030	4	1	4	30	70	6
ESRR712 03010040	3	1	3	40	80	6	ESRR712 04010035	4	1	4	35	75	6
ESRR712 04001012	4	0.1	4	12	50	6	ESRR712 04010040	4	1	4	40	80	6
ESRR712 04001016	4	0.1	4	16	55	6	ESRR712 05002015	5	0.2	6	15	60	6
ESRR712 04001020	4	0.1	4	20	60	6	ESRR712 05002025	5	0.2	6	25	70	6
ESRR712 04001025	4	0.1	4	25	65	6	ESRR712 05002030	5	0.2	6	30	70	6
ESRR712 04001030	4	0.1	4	30	70	6	ESRR712 05002040	5	0.2	6	40	80	6
ESRR712 04001035	4	0.1	4	35	75	6	ESRR712 05005015	5	0.5	6	15	60	6
ESRR712 04001040	4	0.1	4	40	80	6	ESRR712 05005025	5	0.5	6	25	70	6
ESRR712 04002012	4	0.2	4	12	50	6	ESRR712 05005030	5	0.5	6	30	70	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR712 2 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR712 05005040	5	0.5	6	40	80	6	ESRR712 08005022	8	0.5	9	22	65	8
ESRR712 05010015	5	1	6	15	60	6	ESRR712 08010022	8	1	9	22	65	8
ESRR712 05010025	5	1	6	25	70	6	ESRR712 08015022	8	1.5	9	22	65	8
ESRR712 05010030	5	1	6	30	70	6	ESRR712 10002024	10	0.2	11	24	70	10
ESRR712 05010040	5	1	6	40	80	6	ESRR712 10003024	10	0.3	11	24	70	10
ESRR712 06001020	6	0.1	7	20	60	6	ESRR712 10005024	10	0.5	11	24	70	10
ESRR712 06001040	6	0.1	7	40	80	6	ESRR712 10010024	10	1	11	24	70	10
ESRR712 06002020	6	0.2	7	20	60	6	ESRR712 10015024	10	1.5	11	24	70	10
ESRR712 06002040	6	0.2	7	40	80	6	ESRR712 10020024	10	2	11	24	70	10
ESRR712 06003020	6	0.3	7	20	60	6	ESRR712 12002026	12	0.2	13	26	80	12
ESRR712 06003040	6	0.3	7	40	80	6	ESRR712 12003026	12	0.3	13	26	80	12
ESRR712 06005020	6	0.5	7	20	60	6	ESRR712 12005026	12	0.5	13	26	80	12
ESRR712 06005040	6	0.5	7	40	80	6	ESRR712 12010026	12	1	13	26	80	12
ESRR712 06010020	6	1	7	20	60	6	ESRR712 12015026	12	1.5	13	26	80	12
ESRR712 06010040	6	1	7	40	80	6	ESRR712 12020026	12	2	13	26	80	12
ESRR712 06015020	6	1.5	7	20	60	6	ESRR712 12030026	12	3	13	26	80	12
ESRR712 06015040	6	1.5	7	40	80	6	ESRR712 16005035	16	0.5	20	35	110	16
ESRR712 08002022	8	0.2	9	22	65	8	ESRR712 16010035	16	1	20	35	110	16
ESRR712 08003022	8	0.3	9	22	65	8							

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

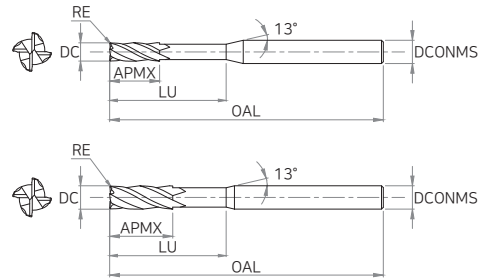
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

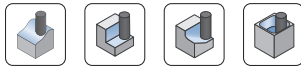
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 00500502	0.5	0.05	0.5	2	45	4	ESRR714 00701002	0.7	0.1	0.7	2	45	4
ESRR714 00500504	0.5	0.05	0.5	4	45	4	ESRR714 00701004	0.7	0.1	0.7	4	45	4
ESRR714 00500506	0.5	0.05	0.5	6	45	4	ESRR714 00701006	0.7	0.1	0.7	6	45	4
ESRR714 00500508	0.5	0.05	0.5	8	45	4	ESRR714 00701008	0.7	0.1	0.7	8	45	4
ESRR714 00501002	0.5	0.1	0.5	2	45	4	ESRR714 00800202	0.8	0.02	0.8	2	45	4
ESRR714 00501004	0.5	0.1	0.5	4	45	4	ESRR714 00800204	0.8	0.02	0.8	4	45	4
ESRR714 00501006	0.5	0.1	0.5	6	45	4	ESRR714 00800206	0.8	0.02	0.8	6	45	4
ESRR714 00501008	0.5	0.1	0.5	8	45	4	ESRR714 00800208	0.8	0.02	0.8	8	45	4
ESRR714 00600502	0.6	0.05	0.6	2	45	4	ESRR714 00800210	0.8	0.02	0.8	10	45	4
ESRR714 00600504	0.6	0.05	0.6	4	45	4	ESRR714 00800212	0.8	0.02	0.8	12	50	4
ESRR714 00600506	0.6	0.05	0.6	6	45	4	ESRR714 00800502	0.8	0.05	0.8	2	45	4
ESRR714 00600508	0.6	0.05	0.6	8	45	4	ESRR714 00800504	0.8	0.05	0.8	4	45	4
ESRR714 00601002	0.6	0.1	0.6	2	45	4	ESRR714 00800506	0.8	0.05	0.8	6	45	4
ESRR714 00601004	0.6	0.1	0.6	4	45	4	ESRR714 00800508	0.8	0.05	0.8	8	45	4
ESRR714 00601006	0.6	0.1	0.6	6	45	4	ESRR714 00800510	0.8	0.05	0.8	10	45	4
ESRR714 00601008	0.6	0.1	0.6	8	45	4	ESRR714 00800512	0.8	0.05	0.8	12	50	4
ESRR714 00700502	0.7	0.05	0.7	2	45	4	ESRR714 00801002	0.8	0.1	0.8	2	45	4
ESRR714 00700504	0.7	0.05	0.7	4	45	4	ESRR714 00801004	0.8	0.1	0.8	4	45	4
ESRR714 00700506	0.7	0.05	0.7	6	45	4	ESRR714 00801006	0.8	0.1	0.8	6	45	4
ESRR714 00700508	0.7	0.05	0.7	8	45	4	ESRR714 00801008	0.8	0.1	0.8	8	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 00801010	0.8	0.1	0.8	10	45	4	ESRR714 01002014	1	0.2	1	14	50	4
ESRR714 00801012	0.8	0.1	0.8	12	50	4	ESRR714 01002016	1	0.2	1	16	50	4
ESRR714 01000204	1	0.02	1	4	45	4	ESRR714 01002020	1	0.2	1	20	50	4
ESRR714 01000206	1	0.02	1	6	45	4	ESRR714 01003003	1	0.3	1	3	45	4
ESRR714 01000208	1	0.02	1	8	45	4	ESRR714 01003004	1	0.3	1	4	45	4
ESRR714 01000210	1	0.02	1	10	50	4	ESRR714 01003006	1	0.3	1	6	45	4
ESRR714 01000212	1	0.02	1	12	50	4	ESRR714 01003008	1	0.3	1	8	45	4
ESRR714 01000214	1	0.02	1	14	50	4	ESRR714 01003010	1	0.3	1	10	50	4
ESRR714 01000216	1	0.02	1	16	50	4	ESRR714 01003012	1	0.3	1	12	50	4
ESRR714 01000220	1	0.02	1	20	50	4	ESRR714 01003014	1	0.3	1	14	50	4
ESRR714 01000503	1	0.05	1	3	45	4	ESRR714 01003016	1	0.3	1	16	50	4
ESRR714 01000504	1	0.05	1	4	45	4	ESRR714 01003020	1	0.3	1	20	50	4
ESRR714 01000506	1	0.05	1	6	45	4	ESRR714 01200204	1.2	0.02	1.2	4	45	4
ESRR714 01000508	1	0.05	1	8	45	4	ESRR714 01200206	1.2	0.02	1.2	6	45	4
ESRR714 01000510	1	0.05	1	10	50	4	ESRR714 01200208	1.2	0.02	1.2	8	45	4
ESRR714 01000512	1	0.05	1	12	50	4	ESRR714 01200210	1.2	0.02	1.2	10	50	4
ESRR714 01000514	1	0.05	1	14	50	4	ESRR714 01200212	1.2	0.02	1.2	12	50	4
ESRR714 01000516	1	0.05	1	16	50	4	ESRR714 01200214	1.2	0.02	1.2	14	50	4
ESRR714 01000520	1	0.05	1	20	50	4	ESRR714 01200216	1.2	0.02	1.2	16	50	4
ESRR714 01001003	1	0.1	1	3	45	4	ESRR714 01200220	1.2	0.02	1.2	20	50	4
ESRR714 01001004	1	0.1	1	4	45	4	ESRR714 01200503	1.2	0.05	1.2	3	45	4
ESRR714 01001006	1	0.1	1	6	45	4	ESRR714 01200504	1.2	0.05	1.2	4	45	4
ESRR714 01001008	1	0.1	1	8	45	4	ESRR714 01200506	1.2	0.05	1.2	6	45	4
ESRR714 01001010	1	0.1	1	10	50	4	ESRR714 01200508	1.2	0.05	1.2	8	45	4
ESRR714 01001012	1	0.1	1	12	50	4	ESRR714 01200510	1.2	0.05	1.2	10	50	4
ESRR714 01001014	1	0.1	1	14	50	4	ESRR714 01200512	1.2	0.05	1.2	12	50	4
ESRR714 01001016	1	0.1	1	16	50	4	ESRR714 01200514	1.2	0.05	1.2	14	50	4
ESRR714 01001020	1	0.1	1	20	50	4	ESRR714 01200516	1.2	0.05	1.2	16	50	4
ESRR714 01002003	1	0.2	1	3	45	4	ESRR714 01200520	1.2	0.05	1.2	20	50	4
ESRR714 01002004	1	0.2	1	4	45	4	ESRR714 01201003	1.2	0.1	1.2	3	45	4
ESRR714 01002006	1	0.2	1	6	45	4	ESRR714 01201004	1.2	0.1	1.2	4	45	4
ESRR714 01002008	1	0.2	1	8	45	4	ESRR714 01201006	1.2	0.1	1.2	6	45	4
ESRR714 01002010	1	0.2	1	10	50	4	ESRR714 01201008	1.2	0.1	1.2	8	45	4
ESRR714 01002012	1	0.2	1	12	50	4	ESRR714 01201010	1.2	0.1	1.2	10	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 01201012	1.2	0.1	1.2	12	50	4	ESRR714 01500514	1.5	0.05	1.5	14	50	4
ESRR714 01201014	1.2	0.1	1.2	14	50	4	ESRR714 01500516	1.5	0.05	1.5	16	50	4
ESRR714 01201016	1.2	0.1	1.2	16	50	4	ESRR714 01500520	1.5	0.05	1.5	20	50	4
ESRR714 01201020	1.2	0.1	1.2	20	50	4	ESRR714 01500522	1.5	0.05	1.5	22	60	4
ESRR714 01202003	1.2	0.2	1.2	3	45	4	ESRR714 01500526	1.5	0.05	1.5	26	60	4
ESRR714 01202004	1.2	0.2	1.2	4	45	4	ESRR714 01501004	1.5	0.1	1.5	4	45	4
ESRR714 01202006	1.2	0.2	1.2	6	45	4	ESRR714 01501006	1.5	0.1	1.5	6	45	4
ESRR714 01202008	1.2	0.2	1.2	8	45	4	ESRR714 01501008	1.5	0.1	1.5	8	45	4
ESRR714 01202010	1.2	0.2	1.2	10	50	4	ESRR714 01501010	1.5	0.1	1.5	10	50	4
ESRR714 01202012	1.2	0.2	1.2	12	50	4	ESRR714 01501012	1.5	0.1	1.5	12	50	4
ESRR714 01202014	1.2	0.2	1.2	14	50	4	ESRR714 01501014	1.5	0.1	1.5	14	50	4
ESRR714 01202016	1.2	0.2	1.2	16	50	4	ESRR714 01501016	1.5	0.1	1.5	16	50	4
ESRR714 01202020	1.2	0.2	1.2	20	50	4	ESRR714 01501020	1.5	0.1	1.5	20	50	4
ESRR714 01203003	1.2	0.3	1.2	3	45	4	ESRR714 01501022	1.5	0.1	1.5	22	60	4
ESRR714 01203004	1.2	0.3	1.2	4	45	4	ESRR714 01501026	1.5	0.1	1.5	26	60	4
ESRR714 01203006	1.2	0.3	1.2	6	45	4	ESRR714 01502004	1.5	0.2	1.5	4	45	4
ESRR714 01203008	1.2	0.3	1.2	8	45	4	ESRR714 01502006	1.5	0.2	1.5	6	45	4
ESRR714 01203010	1.2	0.3	1.2	10	50	4	ESRR714 01502008	1.5	0.2	1.5	8	45	4
ESRR714 01203012	1.2	0.3	1.2	12	50	4	ESRR714 01502010	1.5	0.2	1.5	10	50	4
ESRR714 01203016	1.2	0.3	1.2	16	50	4	ESRR714 01502012	1.5	0.2	1.5	12	50	4
ESRR714 01203020	1.2	0.3	1.2	20	50	4	ESRR714 01502014	1.5	0.2	1.5	14	50	4
ESRR714 01500206	1.5	0.02	1.5	6	45	4	ESRR714 01502016	1.5	0.2	1.5	16	50	4
ESRR714 01500208	1.5	0.02	1.5	8	45	4	ESRR714 01502020	1.5	0.2	1.5	20	50	4
ESRR714 01500210	1.5	0.02	1.5	10	50	4	ESRR714 01502022	1.5	0.2	1.5	22	60	4
ESRR714 01500212	1.5	0.02	1.5	12	50	4	ESRR714 01502025	1.5	0.2	1.5	25	60	4
ESRR714 01500214	1.5	0.02	1.5	14	50	4	ESRR714 01503004	1.5	0.3	1.5	4	45	4
ESRR714 01500216	1.5	0.02	1.5	16	50	4	ESRR714 01503006	1.5	0.3	1.5	6	45	4
ESRR714 01500220	1.5	0.02	1.5	20	50	4	ESRR714 01503008	1.5	0.3	1.5	8	45	4
ESRR714 01500222	1.5	0.02	1.5	22	60	4	ESRR714 01503010	1.5	0.3	1.5	10	50	4
ESRR714 01500504	1.5	0.05	1.5	4	45	4	ESRR714 01503012	1.5	0.3	1.5	12	50	4
ESRR714 01500506	1.5	0.05	1.5	6	45	4	ESRR714 01503014	1.5	0.3	1.5	14	50	4
ESRR714 01500508	1.5	0.05	1.5	8	45	4	ESRR714 01503016	1.5	0.3	1.5	16	50	4
ESRR714 01500510	1.5	0.05	1.5	10	50	4	ESRR714 01503020	1.5	0.3	1.5	20	50	4
ESRR714 01500512	1.5	0.05	1.5	12	50	4	ESRR714 01503022	1.5	0.3	1.5	22	60	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
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ESRR714 4 Flutes Rib Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	ESRR714 01503025	1.5	0.3	1.5	25	60	4		ESRR714 02001016	2	0.1	2	16	50	4
	ESRR714 01505004	1.5	0.5	1.5	4	45	4		ESRR714 02001020	2	0.1	2	20	50	4
	ESRR714 01505006	1.5	0.5	1.5	6	45	4		ESRR714 02001022	2	0.1	2	22	60	4
	ESRR714 01505008	1.5	0.5	1.5	8	45	4		ESRR714 02001025	2	0.1	2	25	60	4
	ESRR714 01505010	1.5	0.5	1.5	10	50	4		ESRR714 02001030	2	0.1	2	30	70	4
E-Star	ESRR714 01505012	1.5	0.5	1.5	12	50	4		ESRR714 02002006	2	0.2	2	6	45	4
	ESRR714 01505014	1.5	0.5	1.5	14	50	4		ESRR714 02002008	2	0.2	2	8	45	4
	ESRR714 01505016	1.5	0.5	1.5	16	50	4		ESRR714 02002010	2	0.2	2	10	50	4
	ESRR714 01505020	1.5	0.5	1.5	20	50	4		ESRR714 02002012	2	0.2	2	12	50	4
	ESRR714 01505022	1.5	0.5	1.5	22	60	4		ESRR714 02002014	2	0.2	2	14	50	4
U-Wing	ESRR714 01505025	1.5	0.5	1.5	25	60	4		ESRR714 02002016	2	0.2	2	16	50	4
	ESRR714 02000206	2	0.02	2	6	45	4		ESRR714 02002020	2	0.2	2	20	50	4
	ESRR714 02000208	2	0.02	2	8	45	4		ESRR714 02002022	2	0.2	2	22	60	4
	ESRR714 02000210	2	0.02	2	10	50	4		ESRR714 02002025	2	0.2	2	25	60	4
	ESRR714 02000212	2	0.02	2	12	50	4		ESRR714 02002030	2	0.2	2	30	70	4
Zamus Thunder	ESRR714 02000214	2	0.02	2	14	50	4		ESRR714 02003006	2	0.3	2	6	45	4
	ESRR714 02000216	2	0.02	2	16	50	4		ESRR714 02003008	2	0.3	2	8	45	4
	ESRR714 02000220	2	0.02	2	20	50	4		ESRR714 02003010	2	0.3	2	10	50	4
	ESRR714 02000225	2	0.02	2	25	60	4		ESRR714 02003012	2	0.3	2	12	50	4
	ESRR714 02000230	2	0.02	2	30	70	4		ESRR714 02003014	2	0.3	2	14	50	4
S-Wing	ESRR714 02000506	2	0.05	2	6	45	4		ESRR714 02003016	2	0.3	2	16	50	4
	ESRR714 02000508	2	0.05	2	8	45	4		ESRR714 02003020	2	0.3	2	20	50	4
	ESRR714 02000510	2	0.05	2	10	50	4		ESRR714 02003022	2	0.3	2	22	60	4
	ESRR714 02000512	2	0.05	2	12	50	4		ESRR714 02003025	2	0.3	2	25	60	4
	ESRR714 02000514	2	0.05	2	14	50	4		ESRR714 02003030	2	0.3	2	30	70	4
A-Wing	ESRR714 02000516	2	0.05	2	16	50	4		ESRR714 02005006	2	0.5	3	6	45	4
	ESRR714 02000520	2	0.05	2	20	50	4		ESRR714 02005008	2	0.5	2	8	45	4
	ESRR714 02000525	2	0.05	2	25	60	4		ESRR714 02005010	2	0.5	2	10	50	4
	ESRR714 02000530	2	0.05	2	30	70	4		ESRR714 02005012	2	0.5	2	12	50	4
	ESRR714 02001006	2	0.1	2	6	45	4		ESRR714 02005014	2	0.5	2	14	50	4
Copper -Mate	ESRR714 02001008	2	0.1	2	8	45	4		ESRR714 02005016	2	0.5	2	16	50	4
	ESRR714 02001010	2	0.1	2	10	50	4		ESRR714 02005020	2	0.5	2	20	50	4
	ESRR714 02001012	2	0.1	2	12	50	4		ESRR714 02005022	2	0.5	2	22	60	4
	ESRR714 02001014	2	0.1	2	14	50	4		ESRR714 02005025	2	0.5	2	25	60	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
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ESRR714 4 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 02005030	2	0.5	2	30	70	4	ESRR714 03001010	3	0.1	3	10	50	6
ESRR714 02501008	2.5	0.1	2.5	8	45	4	ESRR714 03001012	3	0.1	3	12	50	6
ESRR714 02501010	2.5	0.1	2.5	10	50	4	ESRR714 03001014	3	0.1	3	14	50	6
ESRR714 02501012	2.5	0.1	2.5	12	50	4	ESRR714 03001016	3	0.1	3	16	55	6
ESRR714 02501014	2.5	0.1	2.5	14	50	4	ESRR714 03001020	3	0.1	3	20	60	6
ESRR714 02501016	2.5	0.1	2.5	16	50	4	ESRR714 03001025	3	0.1	3	25	65	6
ESRR714 02501020	2.5	0.1	2.5	20	50	4	ESRR714 03001030	3	0.1	3	30	70	6
ESRR714 02501025	2.5	0.1	2.5	25	60	4	ESRR714 03001035	3	0.1	3	35	75	6
ESRR714 02501030	2.5	0.1	2.5	30	70	4	ESRR714 03001040	3	0.1	3	40	80	6
ESRR714 02502008	2.5	0.2	2.5	8	45	4	ESRR714 03001045	3	0.1	3	45	90	6
ESRR714 02502010	2.5	0.2	2.5	10	50	4	ESRR714 03002008	3	0.2	3	8	45	6
ESRR714 02502012	2.5	0.2	2.5	12	50	4	ESRR714 03002010	3	0.2	3	10	50	6
ESRR714 02502014	2.5	0.2	2.5	14	50	4	ESRR714 03002012	3	0.2	3	12	50	6
ESRR714 02502016	2.5	0.2	2.5	16	50	4	ESRR714 03002014	3	0.2	3	14	50	6
ESRR714 02502020	2.5	0.2	2.5	20	50	4	ESRR714 03002016	3	0.2	3	16	55	6
ESRR714 02502025	2.5	0.2	2.5	25	60	4	ESRR714 03002020	3	0.2	3	20	60	6
ESRR714 02502030	2.5	0.2	2.5	30	70	4	ESRR714 03002025	3	0.2	3	25	65	6
ESRR714 02503008	2.5	0.3	2.5	8	45	4	ESRR714 03002030	3	0.2	3	30	70	6
ESRR714 02503010	2.5	0.3	2.5	10	50	4	ESRR714 03002035	3	0.2	3	35	75	6
ESRR714 02503012	2.5	0.3	2.5	12	50	4	ESRR714 03002040	3	0.2	3	40	80	6
ESRR714 02503014	2.5	0.3	2.5	14	50	4	ESRR714 03002045	3	0.2	3	45	90	6
ESRR714 02503016	2.5	0.3	2.5	16	50	4	ESRR714 03003008	3	0.3	3	8	45	6
ESRR714 02503020	2.5	0.3	2.5	20	50	4	ESRR714 03003010	3	0.3	3	10	50	6
ESRR714 02503025	2.5	0.3	2.5	25	60	4	ESRR714 03003012	3	0.3	3	12	50	6
ESRR714 02503030	2.5	0.3	2.5	30	70	4	ESRR714 03003014	3	0.3	3	14	50	6
ESRR714 02505008	2.5	0.5	2.5	8	45	4	ESRR714 03003016	3	0.3	3	16	55	6
ESRR714 02505010	2.5	0.5	2.5	10	50	4	ESRR714 03003020	3	0.3	3	20	60	6
ESRR714 02505012	2.5	0.5	2.5	12	50	4	ESRR714 03003025	3	0.3	3	25	65	6
ESRR714 02505014	2.5	0.5	2.5	14	50	4	ESRR714 03003030	3	0.3	3	30	70	6
ESRR714 02505016	2.5	0.5	2.5	16	50	4	ESRR714 03003035	3	0.3	3	35	75	6
ESRR714 02505020	2.5	0.5	2.5	20	50	4	ESRR714 03003040	3	0.3	3	40	80	6
ESRR714 02505025	2.5	0.5	2.5	25	60	4	ESRR714 03003045	3	0.3	3	45	90	6
ESRR714 02505030	2.5	0.5	2.5	30	70	4	ESRR714 03005008	3	0.5	3	8	45	6
ESRR714 03001008	3	0.1	3	8	45	6	ESRR714 03005010	3	0.5	3	10	50	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
	ESRR714 03005012	3	0.5	3	12	50	6		ESRR714 04002012	4	0.2	4	12	50	6
	ESRR714 03005014	3	0.5	3	14	50	6		ESRR714 04002013	4	0.2	4	13	55	6
	ESRR714 03005016	3	0.5	3	16	55	6		ESRR714 04002016	4	0.2	4	16	55	6
Zamus Star	ESRR714 03005020	3	0.5	3	20	60	6		ESRR714 04002020	4	0.2	4	20	60	6
	ESRR714 03005025	3	0.5	3	25	65	6		ESRR714 04002025	4	0.2	4	25	65	6
	ESRR714 03005030	3	0.5	3	30	70	6		ESRR714 04002030	4	0.2	4	30	70	6
E-Star	ESRR714 03005035	3	0.5	3	35	75	6		ESRR714 04002035	4	0.2	4	35	75	6
	ESRR714 03005040	3	0.5	3	40	80	6		ESRR714 04002040	4	0.2	4	40	80	6
	ESRR714 03005045	3	0.5	3	45	90	6		ESRR714 04002045	4	0.2	4	45	90	6
	ESRR714 03005050	3	0.5	3	50	100	6		ESRR714 04002050	4	0.2	4	50	100	6
U-Wing	ESRR714 03010008	3	1	3	8	45	6		ESRR714 04003010	4	0.3	4	10	50	6
	ESRR714 03010010	3	1	3	10	50	6		ESRR714 04003012	4	0.3	4	12	50	6
	ESRR714 03010012	3	1	3	12	50	6		ESRR714 04003013	4	0.3	4	13	55	6
Zamus Thunder	ESRR714 03010014	3	1	3	14	50	6		ESRR714 04003016	4	0.3	4	16	55	6
	ESRR714 03010016	3	1	3	16	55	6		ESRR714 04003020	4	0.3	4	20	60	6
	ESRR714 03010020	3	1	3	20	60	6		ESRR714 04003025	4	0.3	4	25	65	6
	ESRR714 03010025	3	1	3	25	65	6		ESRR714 04003030	4	0.3	4	30	70	6
X-Star	ESRR714 03010030	3	1	3	30	70	6		ESRR714 04003035	4	0.3	4	35	75	6
	ESRR714 03010035	3	1	3	35	75	6		ESRR714 04003040	4	0.3	4	40	80	6
	ESRR714 03010040	3	1	3	40	80	6		ESRR714 04003045	4	0.3	4	45	90	6
S-Wing	ESRR714 03010045	3	1	3	45	90	6		ESRR714 04003050	4	0.3	4	50	100	6
	ESRR714 03010050	3	1	3	50	100	6		ESRR714 04005010	4	0.5	4	10	50	6
	ESRR714 04001010	4	0.1	4	10	50	6		ESRR714 04005012	4	0.5	4	12	50	6
A-Wing	ESRR714 04001012	4	0.1	4	12	50	6		ESRR714 04005013	4	0.5	4	13	55	6
	ESRR714 04001013	4	0.1	4	13	55	6		ESRR714 04005016	4	0.5	4	16	55	6
	ESRR714 04001016	4	0.1	4	16	55	6		ESRR714 04005020	4	0.5	4	20	60	6
	ESRR714 04001020	4	0.1	4	20	60	6		ESRR714 04005025	4	0.5	4	25	65	6
Standard	ESRR714 04001025	4	0.1	4	25	65	6		ESRR714 04005030	4	0.5	4	30	70	6
	ESRR714 04001030	4	0.1	4	30	70	6		ESRR714 04005035	4	0.5	4	35	75	6
	ESRR714 04001035	4	0.1	4	35	75	6		ESRR714 04005040	4	0.5	4	40	80	6
Copper -Mate	ESRR714 04001040	4	0.1	4	40	80	6		ESRR714 04005045	4	0.5	4	45	90	6
	ESRR714 04001045	4	0.1	4	45	90	6		ESRR714 04005050	4	0.5	4	50	100	6
	ESRR714 04001050	4	0.1	4	50	100	6		ESRR714 04005055	4	0.5	4	55	100	6
Gra -Mate	ESRR714 04002010	4	0.2	4	10	50	6		ESRR714 04010010	4	1	4	10	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 04010012	4	1	4	12	50	6	ESRR714 06001050	6	0.1	7	50	100	6
ESRR714 04010013	4	1	4	13	55	6	ESRR714 06002020	6	0.2	7	20	60	6
ESRR714 04010016	4	1	4	16	55	6	ESRR714 06002040	6	0.2	7	40	80	6
ESRR714 04010020	4	1	4	20	60	6	ESRR714 06002050	6	0.2	7	50	100	6
ESRR714 04010025	4	1	4	25	65	6	ESRR714 06003020	6	0.3	7	20	60	6
ESRR714 04010030	4	1	4	30	70	6	ESRR714 06003030	6	0.3	7	30	70	6
ESRR714 04010035	4	1	4	35	75	6	ESRR714 06003040	6	0.3	7	40	80	6
ESRR714 04010040	4	1	4	40	80	6	ESRR714 06003050	6	0.3	7	50	100	6
ESRR714 04010045	4	1	4	45	90	6	ESRR714 06005020	6	0.5	7	20	60	6
ESRR714 04010050	4	1	4	50	100	6	ESRR714 06005030	6	0.5	7	30	70	6
ESRR714 04010055	4	1	4	55	100	6	ESRR714 06005040	6	0.5	7	40	80	6
ESRR714 05001016	5	0.1	5	16	60	6	ESRR714 06005050	6	0.5	7	50	100	6
ESRR714 05001030	5	0.1	5	30	70	6	ESRR714 06005060	6	0.5	7	60	110	6
ESRR714 05001040	5	0.1	5	40	80	6	ESRR714 06010020	6	1	7	20	60	6
ESRR714 05002016	5	0.2	5	16	60	6	ESRR714 06010030	6	1	7	30	70	6
ESRR714 05002030	5	0.2	5	30	70	6	ESRR714 06010040	6	1	7	40	80	6
ESRR714 05002040	5	0.2	5	40	80	6	ESRR714 06010050	6	1	7	50	100	6
ESRR714 05003016	5	0.3	5	16	60	6	ESRR714 06010060	6	1	7	60	110	6
ESRR714 05003030	5	0.3	5	30	70	6	ESRR714 06015020	6	1.5	7	20	60	6
ESRR714 05003040	5	0.3	5	40	80	6	ESRR714 06015040	6	1.5	7	40	80	6
ESRR714 05005016	5	0.5	5	16	60	6	ESRR714 06015050	6	1.5	7	50	100	6
ESRR714 05005030	5	0.5	5	30	70	6	ESRR714 06020020	6	2	7	20	60	6
ESRR714 05005040	5	0.5	5	40	80	6	ESRR714 06020030	6	2	7	30	70	6
ESRR714 05005050	5	0.5	5	50	100	6	ESRR714 06020040	6	2	7	40	80	6
ESRR714 05005060	5	0.5	5	60	110	6	ESRR714 06020050	6	2	7	50	100	6
ESRR714 05010016	5	1	5	16	60	6	ESRR714 08001025	8	0.1	9	25	70	8
ESRR714 05010030	5	1	5	30	70	6	ESRR714 08002022	8	0.2	9	22	65	8
ESRR714 05010040	5	1	5	40	80	6	ESRR714 08002040	8	0.2	9	40	100	8
ESRR714 05010050	5	1	5	50	100	6	ESRR714 08003022	8	0.3	9	22	65	8
ESRR714 05010060	5	1	5	60	110	6	ESRR714 08003040	8	0.3	9	40	100	8
ESRR714 05015015	5	1.5	5	15	60	6	ESRR714 08005022	8	0.5	9	22	65	8
ESRR714 05020015	5	2	5	15	60	6	ESRR714 08005035	8	0.5	9	35	100	8
ESRR714 06001020	6	0.1	7	20	60	6	ESRR714 08005040	8	0.5	9	40	100	8
ESRR714 06001040	6	0.1	7	40	80	6	ESRR714 08005050	8	0.5	9	50	120	8

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRR714 4 Flutes Rib Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRR714 08005060	8	0.5	9	60	120	8	ESRR714 10020024	10	2	11	24	70	10
ESRR714 08010022	8	1	9	22	65	8	ESRR714 10020040	10	2	11	40	100	10
ESRR714 08010035	8	1	9	35	100	8	ESRR714 10020050	10	2	11	50	120	10
ESRR714 08010040	8	1	9	40	100	8	ESRR714 10025024	10	2.5	11	24	70	10
ESRR714 08010050	8	1	9	50	120	8	ESRR714 12002032	12	0.2	13	32	80	12
ESRR714 08010060	8	1	9	60	120	8	ESRR714 12003026	12	0.3	13	26	80	12
ESRR714 08015022	8	1.5	9	22	65	8	ESRR714 12003045	12	0.3	13	45	110	12
ESRR714 08015040	8	1.5	9	40	100	8	ESRR714 12005026	12	0.5	13	26	80	12
ESRR714 08020022	8	2	9	22	65	8	ESRR714 12005040	12	0.5	13	40	110	12
ESRR714 08020040	8	2	9	40	100	8	ESRR714 12005060	12	0.5	13	60	130	12
ESRR714 08020050	8	2	9	50	120	8	ESRR714 12010026	12	1	13	26	80	12
ESRR714 10001030	10	0.1	11	30	75	10	ESRR714 12010040	12	1	13	40	110	12
ESRR714 10002024	10	0.2	11	24	70	10	ESRR714 12010060	12	1	13	60	130	12
ESRR714 10002040	10	0.2	11	40	100	10	ESRR714 12015026	12	1.5	13	26	80	12
ESRR714 10003024	10	0.3	11	24	70	10	ESRR714 12020026	12	2	13	26	80	12
ESRR714 10003040	10	0.3	11	40	100	10	ESRR714 12020040	12	2	13	40	110	12
ESRR714 10005024	10	0.5	11	24	70	10	ESRR714 12030026	12	3	13	26	80	12
ESRR714 10005040	10	0.5	11	40	100	10	ESRR714 16005035	16	0.5	20	35	100	16
ESRR714 10005050	10	0.5	11	50	120	10	ESRR714 16005050	16	0.5	35	50	150	16
ESRR714 10005060	10	0.5	11	60	120	10	ESRR714 16010035	16	1	20	35	100	16
ESRR714 10010024	10	1	11	24	70	10	ESRR714 16010050	16	1	35	50	150	16
ESRR714 10010040	10	1	11	40	100	10	ESRR714 20005040	20	0.5	25	40	100	20
ESRR714 10010050	10	1	11	50	120	10	ESRR714 20005055	20	0.5	40	55	150	20
ESRR714 10010060	10	1	11	60	120	10	ESRR714 20010040	20	1	25	40	100	20
ESRR714 10015024	10	1.5	11	24	70	10	ESRR714 20010055	20	1	40	55	150	20
ESRR714 10015040	10	1.5	11	40	100	10							

Standard

Copper
-Mate

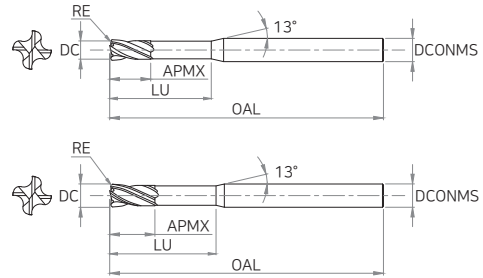
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

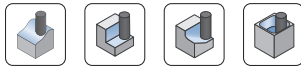
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESXR704 4 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No	DC	RE	APMX	LU	OAL	DCONMS	EDP No	DC	RE	APMX	LU	OAL	DCONMS
ESXR704 01000504	1	0.05	1.5	4	45	4	ESXR704 0401012	4	1	5	12	55	6
ESXR704 02000506	2	0.05	3	6	45	4	ESXR704 0500116	5	0.1	6	16	60	6
ESXR704 02000507	2	0.05	2.5	7	50	4	ESXR704 0500216	5	0.2	6	16	60	6
ESXR704 0200107	2	0.1	2.5	7	50	4	ESXR704 0500316	5	0.3	6	16	60	6
ESXR704 0300107	3	0.1	4	7	45	6	ESXR704 0500516	5	0.5	6	16	60	6
ESXR704 0300109	3	0.1	4	9	55	6	ESXR704 0501016	5	1	6	16	60	6
ESXR704 0300209	3	0.2	4	9	55	6	ESXR704 0600120	6	0.1	7	20	60	6
ESXR704 0300309	3	0.3	4	9	55	6	ESXR704 0600214	6	0.2	7	14	50	6
ESXR704 0300312	3	0.3	4	12	55	6	ESXR704 0600220	6	0.2	7	20	60	6
ESXR704 0300316	3	0.3	4	16	55	6	ESXR704 0600320	6	0.3	7	20	60	6
ESXR704 0400109	4	0.1	5	9	45	6	ESXR704 0600520	6	0.5	7	20	60	6
ESXR704 0400212	4	0.2	5	12	55	6	ESXR704 0601020	6	1	7	20	60	6
ESXR704 0400212S4	4	0.2	5	12	55	4	ESXR704 0601520	6	1.5	7	20	60	6
ESXR704 0400312	4	0.3	5	12	55	6	ESXR704 0800125	8	0.1	9	25	60	8
ESXR704 0400316	4	0.3	5	16	55	6	ESXR704 0800218	8	0.2	9	18	60	8
ESXR704 0400320	4	0.3	5	20	55	6	ESXR704 0800225	8	0.2	9	25	60	8
ESXR704 0400512	4	0.5	5	12	55	6	ESXR704 0800325	8	0.3	9	25	60	8
ESXR704 0400516	4	0.5	5	16	55	6	ESXR704 0800525	8	0.5	9	25	60	8
ESXR704 0400516S4	4	0.5	5	16	55	4	ESXR704 0801025	8	1	9	25	60	8
ESXR704 0400520	4	0.5	5	20	55	6	ESXR704 0801525	8	1.5	9	25	60	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESXR704 4 Flutes Neck Radius End Mill

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

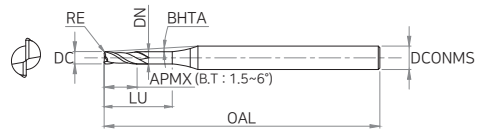
EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESXR704 0802025	8	2	9	25	60	8	ESXR704 1200238	12	0.2	12	38	75	12
ESXR704 1000225	10	0.2	12	25	75	10	ESXR704 1200330	12	0.3	15	30	75	12
ESXR704 1000232	10	0.2	11	32	75	10	ESXR704 1200338	12	0.3	12	38	75	12
ESXR704 1000332	10	0.3	11	32	75	10	ESXR704 1200538	12	0.5	12	38	75	12
ESXR704 1000532	10	0.5	11	32	75	10	ESXR704 1201038	12	1	12	38	75	12
ESXR704 1001032	10	1	11	32	75	10	ESXR704 1201538	12	1.5	12	38	75	12
ESXR704 1001532	10	1.5	11	32	75	10	ESXR704 1202038	12	2	12	38	75	12
ESXR704 1002032	10	2	11	32	75	10							

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

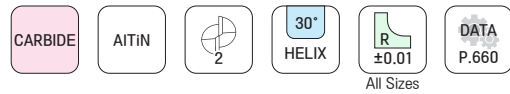
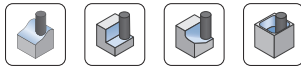
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNR20 2 Flutes Long Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNR20 02-0.5-005	0.2	0.05	0.15	0.5	0.17	50	4	11.4	0.9	1	1	1.1	12
ESLNR20 02-1-005	0.2	0.05	0.15	1	0.17	50	4	10.9	1.6	1.7	1.9	2	2.3
ESLNR20 02-1.5-005	0.2	0.05	0.15	1.5	0.17	50	4	10.3	2.1	2.3	2.5	2.7	3
ESLNR20 02-2-005	0.2	0.05	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ESLNR20 03-1-005	0.3	0.05	0.25	1	0.27	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 03-1.5-005	0.3	0.05	0.25	1.5	0.27	50	4	10.3	2.1	2.3	2.5	2.7	3
ESLNR20 03-2.5-005	0.3	0.05	0.25	2.5	0.27	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 03-2-005	0.3	0.05	0.25	2	0.27	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ESLNR20 03-3-005	0.3	0.05	0.25	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ESLNR20 04-1-005	0.4	0.05	0.3	1	0.37	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 04-1.5-005	0.4	0.05	0.3	1.5	0.37	50	4	10.3	2	2.1	2.2	2.3	2.5
ESLNR20 04-2-005	0.4	0.05	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 04-2.5-005	0.4	0.05	0.3	2.5	0.37	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ESLNR20 04-3-005	0.4	0.05	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ESLNR20 04-3.5-005	0.4	0.05	0.3	3.5	0.37	50	4	8.6	4.3	4.6	4.9	5.1	5.5
ESLNR20 04-4-005	0.4	0.05	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ESLNR20 04-2-01	0.4	0.1	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 04-3-01	0.4	0.1	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ESLNR20 04-4-01	0.4	0.1	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ESLNR20 05-1-005	0.5	0.05	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9

► Applicable Working Material

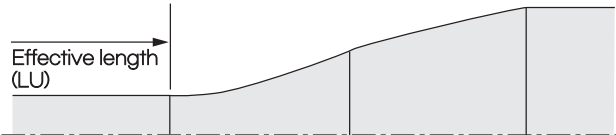
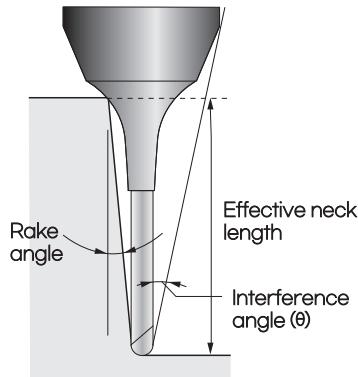
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNR20

2 Flutes Long Neck Radius End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNR20 05-2-005	0.5	0.05	0.35	2	0.47	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ESLNR20 05-3-005	0.5	0.05	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ESLNR20 05-4-005	0.5	0.05	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ESLNR20 05-5-005	0.5	0.05	0.35	5	0.47	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ESLNR20 05-6-005	0.5	0.05	0.35	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ESLNR20 05-1-01	0.5	0.1	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 05-2-01	0.5	0.1	0.35	2	0.47	50	4	9.8	2.5	2.6	2.8	2.9	3.1
ESLNR20 05-3-01	0.5	0.1	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ESLNR20 05-4-01	0.5	0.1	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ESLNR20 05-5-01	0.5	0.1	0.35	5	0.47	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ESLNR20 05-6-01	0.5	0.1	0.35	6	0.47	50	4	7.1	7.2	7.7	8.1	8.4	9
ESLNR20 06-2-01	0.6	0.1	0.4	2	0.57	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ESLNR20 06-4-01	0.6	0.1	0.4	4	0.57	50	4	8.1	4.8	5.2	5.4	5.7	6.1
ESLNR20 06-6-01	0.6	0.1	0.4	6	0.57	50	4	7	7.2	7.7	8.1	8.4	9
ESLNR20 06-8-01	0.6	0.1	0.4	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11
ESLNR20 06-10-01	0.6	0.1	0.4	10	0.57	50	4	5.5	11.5	12.1	12.5	13	13.7
ESLNR20 08-4-01	0.8	0.1	0.5	4	0.77	50	4	8	4.8	5.2	5.4	5.7	6.1
ESLNR20 08-6-01	0.8	0.1	0.5	6	0.77	50	4	6.8	7	7.4	7.7	7.9	8.4
ESLNR20 08-8-01	0.8	0.1	0.5	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ESLNR20 08-12-01	0.8	0.1	0.5	12	0.77	50	4	4.7	13.6	14.2	14.7	15.2	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNR20

2 Flutes Long Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNR20 08-4-02	0.8	0.2	0.5	4	0.77	50	4	8	4.8	5.1	5.4	5.6	6.1
ESLNR20 08-6-02	0.8	0.2	0.5	6	0.77	50	4	6.9	7	7.3	7.7	7.9	8.4
ESLNR20 10-4-01	1	0.1	0.8	4	0.94	50	4	7.7	4.7	4.9	5.1	5.2	5.5
ESLNR20 10-6-01	1	0.1	0.8	6	0.94	50	4	6.6	7.1	7.4	7.7	8	8.5
ESLNR20 10-8-01	1	0.1	0.8	8	0.94	50	4	5.7	9.2	9.6	9.9	10.2	10.8
ESLNR20 10-10-01	1	0.1	0.8	10	0.94	50	4	5.1	11.6	12.1	12.6	13	13.7
ESLNR20 10-12-01	1	0.1	0.8	12	0.94	55	4	4.5	13.7	14.3	14.8	15.3	16
ESLNR20 10-16-01	1	0.1	0.8	16	0.94	60	4	3.8	17.9	18.6	19.2	19.7	21.3
ESLNR20 10-20-01	1	0.1	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.7
ESLNR20 10-4-02	1	0.2	0.8	4	0.94	50	4	7.8	4.7	4.9	5.1	5.2	5.5
ESLNR20 10-6-02	1	0.2	0.8	6	0.94	50	4	6.6	7.1	7.4	7.7	8	8.5
ESLNR20 10-8-02	1	0.2	0.8	8	0.94	50	4	5.8	9.2	9.6	9.9	10.2	10.8
ESLNR20 10-10-02	1	0.2	0.8	10	0.94	50	4	5.1	11.6	12.1	12.6	13	13.7
ESLNR20 10-12-02	1	0.2	0.8	12	0.94	55	4	4.6	13.7	14.3	14.8	15.2	16
ESLNR20 10-16-02	1	0.2	0.8	16	0.94	60	4	3.8	17.9	18.6	19.2	19.7	21.3
ESLNR20 10-20-02	1	0.2	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.6
ESLNR20 10-6-03	1	0.3	0.8	6	0.94	50	4	6.7	7.1	7.4	7.7	8	8.4
ESLNR20 10-10-03	1	0.3	0.8	10	0.94	50	4	5.1	11.5	12.1	12.6	13	13.7
ESLNR20 10-16-03	1	0.3	0.8	16	0.94	60	4	3.8	17.9	18.6	19.1	19.6	21.3
ESLNR20 10-20-03	1	0.3	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.6
ESLNR20 15-4-01	1.5	0.1	1.35	4	1.42	50	4	7.2	4.8	4.9	5.1	5.3	5.5
ESLNR20 15-8-01	1.5	0.1	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-12-01	1.5	0.1	1.35	12	1.42	55	4	4	13.4	13.9	14.3	14.7	16.1
ESLNR20 15-15-01	1.5	0.1	1.35	15	1.42	55	4	3.5	16.9	17.6	18.1	18.6	20.1
ESLNR20 15-20-01	1.5	0.1	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
ESLNR20 15-4-02	1.5	0.2	1.35	4	1.42	50	4	7.3	4.7	4.9	5.1	5.3	5.5
ESLNR20 15-8-02	1.5	0.2	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-12-02	1.5	0.2	1.35	12	1.42	55	4	4.1	13.4	13.9	14.3	14.7	16.1
ESLNR20 15-15-02	1.5	0.2	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
ESLNR20 15-20-02	1.5	0.2	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
ESLNR20 15-8-03	1.5	0.3	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-15-03	1.5	0.3	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
ESLNR20 15-20-03	1.5	0.3	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24	-
ESLNR20 20-6-02	2	0.2	1.7	6	1.92	50	4	5.4	6.8	7.1	7.3	7.5	8.1

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	○		○	◎						

ESLNR20

2 Flutes Long Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
										0.5°	1°	1.5°	2°	3°
Zamus Star	ESLNR20 20-8-02	2	0.2	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.8
	ESLNR20 20-12-02	2	0.2	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.7	16.1
	ESLNR20 20-16-02	2	0.2	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
	ESLNR20 20-20-02	2	0.2	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
	ESLNR20 20-25-02	2	0.2	1.7	25	1.92	65	4	2	27.3	28.2	28.8	-	-
E-Star	ESLNR20 20-30-02	2	0.2	1.7	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
	ESLNR20 20-8-03	2	0.3	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.7
	ESLNR20 20-16-03	2	0.3	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
	ESLNR20 20-20-03	2	0.3	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
U-Wing	ESLNR20 20-6-05	2	0.5	1.7	6	1.92	50	4	5.5	6.8	7.1	7.3	7.4	8
	ESLNR20 20-8-05	2	0.5	1.7	8	1.92	50	4	4.7	8.9	9.2	9.4	9.6	10.7
	ESLNR20 20-12-05	2	0.5	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.6	16
Zamus Thunder	ESLNR20 20-16-05	2	0.5	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
	ESLNR20 20-20-05	2	0.5	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
	ESLNR20 20-25-05	2	0.5	1.7	25	1.92	65	4	2	27.3	28.1	28.8	-	-
	ESLNR20 20-30-05	2	0.5	1.7	30	1.92	70	4	1.7	32.5	33.4	34.3	-	-
X-Star	ESLNR20 20-8-08	2	0.8	1.7	8	1.92	50	4	4.8	8.9	9.2	9.4	9.6	10.6
	ESLNR20 20-16-08	2	0.8	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
	ESLNR20 20-20-08	2	0.8	1.7	20	1.92	60	4	2.4	22.1	22.8	23.5	24	-
S-Wing	ESLNR20 30-8-02	3	0.2	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
	ESLNR20 30-12-02	3	0.2	2.5	12	2.86	60	6	4.5	13.1	13.5	14	14.7	16.2
	ESLNR20 30-16-02	3	0.2	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.5	21.6
	ESLNR20 30-20-02	3	0.2	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.9
A-Wing	ESLNR20 30-30-02	3	0.2	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
	ESLNR20 30-35-02	3	0.2	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.2	-
	ESLNR20 30-8-03	3	0.3	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
Standard	ESLNR20 30-16-03	3	0.3	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
	ESLNR20 30-20-03	3	0.3	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
	ESLNR20 30-30-03	3	0.3	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
	ESLNR20 30-8-05	3	0.5	2.5	8	2.86	55	6	5.8	9	9.3	9.5	9.8	10.8
Copper -Mate	ESLNR20 30-12-05	3	0.5	2.5	12	2.86	60	6	4.6	13.1	13.5	13.9	14.6	16.2
	ESLNR20 30-16-05	3	0.5	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
	ESLNR20 30-20-05	3	0.5	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
Gra -Mate	ESLNR20 30-30-05	3	0.5	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.1	-
	ESLNR20 30-35-05	3	0.5	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.1	-

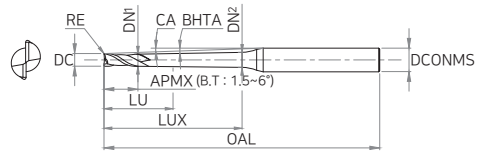
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

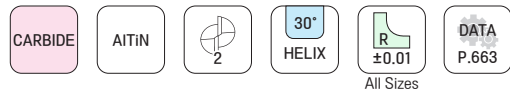
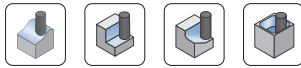
ESTNR20

2 Flutes Tapered Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCONMS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNR20 02-2-09005	0.2	0.05	0.15	2	0.9	0.17	0.23	50	4	1.1	10	-	2.8	3.1	3.4	3.9
ESTNR20 04-4-09005	0.4	0.05	0.3	4	0.9	0.37	0.49	50	4	1.25	8.4	-	4.9	5.3	5.7	6.3
ESTNR20 04-5-09005	0.4	0.05	0.3	5	0.9	0.37	0.52	50	4	1.25	7.8	-	5.9	6.4	6.8	7.5
ESTNR20 04-4-0901	0.4	0.1	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	-	4.9	5.3	5.7	6.3
ESTNR20 04-5-0901	0.4	0.1	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	-	5.9	6.4	6.8	7.5
ESTNR20 05-5-0901	0.5	0.1	0.35	5	0.9	0.47	0.62	50	4	1.3	7.8	-	5.9	6.4	6.8	7.5
ESTNR20 05-8-0901	0.5	0.1	0.35	8	0.9	0.47	0.71	50	4	1.3	6.4	-	9	9.7	10.2	11
ESTNR20 05-10-0901	0.5	0.1	0.35	10	0.9	0.47	0.77	55	4	1.3	5.8	-	11	11.8	12.4	13.2
ESTNR20 06-12-0901	0.6	0.1	0.4	12	0.9	0.57	0.93	55	4	1.35	5.1	-	13	13.9	14.5	15.5
ESTNR20 06-15-0901	0.6	0.1	0.4	15	0.9	0.57	1.3	55	4	1.35	4.5	-	16.1	17.1	17.8	18.8
ESTNR20 08-6-0402	0.8	0.2	0.5	6	0.4	0.77	0.85	50	4	2.64	7	6.6	7.1	7.5	7.8	8.3
ESTNR20 08-12-0902	0.8	0.2	0.5	12	0.9	0.77	1.13	55	4	1.45	5	-	13	13.9	14.5	15.5
ESTNR20 10-8-0402	1	0.2	0.8	8	0.4	0.94	1.4	55	6	5.09	7.4	8.8	9.3	9.7	10.1	10.6
ESTNR20 10-10-0902	1	0.2	0.8	10	0.9	0.94	1.23	55	6	5.09	6.8	-	11.2	11.9	12.4	13.3
ESTNR20 10-15-0902	1	0.2	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	-	16.3	17.2	17.8	18.8
ESTNR20 10-20-0902	1	0.2	0.8	20	0.9	0.94	1.54	65	6	2.7	4.8	-	21.3	22.4	23.2	24.7
ESTNR20 10-25-0902	1	0.2	0.8	25	0.9	0.94	1.7	70	6	2.7	4.1	-	26.4	27.6	28.5	30.9
ESTNR20 10-30-0902	1	0.2	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.5	32.8	33.7	37
ESTNR20 10-35-0902	1	0.2	0.8	35	0.9	0.94	2.2	80	6	2.7	3.3	-	36.5	38	39	43.2
ESTNR20 10-8-0403	1	0.3	0.8	8	0.4	0.94	1.4	55	6	2.7	7.4	8.8	9.3	9.7	10	10.6

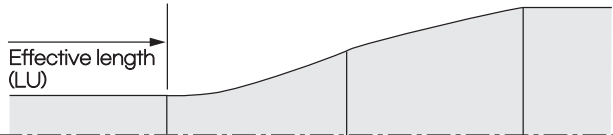
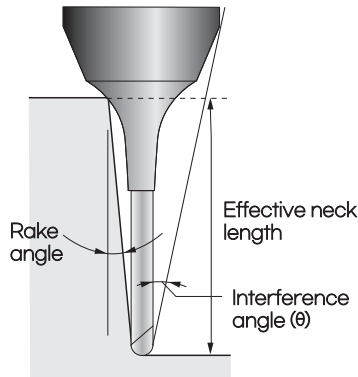
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESTNR20

2 Flutes Tapered Neck Radius End Mill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNR20 10-15-0903	1	0.3	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	-	16.3	17.2	17.8	18.8
ESTNR20 10-25-0903	1	0.3	0.8	25	0.9	0.94	1.7	70	6	2.7	4.2	-	26.4	27.6	28.5	30.8
ESTNR20 10-30-0903	1	0.3	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.5	32.8	33.7	37
ESTNR20 15-10-0402	1.5	0.2	1.35	10	0.4	1.42	1.54	55	6	7.07	6.4	11	11.5	11.9	12.3	13
ESTNR20 15-15-0902	1.5	0.2	1.35	15	0.9	1.42	1.85	60	6	7.07	5.3	-	16.4	17.3	17.9	18.9
ESTNR20 15-20-0902	1.5	0.2	1.35	20	0.9	1.42	2.1	65	6	3.89	4.5	-	21.5	22.5	23.2	24.9
ESTNR20 15-25-0902	1.5	0.2	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	-	26.6	27.7	28.5	31
ESTNR20 15-30-0902	1.5	0.2	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.6	32.9	33.8	37.1
ESTNR20 15-10-0403	1.5	0.3	1.35	10	0.4	1.42	1.54	55	6	3.89	6.4	11	11.5	11.9	12.3	13
ESTNR20 15-20-0903	1.5	0.3	1.35	20	0.9	1.42	2.1	65	6	3.89	4.5	-	21.5	22.5	23.2	24.8
ESTNR20 15-25-0903	1.5	0.3	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	-	26.5	27.7	28.5	31
ESTNR20 15-30-0903	1.5	0.3	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.6	32.9	33.8	37.1
ESTNR20 20-30-0902	2	0.2	1.7	30	0.9	1.92	2.81	70	6	7.42	3.1	-	31.6	32.9	33.8	37.2
ESTNR20 20-40-0902	2	0.2	1.7	40	0.9	1.92	3.12	80	6	7.42	2.5	-	41.8	43.3	44.6	-
ESTNR20 20-50-0902	2	0.2	1.7	50	0.9	1.92	3.44	90	6	7.42	2.1	-	51.9	53.6	55.7	-
ESTNR20 20-12-0403	2	0.3	1.7	12	0.4	1.92	2.06	55	6	7.42	5.5	13	13.6	14.1	14.5	15.6
ESTNR20 20-20-0903	2	0.3	1.7	20	0.9	1.92	2.5	65	6	4.24	4.1	-	21.5	22.5	23.2	24.9
ESTNR20 20-30-0903	2	0.3	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	-	31.6	32.9	33.8	37.1
ESTNR20 20-40-0903	2	0.3	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	-	41.7	43.3	44.6	-
ESTNR20 20-50-0903	2	0.3	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.6	55.7	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~HRC325	HRC30~50	~FC500					
◎	○		○	◎						

ESTNR20

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNR20 20-8-0405	2	0.5	1.7	8	0.4	1.92	2.01	50	6	4.24	6.8	8.7	9	9.3	9.5	10.4
ESTNR20 20-12-0405	2	0.5	1.7	12	0.4	1.92	2.06	55	6	4.24	5.6	13	13.6	14.1	14.4	15.5
ESTNR20 20-16-0405	2	0.5	1.7	16	0.4	1.92	2.12	60	6	4.24	4.7	17	17.8	18.3	18.7	20.7
ESTNR20 20-20-0905	2	0.5	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.5	22.5	23.2	24.8
ESTNR20 20-25-0905	2	0.5	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.6	27.7	28.5	30.9
ESTNR20 20-30-0905	2	0.5	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	-	31.6	32.9	33.8	37.1
ESTNR20 20-40-0905	2	0.5	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	-	41.7	43.2	44.6	-
ESTNR20 20-50-0905	2	0.5	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.6	55.6	-
ESTNR20 30-40-0902	3	0.2	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0902	3	0.2	2.5	50	0.9	2.86	4.35	90	6	6.95	1.6	-	52.1	53.7	-	-
ESTNR20 30-60-0902	3	0.2	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.2	-	-	-
ESTNR20 30-40-0903	3	0.3	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0903	3	0.3	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52.1	53.7	-	-
ESTNR20 30-60-0903	3	0.3	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.2	-	-	-
ESTNR20 30-40-0905	3	0.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0905	3	0.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52.1	53.7	-	-
ESTNR20 30-60-0905	3	0.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

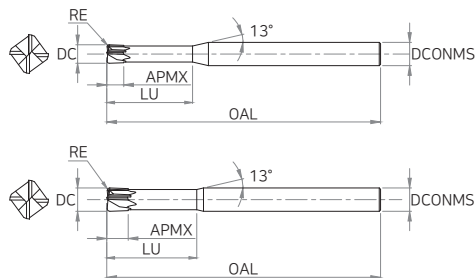
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

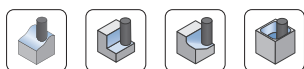
ESPM4

4 Flutes Neck Radius End Mill
For High Speed Machining



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



Ø6 OR UNDER

ABOVE Ø6

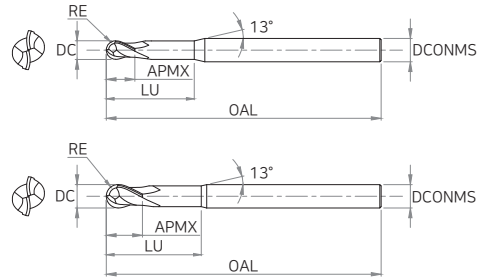
EDP No	DC	RE	APMX	LU	OAL	DCONMS
ESPM4 030-05	3	0.5	1.2	8	50	6
ESPM4 040-05	4	0.5	1.5	10	50	6
ESPM4 060-05	6	0.5	2.5	12	60	6
ESPM4 060-10	6	1	2.5	12	60	6
ESPM4 060-15	6	1.5	2.5	12	60	6
ESPM4 060-15L	6	1.5	2.5	12	90	6
ESPM4 080-10	8	1	3.5	16	60	8
ESPM4 080-20	8	2	3.5	16	60	8
ESPM4 080-20L	8	2	3.5	16	100	8
ESPM4 100-10	10	1	4	20	70	10
ESPM4 100-20	10	2	4	20	70	10
ESPM4 100-20L	10	2	4	20	100	10
ESPM4 120-20	12	2	5	25	80	12
ESPM4 120-30	12	3	5	25	80	12
ESPM4 120-30L	12	3	5	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

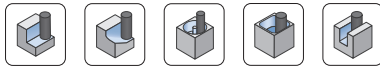
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESB702 2 Flutes Neck Ball End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESB702 001	0.1	0.05	0.15	-	40	4	ESB702 030S	3	1.5	4	10	50	6
ESB702 002	0.2	0.1	0.3	-	40	4	ESB702 030S4	3	1.5	4	-	45	4
ESB702 003	0.3	0.15	0.5	-	40	4	ESB702 031	3	1.5	4	10	70	6
ESB702 004	0.4	0.2	0.6	-	40	4	ESB702 040	4	2	5	10	60	6
ESB702 005	0.5	0.25	0.7	-	40	4	ESB702 040S	4	2	5	10	50	6
ESB702 006	0.6	0.3	0.9	-	40	4	ESB702 040S4	4	2	5	-	45	4
ESB702 007	0.7	0.35	1.1	-	40	4	ESB702 041	4	2	5	10	70	6
ESB702 008	0.8	0.4	1.2	-	40	4	ESB702 050	5	2.5	6	12	60	6
ESB702 009	0.9	0.45	1.4	-	40	4	ESB702 060	6	3	7	12	60	6
ESB702 010	1	0.5	1.5	3	50	6	ESB702 061	6	3	7	12	90	6
ESB702 010S4	1	0.5	1.5	-	45	4	ESB702 080	8	4	9	15	70	8
ESB702 015	1.5	0.75	2	4	50	6	ESB702 081	8	4	9	15	100	8
ESB702 015S4	1.5	0.75	2	-	45	4	ESB702 100	10	5	11	25	75	10
ESB702 020	2	1	2.5	5	50	6	ESB702 101	10	5	11	25	100	10
ESB702 020S4	2	1	2.5	-	45	4	ESB702 120	12	6	12	25	80	12
ESB702 025	2.5	1.25	3	7	50	6	ESB702 121	12	6	12	25	110	12
ESB702 030	3	1.5	4	10	60	6							

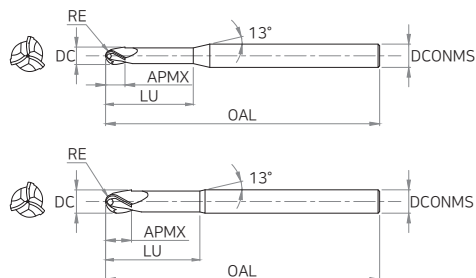
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESB703 3 Flutes Neck Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ESB703 020	2	1	2.5	5	50	6
ESB703 025	2.5	1.25	3	7	50	6
ESB703 030	3	1.5	4	10	60	6
ESB703 030S	3	1.5	4	10	50	6
ESB703 031	3	1.5	4	10	70	6
ESB703 040	4	2	5	10	60	6
ESB703 040S	4	2	5	10	50	6
ESB703 041	4	2	5	10	70	6
ESB703 050	5	2.5	6	12	60	6
ESB703 060	6	3	7	12	60	6
ESB703 061	6	3	7	12	90	6
ESB703 080	8	4	9	15	70	8
ESB703 081	8	4	9	15	100	8
ESB703 100	10	5	11	25	75	10
ESB703 101	10	5	11	25	100	10
ESB703 120	12	6	12	25	80	12
ESB703 121	12	6	12	25	110	12

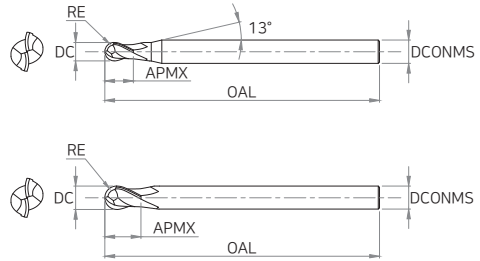
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

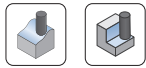
ESB712

2 Flutes Ball End Mill



► Tolerance

DC		Shank Dia
~ $\varnothing 6$	0 ~ -0.012	h5
$\varnothing 8 \sim \varnothing 12$	0 ~ -0.015	



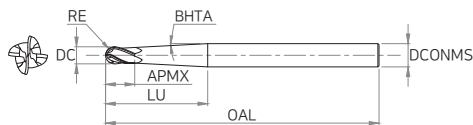
EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ESB712 010	1	0.5	2.5	50	6	ESB712 030S4	3	1.5	8	60	4
ESB712 010S	1	0.5	1.5	40	6	ESB712 040	4	2	8	70	6
ESB712 010S4	1	0.5	2.5	50	4	ESB712 040S	4	2	6	50	6
ESB712 012	1.2	0.6	3	50	6	ESB712 050	5	2.5	10	80	6
ESB712 015	1.5	0.75	4	50	6	ESB712 050S	5	2.5	7.5	50	6
ESB712 015S	1.5	0.75	2.5	40	6	ESB712 060	6	3	12	90	6
ESB712 015S4	1.5	0.75	4	50	4	ESB712 060S	6	3	9	50	6
ESB712 020	2	1	5	50	6	ESB712 080S	8	4	12	50	8
ESB712 020S	2	1	3	40	6	ESB712 081	8	4	14	100	8
ESB712 020S4	2	1	5	50	4	ESB712 100	10	5	18	100	10
ESB712 025	2.5	1.25	7	60	6	ESB712 100S	10	5	15	60	10
ESB712 030	3	1.5	8	60	6	ESB712 120	12	6	22	110	12
ESB712 030S	3	1.5	4.5	50	6	ESB712 120S	12	6	18	60	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESB734 4 Flutes 15° Helix Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	RE	BHTA	APMX	LU	OAL	DCONMS
ESB734 020-2.5	2	1	2.5	2	25	60	4
ESB734 020-3.5	2	1	3.5	2	18	60	4
ESB734 025-2.5	2.5	1.25	2.5	3	20	60	4
ESB734 025-3.0	2.5	1.25	3	3	17	60	4
ESB734 030-2.0	3	1.5	2	3	46	70	6
ESB734 030-2.5	3	1.5	2.5	3	37	70	6
ESB734 040-2.0	4	2	2	4	33	70	6
ESB734 040-2.5	4	2	2.5	4	27	70	6
ESB734 050-2.5	5	2.5	2.5	5	16	70	6
ESB734 060-1.5	6	3	1.5	6	44	100	8
ESB734 060-2.5	6	3	2.5	6	29	100	8
ESB734 080-1.5	8	4	1.5	8	46	100	10
ESB734 080-2.5	8	4	2.5	8	31	100	10
ESB734 100-1.5	10	5	1.5	10	48	110	12
ESB734 100-2.5	10	5	2.5	10	33	110	12

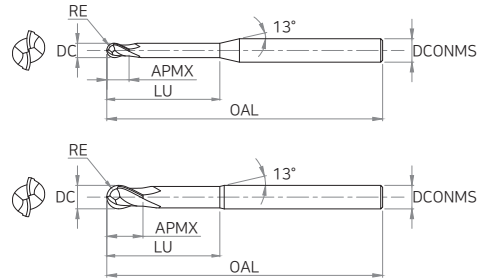
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FC500					
◎	○		○	◎						

ESRB712 2 Flutes Rib Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRB712 001002	0.1	0.05	0.1	0.2	40	4	ESRB712 00403	0.4	0.2	0.4	3	40	4
ESRB712 001003	0.1	0.05	0.1	0.3	40	4	ESRB712 00404	0.4	0.2	0.4	4	40	4
ESRB712 001005	0.1	0.05	0.1	0.5	40	4	ESRB712 00405	0.4	0.2	0.4	5	40	4
ESRB712 00101	0.1	0.05	0.1	1	40	4	ESRB712 00406	0.4	0.2	0.4	6	40	4
ESRB712 002005	0.2	0.1	0.2	0.5	40	4	ESRB712 00408	0.4	0.2	0.4	8	40	4
ESRB712 002015	0.2	0.1	0.2	1.5	40	4	ESRB712 00410	0.4	0.2	0.4	10	40	4
ESRB712 00201	0.2	0.1	0.2	1	40	4	ESRB712 005015	0.5	0.25	0.5	1.5	45	4
ESRB712 00202	0.2	0.1	0.2	2	40	4	ESRB712 00501	0.5	0.25	0.5	1	45	4
ESRB712 00203	0.2	0.1	0.2	3	40	4	ESRB712 00501S6	0.5	0.25	0.5	1	45	6
ESRB712 003015	0.3	0.15	0.3	1.5	40	4	ESRB712 005025	0.5	0.25	0.5	2.5	45	4
ESRB712 00301	0.3	0.15	0.3	1	40	4	ESRB712 00502	0.5	0.25	0.5	2	45	4
ESRB712 003025	0.3	0.15	0.3	2.5	40	4	ESRB712 00502S6	0.5	0.25	0.5	2	45	6
ESRB712 00302	0.3	0.15	0.3	2	40	4	ESRB712 00503	0.5	0.25	0.5	3	45	4
ESRB712 00303	0.3	0.15	0.3	3	40	4	ESRB712 00504	0.5	0.25	0.5	4	45	4
ESRB712 00304	0.3	0.15	0.3	4	40	4	ESRB712 00504S6	0.5	0.25	0.5	4	45	6
ESRB712 00305	0.3	0.15	0.3	5	40	4	ESRB712 00505	0.5	0.25	0.5	5	45	4
ESRB712 004015	0.4	0.2	0.4	1.5	40	4	ESRB712 00506	0.5	0.25	0.5	6	45	4
ESRB712 00401	0.4	0.2	0.4	1	40	4	ESRB712 00508	0.5	0.25	0.5	8	45	4
ESRB712 004025	0.4	0.2	0.4	2.5	40	4	ESRB712 00510	0.5	0.25	0.5	10	45	4
ESRB712 00402	0.4	0.2	0.4	2	40	4	ESRB712 00512	0.5	0.25	0.5	12	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

ESRB712 2 Flutes Rib Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	ESRB712 00514	0.5	0.25	0.5	14	45	4		ESRB712 00803	0.8	0.4	0.8	3	45	4
	ESRB712 00516	0.5	0.25	0.5	16	45	4		ESRB712 00803S6	0.8	0.4	0.8	3	45	6
	ESRB712 00601	0.6	0.3	0.6	1	45	4		ESRB712 00804	0.8	0.4	0.8	4	45	4
	ESRB712 00601S6	0.6	0.3	0.6	1	45	6		ESRB712 00804S6	0.8	0.4	0.8	4	45	6
E-Star	ESRB712 00602	0.6	0.3	0.6	2	45	4		ESRB712 00805	0.8	0.4	0.8	5	45	4
	ESRB712 00602S6	0.6	0.3	0.6	2	45	6		ESRB712 00805S6	0.8	0.4	0.8	5	45	6
	ESRB712 00603	0.6	0.3	0.6	3	45	4		ESRB712 00806	0.8	0.4	0.8	6	45	4
	ESRB712 00603S6	0.6	0.3	0.6	3	45	6		ESRB712 00806S6	0.8	0.4	0.8	6	45	6
U-Wing	ESRB712 00604	0.6	0.3	0.6	4	45	4		ESRB712 00808	0.8	0.4	0.8	8	45	4
	ESRB712 00604S6	0.6	0.3	0.6	4	45	6		ESRB712 00808S6	0.8	0.4	0.8	8	45	6
	ESRB712 00605	0.6	0.3	0.6	5	45	4		ESRB712 00810	0.8	0.4	0.8	10	45	4
	ESRB712 00605S6	0.6	0.3	0.6	5	45	6		ESRB712 00810S6	0.8	0.4	0.8	10	45	6
Zamus Thunder	ESRB712 00606	0.6	0.3	0.6	6	45	4		ESRB712 00812	0.8	0.4	0.8	12	45	4
	ESRB712 00606S6	0.6	0.3	0.6	6	45	6		ESRB712 00812S6	0.8	0.4	0.8	12	45	6
	ESRB712 00608	0.6	0.3	0.6	8	45	4		ESRB712 00814	0.8	0.4	0.8	14	45	4
	ESRB712 00608S6	0.6	0.3	0.6	8	45	6		ESRB712 00814S6	0.8	0.4	0.8	14	45	6
X-Star	ESRB712 00610	0.6	0.3	0.6	10	45	4		ESRB712 00816	0.8	0.4	0.8	16	45	4
	ESRB712 00610S6	0.6	0.3	0.6	10	45	6		ESRB712 00816S6	0.8	0.4	0.8	16	50	6
	ESRB712 00612	0.6	0.3	0.6	12	45	4		ESRB712 00820	0.8	0.4	0.8	20	50	4
	ESRB712 00612S6	0.6	0.3	0.6	12	45	6		ESRB712 00820S6	0.8	0.4	0.8	20	55	6
S-Wing	ESRB712 00614	0.6	0.3	0.6	14	45	4		ESRB712 00904	0.9	0.45	0.9	4	45	4
	ESRB712 00614S6	0.6	0.3	0.6	14	45	6		ESRB712 00906	0.9	0.45	0.9	6	45	4
	ESRB712 00616	0.6	0.3	0.6	16	45	4		ESRB712 00908	0.9	0.45	0.9	8	45	4
	ESRB712 00616S6	0.6	0.3	0.6	16	50	6		ESRB712 00910	0.9	0.45	0.9	10	45	4
A-Wing	ESRB712 00702	0.7	0.35	0.7	2	45	4		ESRB712 01002	1	0.5	1	2	50	4
	ESRB712 00704	0.7	0.35	0.7	4	45	4		ESRB712 01002S6	1	0.5	1	2	50	6
	ESRB712 00706	0.7	0.35	0.7	6	45	4		ESRB712 01003	1	0.5	1	3	50	4
	ESRB712 00708	0.7	0.35	0.7	8	45	4		ESRB712 01003S6	1	0.5	1	3	50	6
Standard	ESRB712 00710	0.7	0.35	0.7	10	45	4		ESRB712 01004	1	0.5	1	4	50	4
	ESRB712 00712	0.7	0.35	0.7	12	45	4		ESRB712 01004S6	1	0.5	1	4	50	6
	ESRB712 00801	0.8	0.4	0.8	1	45	4		ESRB712 01005	1	0.5	1	5	50	4
	ESRB712 00801S6	0.8	0.4	0.8	1	45	6		ESRB712 01005S6	1	0.5	1	5	50	6
Copper -Mate	ESRB712 00802	0.8	0.4	0.8	2	45	4		ESRB712 01006	1	0.5	1	6	50	4
	ESRB712 00802S6	0.8	0.4	0.8	2	45	6		ESRB712 01006S6	1	0.5	1	6	50	6
Gra -Mate															

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRB712 2 Flutes Rib Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRB712 01007	1	0.5	1	7	50	4	ESRB712 01406	1.4	0.7	1.4	6	50	4
ESRB712 01007S6	1	0.5	1	7	50	6	ESRB712 01408	1.4	0.7	1.4	8	50	4
ESRB712 01008	1	0.5	1	8	50	4	ESRB712 01410	1.4	0.7	1.4	10	50	4
ESRB712 01008S6	1	0.5	1	8	50	6	ESRB712 01412	1.4	0.7	1.4	12	50	4
ESRB712 01009	1	0.5	1	9	50	4	ESRB712 01416	1.4	0.7	1.4	16	50	4
ESRB712 01009S6	1	0.5	1	9	50	6	ESRB712 01503	1.5	0.75	1.5	3	50	4
ESRB712 01010	1	0.5	1	10	50	4	ESRB712 01503S6	1.5	0.75	1.5	3	50	6
ESRB712 01010S6	1	0.5	1	10	50	6	ESRB712 01504	1.5	0.75	1.5	4	50	4
ESRB712 01012	1	0.5	1	12	50	4	ESRB712 01504S6	1.5	0.75	1.5	4	50	6
ESRB712 01012S6	1	0.5	1	12	50	6	ESRB712 01505	1.5	0.75	1.5	5	50	4
ESRB712 01014	1	0.5	1	14	50	4	ESRB712 01506	1.5	0.75	1.5	6	50	4
ESRB712 01014S6	1	0.5	1	14	50	6	ESRB712 01506S6	1.5	0.75	1.5	6	50	6
ESRB712 01016	1	0.5	1	16	50	4	ESRB712 01507	1.5	0.75	1.5	7	50	4
ESRB712 01016S6	1	0.5	1	16	50	6	ESRB712 01508	1.5	0.75	1.5	8	50	4
ESRB712 01018	1	0.5	1	18	50	4	ESRB712 01508S6	1.5	0.75	1.5	8	50	6
ESRB712 01018S6	1	0.5	1	18	50	6	ESRB712 01510	1.5	0.75	1.5	10	50	4
ESRB712 01020	1	0.5	1	20	55	4	ESRB712 01510S6	1.5	0.75	1.5	10	50	6
ESRB712 01020S6	1	0.5	1	20	55	6	ESRB712 01512	1.5	0.75	1.5	12	50	4
ESRB712 01022	1	0.5	1	22	60	4	ESRB712 01512S6	1.5	0.75	1.5	12	50	6
ESRB712 01022S6	1	0.5	1	22	60	6	ESRB712 01514	1.5	0.75	1.5	14	50	4
ESRB712 01026	1	0.5	1	26	60	4	ESRB712 01514S6	1.5	0.75	1.5	14	50	6
ESRB712 01026S6	1	0.5	1	26	60	6	ESRB712 01516	1.5	0.75	1.5	16	50	4
ESRB712 01030	1	0.5	1	30	70	4	ESRB712 01516S6	1.5	0.75	1.5	16	50	6
ESRB712 01030S6	1	0.5	1	30	70	6	ESRB712 01518	1.5	0.75	1.5	18	50	4
ESRB712 01040	1	0.5	1	40	80	4	ESRB712 01518S6	1.5	0.75	1.5	18	50	6
ESRB712 01050	1	0.5	1	50	100	4	ESRB712 01520	1.5	0.75	1.5	20	55	4
ESRB712 01204	1.2	0.6	1.2	4	50	4	ESRB712 01520S6	1.5	0.75	1.5	20	55	6
ESRB712 01206	1.2	0.6	1.2	6	50	4	ESRB712 01522	1.5	0.75	1.5	22	60	4
ESRB712 01208	1.2	0.6	1.2	8	50	4	ESRB712 01522S6	1.5	0.75	1.5	22	60	6
ESRB712 01210	1.2	0.6	1.2	10	50	4	ESRB712 01526	1.5	0.75	1.5	26	60	4
ESRB712 01212	1.2	0.6	1.2	12	50	4	ESRB712 01526S6	1.5	0.75	1.5	26	60	6
ESRB712 01216	1.2	0.6	1.2	16	50	4	ESRB712 01530	1.5	0.75	1.5	30	70	4
ESRB712 01220	1.2	0.6	1.2	20	50	4	ESRB712 01530S6	1.5	0.75	1.5	30	70	6
ESRB712 01226	1.2	0.6	1.2	26	60	4	ESRB712 01535	1.5	0.75	1.5	35	70	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESRB712 2 Flutes Rib Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	ESRB712 01535S6	1.5	0.75	1.5	35	70	6		ESRB712 02020S6	2	1	2	20	55	6
	ESRB712 01540	1.5	0.75	1.5	40	80	4		ESRB712 02022	2	1	2	22	60	4
	ESRB712 01540S6	1.5	0.75	1.5	40	80	6		ESRB712 02022S6	2	1	2	22	60	6
	ESRB712 01604	1.6	0.8	1.6	4	50	4		ESRB712 02026	2	1	2	26	60	4
E-Star	ESRB712 01606	1.6	0.8	1.6	6	50	4		ESRB712 02026S6	2	1	2	26	60	6
	ESRB712 01608	1.6	0.8	1.6	8	50	4		ESRB712 02030	2	1	2	30	70	4
	ESRB712 01610	1.6	0.8	1.6	10	50	4		ESRB712 02030S6	2	1	2	30	70	6
	ESRB712 01612	1.6	0.8	1.6	12	50	4		ESRB712 02035	2	1	2	35	70	4
U-Wing	ESRB712 01616	1.6	0.8	1.6	16	50	4		ESRB712 02035S6	2	1	2	35	70	6
	ESRB712 01620	1.6	0.8	1.6	20	50	4		ESRB712 02040	2	1	2	40	80	4
	ESRB712 01804	1.8	0.9	1.8	4	50	4		ESRB712 02040S6	2	1	2	40	80	6
	ESRB712 01806	1.8	0.9	1.8	6	50	4		ESRB712 02045	2	1	2	45	90	4
Zamus Thunder	ESRB712 01808	1.8	0.9	1.8	8	50	4		ESRB712 02045S6	2	1	2	45	90	6
	ESRB712 01810	1.8	0.9	1.8	10	50	4		ESRB712 02050	2	1	2	50	100	4
	ESRB712 01812	1.8	0.9	1.8	12	50	4		ESRB712 02050S6	2	1	2	50	100	6
	ESRB712 01816	1.8	0.9	1.8	16	50	4		ESRB712 02060	2	1	2	60	110	4
X-Star	ESRB712 01820	1.8	0.9	1.8	20	50	4		ESRB712 02508	2.5	1.25	2.5	8	50	4
	ESRB712 02004	2	1	2	4	50	4		ESRB712 02510	2.5	1.25	2.5	10	50	4
	ESRB712 02004S6	2	1	2	4	50	6		ESRB712 02512	2.5	1.25	2.5	12	50	4
	ESRB712 02006	2	1	2	6	50	4		ESRB712 02516	2.5	1.25	2.5	16	50	4
S-Wing	ESRB712 02006S6	2	1	2	6	50	6		ESRB712 02520	2.5	1.25	2.5	20	50	4
	ESRB712 02008	2	1	2	8	50	4		ESRB712 02522	2.5	1.25	2.5	22	60	4
	ESRB712 02008S6	2	1	2	8	50	6		ESRB712 02526	2.5	1.25	2.5	26	60	4
	ESRB712 02010	2	1	2	10	50	4		ESRB712 02530	2.5	1.25	2.5	30	70	4
A-Wing	ESRB712 02010S6	2	1	2	10	50	6		ESRB712 02535	2.5	1.25	2.5	35	70	4
	ESRB712 02012	2	1	2	12	50	4		ESRB712 02540	2.5	1.25	2.5	40	80	4
	ESRB712 02012S6	2	1	2	12	50	6		ESRB712 02545	2.5	1.25	2.5	45	90	4
	ESRB712 02014	2	1	2	14	50	4		ESRB712 02550	2.5	1.25	2.5	50	100	4
Standard	ESRB712 02014S6	2	1	2	14	50	6		ESRB712 03006	3	1.5	3	6	50	6
	ESRB712 02016	2	1	2	16	50	4		ESRB712 03008	3	1.5	3	8	50	6
	ESRB712 02016S6	2	1	2	16	50	6		ESRB712 03010	3	1.5	3	10	50	6
	ESRB712 02018	2	1	2	18	55	4		ESRB712 03012	3	1.5	3	12	50	6
Copper -Mate	ESRB712 02018S6	2	1	2	18	55	6		ESRB712 03014	3	1.5	3	14	60	6
	ESRB712 02020	2	1	2	20	55	4		ESRB712 03016	3	1.5	3	16	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESRB712 2 Flutes Rib Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ESRB712 03018	3	1.5	3	18	60	6	ESRB712 04055	4	2	4	55	100	6
ESRB712 03020	3	1.5	3	20	60	6	ESRB712 04060	4	2	4	60	100	6
ESRB712 03022	3	1.5	3	22	65	6	ESRB712 05015	5	2.5	6	15	60	6
ESRB712 03026	3	1.5	3	26	65	6	ESRB712 05020	5	2.5	6	20	60	6
ESRB712 03030	3	1.5	3	30	70	6	ESRB712 05026	5	2.5	6	26	65	6
ESRB712 03035	3	1.5	3	35	70	6	ESRB712 05030	5	2.5	6	30	70	6
ESRB712 03040	3	1.5	3	40	80	6	ESRB712 05035	5	2.5	6	35	70	6
ESRB712 03045	3	1.5	3	45	90	6	ESRB712 05040	5	2.5	6	40	80	6
ESRB712 03050	3	1.5	3	50	100	6	ESRB712 05045	5	2.5	6	45	90	6
ESRB712 03060	3	1.5	3	60	100	6	ESRB712 05050	5	2.5	6	50	100	6
ESRB712 03510	3.5	1.75	3	10	50	6	ESRB712 05055	5	2.5	6	55	100	6
ESRB712 03516	3.5	1.75	3	16	60	6	ESRB712 05060	5	2.5	6	60	100	6
ESRB712 03520	3.5	1.75	3	20	60	6	ESRB712 0602090	6	3	12	20	90	6
ESRB712 03526	3.5	1.75	3	26	65	6	ESRB712 06020	6	3	8	20	60	6
ESRB712 03530	3.5	1.75	3	30	70	6	ESRB712 0603090	6	3	12	30	90	6
ESRB712 04008	4	2	4	8	50	6	ESRB712 06030	6	3	8	30	60	6
ESRB712 04010	4	2	4	10	50	6	ESRB712 08025100	8	4	14	25	100	8
ESRB712 04012	4	2	4	12	50	6	ESRB712 08025	8	4	10	25	70	8
ESRB712 04014	4	2	4	14	60	6	ESRB712 08035100	8	4	14	35	100	8
ESRB712 04016	4	2	4	16	60	6	ESRB712 08035	8	4	10	35	70	8
ESRB712 04018	4	2	4	18	60	6	ESRB712 10030100	10	5	18	30	100	10
ESRB712 04020	4	2	4	20	60	6	ESRB712 10030	10	5	12	30	75	10
ESRB712 04022	4	2	4	22	65	6	ESRB712 10040100	10	5	18	40	100	10
ESRB712 04026	4	2	4	26	65	6	ESRB712 10040	10	5	12	40	75	10
ESRB712 04030	4	2	4	30	70	6	ESRB712 12032110	12	6	22	32	110	12
ESRB712 04035	4	2	4	35	70	6	ESRB712 12032	12	6	14	32	80	12
ESRB712 04040	4	2	4	40	80	6	ESRB712 12045110	12	6	22	45	110	12
ESRB712 04045	4	2	4	45	90	6	ESRB712 12045	12	6	14	45	80	12
ESRB712 04050	4	2	4	50	100	6							

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

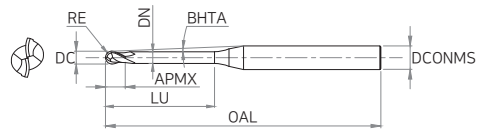
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	○		○	◎						

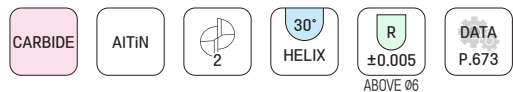
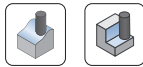
ESLNB20

2 Flutes Long Neck Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.012	h5



EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNB20 01-0.2	0.1	0.05	0.08	0.2	0.08	45	4	11.8	0.3	0.3	0.3	0.4	0.4
ESLNB20 01-0.3	0.1	0.05	0.08	0.3	0.08	45	4	11.7	0.4	0.4	0.5	0.5	0.5
ESLNB20 01-0.5	0.1	0.05	0.08	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ESLNB20 02-0.5	0.2	0.1	0.15	0.5	0.17	50	4	11.5	1.2	1.3	1.5	1.6	2
ESLNB20 02-1	0.2	0.1	0.15	1	0.17	50	4	10.9	1.7	1.9	2.1	2.3	2.7
ESLNB20 02-1.5	0.2	0.1	0.15	1.5	0.17	50	4	10.4	2.3	2.5	2.8	3	3.4
ESLNB20 02-2	0.2	0.1	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ESLNB20 02-2.5	0.2	0.1	0.15	2.5	0.17	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 02-3.0	0.2	0.1	0.15	3	0.17	50	4	9.1	3.9	4.3	4.6	4.9	5.4
ESLNB20 03-1	0.3	0.15	0.25	1	0.27	50	4	10.9	1.7	1.9	2.1	2.3	2.7
ESLNB20 03-1.5	0.3	0.15	0.25	1.5	0.27	50	4	10.4	2.3	2.5	2.7	3	3.4
ESLNB20 03-2	0.3	0.15	0.25	2	0.27	50	4	9.9	2.8	3.1	3.4	3.6	4
ESLNB20 03-2.5	0.3	0.15	0.25	2.5	0.27	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 03-3	0.3	0.15	0.25	3	0.27	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ESLNB20 04-1	0.4	0.2	0.3	1	0.37	50	4	11	1.7	1.9	2.1	2.3	2.7
ESLNB20 04-1.5	0.4	0.2	0.3	1.5	0.37	50	4	10.4	2.3	2.5	2.7	2.9	3.4
ESLNB20 04-2	0.4	0.2	0.3	2	0.37	50	4	9.9	2.8	3.1	3.4	3.6	4
ESLNB20 04-2.5	0.4	0.2	0.3	2.5	0.37	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 04-3	0.4	0.2	0.3	3	0.37	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ESLNB20 04-3.5	0.4	0.2	0.3	3.5	0.37	50	4	8.7	4.5	4.8	5.2	5.4	6

► Applicable Working Material

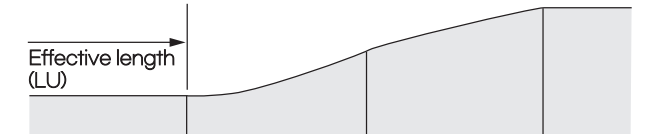
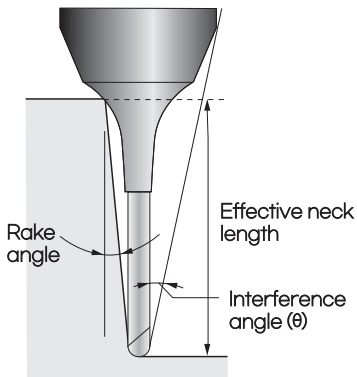
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNB20

2 Flutes Long Neck Ball End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNB20 04-4	0.4	0.2	0.3	4	0.37	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 04-4.5	0.4	0.2	0.3	4.5	0.37	50	4	8	5.6	6	6.3	6.6	7.2
ESLNB20 05-1	0.5	0.25	0.35	1	0.47	50	4	11	1.7	1.9	2.1	2.3	2.6
ESLNB20 05-2	0.5	0.25	0.35	2	0.47	50	4	9.9	2.8	3.1	3.3	3.6	4
ESLNB20 05-3	0.5	0.25	0.35	3	0.47	50	4	9	3.9	4.3	4.6	4.8	5.3
ESLNB20 05-4	0.5	0.25	0.35	4	0.47	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 05-5	0.5	0.25	0.35	5	0.47	50	4	7.7	6.1	6.5	6.9	7.2	7.8
ESLNB20 05-6	0.5	0.25	0.35	6	0.47	50	4	7.1	7.2	7.6	8	8.4	9
ESLNB20 05-8	0.5	0.25	0.35	8	0.47	50	4	6.3	9.3	9.9	10.3	10.7	11.4
ESLNB20 06-1	0.6	0.3	0.4	1	0.57	50	4	11	1.7	1.9	2.1	2.3	2.6
ESLNB20 06-2	0.6	0.3	0.4	2	0.57	50	4	9.9	2.8	3.1	3.3	3.6	4
ESLNB20 06-3	0.6	0.3	0.4	3	0.57	50	4	9	3.9	4.3	4.5	4.8	5.3
ESLNB20 06-4	0.6	0.3	0.4	4	0.57	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 06-5	0.6	0.3	0.4	5	0.57	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ESLNB20 06-6	0.6	0.3	0.4	6	0.57	50	4	7.1	7.2	7.6	8	8.4	9
ESLNB20 06-7	0.6	0.3	0.4	7	0.57	50	4	6.6	8.3	8.8	9.2	9.5	10.2
ESLNB20 06-8	0.6	0.3	0.4	8	0.57	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ESLNB20 06-9	0.6	0.3	0.4	9	0.57	50	4	5.8	10.4	10.9	11.4	11.8	12.5
ESLNB20 06-10	0.6	0.3	0.4	10	0.57	50	4	5.5	11.4	12	12.5	12.9	13.7
ESLNB20 06-12	0.6	0.3	0.4	12	0.57	50	4	5	13.6	14.2	14.7	15.2	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNB20

2 Flutes Long Neck Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
										0.5°	1°	1.5°	2°	3°
Zamus Star	ESLNB20 08-2	0.8	0.4	0.5	2	0.77	50	4	9.9	2.8	3.1	3.3	3.5	4
	ESLNB20 08-4	0.8	0.4	0.5	4	0.77	50	4	8.2	5	5.4	5.7	6	6.5
	ESLNB20 08-5	0.8	0.4	0.5	5	0.77	50	4	7.5	6.1	6.5	6.9	7.2	7.8
	ESLNB20 08-6	0.8	0.4	0.5	6	0.77	50	4	7	7.2	7.6	8	8.4	9
	ESLNB20 08-8	0.8	0.4	0.5	8	0.77	50	4	6.1	9.3	9.8	10.3	10.7	11.3
E-Star	ESLNB20 08-10	0.8	0.4	0.5	10	0.77	50	4	5.4	11.4	12	12.5	12.9	13.7
	ESLNB20 10-2	1	0.5	0.8	2	0.96	50	4	9.9	2.9	3.1	3.3	3.5	4
	ESLNB20 10-3	1	0.5	0.8	3	0.96	50	4	8.9	4	4.3	4.5	4.8	5.3
U-Wing	ESLNB20 10-4	1	0.5	0.8	4	0.96	50	4	8.1	5	5.4	5.7	6	6.5
	ESLNB20 10-5	1	0.5	0.8	5	0.96	50	4	7.4	6.1	6.5	6.9	7.2	7.8
	ESLNB20 10-6	1	0.5	0.8	6	0.96	50	4	6.8	7.2	7.7	8	8.4	9
	ESLNB20 10-7	1	0.5	0.8	7	0.96	50	4	6.3	8.3	8.8	9.2	9.5	10.2
Zamus Thunder	ESLNB20 10-8	1	0.5	0.8	8	0.96	50	4	5.9	9.3	9.9	10.3	10.7	11.3
	ESLNB20 10-9	1	0.5	0.8	9	0.96	50	4	5.5	10.4	11	11.4	11.8	12.5
	ESLNB20 10-10	1	0.5	0.8	10	0.96	50	4	5.2	11.5	12	12.5	12.9	13.7
X-Star	ESLNB20 10-12	1	0.5	0.8	12	0.96	55	4	4.6	13.6	14.2	14.7	15.2	15.9
	ESLNB20 10-14	1	0.5	0.8	14	0.96	55	4	4.2	15.7	16.4	16.9	17.4	18.5
	ESLNB20 10-16	1	0.5	0.8	16	0.96	55	4	3.8	17.8	18.5	19.1	19.6	21.2
	ESLNB20 10-18	1	0.5	0.8	18	0.96	60	4	3.5	19.9	20.7	21.3	21.8	23.8
S-Wing	ESLNB20 10-20	1	0.5	0.8	20	0.96	60	4	3.3	22	22.8	23.4	24	26.5
	ESLNB20 12-4	1.2	0.6	1.1	4	1.15	50	4	7.9	5.1	5.4	5.7	6	6.5
	ESLNB20 12-6	1.2	0.6	1.1	6	1.15	50	4	6.6	7.2	7.7	8	8.4	9
A-Wing	ESLNB20 12-8	1.2	0.6	1.1	8	1.15	50	4	5.7	9.4	9.9	10.3	10.7	11.3
	ESLNB20 12-10	1.2	0.6	1.1	10	1.15	50	4	5	11.5	12.1	12.5	12.9	13.7
	ESLNB20 12-12	1.2	0.6	1.1	12	1.15	55	4	4.5	13.6	14.2	14.7	15.2	15.9
	ESLNB20 14-8	1.4	0.7	1.3	8	1.34	50	4	5.5	9.4	9.9	10.3	10.7	11.3
Standard	ESLNB20 14-12	1.4	0.7	1.3	12	1.34	55	4	4.3	13.6	14.2	14.7	15.2	15.9
	ESLNB20 14-16	1.4	0.7	1.3	16	1.34	55	4	3.5	17.8	18.5	19.1	19.6	21.2
	ESLNB20 15-4	1.5	0.75	1.35	4	1.44	50	4	7.7	5.1	5.4	5.7	6	6.5
Copper -Mate	ESLNB20 15-6	1.5	0.75	1.35	6	1.44	50	4	6.4	7.3	7.7	8	8.4	9
	ESLNB20 15-8	1.5	0.75	1.35	8	1.44	50	4	5.4	9.4	9.9	10.3	10.7	11.3
	ESLNB20 15-10	1.5	0.75	1.35	10	1.44	50	4	4.7	11.5	12.1	12.5	12.9	13.7
Gra -Mate	ESLNB20 15-12	1.5	0.75	1.35	12	1.44	55	4	4.2	13.6	14.2	14.7	15.2	15.9
	ESLNB20 15-14	1.5	0.75	1.35	14	1.44	55	4	3.8	15.7	16.4	16.9	17.4	18.5

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESLNB20

2 Flutes Long Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNB20 15-16	1.5	0.75	1.35	16	1.44	55	4	3.4	17.8	18.5	19.1	19.6	21.1
ESLNB20 15-20	1.5	0.75	1.35	20	1.44	60	4	2.9	22	22.8	23.4	24	-
ESLNB20 16-8	1.6	0.8	1.4	8	1.54	50	4	5.3	9.4	9.9	10.3	10.7	11.3
ESLNB20 16-10	1.6	0.8	1.4	10	1.54	55	4	4.6	11.5	12.1	12.5	12.9	13.7
ESLNB20 16-12	1.6	0.8	1.4	12	1.54	55	4	4.1	13.6	14.2	14.7	15.2	15.9
ESLNB20 16-16	1.6	0.8	1.4	16	1.54	55	4	3.3	17.8	18.5	19.1	19.6	21.1
ESLNB20 16-20	1.6	0.8	1.4	20	1.54	60	4	2.8	22	22.8	23.4	24	-
ESLNB20 18-8	1.8	0.9	1.6	8	1.73	50	4	5.1	9.4	9.9	10.3	10.7	11.3
ESLNB20 18-12	1.8	0.9	1.6	12	1.73	55	4	3.9	13.7	14.3	14.7	15.2	15.9
ESLNB20 18-16	1.8	0.9	1.6	16	1.73	55	4	3.1	17.9	18.6	19.1	19.6	21.1
ESLNB20 18-20	1.8	0.9	1.6	20	1.73	60	4	2.6	22	22.8	23.4	24	-
ESLNB20 20-3	2	1	1.7	3	1.92	50	4	8.3	4.1	4.4	4.6	4.8	5.2
ESLNB20 20-4	2	1	3	4	1.92	50	4	7.3	5.2	5.5	5.8	6	6.5
ESLNB20 20-6	2	1	3	6	1.92	50	4	5.8	7.3	7.7	8.1	8.4	9
ESLNB20 20-8	2	1	3	8	1.92	50	4	4.9	9.5	9.9	10.3	10.7	11.3
ESLNB20 20-10	2	1	3	10	1.92	50	4	4.2	11.6	12.1	12.6	12.9	13.6
ESLNB20 20-12	2	1	3	12	1.92	55	4	3.7	13.7	14.3	14.8	15.2	15.9
ESLNB20 20-14	2	1	3	14	1.92	55	4	3.2	15.8	16.4	16.9	17.4	18.5
ESLNB20 20-16	2	1	3	16	1.92	55	4	2.9	17.9	18.6	19.1	19.6	-
ESLNB20 20-18	2	1	3	18	1.92	60	4	2.7	20	20.7	21.3	21.8	-
ESLNB20 20-20	2	1	3	20	1.92	60	4	2.4	22.1	22.8	23.4	24	-
ESLNB20 20-22	2	1	3	22	1.92	60	4	2.3	24.1	24.9	25.6	26.3	-
ESLNB20 20-25	2	1	3	25	1.92	65	4	2	27.3	28.1	28.8	-	-
ESLNB20 20-30	2	1	3	30	1.92	70	4	1.7	32.4	33.4	34.2	-	-
ESLNB20 20-35	2	1	3	35	1.92	75	4	1.5	37.6	38.6	-	-	-
ESLNB20 20-40	2	1	3	40	1.92	80	4	1.4	42.8	43.8	-	-	-
ESLNB20 25-10	2.5	1.25	4	10	2.4	50	4	3.4	11.6	12.1	12.6	13	13.6
ESLNB20 25-16	2.5	1.25	4	16	2.4	55	4	2.3	17.9	18.6	19.1	19.6	-
ESLNB20 25-20	2.5	1.25	4	20	2.4	60	4	1.9	22.1	22.8	23.5	-	-
ESLNB20 30-8	3	1.5	4	8	2.88	55	6	6.2	9.6	10	10.4	10.7	11.3
ESLNB20 30-10	3	1.5	4	10	2.88	55	6	5.5	11.7	12.2	12.6	13	13.6
ESLNB20 30-13	3	1.5	4	13	2.88	60	6	4.6	14.8	15.4	15.9	16.3	17.1
ESLNB20 30-16	3	1.5	4	16	2.88	60	6	4	18	18.6	19.1	19.6	21.1
ESLNB20 30-18	3	1.5	4	18	2.88	60	6	3.6	20	20.7	21.3	21.8	23.7

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESLNB20

2 Flutes Long Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	DN	OAL	DCON MS	BHTA	Effective length by inclination angle				
									0.5°	1°	1.5°	2°	3°
ESLNB20 30-20	3	1.5	4	20	2.88	65	6	3.4	22.1	22.9	23.5	24	26.4
ESLNB20 30-25	3	1.5	4	25	2.88	70	6	2.8	27.3	28.2	28.8	29.9	-
ESLNB20 30-30	3	1.5	4	30	2.88	75	6	2.2	37.7	38.7	40	41.9	-
ESLNB20 30-35	3	1.5	4	35	2.88	80	6	4.5	11.6	12.1	12.5	12.9	13.5
ESLNB20 40-10	4	2	5	10	3.9	55	6	3.6	14.7	15.3	15.8	16.2	17
ESLNB20 40-13	4	2	5	13	3.9	60	6	3.1	17.9	18.5	19.1	19.5	20.9
ESLNB20 40-16	4	2	5	16	3.9	60	6	2.5	22.1	22.8	23.4	23.9	-
ESLNB20 40-20	4	2	5	20	3.9	65	6	2.1	27.3	28.1	28.8	29.8	-
ESLNB20 40-25	4	2	5	25	3.9	70	6	1.8	32.4	33.4	34.2	-	-
ESLNB20 40-30	4	2	5	30	3.9	75	6	1.6	37.6	38.6	39.9	-	-
ESLNB20 40-35	4	2	5	35	3.9	80	6	1.4	42.8	43.8	-	-	-
ESLNB20 40-40	4	2	5	40	3.9	80	6	1.2	47.9	49.1	-	-	-
ESLNB20 40-45	4	2	5	45	3.9	90	6	1.1	53.1	54.5	-	-	-
ESLNB20 40-50	4	2	5	50	3.9	100	6	1.4	22	22.8	-	-	-
ESLNB20 50-20	5	2.5	6	20	4.9	65	6	1.2	27.2	28.1	-	-	-
ESLNB20 50-25	5	2.5	6	25	4.9	70	6	1	32.4	-	-	-	-
ESLNB20 50-30	5	2.5	6	30	4.9	75	6	0.8	42.8	-	-	-	-
ESLNB20 50-35	5	2.5	6	35	4.9	80	6	0.7	42.8	-	-	-	-
ESLNB20 50-40	5	2.5	6	40	4.9	90	6	-	-	-	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

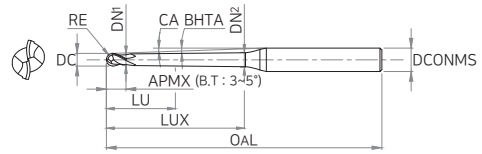
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESTNB20

2 Flutes Tapered Neck Ball End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCONMS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB20 02-1-04	0.2	0.1	0.15	1	0.4	0.17	0.18	50	4	1.35	10.9	1.5	1.7	1.8	2	2.3
ESTNB20 02-1.5-04	0.2	0.1	0.15	1.5	0.4	0.17	0.19	50	4	1.77	10.4	2	2.2	2.4	2.6	2.9
ESTNB20 02-2-09	0.2	0.1	0.15	2	0.9	0.17	0.23	50	4	1.1	10.1	-	2.8	3.1	3.4	3.9
ESTNB20 02-2.5-09	0.2	0.1	0.15	2.5	0.9	0.17	0.24	50	4	1.1	9.6	-	3.3	3.7	4	4.5
ESTNB20 03-2-04	0.3	0.15	0.25	2	0.4	0.28	0.29	50	4	2.19	10	2.5	2.8	3	3.2	3.5
ESTNB20 03-3-09	0.3	0.15	0.25	3	0.9	0.28	0.36	50	4	1.2	9.3	-	3.8	4.2	4.5	5.1
ESTNB20 03-4-09	0.3	0.15	0.25	4	0.9	0.28	0.39	50	4	1.2	8.6	-	4.8	5.3	5.7	6.3
ESTNB20 04-2-04	0.4	0.2	0.3	2	0.4	0.37	0.39	50	4	2.2	10	2.5	2.8	3	3.2	3.5
ESTNB20 04-3-04	0.4	0.2	0.3	3	0.4	0.37	0.41	50	4	2.44	9.1	3.6	3.9	4.1	4.4	4.8
ESTNB20 04-4-04	0.4	0.2	0.3	4	0.4	0.37	0.42	50	4	2.44	8.4	4.7	5.2	5.6	5.9	6.5
ESTNB20 04-4-09	0.4	0.2	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	-	4.8	5.3	5.7	6.3
ESTNB20 04-5-04	0.4	0.2	0.3	5	0.4	0.37	0.44	50	4	2.44	7.8	5.7	6.3	6.7	7.1	7.7
ESTNB20 04-5-09	0.4	0.2	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	-	5.9	6.4	6.8	7.5
ESTNB20 05-4-04	0.5	0.25	0.35	4	0.4	0.47	0.52	50	4	2.49	8.4	4.6	5	5.3	5.5	5.9
ESTNB20 05-8-09	0.5	0.25	0.35	8	0.9	0.47	0.71	50	4	1.3	6.5	-	8.9	9.6	10.1	10.9
ESTNB20 05-12-09	0.5	0.25	0.35	12	0.9	0.47	0.84	50	4	1.3	5.3	-	13	13.9	14.5	15.4
ESTNB20 054-2-04	0.54	0.27	0.37	2	0.4	0.52	0.54	50	4	1.8	10	2.3	2.5	2.7	2.8	3
ESTNB20 054-4-04	0.54	0.27	0.37	4	0.4	0.52	0.57	50	4	1.8	8.4	4.5	4.9	5.2	5.5	5.9
ESTNB20 054-5-04	0.54	0.27	0.37	5	0.4	0.52	0.59	50	4	1.8	7.8	5.5	6	6.3	6.6	7.1
ESTNB20 054-6-04	0.54	0.27	0.37	6	0.4	0.52	0.6	50	4	1.8	7.2	6.7	7.3	7.8	8.2	8.8

► Applicable Working Material

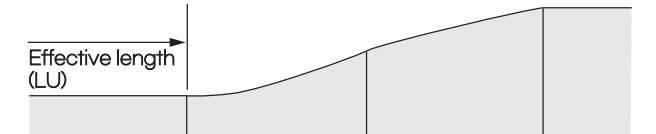
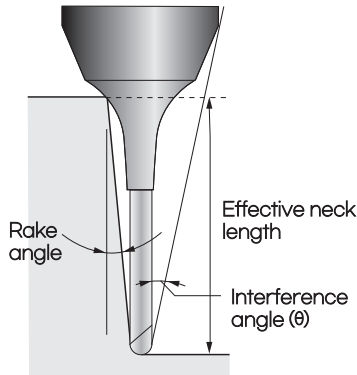
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB20 054-6.5-04	0.54	0.27	0.37	6.5	0.4	0.52	0.61	50	4	1.8	7	7.2	7.9	8.3	8.7	9.4
ESTNB20 054-7-04	0.54	0.27	0.37	7	0.4	0.52	0.61	50	4	1.8	6.8	7.7	8.4	8.9	9.3	10
ESTNB20 06-2-04	0.6	0.3	0.4	2	0.4	0.57	0.59	50	4	2.17	10	2.4	2.5	2.7	2.8	3
ESTNB20 06-4-04	0.6	0.3	0.4	4	0.4	0.57	0.62	50	4	2.54	8.4	4.6	5	5.2	5.5	5.9
ESTNB20 06-6-04	0.6	0.3	0.4	6	0.4	0.57	0.65	50	4	2.54	7.2	6.8	7.4	7.8	8.2	8.8
ESTNB20 06-6-09	0.6	0.3	0.4	6	0.9	0.57	0.75	50	4	1.35	7.3	-	6.9	7.5	7.9	8.6
ESTNB20 06-8-09	0.6	0.3	0.4	8	0.9	0.57	0.81	50	4	1.35	6.4	-	8.9	9.6	10.1	10.9
ESTNB20 06-10-04	0.6	0.3	0.4	10	0.4	0.57	0.7	50	4	2.54	5.6	10.8	11.7	12.2	12.7	13.5
ESTNB20 06-10-09	0.6	0.3	0.4	10	0.9	0.57	0.87	50	4	1.35	5.7	-	11	11.8	12.3	13.2
ESTNB20 06-12-09	0.6	0.3	0.4	12	0.9	0.57	0.93	55	4	1.35	5.2	-	13	13.9	14.5	15.4
ESTNB20 06-15-04	0.6	0.3	0.4	15	0.4	0.57	0.77	55	4	2.54	4.4	15.9	17	17.6	18.2	19.2
ESTNB20 06-15-09	0.6	0.3	0.4	15	0.9	0.57	1.03	55	4	1.35	4.5	-	16.1	17.1	17.7	18.8
ESTNB20 08-4-04	0.8	0.4	0.5	4	0.4	0.77	0.82	50	4	2.64	8.3	4.6	4.9	5.2	5.5	5.9
ESTNB20 08-6-04	0.8	0.4	0.5	6	0.4	0.77	0.85	50	4	2.64	7.1	6.6	7.1	7.5	7.7	8.3
ESTNB20 08-8-09	0.8	0.4	0.5	8	0.9	0.77	1.01	50	4	1.45	6.3	-	8.9	9.6	10.1	10.9
ESTNB20 08-12-09	0.8	0.4	0.5	12	0.9	0.77	1.13	55	4	1.45	5	-	13	13.9	14.5	15.4
ESTNB20 08-16-09	0.8	0.4	0.5	16	0.9	0.77	1.26	55	4	1.45	4.2	-	17.1	18.1	18.8	19.9
ESTNB20 09-4-04	0.9	0.45	0.6	4	0.4	0.86	0.91	50	4	3.46	8.2	4.5	4.7	4.9	5.1	5.4
ESTNB20 09-8-04	0.9	0.45	0.6	8	0.4	0.86	0.96	55	4	3.46	6.1	8.7	9.3	9.7	10	10.6
ESTNB20 09-12-04	0.9	0.45	0.6	12	0.4	0.86	1.02	55	4	3.46	4.8	12.9	13.8	14.4	14.9	15.7

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

ESTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB20 09-16-04	0.9	0.45	0.6	16	0.4	0.86	1.08	60	4	3.46	4	17	18	18.7	19.3	20.5
ESTNB20 09-18-04	0.9	0.45	0.6	18	0.4	0.86	1.1	65	4	3.46	3.7	19.1	20.1	20.9	21.5	23.1
ESTNB20 09-20-04	0.9	0.45	0.6	20	0.4	0.86	1.13	65	4	3.46	3.4	21.1	22.2	23	23.6	25.6
ESTNB20 09-22-04	0.9	0.45	0.6	22	0.4	0.86	1.16	65	4	3.46	3.2	23.1	24.3	25.1	25.8	28.2
ESTNB20 09-24-04	0.9	0.45	0.6	24	0.4	0.86	1.19	70	4	3.46	3	25.2	26.4	27.2	27.9	-
ESTNB20 10-6-04	1	0.5	0.8	6	0.4	0.94	1.01	50	6	5.09	8.3	6.8	7.2	7.5	7.8	8.3
ESTNB20 10-8-04	1	0.5	0.8	8	0.4	0.94	1.04	55	6	5.09	7.5	8.8	9.3	9.7	10	10.6
ESTNB20 10-10-04	1	0.5	0.8	10	0.4	0.94	1.07	55	6	5.09	6.8	11	11.7	12.3	12.7	13.5
ESTNB20 10-10-09	1	0.5	0.8	10	0.9	0.94	1.23	55	6	2.7	6.9	-	11.2	11.9	12.4	13.2
ESTNB20 10-15-09	1	0.5	0.8	15	0.9	0.94	1.39	60	6	2.7	5.7	-	16.2	17.1	17.8	18.8
ESTNB20 10-20-04	1	0.5	0.8	20	0.4	0.94	1.21	65	6	5.09	4.7	21.2	22.3	23	23.6	25.7
ESTNB20 10-20-09	1	0.5	0.8	20	0.4	0.94	1.54	65	6	2.7	4.8	-	21.3	22.4	23.1	24.6
ESTNB20 10-25-09	1	0.5	0.8	25	0.4	0.94	1.7	70	6	2.7	4.2	-	26.4	27.6	28.4	30.8
ESTNB20 10-30-04	1	0.5	0.8	30	0.4	0.94	1.35	75	6	5.09	3.6	31.3	32.7	33.6	34.8	38.5
ESTNB20 10-30-09	1	0.5	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.4	32.8	33.7	36.9
ESTNB20 10-35-09	1	0.5	0.8	35	0.9	0.94	2.02	80	6	2.7	3.3	-	36.5	38	39	43.1
ESTNB20 10-40-09	1	0.5	0.8	40	0.9	0.94	2.17	85	6	2.7	3	-	41.6	43.2	44.4	-
ESTNB20 10-50-09	1	0.5	0.8	50	0.9	0.94	2.49	95	6	2.7	2.5	-	51.7	53.5	55.5	-
ESTNB20 10-60-09	1	0.5	0.8	60	0.9	0.94	2.8	105	6	2.7	2.2	-	61.8	63.8	66.6	-
ESTNB20 10-70-09	1	0.5	0.8	70	0.9	0.94	3.11	115	6	2.7	1.9	-	71.9	74	-	-
ESTNB20 15-8-04	1.5	0.75	1.35	8	0.4	1.42	1.51	55	6	7.07	7.3	8.9	9.4	9.7	10	10.6
ESTNB20 15-10-04	1.5	0.75	1.35	10	0.4	1.42	1.54	55	6	7.07	6.6	10.9	11.5	11.9	12.2	12.9
ESTNB20 15-12-04	1.5	0.75	1.35	12	0.4	1.42	1.57	55	6	7.07	6	13	13.6	14	14.4	15.4
ESTNB20 15-15-09	1.5	0.75	1.35	15	0.9	1.42	1.85	60	6	3.89	5.4	-	16.4	17.2	17.8	18.8
ESTNB20 15-20-09	1.5	0.75	1.35	20	0.9	1.42	2.01	65	6	3.89	4.5	-	21.4	22.4	23.2	24.7
ESTNB20 15-30-09	1.5	0.75	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.5	32.9	33.7	37
ESTNB20 18-4-04	1.8	0.9	1.6	4	0.4	1.73	1.76	50	6	4.38	9.2	4.6	4.8	4.9	5.1	5.4
ESTNB20 18-8-04	1.8	0.9	1.6	8	0.4	1.73	1.82	50	6	6.61	7.1	8.6	9	9.2	9.4	10.2
ESTNB20 18-12-04	1.8	0.9	1.6	12	0.4	1.73	1.88	55	6	6.61	5.8	12.9	13.5	14	14.4	15.4
ESTNB20 18-16-04	1.8	0.9	1.6	16	0.4	1.73	1.93	60	6	6.61	4.9	17	17.7	18.3	18.7	20.5
ESTNB20 18-20-04	1.8	0.9	1.6	20	0.4	1.73	1.99	65	6	6.61	4.3	21.2	22.3	23	23.6	25.6
ESTNB20 18-24-04	1.8	0.9	1.6	24	0.4	1.73	2.04	65	6	6.61	3.8	25.3	26.5	27.3	27.9	30.8
ESTNB20 18-28-04	1.8	0.9	1.6	28	0.4	1.73	2.1	70	6	6.61	3.4	29.4	30.6	31.5	32.4	35.9
ESTNB20 18-32-04	1.8	0.9	1.6	32	0.4	1.73	2.15	70	6	6.61	3	33.4	34.8	35.7	37.1	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	○		○	◎						

ESTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB20 18-36-04	1.8	0.9	1.6	36	0.4	1.73	2.21	75	6	6.61	2.8	37.5	38.9	39.9	41.7	-
ESTNB20 18-38-04	1.8	0.9	1.6	38	0.4	1.73	2.24	80	6	6.61	2.7	39.5	41	42	44	-
ESTNB20 18-40-04	1.8	0.9	1.6	40	0.4	1.73	2.27	80	6	6.61	2.6	41.5	43.1	44.2	46.3	-
ESTNB20 20-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
ESTNB20 20-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
ESTNB20 20-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
ESTNB20 20-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
ESTNB20 20-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.4	22.4	23.2	24.6
ESTNB20 20-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.5	27.7	28.5	30.8
ESTNB20 20-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
ESTNB20 20-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	-	31.6	32.9	33.7	36.9
ESTNB20 20-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	-	36.6	38	39	-
ESTNB20 20-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
ESTNB20 20-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	-	41.7	43.2	44.5	-
ESTNB20 20-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.5	53.5	55.5	-
ESTNB20 20-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	-	61.9	63.8	-	-
ESTNB20 20-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.8	-	72	74.1	-	-
ESTNB20 30-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
ESTNB20 30-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
ESTNB20 30-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
ESTNB20 30-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
ESTNB20 30-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	-	31.8	33	33.8	-
ESTNB20 30-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-
ESTNB20 30-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	41.9	43.3	-	-
ESTNB20 30-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52	53.6	-	-
ESTNB20 30-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-
ESTNB20 30-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	-	72.1	-	-	-
ESTNB20 40-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
ESTNB20 40-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.51	22	31.6	32.5	33.2	34.16
ESTNB20 40-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
ESTNB20 40-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
ESTNB20 40-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
ESTNB20 50-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
ESTNB20 50-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESTNB20

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB20 50-60-10	5	2.5	10	60	1	4.86	6.61	110	8	14.01	1.5	25.5	62.1	-	-	-
ESTNB20 60-30-10	6	3	12	30	1	5.86	6.49	80	8	16.01	1.9	29	31.8	32.6	-	-
ESTNB20 60-40-10	6	3	12	40	1	5.86	6.84	90	8	16.01	1.5	29	41.8	-	-	-
ESTNB20 60-50-10	6	3	12	50	1	5.86	7.19	100	8	16.01	1.2	29	51.8	-	-	-
ESTNB20 60-60-10	6	3	12	60	1	5.86	7.54	110	10	16.01	1.9	29	62.2	63.9	-	-
ESTNB20 60-70-10	6	3	12	70	1	5.86	7.89	120	10	16.01	1.7	29	72.2	74.1	-	-
ESTNB20 60-80-10	6	3	12	80	1	5.86	8.23	130	10	16.01	1.5	29	82.2	-	-	-
ESTNB20 80-50-10	8	4	14	50	1	7.86	9.12	110	10	18.01	1.2	32	51.9	-	-	-
ESTNB20 80-60-10	8	4	14	60	1	7.86	9.47	120	10	18.01	1	32	-	-	-	-
ESTNB20 80-70-10	8	4	14	70	1	7.86	9.82	130	10	18.01	0.9	32	-	-	-	-
ESTNB20 80-80-10	8	4	14	80	1	7.86	10.16	140	12	18.01	1.5	32	82.3	-	-	-
ESTNB20 100-60-10	10	5	18	60	1	9.86	11.33	130	12	22.01	1.1	39	62.1	-	-	-
ESTNB20 100-75-10	10	5	18	75	1	9.86	11.85	140	12	22.01	0.9	39	-	-	-	-

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

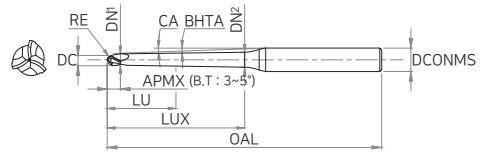
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
◎	○		○	◎						

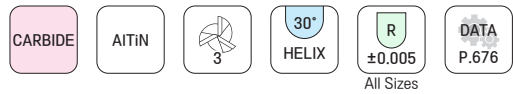
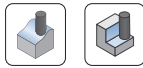
ESTNB30

3 Flutes Tapered Neck Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.015	h5



EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCONMS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB30 20-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
ESTNB30 20-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
ESTNB30 20-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
ESTNB30 20-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
ESTNB30 20-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.4	22.4	23.2	24.6
ESTNB30 20-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.5	27.7	28.5	30.8
ESTNB30 20-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
ESTNB30 20-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	-	31.6	32.9	33.7	36.9
ESTNB30 20-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	-	36.6	38	39	-
ESTNB30 20-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
ESTNB30 20-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	-	41.7	43.2	44.5	-
ESTNB30 20-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.5	55.5	-
ESTNB30 20-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	-	61.9	63.8	-	-
ESTNB30 20-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.6	-	72	74.1	-	-
ESTNB30 30-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
ESTNB30 30-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
ESTNB30 30-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
ESTNB30 30-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
ESTNB30 30-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	-	31.8	33	33.8	-
ESTNB30 30-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-

► Applicable Working Material

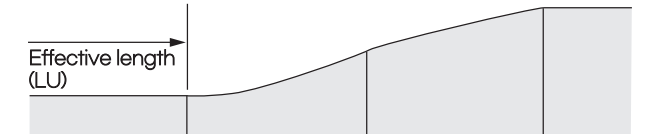
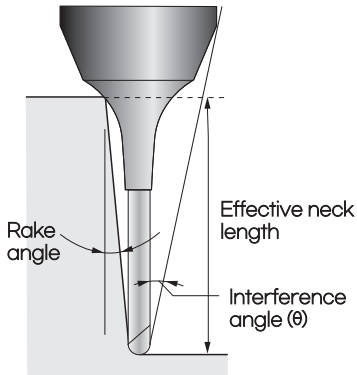
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
◎	○		○	◎						

ESTNB30

3 Flutes Tapered Neck Ball End Mill

Endmill



※ The marked effective neck length is the default value to prevent interference with the workpiece.

EDP No	DC	RE	APMX	LUX	CA	DN ¹	DN ²	OAL	DCON MS	LU	BHTA	Effective length by inclination angle				
												0.5°	1°	1.5°	2°	3°
ESTNB30 30-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	41.9	43.3	-	-
ESTNB30 30-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52	53.6	-	-
ESTNB30 30-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-
ESTNB30 30-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	-	72.1	-	-	-
ESTNB30 40-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
ESTNB30 40-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.6	22	31.6	32.5	33.2	34.1
ESTNB30 40-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
ESTNB30 40-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
ESTNB30 40-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
ESTNB30 50-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
ESTNB30 50-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-
ESTNB30 50-60-10	5	2.5	10	60	1	4.86	6.61	110	8	12.52	1.5	25.5	62.1	-	-	-

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
◎	○		○	◎						

U-Wing Endmill **NEW**

Mid Hardness HRc 30 ~50

Characteristics

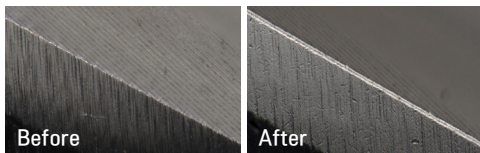
- Suitable for processing mold steel, mid hardness steel HRc 30~50
- New coatings excellent for wear resistance and lubrication
- Excellent for complex mold processing by securing various specifications and rib types

Features

- Suitable for mid hardness steel, mold steel processing from HRc30-50
- Improvement of wear resistance and increased lubricity through AlCrN-based Coating
- Strengthened cutting edge of ball end mills with ultra-fine material
- Enhanced chipping resistance of flat end mill through application of high toughness material
- Range of shapes and specifications suitable for complex mold processing
- Suitable for precision processing by applying high precision tolerances on h5 shank, cutting diameter and radius

Cutting edge

- Improved chipping resistance
- New cutting edge to cope with a variety of mold processing and improved performance and tool life



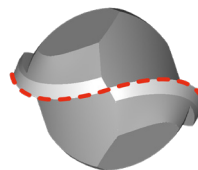
Adopted new raw material

- Separated raw material by geometry to maximize tool characteristics and to increase versatility



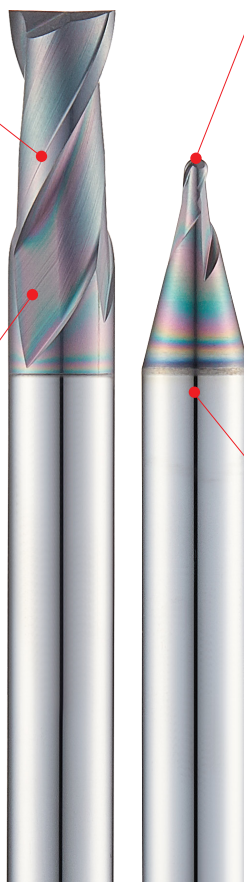
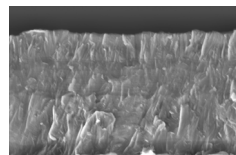
S curved gash shape

- Improved cutting and wear resistance by dispersing processing loads



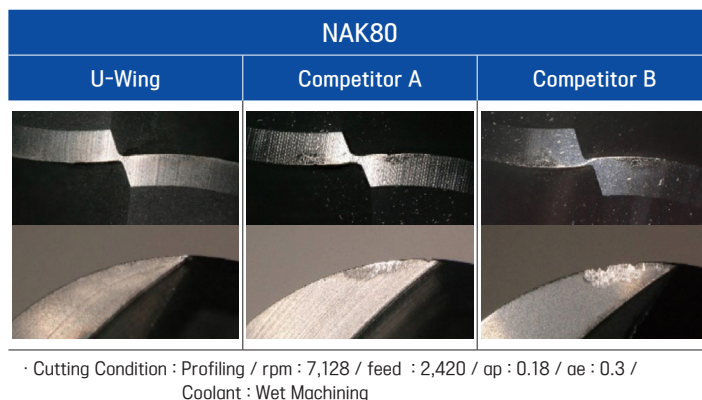
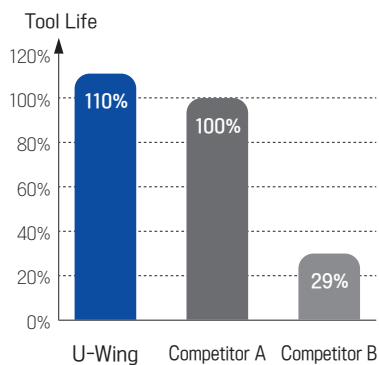
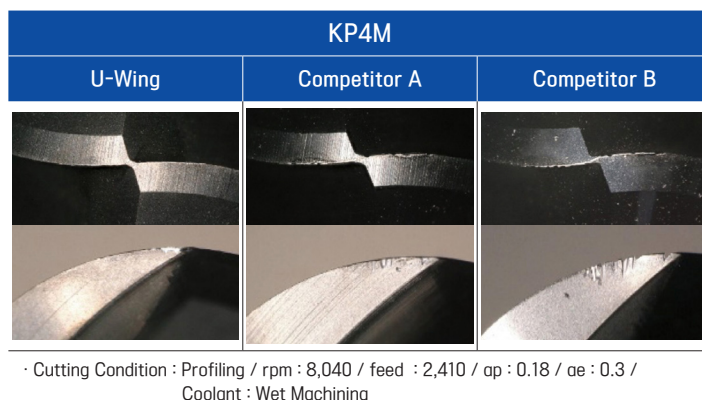
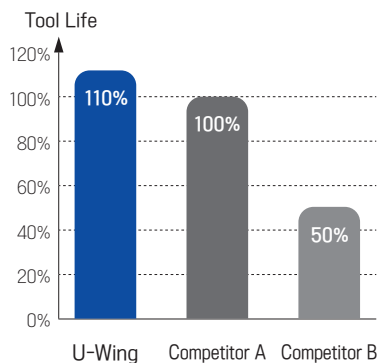
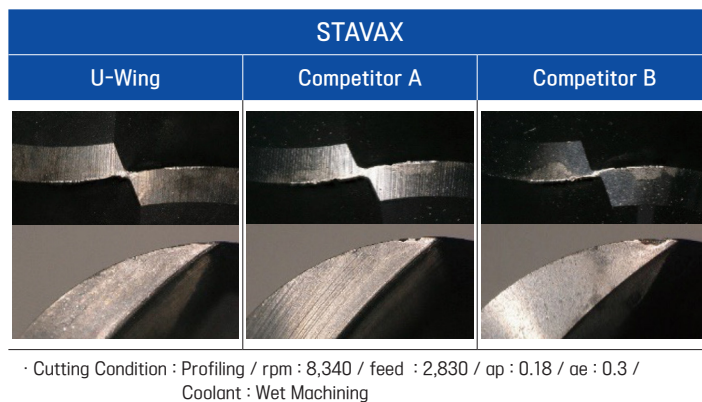
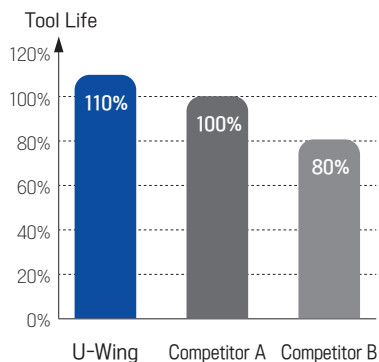
AlCrN base New Coating

- Improved the wear-resistance & oxidation resistance
- Reinforced the lubrication by containing the Cr
- Improved heat resistance



Case Study

► 2F R3.0 Ball End Mill

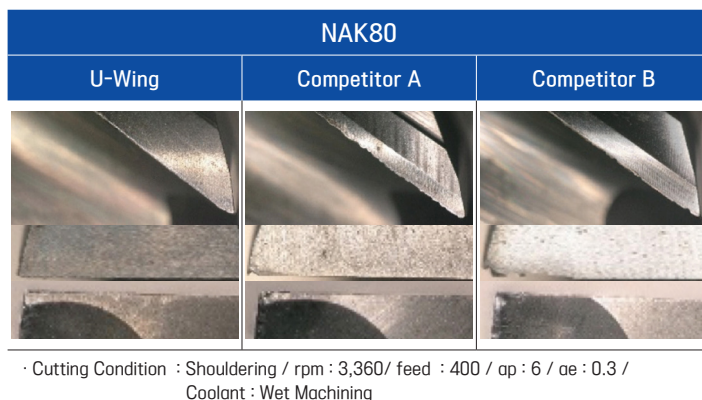
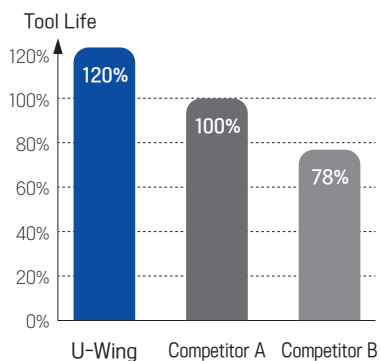
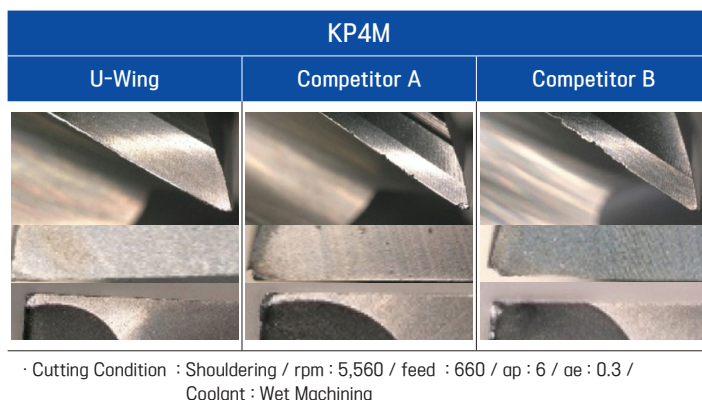
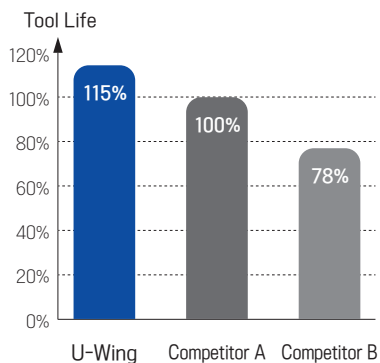
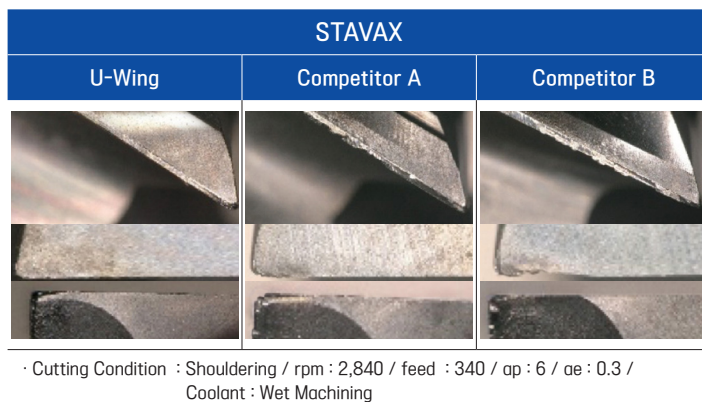
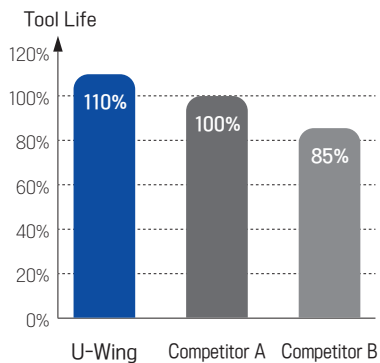


U-Wing Endmill **NEW**

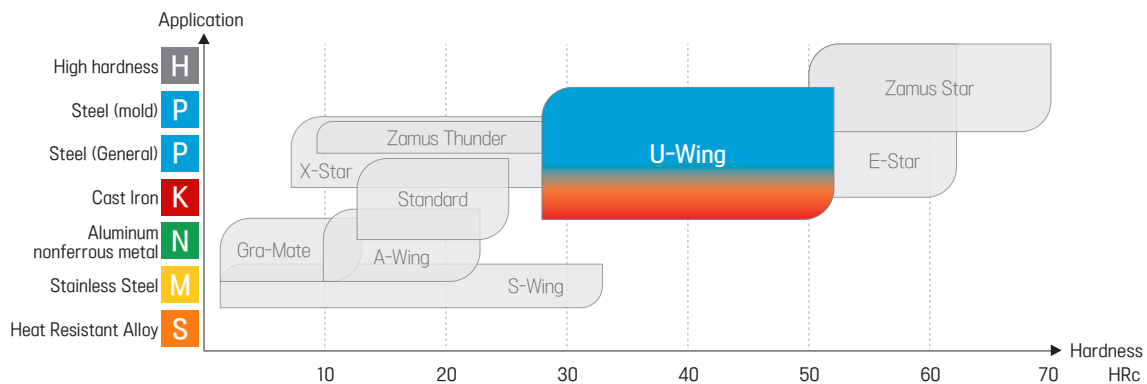
Mid Hardness HRc 30 ~50

Case Study

► 4F D6.0 Square End Mill



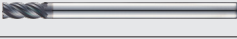
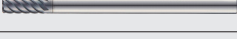
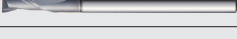
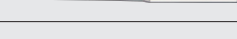
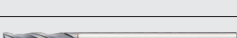
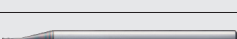
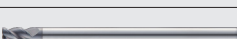
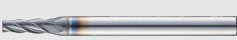
Applications

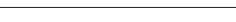
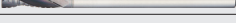
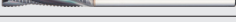


U-Wing Endmill **NEW**

Mid Hardness HRc 30 ~50

Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	UE502		2 Flutes Square End Mill	0.1	25	183
	4F	UE504		4 Flutes Square End Mill	0.8	25	185
	4F	UE504H		4 Flutes 45° Helix Square End Mill	1	20	186
	6F	UE506		6 Flutes Square End Mill	6	25	187
	2F	UE512		2 Flutes Long Neck Square End Mill	0.1	12	188
	4F	UE514		4 Flutes Long Neck Square End Mill	1	12	191
	2F	UE522		2 Flutes Square End Mill	1	25	193
	4F	UE524		4 Flutes Square End Mill	1	25	196
	4F	ULE504		4 Flutes Automatic CNC Square End Mill	3	16	199
	2F	UXE502		2 Flutes Square End Mill For Heavy Cuts	0.1	20	200
	4F	UXE504		4 Flutes Square End Mill For Heavy Cuts	1	20	202
	2F	UTE502		2 Flutes Tapered Square End Mill	0.3	10	204
	4F	UTE504		4 Flutes Tapered Square End Mill	0.8	10	207
Radius	2F	UR502		2 Flutes Radius End Mill	0.2	20	211
	4F	UR504		4 Flutes Radius End Mill	3	20	215
	6F	UR506		6 Flutes Radius End Mill	6	20	217
	2F	UR512		2 Flutes Neck Type Radius End Mill	0.2	20	218
	2F	UR542		2 Flutes Tapered Neck Radius End Mill	0.2	4	225
	4F	UR544		4 Flutes Tapered Neck Radius End Mill	1	4	236
	4F	UXR504		4 Flutes Multi Helix Radius End Mill	1	20	245
	4F	UXR514		4 Flutes Multi Helix Neck Radius End Mill	1	20	248
	3F	UDR503		3 Flutes double Radius End Mill	6	20	254
	4F	USPM4		4 Flutes Radius End Mill For High Speed Machining	1	20	255
	4F	UTR504		4 Flutes Tapered Radius End Mill	0.8	2.5	257
Ball	2F	UB502		2 Flutes Ball End Mill	0.1	25	262

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Ball	2F	UB502-P		2 Flutes High Precision Ball End Mill	0.1	12	265
	3F	UB503		3 Flutes Ball End Mill	1	12	266
	4F	UB504		4 Flutes Ball End Mill	1	12	267
	2F	UB512		2 Flutes Long Neck Ball End Mill	0.1	12	268
	2F	UB512 S6		2 Flutes Long Neck Ball End Mill (Shank 6)	0.5	2	272
	2F	UB532		2 Flutes Lollipop Style Ball End Mill	3	12	274
	2F	UB542		2 Flutes Tapered Neck Ball End Mill	0.1	12	275
	2F	UTB502		2 Flutes Tapered Ball End Mill	0.3	2	289
	2F	USB502		2 Flutes Straight Neck Ball End Mill	3	20	292
Roughing	3~5F	UF50		3~5 Flutes Chamfer Pitch Roughing End Mill	3	25	293
	3~5F	UF51		3~5 Flutes Fine Pitch Roughing End Mill	3	25	294
	3~5F	UF51-H		3~5 Flutes 45° Helix Fine Pitch Roughing End Mill	3	25	295

U-Wing Endmill NEW

Mid Hardness HRc 30 ~50

EDP No. System

*If expressed as an integer, the decimal point is omitted.

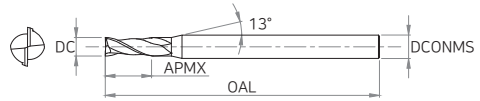
U	R	5	0	2	030	10	25	-	S3
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Section	② Geometry	③ Grade	④ Length, Shank Type	⑤ Flutes	⑥ Cutting Dia	⑦ Corner R	⑧ Neck Length	⑨ OAL	⑩ Detailed characteristics
U : U-Wing	E : Square	5 : Grade	0 : Straight	2 : 2Flute	0.1	0.05	0.2	35	P : Precision Tolerance
	R : Radius		1 : Neck	3 : 3Flute	~	~	~	~	S3~S6 : Shank Dia
	B : Ball		2 : Long Shank	4 : 4Flute	25	5	300	300	H : High Helix
	SB : Straight Ball		3 : Lollipop	5 : 5Flute					
	SPM : Speed Power Mill		4 : Tapered Neck	6 : 6Flute					
	XE : Heavy Cut Square								
	XR : Multi Helix Radius								
	TE : Tapered Square								
	TR : Tapered Radius								
	TB : Tapered Ball								
	DR : Double Radius								
	F : Roughing								
	LE : Square (Lathe)								

Ex) 2 Flute / Cutting Dia $\varnothing 3$ / Corner R 1.0 / Neck Length 6mm / Shank Dia 4 / 50 Grade / Corner Radius Neck Type U-Wing End Mill

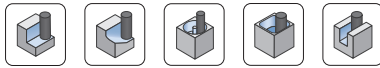
UE502

2 Flutes Square End Mill



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø6	0 ~ -0.012	h5
Ø6.5 ~ Ø25	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE502 001S3	0.1	0.2	40	3	UE502 0075	0.75	1.5	40	4
UE502 001	0.1	0.2	40	4	UE502 008S3	0.8	1.6	40	3
UE502 0015	0.15	0.3	40	4	UE502 008	0.8	1.6	40	4
UE502 002S3	0.2	0.4	40	3	UE502 0085	0.85	1.7	40	4
UE502 002	0.2	0.4	40	4	UE502 009S3	0.9	1.8	40	3
UE502 0025	0.25	0.5	40	4	UE502 009	0.9	1.8	40	4
UE502 003S3	0.3	0.6	40	3	UE502 0095	0.95	2	40	4
UE502 003	0.3	0.6	40	4	UE502 010S3	1	2.5	50	3
UE502 0035	0.35	0.7	40	4	UE502 010S4	1	2.5	50	4
UE502 004S3	0.4	0.8	40	3	UE502 010	1	2.5	50	6
UE502 004	0.4	0.8	40	4	UE502 011S4	1.1	3	50	4
UE502 0045	0.45	0.9	40	4	UE502 012S3	1.2	3	50	3
UE502 005S3	0.5	1	40	3	UE502 012S4	1.2	3	50	4
UE502 005	0.5	1	40	4	UE502 012	1.2	3	50	6
UE502 0055	0.55	1.1	40	4	UE502 013S4	1.3	3	50	4
UE502 006S3	0.6	1.2	40	3	UE502 014S4	1.4	4	50	4
UE502 006	0.6	1.2	40	4	UE502 015S3	1.5	4	50	3
UE502 0065	0.65	1.3	40	4	UE502 015S4	1.5	4	50	4
UE502 007S3	0.7	1.4	40	3	UE502 015	1.5	4	50	6
UE502 007	0.7	1.4	40	4	UE502 016S4	1.6	4	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UE502

2 Flutes Square End Mill

Endmill

EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE502 017S4	1.7	4	50	4	UE502 065	6.5	18	60	8
UE502 018S4	1.8	5	50	4	UE502 070	7	20	60	8
UE502 019S4	1.9	5	50	4	UE502 075	7.5	20	60	8
UE502 020S3	2	6	50	3	UE502 080	8	20	70	8
UE502 020S4	2	6	50	4	UE502 085	8.5	22	70	10
UE502 020	2	6	50	6	UE502 090	9	22	70	10
UE502 021S4	2.1	6	50	4	UE502 095	9.5	24	70	10
UE502 022S4	2.2	6	50	4	UE502 100	10	25	75	10
UE502 023S4	2.3	6	50	4	UE502 105	10.5	26	75	12
UE502 024S4	2.4	6	50	4	UE502 110	11	30	75	12
UE502 025S3	2.5	7	50	3	UE502 115	11.5	30	80	12
UE502 025	2.5	7	50	6	UE502 120	12	30	80	12
UE502 025S4	2.5	8	50	4	UE502 130	13	35	100	12
UE502 026S4	2.6	8	50	4	UE502 140S16	14	35	100	16
UE502 027S4	2.7	8	50	4	UE502 140	14	35	100	14
UE502 028S4	2.8	8	50	4	UE502 140S12	14	35	100	12
UE502 029S4	2.9	8	50	4	UE502 150	15	38	100	16
UE502 030S3	3	8	50	3	UE502 160	16	40	100	16
UE502 030S4	3	8	50	4	UE502 170	17	42	100	16
UE502 030	3	8	50	6	UE502 180	18	45	100	18
UE502 035S4	3.5	10	50	4	UE502 180S16	18	45	100	16
UE502 035	3.5	10	50	6	UE502 190	19	45	100	20
UE502 040080S4	4	10	80	4	UE502 200	20	45	100	20
UE502 040S4	4	10	50	4	UE502 210	21	45	100	20
UE502 040	4	10	50	6	UE502 220	22	45	100	20
UE502 045	4.5	14	50	6	UE502 230	23	50	120	25
UE502 050	5	15	60	6	UE502 240	24	50	120	25
UE502 055	5.5	15	60	6	UE502 250	25	50	120	25
UE502 060	6	15	60	6					

Copper
-Mate

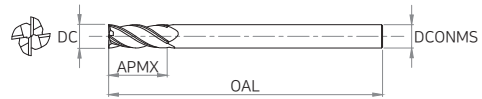
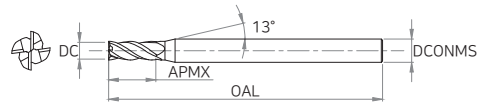
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

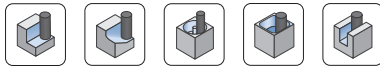
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UE504 4 Flutes Square End Mill



► Tolerance

DC		Shank Dia
Ø0.8 ~ Ø25	0 ~ -0.03	h5



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE504 008	0.8	1.6	40	4	UE504 105	10.5	26	75	12
UE504 009	0.9	1.8	40	4	UE504 110	11	30	75	12
UE504 010	1	2.5	50	6	UE504 115	11.5	30	80	12
UE504 012	1.2	3	50	6	UE504 120	12	30	80	12
UE504 015	1.5	4	50	6	UE504 125	12.5	30	80	12
UE504 020	2	6	50	6	UE504 130	13	35	100	12
UE504 025	2.5	7	50	6	UE504 140	14	35	100	16
UE504 030	3	8	50	6	UE504 140S14	14	35	100	14
UE504 035	3.5	10	50	6	UE504 140S12	14	35	100	12
UE504 040	4	10	50	6	UE504 150	15	38	100	16
UE504 045	4.5	14	50	6	UE504 160	16	40	100	16
UE504 050	5	15	60	6	UE504 170	17	42	100	16
UE504 055	5.5	15	60	6	UE504 180	18	45	100	18
UE504 060	6	15	60	6	UE504 180S16	18	45	100	16
UE504 065	6.5	18	60	8	UE504 190	19	45	100	20
UE504 070	7	20	60	8	UE504 200	20	45	100	20
UE504 075	7.5	20	60	8	UE504 210	21	45	100	20
UE504 080	8	20	70	8	UE504 220	22	45	100	20
UE504 085	8.5	22	70	10	UE504 230	23	50	120	25
UE504 090	9	22	70	10	UE504 240	24	50	120	25
UE504 095	9.5	24	70	10	UE504 250	25	50	120	25
UE504 100	10	25	75	10					

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

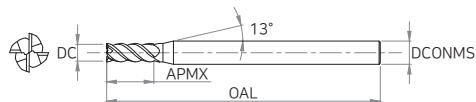
Standard

Copper
-Mate

Gra
-Mate

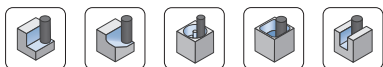
UE504H

4 Flutes 45° Helix Square End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø20	0 ~ -0.03	h5



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE504H 010	1	2.5	50	6	UE504H 06030	6	30	80	6
UE504H 01004	1	4	60	6	UE504H 080	8	20	70	8
UE504H 01006	1	6	60	6	UE504H 08030	8	30	80	8
UE504H 015	1.5	4	50	6	UE504H 08035	8	35	90	8
UE504H 01506	1.5	6	60	6	UE504H 08040	8	40	90	8
UE504H 01508	1.5	8	60	6	UE504H 100	10	25	75	10
UE504H 020	2	6	50	6	UE504H 10030	10	30	80	10
UE504H 02008	2	8	60	6	UE504H 10040	10	40	90	10
UE504H 02010	2	10	60	6	UE504H 10050	10	50	100	10
UE504H 030	3	8	50	6	UE504H 120	12	30	80	12
UE504H 03010	3	10	70	6	UE504H 12040	12	40	90	12
UE504H 03012	3	12	70	6	UE504H 12050	12	50	100	12
UE504H 03016	3	16	70	6	UE504H 12060	12	60	110	12
UE504H 040	4	10	50	6	UE504H 160	16	40	100	16
UE504H 04012	4	12	70	6	UE504H 16050	16	50	110	16
UE504H 04016	4	16	70	6	UE504H 16060	16	60	120	16
UE504H 04020	4	20	70	6	UE504H 160110	16	110	200	16
UE504H 050	5	15	50	6	UE504H 200	20	45	100	20
UE504H 05030	5	30	80	6	UE504H 20060	20	60	120	20
UE504H 060	6	15	60	6	UE504H 20070	20	70	130	20
UE504H 06020	6	20	70	6	UE504H 200110	20	110	200	20

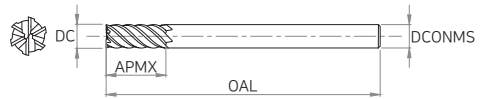
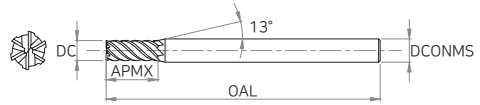
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

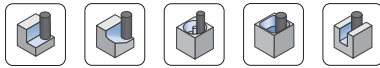
UE506

6 Flutes Square End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø25	0 ~ -0.03	h5



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE506 060	6	15	60	6	UE506 12060150	12	60	150	12
UE506 06020	6	20	70	6	UE506 12060	12	60	110	12
UE506 06030110	6	30	110	6	UE506 130	13	32	85	14
UE506 06030	6	30	80	6	UE506 140	14	32	85	14
UE506 070	7	18	60	8	UE506 160	16	40	100	16
UE506 080	8	20	70	8	UE506 16050	16	50	110	16
UE506 08030	8	30	80	8	UE506 16060	16	60	120	16
UE506 08035	8	35	90	8	UE506 16090	16	90	150	16
UE506 08040130	8	40	130	8	UE506 160110250	16	110	250	16
UE506 08040	8	40	90	8	UE506 160110	16	110	200	16
UE506 090	9	22	70	10	UE506 180	18	44	100	18
UE506 100	10	25	75	10	UE506 200	20	45	100	20
UE506 10030	10	30	80	10	UE506 20060	20	60	120	20
UE506 10040	10	40	90	10	UE506 20070	20	70	130	20
UE506 10050150	10	50	150	10	UE506 200110300	20	110	300	20
UE506 10050	10	50	100	10	UE506 200110250	20	110	250	20
UE506 110	11	26	75	12	UE506 200110	20	110	200	20
UE506 120	12	30	80	12	UE506 250	25	50	120	25
UE506 12040	12	40	90	12	UE506 251	25	92	180	25
UE506 12050	12	50	100	12					

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

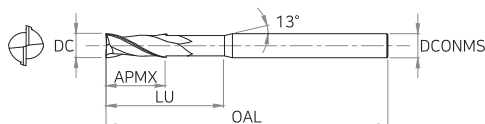
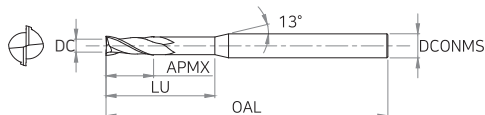
A-Wing

Standard

Copper
-Mate

Gra
-Mate

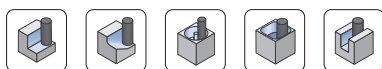
UE512 2 Flutes Long Neck Square End Mill



► Tolerance

DC	Shank Dia
Ø0.1 ~ Ø6	0 ~ -0.012
Ø8 ~ Ø12	0 ~ -0.015

h5



EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
UE512 001003	0.1	0.15	0.3	40	4	UE512 00501	0.5	0.7	1	45	4
UE512 001005	0.1	0.15	0.5	40	4	UE512 005015	0.5	0.7	1.5	45	4
UE512 00101	0.1	0.15	1	40	4	UE512 00502	0.5	0.7	2	45	4
UE512 002005	0.2	0.3	0.5	40	4	UE512 005025	0.5	0.7	2.5	45	4
UE512 00201	0.2	0.3	1	40	4	UE512 00503	0.5	0.7	3	45	4
UE512 002015	0.2	0.3	1.5	40	4	UE512 00504	0.5	0.7	4	45	4
UE512 00202	0.2	0.3	2	40	4	UE512 00505	0.5	0.7	5	45	4
UE512 00301	0.3	0.5	1	40	4	UE512 00506	0.5	0.7	6	45	4
UE512 003015	0.3	0.5	1.5	40	4	UE512 00508	0.5	0.7	8	45	4
UE512 00302	0.3	0.5	2	40	4	UE512 00510	0.5	0.7	10	45	4
UE512 003025	0.3	0.5	2.5	40	4	UE512 00512	0.5	0.7	12	45	4
UE512 00303	0.3	0.5	3	40	4	UE512 00514	0.5	0.7	14	45	4
UE512 00304	0.3	0.5	4	40	4	UE512 00516	0.5	0.7	16	45	4
UE512 00305	0.3	0.5	5	40	4	UE512 00602	0.6	0.9	2	45	4
UE512 00401	0.4	0.6	1	40	4	UE512 00603	0.6	0.9	3	45	4
UE512 004015	0.4	0.6	1.5	40	4	UE512 00604	0.6	0.9	4	45	4
UE512 00402	0.4	0.6	2	40	4	UE512 00605	0.6	0.9	5	45	4
UE512 004025	0.4	0.6	2.5	40	4	UE512 00606	0.6	0.9	6	45	4
UE512 00403	0.4	0.6	3	40	4	UE512 00608	0.6	0.9	8	45	4
UE512 00404	0.4	0.6	4	40	4	UE512 00610	0.6	0.9	10	45	4
UE512 00405	0.4	0.6	5	40	4	UE512 00612	0.6	0.9	12	45	4
UE512 00406	0.4	0.6	6	40	4	UE512 00614	0.6	0.9	14	45	4
UE512 00408	0.4	0.6	8	40	4	UE512 00616	0.6	0.9	16	45	4
UE512 00410	0.4	0.6	10	40	4	UE512 00702	0.7	1.2	2	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	Alloy Steel HB225 ~325	Prehardened Steel HRC30~50	Cast Iron ~FCD500	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
○		○	◎	◎	○					

UE512 2 Flutes Long Neck Square End Mill

Endmill

EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
UE512 00704	0.7	1.2	4	45	4	UE512 01210	1.2	1.8	10	50	4
UE512 00706	0.7	1.2	6	45	4	UE512 01212	1.2	1.8	12	50	4
UE512 00708	0.7	1.2	8	45	4	UE512 01214	1.2	1.8	14	50	4
UE512 00710	0.7	1.2	10	45	4	UE512 01216	1.2	1.8	16	50	4
UE512 00712	0.7	1.2	12	45	4	UE512 01220	1.2	1.8	20	50	4
UE512 00802	0.8	1.2	2	45	4	UE512 01226	1.2	1.8	26	60	4
UE512 00803	0.8	1.2	3	45	4	UE512 01230	1.2	1.8	30	70	4
UE512 00804	0.8	1.2	4	45	4	UE512 01406	1.4	2.1	6	50	4
UE512 00805	0.8	1.2	5	45	4	UE512 01408	1.4	2.1	8	50	4
UE512 00806	0.8	1.2	6	45	4	UE512 01410	1.4	2.1	10	50	4
UE512 00808	0.8	1.2	8	45	4	UE512 01414	1.4	2.1	14	50	4
UE512 00810	0.8	1.2	10	45	4	UE512 01416	1.4	2.1	16	50	4
UE512 00812	0.8	1.2	12	45	4	UE512 01420	1.4	2.1	20	50	4
UE512 00814	0.8	1.2	14	45	4	UE512 01504	1.5	2.3	4	50	4
UE512 00816	0.8	1.2	16	45	4	UE512 01505	1.5	2.3	5	50	4
UE512 00820	0.8	1.2	20	45	4	UE512 01506	1.5	2.3	6	50	4
UE512 00906	0.9	1.3	6	45	4	UE512 01507	1.5	2.3	7	50	4
UE512 00908	0.9	1.3	8	45	4	UE512 01508	1.5	2.3	8	50	4
UE512 00910	0.9	1.3	10	45	4	UE512 01510	1.5	2.3	10	50	4
UE512 01002	1	1.5	2	50	4	UE512 01512	1.5	2.3	12	50	4
UE512 01003	1	1.5	3	50	4	UE512 01514	1.5	2.3	14	50	4
UE512 01004	1	1.5	4	50	4	UE512 01516	1.5	2.3	16	50	4
UE512 01005	1	1.5	5	50	4	UE512 01518	1.5	2.3	18	50	4
UE512 01006	1	1.5	6	50	4	UE512 01520	1.5	2.3	20	50	4
UE512 01007	1	1.5	7	50	4	UE512 01522	1.5	2.3	22	60	4
UE512 01008	1	1.5	8	50	4	UE512 01526	1.5	2.3	26	60	4
UE512 01010	1	1.5	10	50	4	UE512 01530	1.5	2.3	30	70	4
UE512 01012	1	1.5	12	50	4	UE512 01608	1.6	2.3	8	50	4
UE512 01014	1	1.5	14	50	4	UE512 01610	1.6	2.3	10	50	4
UE512 01016	1	1.5	16	50	4	UE512 01612	1.6	2.3	12	50	4
UE512 01018	1	1.5	18	50	4	UE512 01616	1.6	2.3	16	50	4
UE512 01020	1	1.5	20	50	4	UE512 01620	1.6	2.3	20	50	4
UE512 01022	1	1.5	22	60	4	UE512 01808	1.8	2.7	8	50	4
UE512 01026	1	1.5	26	60	4	UE512 01810	1.8	2.7	10	50	4
UE512 01030	1	1.5	30	70	4	UE512 01812	1.8	2.7	12	50	4
UE512 01040	1	1.5	40	80	4	UE512 01816	1.8	2.7	16	50	4
UE512 01050	1	1.5	50	100	4	UE512 01820	1.8	2.7	20	50	4
UE512 01204	1.2	1.8	4	50	4	UE512 02006	2	3	6	50	4
UE512 01206	1.2	1.8	6	50	4	UE512 02008	2	3	8	50	4
UE512 01208	1.2	1.8	8	50	4	UE512 02010	2	3	10	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UE512

2 Flutes Long Neck Square End Mill

Endmill

	EDP No	DC	APMX	LU	OAL	DCON MS		EDP No	DC	APMX	LU	OAL	DCON MS
Zamus Star	UE512 02012	2	3	12	50	4		UE512 03045	3	4.5	45	90	6
	UE512 02014	2	3	14	50	4		UE512 03050	3	4.5	50	100	6
	UE512 02016	2	3	16	50	4		UE512 03060	3	4.5	60	100	6
	UE512 02018	2	3	18	50	4		UE512 04008	4	6	8	50	6
	UE512 02020	2	3	20	50	4		UE512 04010	4	6	10	50	6
E-Star	UE512 02022	2	3	22	60	4		UE512 04012	4	6	12	50	6
	UE512 02026	2	3	26	60	4		UE512 04014	4	6	14	60	6
	UE512 02030	2	3	30	70	4		UE512 04016	4	6	16	60	6
	UE512 02035	2	3	35	70	4		UE512 04018	4	6	18	60	6
	UE512 02040	2	3	40	80	4		UE512 04020	4	6	20	60	6
U-Wing	UE512 02045	2	3	45	90	4		UE512 04022	4	6	22	65	6
	UE512 02050	2	3	50	100	4		UE512 04026	4	6	26	65	6
	UE512 02060	2	3	60	110	4		UE512 04030	4	6	30	70	6
	UE512 02508	2.5	4	8	50	4		UE512 04035	4	6	35	70	6
	UE512 02510	2.5	4	10	50	4		UE512 04040	4	6	40	80	6
Zamus Thunder	UE512 02512	2.5	4	12	50	4		UE512 04045	4	6	45	90	6
	UE512 02514	2.5	4	14	50	4		UE512 04050	4	6	50	100	6
	UE512 02516	2.5	4	16	50	4		UE512 04060	4	6	60	100	6
	UE512 02518	2.5	4	18	50	4		UE512 05016	5	8	16	60	6
	UE512 02520	2.5	4	20	50	4		UE512 05020	5	8	20	60	6
X-Star	UE512 02522	2.5	4	22	60	4		UE512 05026	5	8	26	65	6
	UE512 02526	2.5	4	26	60	4		UE512 05030	5	8	30	70	6
	UE512 02530	2.5	4	30	70	4		UE512 05035	5	8	35	75	6
	UE512 02535	2.5	4	35	70	4		UE512 05040	5	8	40	80	6
	UE512 02540	2.5	4	40	80	4		UE512 05050	5	8	50	90	6
S-Wing	UE512 02545	2.5	4	45	90	4		UE512 05060	5	8	60	100	6
	UE512 02550	2.5	4	50	100	4		UE512 06015	6	9	15	60	6
	UE512 03006	3	4.5	6	50	6		UE512 06020	6	9	20	60	6
	UE512 03008	3	4.5	8	50	6		UE512 06030	6	9	30	70	6
	UE512 03010	3	4.5	10	50	6		UE512 06032	6	9	32	90	6
A-Wing	UE512 03012	3	4.5	12	50	6		UE512 08025	8	12	25	70	8
	UE512 03014	3	4.5	14	60	6		UE512 08030	8	12	30	80	8
	UE512 03016	3	4.5	16	60	6		UE512 08042	8	12	42	100	8
	UE512 03018	3	4.5	18	60	6		UE512 10030	10	15	30	75	10
	UE512 03020	3	4.5	20	60	6		UE512 10035	10	15	35	80	10
Standard	UE512 03022	3	4.5	22	65	6		UE512 10045	10	15	45	100	10
	UE512 03026	3	4.5	26	65	6		UE512 12035	12	20	35	80	12
	UE512 03030	3	4.5	30	70	6		UE512 12040	12	20	40	90	12
	UE512 03035	3	4.5	35	70	6		UE512 12050	12	20	50	110	12
	UE512 03040	3	4.5	40	80	6							

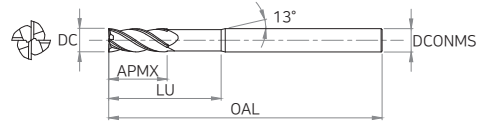
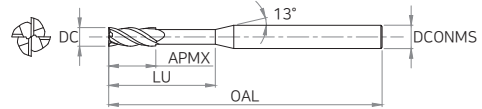
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

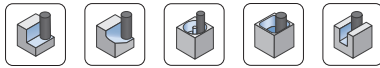
UE514 4 Flutes Long Neck Square End Mill

Endmill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø12	0 ~ -0.03	h5



EDP No	DC	APMX	LU	OAL	DCON MS	EDP No	DC	APMX	LU	OAL	DCON MS
UE514 01002	1	1.5	2	50	4	UE514 01214	1.2	1.8	14	50	4
UE514 01003	1	1.5	3	50	4	UE514 01216	1.2	1.8	16	50	4
UE514 01004	1	1.5	4	50	4	UE514 01220	1.2	1.8	20	50	4
UE514 01005	1	1.5	5	50	4	UE514 01226	1.2	1.8	26	60	4
UE514 01006	1	1.5	6	50	4	UE514 01230	1.2	1.8	30	70	4
UE514 01007	1	1.5	7	50	4	UE514 01504	1.5	2.3	4	50	4
UE514 01008	1	1.5	8	50	4	UE514 01505	1.5	2.3	5	50	4
UE514 01010	1	1.5	10	50	4	UE514 01506	1.5	2.3	6	50	4
UE514 01012	1	1.5	12	50	4	UE514 01507	1.5	2.3	7	50	4
UE514 01014	1	1.5	14	50	4	UE514 01508	1.5	2.3	8	50	4
UE514 01016	1	1.5	16	50	4	UE514 01510	1.5	2.3	10	50	4
UE514 01018	1	1.5	18	50	4	UE514 01512	1.5	2.3	12	50	4
UE514 01020	1	1.5	20	50	4	UE514 01514	1.5	2.3	14	50	4
UE514 01022	1	1.5	22	60	4	UE514 01516	1.5	2.3	16	50	4
UE514 01026	1	1.5	26	60	4	UE514 01518	1.5	2.3	18	50	4
UE514 01030	1	1.5	30	70	4	UE514 01520	1.5	2.3	20	50	4
UE514 01040	1	1.5	40	80	4	UE514 01522	1.5	2.3	22	60	4
UE514 01050	1	1.5	50	100	4	UE514 01526	1.5	2.3	26	60	4
UE514 01204	1.2	1.8	4	50	4	UE514 01530	1.5	2.3	30	70	4
UE514 01206	1.2	1.8	6	50	4	UE514 02006	2	3	6	50	4
UE514 01208	1.2	1.8	8	50	4	UE514 02008	2	3	8	50	4
UE514 01210	1.2	1.8	10	50	4	UE514 02010	2	3	10	50	4
UE514 01212	1.2	1.8	12	50	4	UE514 02012	2	3	12	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UE514

4 Flutes Long Neck Square End Mill

Endmill

	EDP No	DC	APMX	LU	OAL	DCON MS		EDP No	DC	APMX	LU	OAL	DCON MS
Zamus Star	UE514 02014	2	3	14	50	4		UE514 03045	3	4.5	45	90	6
	UE514 02016	2	3	16	50	4		UE514 03050	3	4.5	50	100	6
	UE514 02018	2	3	18	50	4		UE514 03060	3	4.5	60	100	6
	UE514 02020	2	3	20	50	4		UE514 04008	4	4.5	8	50	6
	UE514 02022	2	3	22	60	4		UE514 04010	4	4.5	10	50	6
E-Star	UE514 02026	2	3	26	60	4		UE514 04012	4	4.5	12	50	6
	UE514 02030	2	3	30	70	4		UE514 04014	4	4.5	14	60	6
	UE514 02035	2	3	35	70	4		UE514 04016	4	4.5	16	60	6
	UE514 02040	2	3	40	80	4		UE514 04018	4	4.5	18	60	6
	UE514 02045	2	3	45	90	4		UE514 04020	4	4.5	20	60	6
U-Wing	UE514 02050	2	3	50	100	4		UE514 04022	4	4.5	22	65	6
	UE514 02060	2	3	60	110	4		UE514 04026	4	4.5	26	65	6
	UE514 02508	2.5	4	8	50	4		UE514 04030	4	4.5	30	70	6
	UE514 02510	2.5	4	10	50	4		UE514 04035	4	4.5	35	70	6
	UE514 02512	2.5	4	12	50	4		UE514 04040	4	4.5	40	80	6
Zamus Thunder	UE514 02514	2.5	4	14	50	4		UE514 04045	4	4.5	45	90	6
	UE514 02516	2.5	4	16	50	4		UE514 04050	4	4.5	50	100	6
	UE514 02518	2.5	4	18	50	4		UE514 04060	4	4.5	60	100	6
	UE514 02520	2.5	4	20	50	4		UE514 05016	5	8	16	60	6
	UE514 02522	2.5	4	22	60	4		UE514 05020	5	8	20	60	6
X-Star	UE514 02526	2.5	4	26	60	4		UE514 05026	5	8	26	65	6
	UE514 02530	2.5	4	30	70	4		UE514 05030	5	8	30	70	6
	UE514 02535	2.5	4	35	70	4		UE514 05035	5	8	35	75	6
	UE514 02540	2.5	4	40	80	4		UE514 05040	5	8	40	80	6
	UE514 02545	2.5	4	45	90	4		UE514 05050	5	8	50	90	6
S-Wing	UE514 02550	2.5	4	50	100	4		UE514 05060	5	8	60	100	6
	UE514 03006	3	4.5	6	50	6		UE514 06015	6	9	15	60	6
	UE514 03008	3	4.5	8	50	6		UE514 06020	6	9	20	60	6
	UE514 03010	3	4.5	10	50	6		UE514 06030	6	9	30	70	6
	UE514 03012	3	4.5	12	50	6		UE514 06032	6	9	32	90	6
A-Wing	UE514 03014	3	4.5	14	60	6		UE514 08025	8	12	25	70	8
	UE514 03016	3	4.5	16	60	6		UE514 08030	8	12	30	80	8
	UE514 03018	3	4.5	18	60	6		UE514 08042	8	12	42	100	8
	UE514 03020	3	4.5	20	60	6		UE514 10030	10	15	30	75	10
	UE514 03022	3	4.5	22	65	6		UE514 10035	10	15	35	80	10
Standard	UE514 03026	3	4.5	26	65	6		UE514 10045	10	15	45	100	10
	UE514 03030	3	4.5	30	70	6		UE514 12035	12	20	35	80	12
	UE514 03035	3	4.5	35	70	6		UE514 12040	12	20	40	90	12
	UE514 03040	3	4.5	40	80	6		UE514 12050	12	20	50	110	12

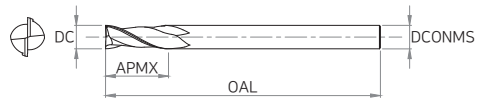
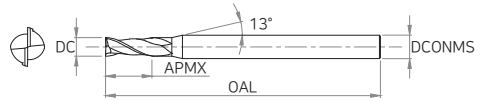
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

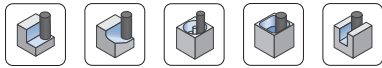
UE522

2 Flutes Square End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø6	0 ~ -0.012	h5
Ø7 ~ Ø25	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE522 01003	1	3	60	6	UE522 02010	2	10	60	6
UE522 01004	1	4	60	6	UE522 02012	2	12	60	6
UE522 01005	1	5	60	6	UE522 02014	2	14	60	6
UE522 01006	1	6	60	6	UE522 02016	2	16	60	6
UE522 01007	1	7	60	6	UE522 02510	2.5	10	60	6
UE522 01008	1	8	60	6	UE522 02512	2.5	12	60	6
UE522 01010	1	10	60	6	UE522 02516	2.5	16	60	6
UE522 01012	1	12	60	6	UE522 02520	2.5	20	60	6
UE522 01204	1.2	4	60	6	UE522 02526	2.5	26	60	6
UE522 01206	1.2	6	60	6	UE522 03010	3	10	70	6
UE522 01208	1.2	8	60	6	UE522 03012	3	12	70	6
UE522 01210	1.2	10	60	6	UE522 03014	3	14	70	6
UE522 01212	1.2	12	60	6	UE522 03016	3	16	70	6
UE522 01506	1.5	6	60	6	UE522 03016S3	3	16	100	3
UE522 01508	1.5	8	60	6	UE522 03020	3	20	70	6
UE522 01510	1.5	10	60	6	UE522 03026	3	26	70	6
UE522 01512	1.5	12	60	6	UE522 03030	3	30	70	6
UE522 01514	1.5	14	60	6	UE522 04012	4	12	70	6
UE522 01516	1.5	16	60	6	UE522 04016	4	16	70	6
UE522 02008	2	8	60	6	UE522 04020	4	20	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UE522

2 Flutes Square End Mill

Endmill

	EDP No	DC	APMX	OAL	DCONMS		EDP No	DC	APMX	OAL	DCONMS
Zamus Star	UE522 04020S4	4	20	100	4		UE522 09045	9	45	100	10
	UE522 04026	4	26	70	6		UE522 10025	10	25	100	10
	UE522 04030	4	30	70	6		UE522 10030100	10	30	100	10
	UE522 05015	5	15	70	6		UE522 10030	10	30	80	10
	UE522 05020	5	20	70	6		UE522 10035	10	35	90	10
E-Star	UE522 05025100	5	25	100	6		UE522 10040120	10	40	120	10
	UE522 05025	5	25	70	6		UE522 10040	10	40	90	10
	UE522 05030	5	30	80	6		UE522 10045	10	45	100	10
U-Wing	UE522 05035	5	35	90	6		UE522 10050200	10	50	200	10
	UE522 05040	5	40	100	6		UE522 10050150	10	50	150	10
	UE522 06015080	6	15	80	6		UE522 10050	10	50	100	10
Zamus Thunder	UE522 06015	6	15	60	6		UE522 10055	10	55	150	10
	UE522 06020090	6	20	90	6		UE522 10060200	10	60	200	10
	UE522 06020	6	20	70	6		UE522 10060155	10	60	155	10
X-Star	UE522 06025	6	25	75	6		UE522 10060	10	60	110	10
	UE522 06030150	6	30	150	6		UE522 11050	11	50	110	12
	UE522 06030100	6	30	100	6		UE522 12035	12	35	90	12
S-Wing	UE522 06030	6	30	80	6		UE522 12040120	12	40	120	12
	UE522 06035	6	35	90	6		UE522 12040	12	40	100	12
	UE522 06040120	6	40	120	6		UE522 12045	12	45	130	12
A-Wing	UE522 06040	6	40	90	6		UE522 12050150	12	50	150	12
	UE522 06045	6	45	150	6		UE522 12050	12	50	100	12
	UE522 07035	7	35	85	8		UE522 12055	12	55	110	12
Standard	UE522 08020	8	20	100	8		UE522 12060200	12	60	200	12
	UE522 08025	8	25	80	8		UE522 12060150	12	60	150	12
	UE522 08030100	8	30	100	8		UE522 12060	12	60	110	12
Copper -Mate	UE522 08030	8	30	80	8		UE522 12065	12	65	150	12
	UE522 08035	8	35	90	8		UE522 12070200	12	70	200	12
	UE522 08040150	8	40	150	8		UE522 12070	12	70	120	12
Gra -Mate	UE522 08040120	8	40	120	8		UE522 14040	14	40	110	16
	UE522 08040	8	40	90	8		UE522 14050	14	50	110	16
	UE522 08045	8	45	100	8		UE522 14060150	14	60	150	16
	UE522 08050150	8	50	150	8		UE522 14060	14	60	120	16
	UE522 08050	8	50	100	8		UE522 16040150	16	40	150	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UE522

2 Flutes Square End Mill

Endmill

EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE522 16040	16	40	120	16	UE522 20050150	20	50	150	20
UE522 16050150	16	50	150	16	UE522 20050	20	50	110	20
UE522 16050	16	50	110	16	UE522 20060	20	60	130	20
UE522 16060	16	60	120	16	UE522 20070	20	70	130	20
UE522 16070200	16	70	200	16	UE522 20080	20	80	150	20
UE522 16070150	16	70	150	16	UE522 20090200	20	90	200	20
UE522 16070	16	70	130	16	UE522 20090	20	90	150	20
UE522 16080	16	80	150	16	UE522 200110	20	110	200	20
UE522 16090	16	90	150	16	UE522 200120	20	120	250	20
UE522 160110	16	110	200	16	UE522 22075	22	75	150	20
UE522 160120	16	120	250	16	UE522 220110	22	110	200	20
UE522 18050	18	50	120	20	UE522 25070	25	70	150	25
UE522 18060	18	60	120	18	UE522 25090	25	90	150	25
UE522 18070	18	70	130	20	UE522 250110	25	110	200	25
UE522 180100	18	100	200	20	UE522 250120	25	120	250	25

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

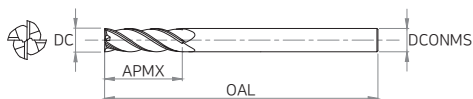
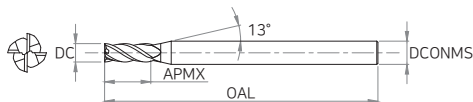
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
○		○	◎	◎	○					

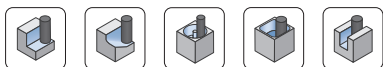
UE524 4 Flutes Square End Mill

Endmill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø25	0 ~ -0.03	h5



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE524 01003	1	3	60	6	UE524 01526	1.5	26	60	6
UE524 01004	1	4	60	6	UE524 02008	2	8	60	6
UE524 01005	1	5	60	6	UE524 02008S4	2	8	40	4
UE524 01006	1	6	60	6	UE524 02010	2	10	60	6
UE524 01007	1	7	60	6	UE524 02012	2	12	60	6
UE524 01008	1	8	60	6	UE524 02014	2	14	60	6
UE524 01010	1	10	60	6	UE524 02016	2	16	60	6
UE524 01012	1	12	60	6	UE524 02510	2.5	10	60	6
UE524 01204	1.2	4	60	6	UE524 02512	2.5	12	60	6
UE524 01206	1.2	6	60	6	UE524 02516	2.5	16	60	6
UE524 01208	1.2	8	60	6	UE524 02520	2.5	20	60	6
UE524 01210	1.2	10	60	6	UE524 02526	2.5	26	60	6
UE524 01212	1.2	12	60	6	UE524 03010	3	10	70	6
UE524 01506	1.5	6	60	6	UE524 03012	3	12	70	6
UE524 01508	1.5	8	60	6	UE524 03014	3	14	70	6
UE524 01510	1.5	10	60	6	UE524 03016	3	16	70	6
UE524 01512	1.5	12	60	6	UE524 03016S3	3	16	100	3
UE524 01514	1.5	14	60	6	UE524 03020	3	20	70	6
UE524 01516	1.5	16	60	6	UE524 03026	3	26	70	6
UE524 01520	1.5	20	60	6	UE524 03030	3	30	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FC500					
○		○	◎	◎	○					

UE524

4 Flutes Square End Mill

Endmill

EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE524 03035	3	35	90	6	UE524 08040	8	40	90	8
UE524 04012	4	12	70	6	UE524 08045	8	45	100	8
UE524 04016	4	16	70	6	UE524 08050150	8	50	150	8
UE524 04020	4	20	70	6	UE524 08050	8	50	100	8
UE524 04020S4	4	20	100	4	UE524 08060	8	60	155	8
UE524 04026	4	26	70	6	UE524 08080	8	80	200	8
UE524 04030	4	30	70	6	UE524 09045	9	45	100	10
UE524 05015	5	15	70	6	UE524 10025	10	25	100	10
UE524 05020	5	20	70	6	UE524 100100	10	30	100	10
UE524 05025100	5	25	100	6	UE524 10030	10	30	80	10
UE524 05025	5	25	70	6	UE524 10035	10	35	90	10
UE524 05030	5	30	80	6	UE524 10040120	10	40	120	10
UE524 05035	5	35	90	6	UE524 10040	10	40	90	10
UE524 05040	5	40	100	6	UE524 10045	10	45	100	10
UE524 06015080	6	15	80	6	UE524 10050200	10	50	200	10
UE524 06015	6	15	60	6	UE524 10050150	10	50	150	10
UE524 06020090	6	20	90	6	UE524 10050	10	50	100	10
UE524 06020	6	20	70	6	UE524 10055	10	55	150	10
UE524 06025	6	25	75	6	UE524 10060200	10	60	200	10
UE524 06030150	6	30	150	6	UE524 10060155	10	60	155	10
UE524 06030100	6	30	100	6	UE524 10060	10	60	110	10
UE524 06030	6	30	80	6	UE524 10080200	10	80	200	10
UE524 06035	6	35	90	6	UE524 11050	11	50	110	12
UE524 06040120	6	40	120	6	UE524 12030	12	30	110	12
UE524 06040	6	40	90	6	UE524 12035	12	35	90	12
UE524 06045	6	45	150	6	UE524 12040120	12	40	120	12
UE524 07035	7	35	85	8	UE524 12040	12	40	100	12
UE524 08020	8	20	100	8	UE524 12045	12	45	130	12
UE524 08025	8	25	80	8	UE524 12050150	12	50	150	12
UE524 08030100	8	30	100	8	UE524 12050	12	50	100	12
UE524 08030	8	30	80	8	UE524 12055	12	55	110	12
UE524 08035	8	35	90	8	UE524 12060200	12	60	200	12
UE524 08040150	8	40	150	8	UE524 12060150	12	60	150	12
UE524 08040120	8	40	120	8	UE524 12060	12	60	110	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UE524 4 Flutes Square End Mill

Endmill

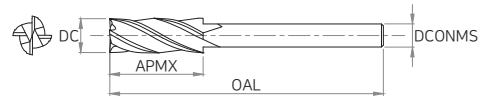
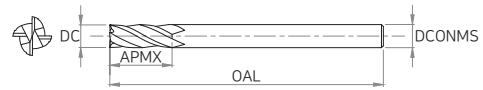
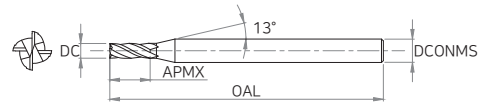
EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UE524 12065	12	65	150	12	UE524 180100	18	100	200	20
UE524 12070200	12	70	200	12	UE524 20050150	20	50	150	20
UE524 12070	12	70	120	12	UE524 20050	20	50	110	20
UE524 12080	12	80	200	12	UE524 20060	20	60	130	20
UE524 14040	14	40	110	16	UE524 20070	20	70	130	20
UE524 14050	14	50	110	16	UE524 20080	20	80	150	20
UE524 14060	14	60	150	16	UE524 20090200	20	90	200	20
UE524 16040	16	40	150	16	UE524 20090	20	90	150	20
UE524 16050150	16	50	150	16	UE524 200100	20	100	200	20
UE524 16050	16	50	110	16	UE524 200110	20	110	200	20
UE524 16060	16	60	120	16	UE524 200120	20	120	250	20
UE524 16070200	16	70	200	16	UE524 200130	20	130	250	20
UE524 16070150	16	70	150	16	UE524 22075	22	75	150	20
UE524 16070	16	70	130	16	UE524 220110	22	110	200	20
UE524 16080	16	80	150	16	UE524 25070	25	70	150	25
UE524 16090	16	90	150	16	UE524 25090	25	90	150	25
UE524 160100	16	100	200	16	UE524 250100	25	100	200	25
UE524 160110	16	110	200	16	UE524 250110	25	110	200	25
UE524 160120	16	120	250	16	UE524 250120	25	120	250	25
UE524 18050	18	50	120	20	UE524 250150	25	150	250	25
UE524 18070	18	70	130	20					

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

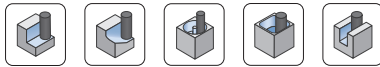
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

ULE504 4 Flutes Automatic CNC Square End Mill



► Tolerance

DC		Shank Dia
Ø3 ~ Ø16	0 ~ -0.02	h5



EDP No	DC	APMX	OAL	DCONMS
ULE504 030S04	3	3	35	4
ULE504 040S04	4	4	35	4
ULE504 060S06	6	6	35	6
ULE504 070S07	7	20	45	7
ULE504 080S08	8	8	45	8
ULE504 080S06	8	8	35	6
ULE504 080S07	8	15	45	7
ULE504 090S07	9	15	45	7
ULE504 100S06	10	10	35	6
ULE504 100S10	10	15	45	10
ULE504 100S07	10	15	45	7
ULE504 110S07	11	15	45	7
ULE504 120S10	12	12	45	10
ULE504 120S06	12	12	35	6
ULE504 120S07	12	15	45	7
ULE504 120-25S10	12	25	55	10
ULE504 130S10	13	25	55	10
ULE504 140S10	14	25	55	10
ULE504 140S07	14	25	55	7
ULE504 160S10	16	25	60	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

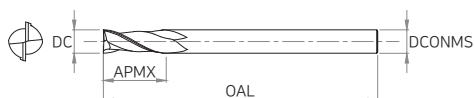
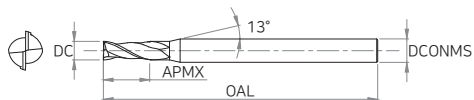
A-Wing

Standard

Copper
-Mate

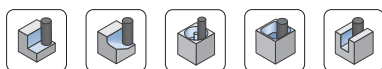
Gra
-Mate

UXE502 2 Flutes Square End Mill For Heavy Cuts



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø7	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UXE502 001001	0.1	0.1	40	4	UXE502 007021	0.7	2.1	40	4
UXE502 001	0.1	0.2	40	4	UXE502 008008	0.8	0.8	40	4
UXE502 001003	0.1	0.3	40	4	UXE502 0008	0.8	1.6	40	4
UXE502 002002	0.2	0.2	40	4	UXE502 008024	0.8	2.4	40	4
UXE502 002	0.2	0.4	40	4	UXE502 009009	0.9	0.9	40	4
UXE502 002006	0.2	0.6	40	4	UXE502 009	0.9	1.8	40	4
UXE502 003003	0.3	0.3	40	4	UXE502 009027	0.9	2.7	40	4
UXE502 003	0.3	0.6	40	4	UXE502 01001	1	1	40	6
UXE502 003009	0.3	0.9	40	4	UXE502 01002	1	2	40	6
UXE502 004004	0.4	0.4	40	4	UXE502 010	1	2.5	50	6
UXE502 004	0.4	0.8	40	4	UXE502 01003	1	3	50	6
UXE502 004012	0.4	1.2	40	4	UXE502 01004	1	4	50	6
UXE502 005005	0.5	0.5	40	4	UXE502 01006	1	6	50	6
UXE502 005	0.5	1	40	4	UXE502 01202	1.2	2	40	6
UXE502 005015	0.5	1.5	40	4	UXE502 012	1.2	3	50	6
UXE502 006006	0.6	0.6	40	4	UXE502 01204	1.2	4	50	6
UXE502 006	0.6	1.2	40	4	UXE502 01206	1.2	6	50	6
UXE502 006018	0.6	1.8	40	4	UXE502 015015	1.5	1.5	40	6
UXE502 007007	0.7	0.7	40	4	UXE502 01503	1.5	3	40	6
UXE502 007	0.7	1.4	40	4	UXE502 015	1.5	4	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXE502

2 Flutes Square End Mill For Heavy Cuts

Endmill

EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UXE502 01506	1.5	6	50	6	UXE502 05010	5	10	50	6
UXE502 01508	1.5	8	50	6	UXE502 050	5	15	60	6
UXE502 01510	1.5	10	50	6	UXE502 05020	5	20	60	6
UXE502 02002	2	2	40	6	UXE502 05025	5	25	60	6
UXE502 02004	2	4	40	6	UXE502 05513	5.5	13	50	6
UXE502 020	2	6	50	6	UXE502 06006	6	6	50	6
UXE502 02008	2	8	50	6	UXE502 06012	6	12	50	6
UXE502 02010	2	10	50	6	UXE502 060	6	15	60	6
UXE502 02012	2	12	50	6	UXE502 06020	6	20	60	6
UXE502 025025	2.5	2.5	40	6	UXE502 06025	6	25	60	6
UXE502 02505	2.5	5	40	6	UXE502 06513	6.5	13	60	8
UXE502 025	2.5	7	50	6	UXE502 07018	7	18	60	8
UXE502 02510	2.5	10	50	6	UXE502 08016	8	16	60	8
UXE502 02512	2.5	12	50	6	UXE502 080	8	20	70	8
UXE502 03003	3	3	40	6	UXE502 08025	8	25	70	8
UXE502 03006	3	6	40	6	UXE502 08030	8	30	70	8
UXE502 030	3	8	50	6	UXE502 10022	10	22	65	10
UXE502 03010	3	10	50	6	UXE502 100	10	25	75	10
UXE502 03012	3	12	50	6	UXE502 10030	10	30	75	10
UXE502 03014	3	14	50	6	UXE502 10035	10	35	75	10
UXE502 03510	3.5	10	50	6	UXE502 12026	12	26	70	12
UXE502 04004	4	4	40	6	UXE502 120	12	30	80	12
UXE502 04008	4	8	40	6	UXE502 12035	12	35	80	12
UXE502 040	4	10	50	6	UXE502 12040	12	40	80	12
UXE502 04012	4	12	50	6	UXE502 140	14	35	100	16
UXE502 04014	4	14	50	6	UXE502 160	16	32	100	16
UXE502 04016	4	16	50	6	UXE502 16040	16	40	100	16
UXE502 04511	4.5	11	50	6	UXE502 180	18	45	100	20
UXE502 05005	5	5	50	6	UXE502 200	20	45	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

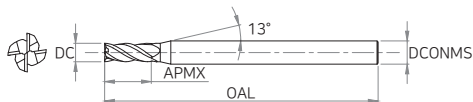
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

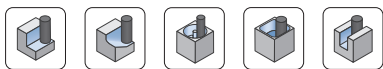
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UXE504 4 Flutes Square End Mill For Heavy Cuts



► Tolerance

DC		Shank Dia
Ø1 ~ Ø25	0 ~ -0.03	h5



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UXE504 01001	1	1	40	6	UXE504 02010	2	10	50	6
UXE504 01002	1	2	40	6	UXE504 02012	2	12	50	6
UXE504 010	1	2.5	50	6	UXE504 025025	2.5	2.5	40	6
UXE504 01003	1	3	50	6	UXE504 02505	2.5	5	40	6
UXE504 01004	1	4	50	6	UXE504 025	2.5	7	50	6
UXE504 01006	1	6	50	6	UXE504 02510	2.5	10	50	6
UXE504 01202	1.2	2	40	6	UXE504 02512	2.5	12	50	6
UXE504 012	1.2	3	50	6	UXE504 03003	3	3	40	6
UXE504 01204	1.2	4	50	6	UXE504 03006	3	6	40	6
UXE504 01206	1.2	6	50	6	UXE504 030	3	8	50	6
UXE504 015015	1.5	1.5	40	6	UXE504 03010	3	10	50	6
UXE504 01503	1.5	3	40	6	UXE504 03012	3	12	50	6
UXE504 015	1.5	4	50	6	UXE504 03014	3	14	50	6
UXE504 01506	1.5	6	50	6	UXE504 04004	4	4	40	6
UXE504 01508	1.5	8	50	6	UXE504 04008	4	8	40	6
UXE504 01510	1.5	10	50	6	UXE504 040	4	10	50	6
UXE504 02002	2	2	40	6	UXE504 04012	4	12	50	6
UXE504 02004	2	4	40	6	UXE504 04014	4	14	50	6
UXE504 020	2	6	50	6	UXE504 04016	4	16	50	6
UXE504 02008	2	8	50	6	UXE504 05005	5	5	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXE504

4 Flutes Square End Mill For Heavy Cuts

Endmill

EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
UXE504 05010	5	10	50	6	UXE504 10022	10	22	65	10
UXE504 050	5	15	60	6	UXE504 100	10	25	75	10
UXE504 05020	5	20	60	6	UXE504 10030	10	30	75	10
UXE504 05025	5	25	60	6	UXE504 10035	10	35	75	10
UXE504 06006	6	6	50	6	UXE504 12026	12	26	70	12
UXE504 06012	6	12	50	6	UXE504 120	12	30	80	12
UXE504 060	6	15	60	6	UXE504 12035	12	35	80	12
UXE504 06020	6	20	60	6	UXE504 12040	12	40	80	12
UXE504 06025	6	25	60	6	UXE504 140	14	35	100	16
UXE504 08016	8	16	60	8	UXE504 16032	16	32	100	16
UXE504 080	8	20	70	8	UXE504 160	16	40	100	16
UXE504 08025	8	25	70	8	UXE504 180	18	45	100	20
UXE504 08030	8	30	70	8	UXE504 200	20	45	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

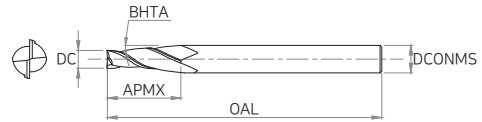
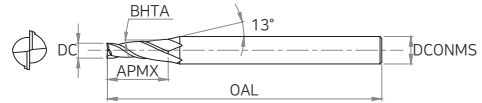
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

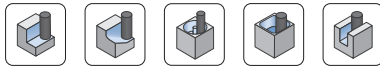
UTE502 2 Flutes Tapered Square End Mill

Endmill



► Tolerance

DC	Shank Dia
Ø0.3 ~ Ø10	0 ~ -0.03 h5



EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE502 003005	0.3	0.5	1.2	40	4	UTE502 00503	0.5	3	2	45	4
UTE502 0030	0.3	1	1.2	40	4	UTE502 00505	0.5	5	2.5	45	4
UTE502 003015	0.3	1.5	1.2	40	4	UTE502 00507	0.5	7	2.5	45	4
UTE502 00302	0.3	2	1.2	40	4	UTE502 00510	0.5	10	2.5	45	4
UTE502 00303	0.3	3	1.5	40	4	UTE502 006005	0.6	0.5	2.4	45	4
UTE502 00305	0.3	5	1.5	40	4	UTE502 00601	0.6	1	2.4	45	4
UTE502 00307	0.3	7	1.5	40	4	UTE502 006015	0.6	1.5	2.4	45	4
UTE502 00310	0.3	10	1.5	40	4	UTE502 00602	0.6	2	2.4	45	4
UTE502 004005	0.4	0.5	1.6	40	4	UTE502 00603	0.6	3	2.4	45	4
UTE502 00401	0.4	1	1.6	40	4	UTE502 00605	0.6	5	3	45	4
UTE502 004015	0.4	1.5	1.6	40	4	UTE502 00607	0.6	7	3	45	4
UTE502 00402	0.4	2	1.6	40	4	UTE502 00610	0.6	10	3	45	4
UTE502 00403	0.4	3	1.6	40	4	UTE502 007005	0.7	0.5	2.8	45	4
UTE502 00405	0.4	5	2	40	4	UTE502 00701	0.7	1	2.8	45	4
UTE502 00407	0.4	7	2	40	4	UTE502 007015	0.7	1.5	2.8	45	4
UTE502 00410	0.4	10	2	40	4	UTE502 00702	0.7	2	2.8	45	4
UTE502 005005	0.5	0.5	2	45	4	UTE502 00703	0.7	3	2.8	45	4
UTE502 00501	0.5	1	2	45	4	UTE502 00705	0.7	5	3.5	45	4
UTE502 005015	0.5	1.5	2	45	4	UTE502 00707	0.7	7	3.5	45	4
UTE502 00502	0.5	2	2	45	4	UTE502 00710	0.7	10	3.5	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FC500					
○		○	◎	◎	○					

UTE502

2 Flutes Tapered Square End Mill

Endmill

EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE502 008005	0.8	0.5	3.2	45	4	UTE502 025015	2.5	1.5	10	50	6
UTE502 00801	0.8	1	3.2	45	4	UTE502 02502	2.5	2	12	50	6
UTE502 008015	0.8	1.5	3.2	45	4	UTE502 02503	2.5	3	12	50	6
UTE502 00802	0.8	2	3.2	45	4	UTE502 02505	2.5	5	14	50	6
UTE502 00803	0.8	3	3.2	45	4	UTE502 02507	2.5	7	14	50	6
UTE502 00805	0.8	5	4	45	4	UTE502 02510	2.5	10	14	50	8
UTE502 00807	0.8	7	4	45	4	UTE502 030005	3	0.5	12	50	6
UTE502 00810	0.8	10	4	45	4	UTE502 03001	3	1	12	50	6
UTE502 010005	1	0.5	4	50	4	UTE502 030015	3	1.5	12	50	6
UTE502 01001	1	1	4	50	4	UTE502 03002	3	2	14	50	6
UTE502 010015	1	1.5	4	50	4	UTE502 03003	3	3	14	50	6
UTE502 01002	1	2	6	50	4	UTE502 03005	3	5	16	50	6
UTE502 01003	1	3	6	50	4	UTE502 03007	3	7	16	50	8
UTE502 01005	1	5	8	50	4	UTE502 03010	3	10	16	50	10
UTE502 01007	1	7	8	50	4	UTE502 040005	4	0.5	16	60	6
UTE502 01010	1	10	8	50	4	UTE502 04001	4	1	16	60	6
UTE502 015005	1.5	0.5	6	50	4	UTE502 040015	4	1.5	16	60	6
UTE502 01501	1.5	1	6	50	4	UTE502 04002	4	2	16	60	6
UTE502 015015	1.5	1.5	6	50	4	UTE502 04003	4	3	19	60	6
UTE502 01502	1.5	2	8	50	4	UTE502 04005	4	5	22	65	8
UTE502 01503	1.5	3	8	50	4	UTE502 04007	4	7	16	65	8
UTE502 01505	1.5	5	10	50	4	UTE502 04010	4	10	17	65	10
UTE502 01507	1.5	7	10	50	4	UTE502 060005	6	0.5	20	65	8
UTE502 01510	1.5	10	10	50	6	UTE502 06001	6	1	20	65	8
UTE502 020005	2	0.5	8	50	4	UTE502 060015	6	1.5	20	65	8
UTE502 020015	2	1.5	8	50	4	UTE502 06002	6	2	20	65	8
UTE502 02001	2	1	8	50	4	UTE502 06003	6	3	19	65	8
UTE502 02002	2	2	10	50	4	UTE502 06005	6	5	22	75	10
UTE502 02003	2	3	10	50	4	UTE502 06007	6	7	24	75	12
UTE502 02005	2	5	12	50	6	UTE502 06010	6	10	17	75	12
UTE502 02007	2	7	12	50	6	UTE502 070005	7	0.5	28	70	8
UTE502 02010	2	10	12	50	8	UTE502 07001	7	1	28	70	8
UTE502 025005	2.5	0.5	10	50	6	UTE502 070015	7	1.5	28	70	10
UTE502 02501	2.5	1	10	50	6	UTE502 07002	7	2	28	80	10

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UTE502

2 Flutes Tapered Square End Mill

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

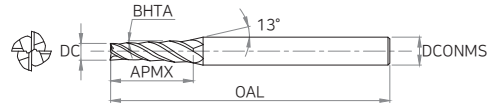
EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE502 07003	7	3	28	80	10	UTE502 08010S25	8	10	48	150	25
UTE502 07005	7	5	28	80	12	UTE502 100005	10	0.5	40	90	12
UTE502 080005	8	0.5	35	90	10	UTE502 10001	10	1	40	90	12
UTE502 08001	8	1	35	90	10	UTE502 100015	10	1.5	38	90	12
UTE502 080015	8	1.5	35	90	10	UTE502 10002	10	2	40	75	16
UTE502 08002	8	2	28	90	10	UTE502 10003	10	3	40	100	16
UTE502 08003	8	3	38	90	12	UTE502 10005	10	5	34	100	16
UTE502 08005	8	5	45	100	16	UTE502 10007	10	7	40	90	20
UTE502 08007	8	7	32	90	16	UTE502 10010	10	10	42	100	25
UTE502 08010	8	10	34	100	20						

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

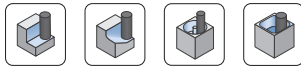
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTE504 4 Flutes Tapered Square End Mill



► Tolerance

DC		Shank Dia
∅0.8 ~ ∅10	0 ~ -0.03	h5



EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE504 00800504	0.8	0.5	4	45	4	UTE504 01000504	1	0.5	4	50	4
UTE504 00801004	0.8	1	4	45	4	UTE504 01001004	1	1	4	50	4
UTE504 00801504	0.8	1.5	4	45	4	UTE504 01001504	1	1.5	4	50	4
UTE504 00802004	0.8	2	4	45	4	UTE504 01002004	1	2	4	50	4
UTE504 00800506	0.8	0.5	6	45	4	UTE504 01003004	1	3	4	50	4
UTE504 00801006	0.8	1	6	45	4	UTE504 01000506	1	0.5	6	50	4
UTE504 00801506	0.8	1.5	6	45	4	UTE504 01001006	1	1	6	50	4
UTE504 00802006	0.8	2	6	45	4	UTE504 01001506	1	1.5	6	50	4
UTE504 00800508	0.8	0.5	8	45	4	UTE504 01002006	1	2	6	50	4
UTE504 00801008	0.8	1	8	45	4	UTE504 01003006	1	3	6	50	4
UTE504 00801508	0.8	1.5	8	45	4	UTE504 01000508	1	0.5	8	50	4
UTE504 00802008	0.8	2	8	45	4	UTE504 01001008	1	1	8	50	4
UTE504 00800510	0.8	0.5	10	45	4	UTE504 01001508	1	1.5	8	50	4
UTE504 00801010	0.8	1	10	45	4	UTE504 01002008	1	2	8	50	4
UTE504 00801510	0.8	1.5	10	45	4	UTE504 01003008	1	3	8	50	4
UTE504 00802010	0.8	2	10	45	4	UTE504 01000510	1	0.5	10	50	4
UTE504 00800512	0.8	0.5	12	45	4	UTE504 01001010	1	1	10	50	4
UTE504 00801012	0.8	1	12	45	4	UTE504 01001510	1	1.5	10	50	4
UTE504 00801512	0.8	1.5	12	45	4	UTE504 01002010	1	2	10	50	4
UTE504 00802012	0.8	2	12	45	4	UTE504 01003010	1	3	10	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UTE504 4 Flutes Tapered Square End Mill

Endmill

EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE504 01000512	1	0.5	12	50	4	UTE504 01203016	1.2	3	16	50	4
UTE504 01001012	1	1	12	50	4	UTE504 01500506	1.5	0.5	6	50	4
UTE504 01001512	1	1.5	12	50	4	UTE504 01501006	1.5	1	6	50	4
UTE504 01002012	1	2	12	50	4	UTE504 01501506	1.5	1.5	6	50	4
UTE504 01003012	1	3	12	50	4	UTE504 01502006	1.5	2	6	50	4
UTE504 01000516	1	0.5	16	50	4	UTE504 01503006	1.5	3	6	50	4
UTE504 01001016	1	1	16	50	4	UTE504 01500508	1.5	0.5	8	50	4
UTE504 01001516	1	1.5	16	50	4	UTE504 01501008	1.5	1	8	50	4
UTE504 01002016	1	2	16	50	4	UTE504 01501508	1.5	1.5	8	50	4
UTE504 01003016	1	3	16	50	4	UTE504 01502008	1.5	2	8	50	4
UTE504 01200506	1.2	0.5	6	50	4	UTE504 01503008	1.5	3	8	50	4
UTE504 01201006	1.2	1	6	50	4	UTE504 01500510	1.5	0.5	10	50	4
UTE504 01201506	1.2	1.5	6	50	4	UTE504 01501010	1.5	1	10	50	4
UTE504 01202006	1.2	2	6	50	4	UTE504 01501510	1.5	1.5	10	50	4
UTE504 01203006	1.2	3	6	50	4	UTE504 01502010	1.5	2	10	50	4
UTE504 01200508	1.2	0.5	8	50	4	UTE504 01503010	1.5	3	10	50	4
UTE504 01201008	1.2	1	8	50	4	UTE504 01500512	1.5	0.5	12	50	4
UTE504 01201508	1.2	1.5	8	50	4	UTE504 01501012	1.5	1	12	50	4
UTE504 01202008	1.2	2	8	50	4	UTE504 01501512	1.5	1.5	12	50	4
UTE504 01203008	1.2	3	8	50	4	UTE504 01502012	1.5	2	12	50	4
UTE504 01200510	1.2	0.5	10	50	4	UTE504 01503012	1.5	3	12	50	4
UTE504 01201010	1.2	1	10	50	4	UTE504 01500516	1.5	0.5	16	50	4
UTE504 01201510	1.2	1.5	10	50	4	UTE504 01501016	1.5	1	16	50	4
UTE504 01202010	1.2	2	10	50	4	UTE504 01501516	1.5	1.5	16	50	4
UTE504 01203010	1.2	3	10	50	4	UTE504 01502016	1.5	2	16	50	4
UTE504 01200512	1.2	0.5	12	50	4	UTE504 01503016	1.5	3	16	50	4
UTE504 01201512	1.2	1.5	12	50	4	UTE504 01500520	1.5	0.5	20	60	4
UTE504 01201012	1.2	1	12	50	4	UTE504 01501020	1.5	1	20	60	4
UTE504 01202012	1.2	2	12	50	4	UTE504 01501520	1.5	1.5	20	60	4
UTE504 01203012	1.2	3	12	50	4	UTE504 01502020	1.5	2	20	60	4
UTE504 01200516	1.2	0.5	16	50	4	UTE504 01503020	1.5	3	20	60	4
UTE504 01201016	1.2	1	16	50	4	UTE504 02000508	2	0.5	8	50	4
UTE504 01201516	1.2	1.5	16	50	4	UTE504 02001008	2	1	8	50	4
UTE504 01202016	1.2	2	16	50	4	UTE504 02001508	2	1.5	8	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTE504

4 Flutes Tapered Square End Mill

Endmill

EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE504 02002008	2	2	8	50	4	UTE504 02501012	2.5	1	12	50	4
UTE504 02003008	2	3	8	50	4	UTE504 02502012	2.5	2	12	50	4
UTE504 02000510	2	0.5	10	50	4	UTE504 02503012	2.5	3	12	50	4
UTE504 02001010	2	1	10	50	4	UTE504 02500516	2.5	0.5	16	50	4
UTE504 02001510	2	1.5	10	50	4	UTE504 02501016	2.5	1	16	50	4
UTE504 02002010	2	2	10	50	4	UTE504 02501516	2.5	1.5	16	50	4
UTE504 02003010	2	3	10	50	4	UTE504 02502016	2.5	2	16	50	4
UTE504 02000512	2	0.5	12	50	4	UTE504 02503016	2.5	3	16	50	6
UTE504 02001012	2	1	12	50	4	UTE504 02500520	2.5	0.5	20	60	4
UTE504 02001512	2	1.5	12	50	4	UTE504 02501020	2.5	1	20	60	4
UTE504 02002012	2	2	12	50	4	UTE504 02501520	2.5	1.5	20	60	4
UTE504 02003012	2	3	12	50	4	UTE504 02502020	2.5	2	20	60	4
UTE504 02000516	2	0.5	16	50	4	UTE504 02503020	2.5	3	20	60	6
UTE504 02001016	2	1	16	50	4	UTE504 02500525	2.5	0.5	25	60	4
UTE504 02001516	2	1.5	16	50	4	UTE504 02501025	2.5	1	25	60	4
UTE504 02002016	2	2	16	50	4	UTE504 02501525	2.5	1.5	25	60	4
UTE504 02003016	2	3	16	50	4	UTE504 02502025	2.5	2	25	60	6
UTE504 02000520	2	0.5	20	60	4	UTE504 02503025	2.5	3	25	60	6
UTE504 02001020	2	1	20	60	4	UTE504 02500530	2.5	0.5	30	60	4
UTE504 02001520	2	1.5	20	60	4	UTE504 02501030	2.5	1	30	60	4
UTE504 02002020	2	2	20	60	4	UTE504 02501530	2.5	1.5	30	60	6
UTE504 02003020	2	3	20	60	6	UTE504 02502030	2.5	2	30	60	6
UTE504 02000525	2	0.5	25	60	4	UTE504 02503030	2.5	3	30	60	6
UTE504 02001025	2	1	25	60	4	UTE504 030005	3	0.5	12	50	6
UTE504 02001525	2	1.5	25	60	4	UTE504 03001	3	1	12	50	6
UTE504 02002025	2	2	25	60	4	UTE504 030015	3	1.5	12	50	6
UTE504 02003025	2	3	25	60	6	UTE504 03002	3	2	14	50	6
UTE504 02500510	2.5	0.5	10	50	4	UTE504 03003	3	3	14	50	6
UTE504 02501010	2.5	1	10	50	4	UTE504 03005	3	5	16	50	6
UTE504 02501510	2.5	1.5	10	50	4	UTE504 03007	3	7	16	50	8
UTE504 02502010	2.5	2	10	50	4	UTE504 03010	3	10	16	50	10
UTE504 02503010	2.5	3	10	50	4	UTE504 040005	4	0.5	16	60	6
UTE504 02500512	2.5	0.5	12	50	4	UTE504 04001	4	1	16	60	6
UTE504 02501512	2.5	1.5	12	50	4	UTE504 040015	4	1.5	16	60	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UTE504 4 Flutes Tapered Square End Mill

Endmill

EDP No	DC	BHTA	APMX	OAL	DCON MS	EDP No	DC	BHTA	APMX	OAL	DCON MS
UTE504 04002	4	2	16	60	6	UTE504 07005	7	5	28	80	12
UTE504 04003	4	3	19	60	6	UTE504 080005	8	0.5	35	90	10
UTE504 04005	4	5	22	65	8	UTE504 08001	8	1	35	90	10
UTE504 04007	4	7	16	65	8	UTE504 080015	8	1.5	35	90	10
UTE504 04010	4	10	17	65	10	UTE504 08002	8	2	28	90	10
UTE504 060005	6	0.5	20	65	8	UTE504 08003	8	3	38	90	12
UTE504 06001	6	1	20	65	8	UTE504 08005	8	5	45	100	16
UTE504 060015	6	1.5	20	65	8	UTE504 08007	8	7	32	90	16
UTE504 06002	6	2	20	65	8	UTE504 08010	8	10	34	100	20
UTE504 06003	6	3	19	65	8	UTE504 100005	10	0.5	40	90	12
UTE504 06005	6	5	22	75	10	UTE504 10001	10	1	40	90	12
UTE504 06007	6	7	24	75	12	UTE504 100015	10	1.5	38	90	12
UTE504 06010	6	10	17	75	12	UTE504 10002	10	2	40	90	16
UTE504 070005	7	0.5	28	70	8	UTE504 10003	10	3	40	100	16
UTE504 07001	7	1	28	70	8	UTE504 10005	10	5	34	100	16
UTE504 070015	7	1.5	28	70	10	UTE504 10007	10	7	40	90	20
UTE504 07002	7	2	28	80	10	UTE504 10010	10	10	42	100	25
UTE504 07003	7	3	28	80	10						

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

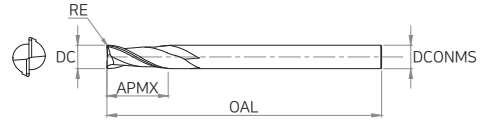
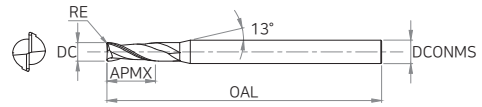
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

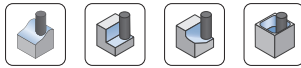
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR502 2 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
∅0.2 ~ ∅6	0 ~ -0.012	h5
∅7 ~ ∅20	0 ~ -0.015	



∅6 OR UNDER ABOVE ∅6

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UR502 002002	0.2	0.02	0.4	40	4	UR502 01001	1	0.1	2.5	50	6
UR502 002005	0.2	0.05	0.4	40	4	UR502 01002	1	0.2	2.5	50	6
UR502 003002	0.3	0.02	0.6	40	4	UR502 01003	1	0.3	2.5	50	6
UR502 003005	0.3	0.05	0.6	40	4	UR502 012005	1.2	0.05	3	50	6
UR502 004005	0.4	0.05	0.8	40	4	UR502 01201	1.2	0.1	3	50	6
UR502 00401	0.4	0.1	0.8	40	4	UR502 01202	1.2	0.2	3	50	6
UR502 005005	0.5	0.05	1	40	4	UR502 01203	1.2	0.3	3	50	6
UR502 00501	0.5	0.1	1	40	4	UR502 015005	1.5	0.05	4	50	6
UR502 006005	0.6	0.05	1.2	40	4	UR502 01501	1.5	0.1	4	50	6
UR502 00601	0.6	0.1	1.2	40	4	UR502 01502	1.5	0.2	4	50	6
UR502 00602	0.6	0.2	1.2	40	4	UR502 01503	1.5	0.3	4	50	6
UR502 007005	0.7	0.05	1.4	40	4	UR502 01505	1.5	0.5	4	50	6
UR502 00701	0.7	0.1	1.4	40	4	UR502 02001	2	0.1	6	50	6
UR502 00702	0.7	0.2	1.4	40	4	UR502 02002	2	0.2	6	50	6
UR502 008005	0.8	0.05	1.6	40	4	UR502 02003	2	0.3	6	50	6
UR502 00801	0.8	0.1	1.6	40	4	UR502 02005	2	0.5	6	50	6
UR502 00802	0.8	0.2	1.6	40	4	UR502 02501	2.5	0.1	7	60	6
UR502 009005	0.9	0.05	1.8	40	4	UR502 02502	2.5	0.2	7	60	6
UR502 00901	0.9	0.1	1.8	40	4	UR502 02503	2.5	0.3	7	60	6
UR502 010005	1	0.05	2.5	50	6	UR502 02505	2.5	0.5	7	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR502

2 Flutes Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UR502 03001	3	0.1	8	60	6	UR502 05503	5.5	0.3	13	90	6
UR502 03002	3	0.2	8	60	6	UR502 05505	5.5	0.5	13	90	6
UR502 03003	3	0.3	8	60	6	UR502 05510	5.5	1	13	90	6
UR502 03005	3	0.5	8	60	6	UR502 06001	6	0.1	15	90	6
UR502 03010	3	1	8	60	6	UR502 06002	6	0.2	15	90	6
UR502 03501	3.5	0.1	10	70	6	UR502 06003	6	0.3	15	90	6
UR502 03502	3.5	0.2	10	70	6	UR502 0600360	6	0.3	15	60	6
UR502 03503	3.5	0.3	10	70	6	UR502 06005	6	0.5	15	90	6
UR502 03505	3.5	0.5	10	70	6	UR502 06005110	6	0.5	15	110	6
UR502 04001	4	0.1	10	70	6	UR502 06005130	6	0.5	15	130	6
UR502 04001100S4	4	0.1	10	100	4	UR502 0600560	6	0.5	15	60	6
UR502 04001S4	4	0.1	10	70	4	UR502 06010	6	1	15	90	6
UR502 04002	4	0.2	10	70	6	UR502 06010110	6	1	15	110	6
UR502 04002100S4	4	0.2	10	100	4	UR502 06010130	6	1	15	130	6
UR502 04002S4	4	0.2	10	70	4	UR502 0601060	6	1	15	60	6
UR502 04003	4	0.3	10	70	6	UR502 06015	6	1.5	15	90	6
UR502 04003100S4	4	0.3	10	100	4	UR502 06020	6	2	15	90	6
UR502 04003S4	4	0.3	10	70	4	UR502 07001	7	0.1	16	90	8
UR502 04005	4	0.5	10	70	6	UR502 07002	7	0.2	16	90	8
UR502 04005100S4	4	0.5	10	100	4	UR502 07003	7	0.3	16	90	8
UR502 04005S4	4	0.5	10	70	4	UR502 07005	7	0.5	16	90	8
UR502 04010	4	1	10	70	6	UR502 07010	7	1	16	90	8
UR502 04010100S4	4	1	10	100	4	UR502 07020	7	2	16	90	8
UR502 04010S4	4	1	10	70	4	UR502 08001	8	0.1	20	100	8
UR502 04501	4.5	0.1	11	80	6	UR502 08002	8	0.2	20	100	8
UR502 04502	4.5	0.2	11	80	6	UR502 08003	8	0.3	20	100	8
UR502 04503	4.5	0.3	11	80	6	UR502 0800370	8	0.3	20	70	8
UR502 04505	4.5	0.5	11	80	6	UR502 08005	8	0.5	20	100	8
UR502 05001	5	0.1	13	90	6	UR502 08005120	8	0.5	20	120	8
UR502 05002	5	0.2	13	90	6	UR502 08005150	8	0.5	20	150	8
UR502 05003	5	0.3	13	90	6	UR502 0800570	8	0.5	20	70	8
UR502 05005	5	0.5	13	90	6	UR502 08010	8	1	20	100	8
UR502 05010	5	1	13	90	6	UR502 08010120	8	1	20	120	8
UR502 05501	5.5	0.1	13	90	6	UR502 08010150	8	1	20	150	8
UR502 05502	5.5	0.2	13	90	6	UR502 0801070	8	1	20	70	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR502

2 Flutes Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UR502 08015	8	1.5	20	100	8	UR502 04010S4	4	1	10	70	4
UR502 08020	8	2	20	100	8	UR502 04501	4.5	0.1	11	80	6
UR502 08025	8	2.5	20	100	8	UR502 04502	4.5	0.2	11	80	6
UR502 08003	8	3	20	100	8	UR502 04503	4.5	0.3	11	80	6
UR502 10001	10	0.1	25	100	10	UR502 04505	4.5	0.5	11	80	6
UR502 10002	10	0.2	25	100	10	UR502 05001	5	0.1	13	90	6
UR502 10003	10	0.3	25	100	10	UR502 05002	5	0.2	13	90	6
UR502 1000375	10	0.3	25	75	10	UR502 05003	5	0.3	13	90	6
UR502 10005	10	0.5	25	100	10	UR502 05005	5	0.5	13	90	6
UR502 10005130	10	0.5	25	130	10	UR502 05010	5	1	13	90	6
UR502 10005150	10	0.5	25	150	10	UR502 05501	5.5	0.1	13	90	6
UR502 1000575	10	0.5	25	75	10	UR502 05502	5.5	0.2	13	90	6
UR502 10010	10	1	25	100	10	UR502 05503	5.5	0.3	13	90	6
UR502 10010130	10	1	25	130	10	UR502 05505	5.5	0.5	13	90	6
UR502 10010150	10	1	25	150	10	UR502 05510	5.5	1	13	90	6
UR502 1001075	10	1	25	75	10	UR502 06001	6	0.1	15	90	6
UR502 10015	10	1.5	25	100	10	UR502 06002	6	0.2	15	90	6
UR502 10020	10	2	25	100	10	UR502 06003	6	0.3	15	90	6
UR502 10025	10	2.5	25	100	10	UR502 0600360	6	0.3	15	60	6
UR502 10030	10	3	25	100	10	UR502 06005	6	0.5	15	90	6
UR502 03505	3.5	0.5	10	70	6	UR502 06005110	6	0.5	15	110	6
UR502 04001	4	0.1	10	70	6	UR502 06005130	6	0.5	15	130	6
UR502 04001100S4	4	0.1	10	100	4	UR502 0600560	6	0.5	15	60	6
UR502 04001S4	4	0.1	10	70	4	UR502 06010	6	1	15	90	6
UR502 04002	4	0.2	10	70	6	UR502 06010110	6	1	15	110	6
UR502 04002100S4	4	0.2	10	100	4	UR502 06010130	6	1	15	130	6
UR502 04002S4	4	0.2	10	70	4	UR502 0601060	6	1	15	60	6
UR502 04003	4	0.3	10	70	6	UR502 06015	6	1.5	15	90	6
UR502 04003100S4	4	0.3	10	100	4	UR502 06020	6	2	15	90	6
UR502 04003S4	4	0.3	10	70	4	UR502 07001	7	0.1	16	90	8
UR502 04005	4	0.5	10	70	6	UR502 07002	7	0.2	16	90	8
UR502 04005100S4	4	0.5	10	100	4	UR502 07003	7	0.3	16	90	8
UR502 04005S4	4	0.5	10	70	4	UR502 07005	7	0.5	16	90	8
UR502 04010	4	1	10	70	6	UR502 07010	7	1	16	90	8
UR502 04010100S4	4	1	10	100	4	UR502 07020	7	2	16	90	8

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR502

2 Flutes Radius End Mill

Endmill

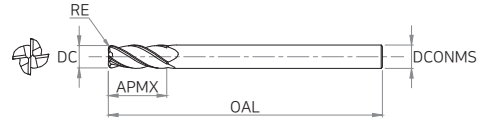
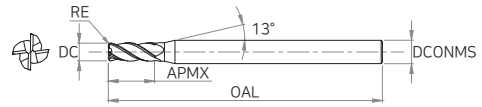
	EDP No	DC	RE	APMX	OAL	DCON MS		EDP No	DC	RE	APMX	OAL	DCON MS
Zamus Star	UR502 08001	8	0.1	20	100	8		UR502 11005	11	0.5	25	110	12
	UR502 08002	8	0.2	20	100	8		UR502 11010	11	1	25	110	12
	UR502 08003	8	0.3	20	100	8		UR502 11020	11	2	25	110	12
	UR502 0800370	8	0.3	20	70	8		UR502 12001	12	0.1	30	110	12
	UR502 08005	8	0.5	20	100	8		UR502 12002	12	0.2	30	110	12
E-Star	UR502 08005120	8	0.5	20	120	8		UR502 12003	12	0.3	30	110	12
	UR502 08005150	8	0.5	20	150	8		UR502 1200380	12	0.3	30	80	12
	UR502 0800570	8	0.5	20	70	8		UR502 12005	12	0.5	30	110	12
U-Wing	UR502 08010	8	1	20	100	8		UR502 12005130	12	0.5	30	130	12
	UR502 08010120	8	1	20	120	8		UR502 12005150	12	0.5	30	150	12
	UR502 08010150	8	1	20	150	8		UR502 1200580	12	0.5	30	80	12
	UR502 0801070	8	1	20	70	8		UR502 12010	12	1	30	110	12
Zamus Thunder	UR502 08015	8	1.5	20	100	8		UR502 12010130	12	1	30	130	12
	UR502 08020	8	2	20	100	8		UR502 12010150	12	1	30	150	12
	UR502 08025	8	2.5	20	100	8		UR502 1201080	12	1	30	80	12
	UR502 08030	8	3	20	100	8		UR502 12015	12	1.5	30	110	12
X-Star	UR502 10001	10	0.1	25	100	10		UR502 12020	12	2	30	110	12
	UR502 10002	10	0.2	25	100	10		UR502 12025	12	2.5	30	110	12
	UR502 10003	10	0.3	25	100	10		UR502 12030	12	3	30	110	12
	UR502 1000375	10	0.3	25	75	10		UR502 12040	12	4	30	110	12
S-Wing	UR502 10005	10	0.5	25	100	10		UR502 12050	12	5	30	110	12
	UR502 10005130	10	0.5	25	130	10		UR502 14005	14	0.5	30	150	16
	UR502 10005150	10	0.5	25	150	10		UR502 14010	14	1	30	150	16
A-Wing	UR502 1000575	10	0.5	25	75	10		UR502 14020	14	2	30	150	16
	UR502 10010	10	1	25	100	10		UR502 16005	16	0.5	32	150	16
	UR502 10010130	10	1	25	130	10		UR502 16010	16	1	32	150	16
Standard	UR502 10010150	10	1	25	150	10		UR502 16015	16	1.5	32	150	16
	UR502 1001075	10	1	25	75	10		UR502 16020	16	2	32	150	16
	UR502 10015	10	1.5	25	100	10		UR502 16030	16	3	32	150	16
	UR502 10020	10	2	25	100	10		UR502 20005	20	0.5	38	150	20
Copper -Mate	UR502 10025	10	2.5	25	100	10		UR502 20010	20	1	38	150	20
	UR502 10030	10	3	25	100	10		UR502 20015	20	1.5	38	150	20
	UR502 10040	10	4	25	100	10		UR502 20020	20	2	38	150	20
Gra -Mate	UR502 11002	11	0.2	25	110	12		UR502 20030	20	3	38	150	20
	UR502 11003	11	0.3	25	110	12							

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

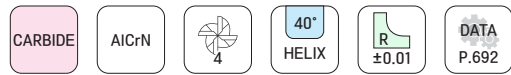
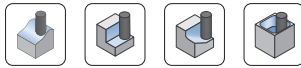
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
○		○	◎	◎	○					

UR504 4 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
ø3 ~ ø20	0 ~ -0.03	h5



EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UR504 03002	3	0.2	8	60	6	UR504 06003060	6	0.3	15	60	6
UR504 03002S4	3	0.2	8	60	4	UR504 06005	6	0.5	15	90	6
UR504 03003	3	0.3	8	60	6	UR504 06005060	6	0.5	15	60	6
UR504 03005	3	0.5	8	60	6	UR504 06010	6	1	15	90	6
UR504 03005S4	3	0.5	8	60	4	UR504 06010060	6	1	15	60	6
UR504 04002	4	0.2	10	70	6	UR504 08003	8	0.3	20	100	8
UR504 04002S4	4	0.2	10	70	4	UR504 08003070	8	0.3	20	70	8
UR504 04003	4	0.3	10	70	6	UR504 08005	8	0.5	20	100	8
UR504 04005	4	0.5	10	70	6	UR504 08005070	8	0.5	20	70	8
UR504 04005S4	4	0.5	10	70	4	UR504 08010	8	1	20	100	8
UR504 04010	4	1	10	70	6	UR504 08010070	8	1	20	70	8
UR504 04010S4	4	1	10	70	4	UR504 08015	8	1.5	20	100	8
UR504 05002	5	0.2	13	90	6	UR504 08020	8	2	20	100	8
UR504 05003	5	0.3	13	90	6	UR504 10003	10	0.3	25	100	10
UR504 05003060	5	0.3	13	60	6	UR504 10003075	10	0.3	25	75	10
UR504 05005	5	0.5	13	90	6	UR504 10005	10	0.5	25	100	10
UR504 05005060	5	0.5	13	60	6	UR504 1000575	10	0.5	25	75	10
UR504 05010	5	1	13	90	6	UR504 10010	10	1	25	100	10
UR504 06002	6	0.2	13	90	6	UR504 10010075	10	1	25	75	10
UR504 06003	6	0.3	15	90	6	UR504 10015	10	1.5	25	100	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UR504 4 Flutes Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UR504 10020	10	2	25	100	10	UR504 16010	16	1	32	150	16
UR504 10025	10	2.5	25	100	10	UR504 16010100	16	1	32	100	16
UR504 12003	12	0.3	30	110	12	UR504 16015	16	1.5	32	150	16
UR504 12003080	12	0.3	30	80	12	UR504 16015100	16	1.5	32	100	16
UR504 12005	12	0.5	30	110	12	UR504 16020	16	2	32	150	16
UR504 12005080	12	0.5	30	80	12	UR504 16020100	16	2	32	100	16
UR504 12010	12	1	30	110	12	UR504 20005	20	0.5	38	150	20
UR504 12010080	12	1	30	80	12	UR504 20005100	20	0.5	38	100	20
UR504 12015	12	1.5	30	110	12	UR504 20010	20	1	38	150	20
UR504 12020	12	2	30	110	12	UR504 20010100	20	1	38	100	20
UR504 12025	12	2.5	30	110	12	UR504 20015	20	1.5	38	150	20
UR504 12030	12	3	30	110	12	UR504 20015100	20	1.5	38	100	20
UR504 16005	16	0.5	32	150	16	UR504 20020	20	2	38	150	20
UR504 16005100	16	0.5	32	100	16	UR504 20020100	20	2	38	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

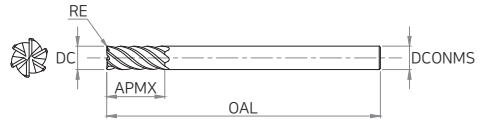
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

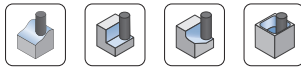
UR506

6 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø20	0 ~ -0.03	h5



EDP No	DC	RE	APMX	OAL	DCONMS
UR506 06003	6	0.3	15	90	6
UR506 06005	6	0.5	15	90	6
UR506 06010	6	1	15	90	6
UR506 08003	8	0.3	20	100	8
UR506 08005	8	0.5	20	100	8
UR506 08010	8	1	20	100	8
UR506 10003	10	0.3	25	100	10
UR506 10005	10	0.5	25	100	10
UR506 10010	10	1	25	100	10
UR506 12003	12	0.3	30	110	12
UR506 12005	12	0.5	30	110	12
UR506 12010	12	1	30	110	12
UR506 16005	16	0.5	32	150	16
UR506 16010	16	1	32	150	16
UR506 16015	16	1.5	32	150	16
UR506 16020	16	2	32	150	16
UR506 20005	20	0.5	38	150	20
UR506 20010	20	1	38	150	20
UR506 20015	20	1.5	38	150	20
UR506 20020	20	2	38	150	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

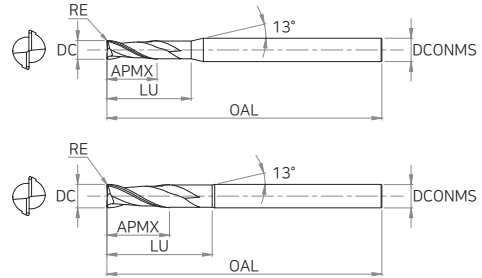
Standard

Copper
-Mate

Gra
-Mate

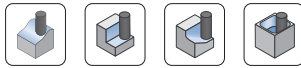
UR512

2 Flutes Neck Type Radius End Mill



► Tolerance

DC		Shank Dia
Ø0.2 ~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



Ø6 OR UNDER ABOVE Ø6

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UR512 002002005	0.2	0.02	0.3	0.5	40	4	UR512 0040101	0.4	0.1	0.6	1	40	4
UR512 00200201	0.2	0.02	0.3	1	40	4	UR512 00401015	0.4	0.1	0.6	1.5	40	4
UR512 002002015	0.2	0.02	0.3	1.5	40	4	UR512 0040102	0.4	0.1	0.6	2	40	4
UR512 00200202	0.2	0.02	0.3	2	40	4	UR512 00401025	0.4	0.1	0.6	2.5	40	4
UR512 002005005	0.2	0.05	0.3	0.5	40	4	UR512 0040103	0.4	0.1	0.6	3	40	4
UR512 00200501	0.2	0.05	0.3	1	40	4	UR512 0040104	0.4	0.1	0.6	4	40	4
UR512 002005015	0.2	0.05	0.3	1.5	40	4	UR512 00500501	0.5	0.05	0.7	1	45	4
UR512 00200502	0.2	0.05	0.3	2	40	4	UR512 005005015	0.5	0.05	0.7	1.5	45	4
UR512 00300201	0.3	0.02	0.5	1	40	4	UR512 00500502	0.5	0.05	0.7	2	45	4
UR512 00300202	0.3	0.02	0.5	2	40	4	UR512 005005025	0.5	0.05	0.7	2.5	45	4
UR512 00300203	0.3	0.02	0.5	3	40	4	UR512 00500503	0.5	0.05	0.7	3	45	4
UR512 00300501	0.3	0.05	0.5	1	40	4	UR512 00500504	0.5	0.05	0.7	4	45	4
UR512 00300502	0.3	0.05	0.5	2	40	4	UR512 00500505	0.5	0.05	0.7	5	45	4
UR512 00300503	0.3	0.05	0.5	3	40	4	UR512 00500506	0.5	0.05	0.7	6	45	4
UR512 00400501	0.4	0.05	0.6	1	40	4	UR512 0050101	0.5	0.1	0.7	1	45	4
UR512 004005015	0.4	0.05	0.6	1.5	40	4	UR512 00501015	0.5	0.1	0.7	1.5	45	4
UR512 00400502	0.4	0.05	0.6	2	40	4	UR512 0050102	0.5	0.1	0.7	2	45	4
UR512 004005025	0.4	0.05	0.6	2.5	40	4	UR512 00501025	0.5	0.1	0.7	2.5	45	4
UR512 00400503	0.4	0.05	0.6	3	40	4	UR512 0050103	0.5	0.1	0.7	3	45	4
UR512 00400504	0.4	0.05	0.6	4	40	4	UR512 0050104	0.5	0.1	0.7	4	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR512

2 Flutes Neck Type Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UR512 0050105	0.5	0.1	0.7	5	45	4	UR512 0070210	0.7	0.2	1.2	10	45	4
UR512 0050106	0.5	0.1	0.7	6	45	4	UR512 00800502	0.8	0.05	1.2	2	45	4
UR512 00600502	0.6	0.05	0.9	2	45	4	UR512 00800503	0.8	0.05	1.2	3	45	4
UR512 00600503	0.6	0.05	0.9	3	45	4	UR512 00800504	0.8	0.05	1.2	4	45	4
UR512 00600504	0.6	0.05	0.9	4	45	4	UR512 00800506	0.8	0.05	1.2	6	45	4
UR512 00600506	0.6	0.05	0.9	6	45	4	UR512 00800508	0.8	0.05	1.2	8	45	4
UR512 00600508	0.6	0.05	0.9	8	45	4	UR512 00800510	0.8	0.05	1.2	10	45	4
UR512 00600510	0.6	0.05	0.9	10	45	4	UR512 0080102	0.8	0.1	1.2	2	45	4
UR512 0060102	0.6	0.1	0.9	2	45	4	UR512 0080103	0.8	0.1	1.2	3	45	4
UR512 0060103	0.6	0.1	0.9	3	45	4	UR512 0080104	0.8	0.1	1.2	4	45	4
UR512 0060104	0.6	0.1	0.9	4	45	4	UR512 0080106	0.8	0.1	1.2	6	45	4
UR512 0060106	0.6	0.1	0.9	6	45	4	UR512 0080108	0.8	0.1	1.2	8	45	4
UR512 0060108	0.6	0.1	0.9	8	45	4	UR512 0080110	0.8	0.1	1.2	10	45	4
UR512 0060110	0.6	0.1	0.9	10	45	4	UR512 0080202	0.8	0.2	1.2	2	45	4
UR512 0060202	0.6	0.2	0.9	2	45	4	UR512 0080203	0.8	0.2	1.2	3	45	4
UR512 0060203	0.6	0.2	0.9	3	45	4	UR512 0080204	0.8	0.2	1.2	4	45	4
UR512 0060204	0.6	0.2	0.9	4	45	4	UR512 0080206	0.8	0.2	1.2	6	45	4
UR512 0060206	0.6	0.2	0.9	6	45	4	UR512 0080208	0.8	0.2	1.2	8	45	4
UR512 0060208	0.6	0.2	0.9	8	45	4	UR512 0080210	0.8	0.2	1.2	10	45	4
UR512 0060210	0.6	0.2	0.9	10	45	4	UR512 01000503	1	0.05	1.5	3	50	4
UR512 00700502	0.7	0.05	1.2	2	45	4	UR512 01000504	1	0.05	1.5	4	50	4
UR512 00700504	0.7	0.05	1.2	4	45	4	UR512 01000506	1	0.05	1.5	6	50	4
UR512 00700506	0.7	0.05	1.2	6	45	4	UR512 01000508	1	0.05	1.5	8	50	4
UR512 00700508	0.7	0.05	1.2	8	45	4	UR512 01000510	1	0.05	1.5	10	50	4
UR512 00700510	0.7	0.05	1.2	10	45	4	UR512 01000512	1	0.05	1.5	12	50	4
UR512 0070102	0.7	0.1	1.2	2	45	4	UR512 01000514	1	0.05	1.5	14	50	4
UR512 0070104	0.7	0.1	1.2	4	45	4	UR512 01000516	1	0.05	1.5	16	50	4
UR512 0070106	0.7	0.1	1.2	6	45	4	UR512 01000520	1	0.05	1.5	20	50	4
UR512 0070108	0.7	0.1	1.2	8	45	4	UR512 0100103	1	0.1	1.5	3	50	4
UR512 0070110	0.7	0.1	1.2	10	45	4	UR512 0100104	1	0.1	1.5	4	50	4
UR512 0070202	0.7	0.2	1.2	2	45	4	UR512 0100106	1	0.1	1.5	6	50	4
UR512 0070204	0.7	0.2	1.2	4	45	4	UR512 0100108	1	0.1	1.5	8	50	4
UR512 0070206	0.7	0.2	1.2	6	45	4	UR512 0100110	1	0.1	1.5	10	50	4
UR512 0070208	0.7	0.2	1.2	8	45	4	UR512 0100112	1	0.1	1.5	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR512

2 Flutes Neck Type Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	UR512 0100114	1	0.1	1.5	14	50	4		UR512 0120112	1.2	0.1	1.8	12	50	4
	UR512 0100116	1	0.1	1.5	16	50	4		UR512 0120116	1.2	0.1	1.8	16	50	4
	UR512 0100120	1	0.1	1.5	20	50	4		UR512 0120120	1.2	0.1	1.8	20	50	4
	UR512 0100203	1	0.2	1.5	3	50	4		UR512 0120203	1.2	0.2	1.8	3	50	4
	UR512 0100204	1	0.2	1.5	4	50	4		UR512 0120204	1.2	0.2	1.8	4	50	4
E-Star	UR512 0100206	1	0.2	1.5	6	50	4		UR512 0120206	1.2	0.2	1.8	6	50	4
	UR512 0100208	1	0.2	1.5	8	50	4		UR512 0120208	1.2	0.2	1.8	8	50	4
	UR512 0100210	1	0.2	1.5	10	50	4		UR512 0120210	1.2	0.2	1.8	10	50	4
U-Wing	UR512 0100212	1	0.2	1.5	12	50	4		UR512 0120212	1.2	0.2	1.8	12	50	4
	UR512 0100214	1	0.2	1.5	14	50	4		UR512 0120216	1.2	0.2	1.8	16	50	4
	UR512 0100216	1	0.2	1.5	16	50	4		UR512 0120220	1.2	0.2	1.8	20	50	4
	UR512 0100220	1	0.2	1.5	20	50	4		UR512 0120303	1.2	0.3	1.8	3	50	4
Zamus Thunder	UR512 0100303	1	0.3	1.5	3	50	4		UR512 0120304	1.2	0.3	1.8	4	50	4
	UR512 0100304	1	0.3	1.5	4	50	4		UR512 0120306	1.2	0.3	1.8	6	50	4
	UR512 0100306	1	0.3	1.5	6	50	4		UR512 0120308	1.2	0.3	1.8	8	50	4
	UR512 0100308	1	0.3	1.5	8	50	4		UR512 0120310	1.2	0.3	1.8	10	50	4
X-Star	UR512 0100310	1	0.3	1.5	10	50	4		UR512 0120312	1.2	0.3	1.8	12	50	4
	UR512 0100312	1	0.3	1.5	12	50	4		UR512 0120316	1.2	0.3	1.8	16	50	4
	UR512 0100314	1	0.3	1.5	14	50	4		UR512 0120320	1.2	0.3	1.8	20	50	4
S-Wing	UR512 0100316	1	0.3	1.5	16	50	4		UR512 01500504	1.5	0.05	2.3	4	50	4
	UR512 0100320	1	0.3	1.5	20	50	4		UR512 01500506	1.5	0.05	2.3	6	50	4
	UR512 01200503	1.2	0.05	1.8	3	50	4		UR512 01500508	1.5	0.05	2.3	8	50	4
A-Wing	UR512 01200504	1.2	0.05	1.8	4	50	4		UR512 01500510	1.5	0.05	2.3	10	50	4
	UR512 01200506	1.2	0.05	1.8	6	50	4		UR512 01500512	1.5	0.05	2.3	12	50	4
	UR512 01200508	1.2	0.05	1.8	8	50	4		UR512 01500514	1.5	0.05	2.3	14	50	4
	UR512 01200510	1.2	0.05	1.8	10	50	4		UR512 01500516	1.5	0.05	2.3	16	50	4
Standard	UR512 01200512	1.2	0.05	1.8	12	50	4		UR512 01500520	1.5	0.05	2.3	20	50	4
	UR512 01200516	1.2	0.05	1.8	16	50	4		UR512 01500522	1.5	0.05	2.3	22	60	4
	UR512 01200520	1.2	0.05	1.8	20	50	4		UR512 01500526	1.5	0.05	2.3	26	60	4
	UR512 0120103	1.2	0.1	1.8	3	50	4		UR512 0150104	1.5	0.1	2.3	4	50	4
Copper -Mate	UR512 0120104	1.2	0.1	1.8	4	50	4		UR512 0150106	1.5	0.1	2.3	6	50	4
	UR512 0120106	1.2	0.1	1.8	6	50	4		UR512 0150108	1.5	0.1	2.3	8	50	4
	UR512 0120108	1.2	0.1	1.8	8	50	4		UR512 0150110	1.5	0.1	2.3	10	50	4
Gra -Mate	UR512 0120110	1.2	0.1	1.8	10	50	4		UR512 0150112	1.5	0.1	2.3	12	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR512

2 Flutes Neck Type Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UR512 0150114	1.5	0.1	2.3	14	50	4	UR512 0150526	1.5	0.5	2.3	26	60	4
UR512 0150116	1.5	0.1	2.3	16	50	4	UR512 0200106	2	0.1	3	6	50	4
UR512 0150120	1.5	0.1	2.3	20	50	4	UR512 0200108	2	0.1	3	8	50	4
UR512 0150122	1.5	0.1	2.3	22	60	4	UR512 0200110	2	0.1	3	10	50	4
UR512 0150126	1.5	0.1	2.3	26	60	4	UR512 0200112	2	0.1	3	12	50	4
UR512 0150204	1.5	0.2	2.3	4	50	4	UR512 0200114	2	0.1	3	14	50	4
UR512 0150206	1.5	0.2	2.3	6	50	4	UR512 0200116	2	0.1	3	16	50	4
UR512 0150208	1.5	0.2	2.3	8	50	4	UR512 0200120	2	0.1	3	20	50	4
UR512 0150210	1.5	0.2	2.3	10	50	4	UR512 0200122	2	0.1	3	22	60	4
UR512 0150212	1.5	0.2	2.3	12	50	4	UR512 0200126	2	0.1	3	26	60	4
UR512 0150214	1.5	0.2	2.3	14	50	4	UR512 0200130	2	0.1	3	30	70	4
UR512 0150216	1.5	0.2	2.3	16	50	4	UR512 0200206	2	0.2	3	6	50	4
UR512 0150220	1.5	0.2	2.3	20	50	4	UR512 0200208	2	0.2	3	8	50	4
UR512 0150222	1.5	0.2	2.3	22	60	4	UR512 0200210	2	0.2	3	10	50	4
UR512 0150226	1.5	0.2	2.3	26	60	4	UR512 0200212	2	0.2	3	12	50	4
UR512 0150304	1.5	0.3	2.3	4	50	4	UR512 0200214	2	0.2	3	14	50	4
UR512 0150306	1.5	0.3	2.3	6	50	4	UR512 0200216	2	0.2	3	16	50	4
UR512 0150308	1.5	0.3	2.3	8	50	4	UR512 0200220	2	0.2	3	20	50	4
UR512 0150310	1.5	0.3	2.3	10	50	4	UR512 0200222	2	0.2	3	22	60	4
UR512 0150312	1.5	0.3	2.3	12	50	4	UR512 0200226	2	0.2	3	26	60	4
UR512 0150314	1.5	0.3	2.3	14	50	4	UR512 0200230	2	0.2	3	30	70	4
UR512 0150316	1.5	0.3	2.3	16	50	4	UR512 0200306	2	0.3	3	6	50	4
UR512 0150320	1.5	0.3	2.3	20	50	4	UR512 0200308	2	0.3	3	8	50	4
UR512 0150322	1.5	0.3	2.3	22	60	4	UR512 0200310	2	0.3	3	10	50	4
UR512 0150326	1.5	0.3	2.3	26	60	4	UR512 0200312	2	0.3	3	12	50	4
UR512 0150504	1.5	0.5	2.3	4	50	4	UR512 0200314	2	0.3	3	14	50	4
UR512 0150506	1.5	0.5	2.3	6	50	4	UR512 0200316	2	0.3	3	16	50	4
UR512 0150508	1.5	0.5	2.3	8	50	4	UR512 0200320	2	0.3	3	20	50	4
UR512 0150510	1.5	0.5	2.3	10	50	4	UR512 0200322	2	0.3	3	22	60	4
UR512 0150512	1.5	0.5	2.3	12	50	4	UR512 0200326	2	0.3	3	26	60	4
UR512 0150514	1.5	0.5	2.3	14	50	4	UR512 0200330	2	0.3	3	30	70	4
UR512 0150516	1.5	0.5	2.3	16	50	4	UR512 0200506	2	0.5	3	6	50	4
UR512 0150520	1.5	0.5	2.3	20	50	4	UR512 0200508	2	0.5	3	8	50	4
UR512 0150522	1.5	0.5	2.3	22	60	4	UR512 0200510	2	0.5	3	10	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR512

2 Flutes Neck Type Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	UR512 0200512	2	0.5	3	12	50	4		UR512 0250514	2.5	0.5	4	14	50	4
	UR512 0200514	2	0.5	3	14	50	4		UR512 0250516	2.5	0.5	4	16	50	4
	UR512 0200516	2	0.5	3	16	50	4		UR512 0250520	2.5	0.5	4	20	50	4
	UR512 0200520	2	0.5	3	20	50	4		UR512 0250526	2.5	0.5	4	26	60	4
	UR512 0200522	2	0.5	3	22	60	4		UR512 0250530	2.5	0.5	4	30	70	4
E-Star	UR512 0200526	2	0.5	3	26	60	4		UR512 0300108	3	0.1	4.5	8	50	6
	UR512 0200530	2	0.5	3	30	70	4		UR512 0300110	3	0.1	4.5	10	50	6
	UR512 0250108	2.5	0.1	4	8	50	4		UR512 0300112	3	0.1	4.5	12	50	6
U-Wing	UR512 0250110	2.5	0.1	4	10	50	4		UR512 0300114	3	0.1	4.5	14	60	6
	UR512 0250112	2.5	0.1	4	12	50	4		UR512 0300116	3	0.1	4.5	16	60	6
	UR512 0250114	2.5	0.1	4	14	50	4		UR512 0300120	3	0.1	4.5	20	60	6
Zamus Thunder	UR512 0250116	2.5	0.1	4	16	50	4		UR512 0300126	3	0.1	4.5	26	65	6
	UR512 0250120	2.5	0.1	4	20	50	4		UR512 0300130	3	0.1	4.5	30	70	6
	UR512 0250126	2.5	0.1	4	26	60	4		UR512 0300135	3	0.1	4.5	35	70	6
	UR512 0250130	2.5	0.1	4	30	70	4		UR512 0300140	3	0.1	4.5	40	80	6
	UR512 0250208	2.5	0.2	4	8	50	4		UR512 0300208	3	0.2	4.5	8	50	6
X-Star	UR512 0250210	2.5	0.2	4	10	50	4		UR512 0300210	3	0.2	4.5	10	50	6
	UR512 0250212	2.5	0.2	4	12	50	4		UR512 0300212	3	0.2	4.5	12	50	6
	UR512 0250214	2.5	0.2	4	14	50	4		UR512 0300214	3	0.2	4.5	14	60	6
S-Wing	UR512 0250216	2.5	0.2	4	16	50	4		UR512 0300216	3	0.2	4.5	16	60	6
	UR512 0250220	2.5	0.2	4	20	50	4		UR512 0300220	3	0.2	4.5	20	60	6
	UR512 0250226	2.5	0.2	4	26	60	4		UR512 0300226	3	0.2	4.5	26	65	6
A-Wing	UR512 0250230	2.5	0.2	4	30	70	4		UR512 0300230	3	0.2	4.5	30	70	6
	UR512 0250308	2.5	0.3	4	8	50	4		UR512 0300235	3	0.2	4.5	35	70	6
	UR512 0250310	2.5	0.3	4	10	50	4		UR512 0300240	3	0.2	4.5	40	80	6
Standard	UR512 0250312	2.5	0.3	4	12	50	4		UR512 0300308	3	0.3	4.5	8	50	6
	UR512 0250314	2.5	0.3	4	14	50	4		UR512 0300310	3	0.3	4.5	10	50	6
	UR512 0250316	2.5	0.3	4	16	50	4		UR512 0300312	3	0.3	4.5	12	50	6
	UR512 0250320	2.5	0.3	4	20	50	4		UR512 0300314	3	0.3	4.5	14	60	6
	UR512 0250326	2.5	0.3	4	26	60	4		UR512 0300316	3	0.3	4.5	16	60	6
Copper-Mate	UR512 0250330	2.5	0.3	4	30	70	4		UR512 0300320	3	0.3	4.5	20	60	6
	UR512 0250508	2.5	0.5	4	8	50	4		UR512 0300326	3	0.3	4.5	26	65	6
	UR512 0250510	2.5	0.5	4	10	50	4		UR512 0300330	3	0.3	4.5	30	70	6
Gra-Mate	UR512 0250512	2.5	0.5	4	12	50	4		UR512 0300335	3	0.3	4.5	35	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR512 2 Flutes Neck Type Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UR512 0300340	3	0.3	4.5	40	80	6	UR512 0400214	4	0.2	6	14	60	6
UR512 0300508	3	0.5	4.5	8	50	6	UR512 0400216	4	0.2	6	16	60	6
UR512 0300510	3	0.5	4.5	10	50	6	UR512 0400220	4	0.2	6	20	60	6
UR512 0300512	3	0.5	4.5	12	50	6	UR512 0400226	4	0.2	6	26	65	6
UR512 0300514	3	0.5	4.5	14	60	6	UR512 0400230	4	0.2	6	30	65	6
UR512 0300516	3	0.5	4.5	16	60	6	UR512 0400235	4	0.2	6	35	70	6
UR512 0300520	3	0.5	4.5	20	60	6	UR512 0400240	4	0.2	6	40	80	6
UR512 0300526	3	0.5	4.5	26	65	6	UR512 0400245	4	0.2	6	45	90	6
UR512 0300530	3	0.5	4.5	30	70	6	UR512 0400250	4	0.2	6	50	100	6
UR512 0300535	3	0.5	4.5	35	70	6	UR512 0400310	4	0.3	6	10	50	6
UR512 0300540	3	0.5	4.5	40	80	6	UR512 0400312	4	0.3	6	12	50	6
UR512 0301008	3	1	4.5	8	50	6	UR512 0400314	4	0.3	6	14	60	6
UR512 0301010	3	1	4.5	10	50	6	UR512 0400316	4	0.3	6	16	60	6
UR512 0301012	3	1	4.5	12	50	6	UR512 0400320	4	0.3	6	20	60	6
UR512 0301014	3	1	4.5	14	60	6	UR512 0400326	4	0.3	6	26	65	6
UR512 0301016	3	1	4.5	16	60	6	UR512 0400330	4	0.3	6	30	65	6
UR512 0301020	3	1	4.5	20	60	6	UR512 0400335	4	0.3	6	35	70	6
UR512 0301026	3	1	4.5	26	65	6	UR512 0400340	4	0.3	6	40	80	6
UR512 0301030	3	1	4.5	30	70	6	UR512 0400345	4	0.3	6	45	90	6
UR512 0301035	3	1	4.5	35	70	6	UR512 0400350	4	0.3	6	50	100	6
UR512 0301040	3	1	4.5	40	80	6	UR512 0400510	4	0.5	6	10	50	6
UR512 0400110	4	0.1	6	10	50	6	UR512 0400512	4	0.5	6	12	50	6
UR512 0400112	4	0.1	6	12	50	6	UR512 0400514	4	0.5	6	14	60	6
UR512 0400114	4	0.1	6	14	60	6	UR512 0400516	4	0.5	6	16	60	6
UR512 0400116	4	0.1	6	16	60	6	UR512 0400520	4	0.5	6	20	60	6
UR512 0400120	4	0.1	6	20	60	6	UR512 0400526	4	0.5	6	26	65	6
UR512 0400126	4	0.1	6	26	65	6	UR512 0400530	4	0.5	6	30	65	6
UR512 0400130	4	0.1	6	30	65	6	UR512 0400535	4	0.5	6	35	70	6
UR512 0400135	4	0.1	6	35	70	6	UR512 0400540	4	0.5	6	40	80	6
UR512 0400140	4	0.1	6	40	80	6	UR512 0400545	4	0.5	6	45	90	6
UR512 0400145	4	0.1	6	45	90	6	UR512 0400550	4	0.5	6	50	100	6
UR512 0400150	4	0.1	6	50	100	6	UR512 0401010	4	1	6	10	50	6
UR512 0400210	4	0.2	6	10	50	6	UR512 0401012	4	1	6	12	50	6
UR512 0400212	4	0.2	6	12	50	6	UR512 0401014	4	1	6	14	60	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR512

2 Flutes Neck Type Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UR512 0401016	4	1	6	16	60	6	UR512 08010	8	1	12	25	70	8
UR512 0401020	4	1	6	20	60	6	UR512 08010100	8	1	20	35	100	8
UR512 0401026	4	1	6	26	65	6	UR512 08015	8	1.5	12	25	70	8
UR512 0401030	4	1	6	30	65	6	UR512 08020	8	2	12	25	70	8
UR512 0401035	4	1	6	35	70	6	UR512 10001	10	0.1	15	30	75	10
UR512 0401040	4	1	6	40	80	6	UR512 10002	10	0.2	15	30	75	10
UR512 0401045	4	1	6	45	90	6	UR512 10003	10	0.3	15	30	75	10
UR512 0401050	4	1	6	50	100	6	UR512 10003100	10	0.3	25	40	100	10
UR512 05001	5	0.1	8	15	60	6	UR512 10005	10	0.5	15	30	75	10
UR512 05002	5	0.2	8	15	60	6	UR512 10005100	10	0.5	25	40	100	10
UR512 05003	5	0.3	8	15	60	6	UR512 10010	10	1	15	30	75	10
UR512 05005	5	0.5	8	15	60	6	UR512 10010100	10	1	25	40	100	10
UR512 05010	5	1	8	15	60	6	UR512 10015	10	1.5	15	30	75	10
UR512 05015	5	1.5	8	15	60	6	UR512 10020	10	2	15	30	75	10
UR512 05020	5	2	8	15	60	6	UR512 12002	12	0.2	18	32	80	12
UR512 06001	6	0.1	9	20	60	6	UR512 12003	12	0.3	18	32	80	12
UR512 06002	6	0.2	9	20	60	6	UR512 12003110	12	0.3	30	45	110	12
UR512 06003	6	0.3	9	20	60	6	UR512 12005	12	0.5	18	32	80	12
UR512 0600390	6	0.3	15	30	90	6	UR512 12005110	12	0.5	30	45	110	12
UR512 06005	6	0.5	9	20	60	6	UR512 12010	12	1	18	32	80	12
UR512 0600590	6	0.5	15	30	90	6	UR512 12010110	12	1	30	45	110	12
UR512 06010	6	1	9	20	60	6	UR512 12015	12	1.5	18	32	80	12
UR512 0601090	6	1	15	30	90	6	UR512 12020	12	2	18	32	80	12
UR512 06015	6	1.5	9	20	60	6	UR512 16005	16	0.5	20	35	100	16
UR512 06020	6	2	9	20	60	6	UR512 16005150	16	0.5	35	50	150	16
UR512 08001	8	0.1	12	25	70	8	UR512 16010	16	1	20	35	100	16
UR512 08002	8	0.2	12	25	70	8	UR512 16010150	16	1	35	50	150	16
UR512 08003	8	0.3	12	25	70	8	UR512 20005	20	0.5	25	40	100	20
UR512 08003100	8	0.3	20	35	100	8	UR512 20005150	20	0.5	40	55	150	20
UR512 08005	8	0.5	12	25	70	8	UR512 20010	20	1	25	40	100	20
UR512 08005100	8	0.5	20	35	100	8	UR512 20010150	20	1	40	55	150	20

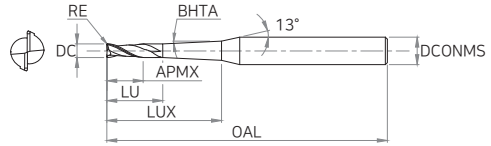
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

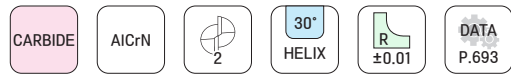
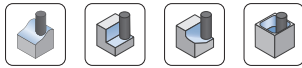
UR542

2 Flutes Tapered Neck Radius End Mill



► Tolerance

DC		Shank Dia
ø0.2 ~ ø4	0 ~ -0.012	h5



EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 0020050101	0.2	0.05	1	0.3	0.4	1	40	4
UR542 0020050102	0.2	0.05	1	0.3	0.4	2	40	4
UR542 0020050103	0.2	0.05	1	0.3	0.4	3	40	4
UR542 0020050201	0.2	0.05	2	0.3	0.4	1	40	4
UR542 0020050202	0.2	0.05	2	0.3	0.4	2	40	4
UR542 0020050203	0.2	0.05	2	0.3	0.4	3	40	4
UR542 0030050102	0.3	0.05	1	0.5	0.6	2	40	4
UR542 0030050103	0.3	0.05	1	0.5	0.6	3	40	4
UR542 0030050104	0.3	0.05	1	0.5	0.6	4	40	4
UR542 0030050105	0.3	0.05	1	0.5	0.6	5	40	4
UR542 0030050202	0.3	0.05	2	0.5	0.6	2	40	4
UR542 0030050203	0.3	0.05	2	0.5	0.6	3	40	4
UR542 0030050204	0.3	0.05	2	0.5	0.6	4	40	4
UR542 0030050205	0.3	0.05	2	0.5	0.6	5	40	4
UR542 0040050102	0.4	0.05	1	0.6	0.8	2	50	4
UR542 0040050103	0.4	0.05	1	0.6	0.8	3	50	4
UR542 0040050104	0.4	0.05	1	0.6	0.8	4	50	4
UR542 0040050105	0.4	0.05	1	0.6	0.8	5	50	4
UR542 0040050106	0.4	0.05	1	0.6	0.8	6	50	4
UR542 0040050202	0.4	0.05	2	0.6	0.8	2	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR542 0040050203	0.4	0.05	2	0.6	0.8	3	50	4
	UR542 0040050204	0.4	0.05	2	0.6	0.8	4	50	4
	UR542 0040050205	0.4	0.05	2	0.6	0.8	5	50	4
	UR542 0040050206	0.4	0.05	2	0.6	0.8	6	50	4
	UR542 004010102	0.4	0.1	1	0.6	0.8	2	50	4
E-Star	UR542 004010103	0.4	0.1	1	0.6	0.8	3	50	4
	UR542 004010104	0.4	0.1	1	0.6	0.8	4	50	4
	UR542 004010105	0.4	0.1	1	0.6	0.8	5	50	4
U-Wing	UR542 004010106	0.4	0.1	1	0.6	0.8	6	50	4
	UR542 004010202	0.4	0.1	2	0.6	0.8	2	50	4
	UR542 004010203	0.4	0.1	2	0.6	0.8	3	50	4
	UR542 004010204	0.4	0.1	2	0.6	0.8	4	50	4
Zamus Thunder	UR542 004010205	0.4	0.1	2	0.6	0.8	5	50	4
	UR542 004010206	0.4	0.1	2	0.6	0.8	6	50	4
	UR542 0050050104	0.5	0.05	1	0.7	1	4	50	4
X-Star	UR542 0050050106	0.5	0.05	1	0.7	1	6	50	4
	UR542 0050050108	0.5	0.05	1	0.7	1	8	50	4
	UR542 0050050110	0.5	0.05	1	0.7	1	10	50	4
	UR542 0050050204	0.5	0.05	2	0.7	1	4	50	4
S-Wing	UR542 0050050206	0.5	0.05	2	0.7	1	6	50	4
	UR542 0050050208	0.5	0.05	2	0.7	1	8	50	4
	UR542 0050050210	0.5	0.05	2	0.7	1	10	50	4
A-Wing	UR542 005010104	0.5	0.1	1	0.7	1	4	50	4
	UR542 005010106	0.5	0.1	1	0.7	1	6	50	4
	UR542 005010108	0.5	0.1	1	0.7	1	8	50	4
	UR542 005010110	0.5	0.1	1	0.7	1	10	50	4
Standard	UR542 005010204	0.5	0.1	2	0.7	1	4	50	4
	UR542 005010206	0.5	0.1	2	0.7	1	6	50	4
	UR542 005010208	0.5	0.1	2	0.7	1	8	50	4
Copper -Mate	UR542 005010210	0.5	0.1	2	0.7	1	10	50	4
	UR542 006010104	0.6	0.1	1	0.9	1.2	4	50	4
Gra -Mate	UR542 006010106	0.6	0.1	1	0.9	1.2	6	50	4
	UR542 006010108	0.6	0.1	1	0.9	1.2	8	50	4
	UR542 006010110	0.6	0.1	1	0.9	1.2	10	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 006010108	0.6	0.1	1	0.9	1.2	8	50	4
UR542 006010110	0.6	0.1	1	0.9	1.2	10	50	4
UR542 006010112	0.6	0.1	1	0.9	1.2	12	50	4
UR542 006010204	0.6	0.1	2	0.9	1.2	4	50	4
UR542 006010206	0.6	0.1	2	0.9	1.2	6	50	4
UR542 006010208	0.6	0.1	2	0.9	1.2	8	50	4
UR542 006010210	0.6	0.1	2	0.9	1.2	10	50	4
UR542 006010212	0.6	0.1	2	0.9	1.2	12	50	4
UR542 006020104	0.6	0.2	1	0.9	1.2	4	50	4
UR542 006020106	0.6	0.2	1	0.9	1.2	6	50	4
UR542 006020108	0.6	0.2	1	0.9	1.2	8	50	4
UR542 006020110	0.6	0.2	1	0.9	1.2	10	50	4
UR542 006020112	0.6	0.2	1	0.9	1.2	12	50	4
UR542 006020204	0.6	0.2	2	0.9	1.2	4	50	4
UR542 006020206	0.6	0.2	2	0.9	1.2	6	50	4
UR542 006020208	0.6	0.2	2	0.9	1.2	8	50	4
UR542 006020210	0.6	0.2	2	0.9	1.2	10	50	4
UR542 006020212	0.6	0.2	2	0.9	1.2	12	50	4
UR542 008010104	0.8	0.1	1	1.2	1.6	4	50	4
UR542 008010106	0.8	0.1	1	1.2	1.6	6	50	4
UR542 008010108	0.8	0.1	1	1.2	1.6	8	50	4
UR542 008010110	0.8	0.1	1	1.2	1.6	10	50	4
UR542 008010112	0.8	0.1	1	1.2	1.6	12	50	4
UR542 008010116	0.8	0.1	1	1.2	1.6	16	50	4
UR542 008010204	0.8	0.1	2	1.2	1.6	4	50	4
UR542 008010206	0.8	0.1	2	1.2	1.6	6	50	4
UR542 008010208	0.8	0.1	2	1.2	1.6	8	50	4
UR542 008010210	0.8	0.1	2	1.2	1.6	10	50	4
UR542 008010212	0.8	0.1	2	1.2	1.6	12	50	4
UR542 008010216	0.8	0.1	2	1.2	1.6	16	50	4
UR542 008020104	0.8	0.2	1	1.2	1.6	4	50	4
UR542 008020106	0.8	0.2	1	1.2	1.6	6	50	4
UR542 008020108	0.8	0.2	1	1.2	1.6	8	50	4
UR542 008020110	0.8	0.2	1	1.2	1.6	10	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR542 008020104	0.8	0.2	1	1.2	1.6	4	50	4
	UR542 008020106	0.8	0.2	1	1.2	1.6	6	50	4
	UR542 008020108	0.8	0.2	1	1.2	1.6	8	50	4
	UR542 008020110	0.8	0.2	1	1.2	1.6	10	50	4
	UR542 008020112	0.8	0.2	1	1.2	1.6	12	50	4
E-Star	UR542 008020116	0.8	0.2	1	1.2	1.6	16	50	4
	UR542 008020204	0.8	0.2	2	1.2	1.6	4	50	4
	UR542 008020206	0.8	0.2	2	1.2	1.6	6	50	4
U-Wing	UR542 008020208	0.8	0.2	2	1.2	1.6	8	50	4
	UR542 008020210	0.8	0.2	2	1.2	1.6	10	50	4
	UR542 008020212	0.8	0.2	2	1.2	1.6	12	50	4
	UR542 008020216	0.8	0.2	2	1.2	1.6	16	50	4
Zamus Thunder	UR542 010010106	1	0.1	1	1.5	2.5	6	50	4
	UR542 010010108	1	0.1	1	1.5	2.5	8	50	4
	UR542 010010110	1	0.1	1	1.5	2.5	10	50	4
	UR542 010010112	1	0.1	1	1.5	2.5	12	50	4
X-Star	UR542 010010116	1	0.1	1	1.5	2.5	16	50	4
	UR542 010010120	1	0.1	1	1.5	2.5	20	50	4
	UR542 010010125	1	0.1	1	1.5	2.5	25	60	4
S-Wing	UR542 010010130	1	0.1	1	1.5	2.5	30	70	4
	UR542 010010140	1	0.1	1	1.5	2.5	40	80	4
	UR542 010010150	1	0.1	1	1.5	2.5	50	90	6
A-Wing	UR542 010010206	1	0.1	2	1.5	2.5	6	50	4
	UR542 010010208	1	0.1	2	1.5	2.5	8	50	4
	UR542 010010210	1	0.1	2	1.5	2.5	10	50	4
	UR542 010010212	1	0.1	2	1.5	2.5	12	50	4
Standard	UR542 010010216	1	0.1	2	1.5	2.5	16	50	4
	UR542 010010220	1	0.1	2	1.5	2.5	20	50	4
	UR542 010010225	1	0.1	2	1.5	2.5	25	60	4
Copper -Mate	UR542 010010230	1	0.1	2	1.5	2.5	30	70	4
	UR542 010010240	1	0.1	2	1.5	2.5	40	80	4
	UR542 010010250	1	0.1	2	1.5	2.5	50	90	6
Gra -Mate	UR542 010020106	1	0.2	1	1.5	2.5	6	50	4
	UR542 010020108	1	0.2	1	1.5	2.5	8	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 010020110	1	0.2	1	1.5	2.5	10	50	4
UR542 010020112	1	0.2	1	1.5	2.5	12	50	4
UR542 010020116	1	0.2	1	1.5	2.5	16	50	4
UR542 010020120	1	0.2	1	1.5	2.5	20	50	4
UR542 010020125	1	0.2	1	1.5	2.5	25	60	4
UR542 010020130	1	0.2	1	1.5	2.5	30	70	4
UR542 010020140	1	0.2	1	1.5	2.5	40	80	4
UR542 010020150	1	0.2	1	1.5	2.5	50	90	6
UR542 010020206	1	0.2	2	1.5	2.5	6	50	4
UR542 010020208	1	0.2	2	1.5	2.5	8	50	4
UR542 010020210	1	0.2	2	1.5	2.5	10	50	4
UR542 010020212	1	0.2	2	1.5	2.5	12	50	4
UR542 010020216	1	0.2	2	1.5	2.5	16	50	4
UR542 010020220	1	0.2	2	1.5	2.5	20	50	4
UR542 010020225	1	0.2	2	1.5	2.5	25	60	4
UR542 010020230	1	0.2	2	1.5	2.5	30	70	4
UR542 010020240	1	0.2	2	1.5	2.5	40	80	4
UR542 010020250	1	0.2	2	1.5	2.5	50	90	6
UR542 012010108	1.2	0.1	1	1.8	3	8	50	4
UR542 012010112	1.2	0.1	1	1.8	3	12	50	4
UR542 012010116	1.2	0.1	1	1.8	3	16	50	4
UR542 012010120	1.2	0.1	1	1.8	3	20	50	4
UR542 012010125	1.2	0.1	1	1.8	3	25	60	4
UR542 012010130	1.2	0.1	1	1.8	3	30	70	4
UR542 012010208	1.2	0.1	2	1.8	3	8	50	4
UR542 012010212	1.2	0.1	2	1.8	3	12	50	4
UR542 012010216	1.2	0.1	2	1.8	3	16	50	4
UR542 012010220	1.2	0.1	2	1.8	3	20	50	4
UR542 012010225	1.2	0.1	2	1.8	3	25	60	4
UR542 012010230	1.2	0.1	2	1.8	3	30	70	4
UR542 012020108	1.2	0.2	1	1.8	3	8	50	4
UR542 012020112	1.2	0.2	1	1.8	3	12	50	4
UR542 012020116	1.2	0.2	1	1.8	3	16	50	4
UR542 012020120	1.2	0.2	1	1.8	3	20	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR542 012020125	1.2	0.2	1	1.8	3	25	60	4
	UR542 012020130	1.2	0.2	1	1.8	3	30	70	4
	UR542 012020208	1.2	0.2	2	1.8	3	8	50	4
	UR542 012020212	1.2	0.2	2	1.8	3	12	50	4
	UR542 012020216	1.2	0.2	2	1.8	3	16	50	4
E-Star	UR542 012020220	1.2	0.2	2	1.8	3	20	50	4
	UR542 012020225	1.2	0.2	2	1.8	3	25	60	4
	UR542 012020230	1.2	0.2	2	1.8	3	30	70	4
U-Wing	UR542 015010108	1.5	0.1	1	2.3	3	8	50	4
	UR542 015010110	1.5	0.1	1	2.3	3	10	50	4
	UR542 015010112	1.5	0.1	1	2.3	3	12	50	4
	UR542 015010116	1.5	0.1	1	2.3	3	16	50	4
Zamus Thunder	UR542 015010120	1.5	0.1	1	2.3	3	20	50	4
	UR542 015010125	1.5	0.1	1	2.3	3	25	60	4
	UR542 015010130	1.5	0.1	1	2.3	3	30	70	4
	UR542 015010140	1.5	0.1	1	2.3	3	40	80	4
X-Star	UR542 015010150	1.5	0.1	1	2.3	3	50	90	4
	UR542 015010208	1.5	0.1	2	2.3	3	8	50	4
	UR542 015010210	1.5	0.1	2	2.3	3	10	50	4
S-Wing	UR542 015010212	1.5	0.1	2	2.3	3	12	50	4
	UR542 015010216	1.5	0.1	2	2.3	3	16	50	4
	UR542 015010220	1.5	0.1	2	2.3	3	20	50	4
A-Wing	UR542 015010225	1.5	0.1	2	2.3	3	25	60	4
	UR542 015010230	1.5	0.1	2	2.3	3	30	70	4
	UR542 015010240	1.5	0.1	2	2.3	3	40	80	6
	UR542 015010250	1.5	0.1	2	2.3	3	50	90	6
Standard	UR542 015020108	1.5	0.2	1	2.3	3	8	50	4
	UR542 015020110	1.5	0.2	1	2.3	3	10	50	4
	UR542 015020112	1.5	0.2	1	2.3	3	12	50	4
	UR542 015020116	1.5	0.2	1	2.3	3	16	50	4
Copper -Mate	UR542 015020120	1.5	0.2	1	2.3	3	20	50	4
	UR542 015020125	1.5	0.2	1	2.3	3	25	60	4
	UR542 015020130	1.5	0.2	1	2.3	3	30	70	4
Gra -Mate	UR542 015020140	1.5	0.2	1	2.3	3	40	80	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 015020150	1.5	0.2	1	2.3	3	50	90	4
UR542 015020208	1.5	0.2	2	2.3	3	8	50	4
UR542 015020210	1.5	0.2	2	2.3	3	10	50	4
UR542 015020212	1.5	0.2	2	2.3	3	12	50	4
UR542 015020216	1.5	0.2	2	2.3	3	16	50	4
UR542 015020220	1.5	0.2	2	2.3	3	20	50	4
UR542 015020225	1.5	0.2	2	2.3	3	25	60	4
UR542 015020230	1.5	0.2	2	2.3	3	30	70	4
UR542 015020240	1.5	0.2	2	2.3	3	40	80	6
UR542 015020250	1.5	0.2	2	2.3	3	50	90	6
UR542 015030108	1.5	0.3	1	2.3	3	8	50	4
UR542 015030110	1.5	0.3	1	2.3	3	10	50	4
UR542 015030112	1.5	0.3	1	2.3	3	12	50	4
UR542 015030116	1.5	0.3	1	2.3	3	16	50	4
UR542 015030120	1.5	0.3	1	2.3	3	20	50	4
UR542 015030125	1.5	0.3	1	2.3	3	25	60	4
UR542 015030130	1.5	0.3	1	2.3	3	30	70	4
UR542 015030140	1.5	0.3	1	2.3	3	40	80	4
UR542 015030150	1.5	0.3	1	2.3	3	50	90	4
UR542 015030208	1.5	0.3	2	2.3	3	8	50	4
UR542 015030210	1.5	0.3	2	2.3	3	10	50	4
UR542 015030212	1.5	0.3	2	2.3	3	12	50	4
UR542 015030216	1.5	0.3	2	2.3	3	16	50	4
UR542 015030220	1.5	0.3	2	2.3	3	20	50	4
UR542 015030225	1.5	0.3	2	2.3	3	25	60	4
UR542 015030230	1.5	0.3	2	2.3	3	30	70	4
UR542 015030240	1.5	0.3	2	2.3	3	40	80	6
UR542 015030250	1.5	0.3	2	2.3	3	50	90	6
UR542 020010110	2	0.1	1	2	5	10	50	4
UR542 020010112	2	0.1	1	2	5	12	50	4
UR542 020010116	2	0.1	1	2	5	16	50	4
UR542 020010120	2	0.1	1	2	5	20	50	4
UR542 020010125	2	0.1	1	2	5	25	60	4
UR542 020010130	2	0.1	1	2	5	30	70	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR542 020010140	2	0.1	1	2	5	40	80	6
	UR542 020010150	2	0.1	1	2	5	50	100	6
	UR542 020010160	2	0.1	1	2	5	60	100	6
	UR542 020010180	2	0.1	1	2	5	80	140	6
	UR542 020010210	2	0.1	2	2	5	10	50	4
E-Star	UR542 020010212	2	0.1	2	2	5	12	50	4
	UR542 020010216	2	0.1	2	2	5	16	50	4
	UR542 020010220	2	0.1	2	2	5	20	50	4
U-Wing	UR542 020010225	2	0.1	2	2	5	25	60	4
	UR542 020010230	2	0.1	2	2	5	30	70	4
	UR542 020010240	2	0.1	2	2	5	40	80	6
	UR542 020010250	2	0.1	2	2	5	50	100	6
Zamus Thunder	UR542 020010260	2	0.1	2	2	5	60	100	6
	UR542 020010280	2	0.1	2	2	5	80	140	8
	UR542 020020110	2	0.2	1	2	5	10	50	4
X-Star	UR542 020020112	2	0.2	1	2	5	12	50	4
	UR542 020020116	2	0.2	1	2	5	16	50	4
	UR542 020020120	2	0.2	1	2	5	20	50	4
	UR542 020020125	2	0.2	1	2	5	25	60	4
S-Wing	UR542 020020130	2	0.2	1	2	5	30	70	4
	UR542 020020140	2	0.2	1	2	5	40	80	6
	UR542 020020150	2	0.2	1	2	5	50	100	6
A-Wing	UR542 020020160	2	0.2	1	2	5	60	100	6
	UR542 020020180	2	0.2	1	2	5	80	140	6
	UR542 020020210	2	0.2	2	2	5	10	50	4
	UR542 020020212	2	0.2	2	2	5	12	50	4
Standard	UR542 020020216	2	0.2	2	2	5	16	50	4
	UR542 020020220	2	0.2	2	2	5	20	50	4
	UR542 020020225	2	0.2	2	2	5	25	60	4
Copper-Mate	UR542 020020230	2	0.2	2	2	5	30	70	4
	UR542 020020240	2	0.2	2	2	5	40	80	6
	UR542 020020250	2	0.2	2	2	5	50	100	6
Gra-Mate	UR542 020020260	2	0.2	2	2	5	60	100	6
	UR542 020020280	2	0.2	2	2	5	80	140	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 020030110	2	0.3	1	2	5	10	50	4
UR542 020030112	2	0.3	1	2	5	12	50	4
UR542 020030116	2	0.3	1	2	5	16	50	4
UR542 020030120	2	0.3	1	2	5	20	50	4
UR542 020030125	2	0.3	1	2	5	25	60	4
UR542 020030130	2	0.3	1	2	5	30	70	4
UR542 020030140	2	0.3	1	2	5	40	80	6
UR542 020030150	2	0.3	1	2	5	50	100	6
UR542 020030160	2	0.3	1	2	5	60	100	6
UR542 020030180	2	0.3	1	2	5	80	140	6
UR542 020030210	2	0.3	2	2	5	10	50	4
UR542 020030212	2	0.3	2	2	5	12	50	4
UR542 020030216	2	0.3	2	2	5	16	50	4
UR542 020030220	2	0.3	2	2	5	20	50	4
UR542 020030225	2	0.3	2	2	5	25	60	4
UR542 020030230	2	0.3	2	2	5	30	70	4
UR542 020030240	2	0.3	2	2	5	40	80	6
UR542 020030250	2	0.3	2	2	5	50	100	6
UR542 020030260	2	0.3	2	2	5	60	100	6
UR542 020030280	2	0.3	2	2	5	80	140	8
UR542 020050110	2	0.5	1	2	5	10	50	4
UR542 020050112	2	0.5	1	2	5	12	50	4
UR542 020050116	2	0.5	1	2	5	16	50	4
UR542 020050120	2	0.5	1	2	5	20	50	4
UR542 020050125	2	0.5	1	2	5	25	60	4
UR542 020050130	2	0.5	1	2	5	30	70	4
UR542 020050140	2	0.5	1	2	5	40	80	6
UR542 020050150	2	0.5	1	2	5	50	100	6
UR542 020050160	2	0.5	1	2	5	60	100	6
UR542 020050180	2	0.5	1	2	5	80	140	6
UR542 020050210	2	0.5	2	2	5	10	50	4
UR542 020050212	2	0.5	2	2	5	12	50	4
UR542 020050216	2	0.5	2	2	5	16	50	4
UR542 020050220	2	0.5	2	2	5	20	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR542 020050225	2	0.5	2	2	5	25	60	4
	UR542 020050230	2	0.5	2	2	5	30	70	4
	UR542 020050240	2	0.5	2	2	5	40	80	6
	UR542 020050250	2	0.5	2	2	5	50	100	6
	UR542 020050260	2	0.5	2	2	5	60	100	6
E-Star	UR542 020050280	2	0.5	2	2	5	80	140	8
	UR542 030020116	3	0.2	1	4.5	6	16	60	6
	UR542 030020120	3	0.2	1	4.5	6	20	65	6
U-Wing	UR542 030020130	3	0.2	1	4.5	6	30	70	6
	UR542 030020140	3	0.2	1	4.5	6	40	80	6
	UR542 030020150	3	0.2	1	4.5	6	50	90	6
	UR542 030020160	3	0.2	1	4.5	6	60	100	6
Zamus Thunder	UR542 030020216	3	0.2	2	4.5	6	16	60	6
	UR542 030020220	3	0.2	2	4.5	6	20	65	6
	UR542 030020230	3	0.2	2	4.5	6	30	70	6
	UR542 030020240	3	0.2	2	4.5	6	40	80	6
X-Star	UR542 030020250	3	0.2	2	4.5	6	50	90	8
	UR542 030020260	3	0.2	2	4.5	6	60	100	8
	UR542 030020270	3	0.2	2	4.5	6	70	120	8
S-Wing	UR542 030030116	3	0.3	1	4.5	6	16	60	6
	UR542 030030120	3	0.3	1	4.5	6	20	65	6
	UR542 030030130	3	0.3	1	4.5	6	30	70	6
A-Wing	UR542 030030140	3	0.3	1	4.5	6	40	80	6
	UR542 030030150	3	0.3	1	4.5	6	50	90	6
	UR542 030030160	3	0.3	1	4.5	6	60	100	6
	UR542 030030216	3	0.3	2	4.5	6	16	60	6
Standard	UR542 030030220	3	0.3	2	4.5	6	20	65	6
	UR542 030030230	3	0.3	2	4.5	6	30	70	6
	UR542 030030240	3	0.3	2	4.5	6	40	80	6
Copper -Mate	UR542 030030250	3	0.3	2	4.5	6	50	90	8
	UR542 030030260	3	0.3	2	4.5	6	60	100	8
	UR542 030030270	3	0.3	2	4.5	6	70	120	8
Gra -Mate	UR542 030050116	3	0.5	1	4.5	6	16	60	6
	UR542 030050120	3	0.5	1	4.5	6	20	65	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR542

2 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR542 030050130	3	0.5	1	4.5	6	30	70	6
UR542 030050140	3	0.5	1	4.5	6	40	80	6
UR542 030050150	3	0.5	1	4.5	6	50	90	6
UR542 030050160	3	0.5	1	4.5	6	60	100	6
UR542 030050216	3	0.5	2	4.5	6	16	60	6
UR542 030050220	3	0.5	2	4.5	6	20	65	6
UR542 030050230	3	0.5	2	4.5	6	30	70	6
UR542 030050240	3	0.5	2	4.5	6	40	80	6
UR542 030050250	3	0.5	2	4.5	6	50	90	8
UR542 030050260	3	0.5	2	4.5	6	60	100	8
UR542 030050270	3	0.5	2	4.5	6	70	120	8
UR542 040020140	4	0.2	1	6	8	40	90	6
UR542 040020150	4	0.2	1	6	8	50	100	6
UR542 040020160	4	0.2	1	6	8	60	110	6
UR542 040020170	4	0.2	1	6	8	70	120	8
UR542 040020240	4	0.2	2	6	8	40	90	8
UR542 040020250	4	0.2	2	6	8	50	100	8
UR542 040020260	4	0.2	2	6	8	60	110	8
UR542 040020270	4	0.2	2	6	8	70	120	10
UR542 040030140	4	0.3	1	6	8	40	90	6
UR542 040030150	4	0.3	1	6	8	50	100	6
UR542 040030160	4	0.3	1	6	8	60	110	6
UR542 040030170	4	0.3	1	6	8	70	120	8
UR542 040030240	4	0.3	2	6	8	40	90	8
UR542 040030250	4	0.3	2	6	8	50	100	8
UR542 040030260	4	0.3	2	6	8	60	110	8
UR542 040030270	4	0.3	2	6	8	70	120	10
UR542 040050140	4	0.5	1	6	8	40	90	6
UR542 040050150	4	0.5	1	6	8	50	100	6
UR542 040050160	4	0.5	1	6	8	60	110	6
UR542 040050170	4	0.5	1	6	8	70	120	8
UR542 040050240	4	0.5	2	6	8	40	90	8
UR542 040050250	4	0.5	2	6	8	50	100	8
UR542 040050260	4	0.5	2	6	8	60	110	8
UR542 040050270	4	0.5	2	6	8	70	120	10

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

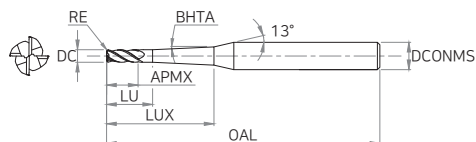
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

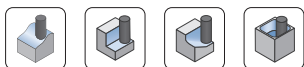
UR544

4 Flutes Tapered Neck Radius End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø4	0 ~ -0.012	h5



EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 010010106	1	0.1	1	1.5	2.5	6	50	4
UR544 010010108	1	0.1	1	1.5	2.5	8	50	4
UR544 010010110	1	0.1	1	1.5	2.5	10	50	4
UR544 010010112	1	0.1	1	1.5	2.5	12	50	4
UR544 010010116	1	0.1	1	1.5	2.5	16	50	4
UR544 010010120	1	0.1	1	1.5	2.5	20	50	4
UR544 010010125	1	0.1	1	1.5	2.5	25	60	4
UR544 010010130	1	0.1	1	1.5	2.5	30	70	4
UR544 010010140	1	0.1	1	1.5	2.5	40	80	4
UR544 010010150	1	0.1	1	1.5	2.5	50	90	4
UR544 010010206	1	0.1	2	1.5	2.5	6	50	4
UR544 010010208	1	0.1	2	1.5	2.5	8	50	4
UR544 010010210	1	0.1	2	1.5	2.5	10	50	4
UR544 010010212	1	0.1	2	1.5	2.5	12	50	4
UR544 010010216	1	0.1	2	1.5	2.5	16	50	4
UR544 010010220	1	0.1	2	1.5	2.5	20	50	4
UR544 010010225	1	0.1	2	1.5	2.5	25	60	4
UR544 010010230	1	0.1	2	1.5	2.5	30	70	4
UR544 010010240	1	0.1	2	1.5	2.5	40	80	4
UR544 010010250	1	0.1	2	1.5	2.5	50	90	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 010020106	1	0.2	1	1.5	2.5	6	50	4
UR544 010020108	1	0.2	1	1.5	2.5	8	50	4
UR544 010020110	1	0.2	1	1.5	2.5	10	50	4
UR544 010020112	1	0.2	1	1.5	2.5	12	50	4
UR544 010020116	1	0.2	1	1.5	2.5	16	50	4
UR544 010020120	1	0.2	1	1.5	2.5	20	50	4
UR544 010020125	1	0.2	1	1.5	2.5	25	60	4
UR544 010020130	1	0.2	1	1.5	2.5	30	70	4
UR544 010020140	1	0.2	1	1.5	2.5	40	80	4
UR544 010020150	1	0.2	1	1.5	2.5	50	90	4
UR544 010020206	1	0.2	2	1.5	2.5	6	50	4
UR544 010020208	1	0.2	2	1.5	2.5	8	50	4
UR544 010020210	1	0.2	2	1.5	2.5	10	50	4
UR544 010020212	1	0.2	2	1.5	2.5	12	50	4
UR544 010020216	1	0.2	2	1.5	2.5	16	50	4
UR544 010020220	1	0.2	2	1.5	2.5	20	50	4
UR544 010020225	1	0.2	2	1.5	2.5	25	60	4
UR544 010020230	1	0.2	2	1.5	2.5	30	70	4
UR544 010020240	1	0.2	2	1.5	2.5	40	80	4
UR544 010020250	1	0.2	2	1.5	2.5	50	90	6
UR544 012010108	1.2	0.1	1	1.8	3	8	50	4
UR544 012010112	1.2	0.1	1	1.8	3	12	50	4
UR544 012010116	1.2	0.1	1	1.8	3	16	50	4
UR544 012010120	1.2	0.1	1	1.8	3	20	50	4
UR544 012010125	1.2	0.1	1	1.8	3	25	60	4
UR544 012010130	1.2	0.1	1	1.8	3	30	70	4
UR544 012010208	1.2	0.1	2	1.8	3	8	50	4
UR544 012010212	1.2	0.1	2	1.8	3	12	50	4
UR544 012010216	1.2	0.1	2	1.8	3	16	50	4
UR544 012010220	1.2	0.1	2	1.8	3	20	50	4
UR544 012010225	1.2	0.1	2	1.8	3	25	60	4
UR544 012010230	1.2	0.1	2	1.8	3	30	70	4
UR544 012020108	1.2	0.2	1	1.8	3	8	50	4
UR544 012020112	1.2	0.2	1	1.8	3	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 012020116	1.2	0.2	1	1.8	3	16	50	4
UR544 012020120	1.2	0.2	1	1.8	3	20	50	4
UR544 012020125	1.2	0.2	1	1.8	3	25	60	4
UR544 012020130	1.2	0.2	1	1.8	3	30	70	4
UR544 012020208	1.2	0.2	2	1.8	3	8	50	4
UR544 012020212	1.2	0.2	2	1.8	3	12	50	4
UR544 012020216	1.2	0.2	2	1.8	3	16	50	4
UR544 012020220	1.2	0.2	2	1.8	3	20	50	4
UR544 012020225	1.2	0.2	2	1.8	3	25	60	4
UR544 012020230	1.2	0.2	2	1.8	3	30	70	4
UR544 015010108	1.5	0.1	1	2.3	3	8	50	4
UR544 015010110	1.5	0.1	1	2.3	3	10	50	4
UR544 015010112	1.5	0.1	1	2.3	3	12	50	4
UR544 015010116	1.5	0.1	1	2.3	3	16	50	4
UR544 015010120	1.5	0.1	1	2.3	3	20	50	4
UR544 015010125	1.5	0.1	1	2.3	3	25	60	4
UR544 015010130	1.5	0.1	1	2.3	3	30	70	4
UR544 015010140	1.5	0.1	1	2.3	3	40	80	4
UR544 015010150	1.5	0.1	1	2.3	3	50	90	4
UR544 015010208	1.5	0.1	2	2.3	3	8	50	4
UR544 015010210	1.5	0.1	2	2.3	3	10	50	4
UR544 015010212	1.5	0.1	2	2.3	3	12	50	4
UR544 015010216	1.5	0.1	2	2.3	3	16	50	4
UR544 015010220	1.5	0.1	2	2.3	3	20	50	4
UR544 015010225	1.5	0.1	2	2.3	3	25	60	4
UR544 015010230	1.5	0.1	2	2.3	3	30	70	4
UR544 015010240	1.5	0.1	2	2.3	3	40	80	6
UR544 015010250	1.5	0.1	2	2.3	3	50	90	6
UR544 015020108	1.5	0.2	1	2.3	3	8	50	4
UR544 015020110	1.5	0.2	1	2.3	3	10	50	4
UR544 015020112	1.5	0.2	1	2.3	3	12	50	4
UR544 015020116	1.5	0.2	1	2.3	3	16	50	4
UR544 015020120	1.5	0.2	1	2.3	3	20	50	4
UR544 015020125	1.5	0.2	1	2.3	3	25	60	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 015020130	1.5	0.2	1	2.3	3	30	70	4
UR544 015020140	1.5	0.2	1	2.3	3	40	80	4
UR544 015020150	1.5	0.2	1	2.3	3	50	90	4
UR544 015020208	1.5	0.2	2	2.3	3	8	50	4
UR544 015020210	1.5	0.2	2	2.3	3	10	50	4
UR544 015020212	1.5	0.2	2	2.3	3	12	50	4
UR544 015020216	1.5	0.2	2	2.3	3	16	50	4
UR544 015020220	1.5	0.2	2	2.3	3	20	50	4
UR544 015020225	1.5	0.2	2	2.3	3	25	60	4
UR544 015020230	1.5	0.2	2	2.3	3	30	70	4
UR544 015020240	1.5	0.2	2	2.3	3	40	80	6
UR544 015020250	1.5	0.2	2	2.3	3	50	90	6
UR544 015030108	1.5	0.3	1	2.3	3	8	50	4
UR544 015030110	1.5	0.3	1	2.3	3	10	50	4
UR544 015030112	1.5	0.3	1	2.3	3	12	50	4
UR544 015030116	1.5	0.3	1	2.3	3	16	50	4
UR544 015030120	1.5	0.3	1	2.3	3	20	50	4
UR544 015030125	1.5	0.3	1	2.3	3	25	60	4
UR544 015030130	1.5	0.3	1	2.3	3	30	70	4
UR544 015030140	1.5	0.3	1	2.3	3	40	80	4
UR544 015030150	1.5	0.3	1	2.3	3	50	90	4
UR544 015030208	1.5	0.3	2	2.3	3	8	50	4
UR544 015030210	1.5	0.3	2	2.3	3	10	50	4
UR544 015030212	1.5	0.3	2	2.3	3	12	50	4
UR544 015030216	1.5	0.3	2	2.3	3	16	50	4
UR544 015030220	1.5	0.3	2	2.3	3	20	50	4
UR544 015030225	1.5	0.3	2	2.3	3	25	60	4
UR544 015030230	1.5	0.3	2	2.3	3	30	70	4
UR544 015030240	1.5	0.3	2	2.3	3	40	80	6
UR544 015030250	1.5	0.3	2	2.3	3	50	90	6
UR544 020010110	2	0.1	1	2	5	10	50	4
UR544 020010112	2	0.1	1	2	5	12	50	4
UR544 020010116	2	0.1	1	2	5	16	50	4
UR544 020010120	2	0.1	1	2	5	20	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR544 020010125	2	0.1	1	2	5	25	60	4
	UR544 020010130	2	0.1	1	2	5	30	70	4
	UR544 020010140	2	0.1	1	2	5	40	80	6
	UR544 020010150	2	0.1	1	2	5	50	100	6
	UR544 020010160	2	0.1	1	2	5	60	100	6
E-Star	UR544 020010180	2	0.1	1	2	5	80	140	6
	UR544 020010210	2	0.1	2	2	5	10	50	4
	UR544 020010212	2	0.1	2	2	5	12	50	4
U-Wing	UR544 020010216	2	0.1	2	2	5	16	50	4
	UR544 020010220	2	0.1	2	2	5	20	50	4
	UR544 020010225	2	0.1	2	2	5	25	60	4
Zamus Thunder	UR544 020010230	2	0.1	2	2	5	30	70	4
	UR544 020010240	2	0.1	2	2	5	40	80	6
	UR544 020010250	2	0.1	2	2	5	50	100	6
	UR544 020010260	2	0.1	2	2	5	60	100	6
X-Star	UR544 020010280	2	0.1	2	2	5	80	140	8
	UR544 020020110	2	0.2	1	2	5	10	50	4
	UR544 020020112	2	0.2	1	2	5	12	50	4
	UR544 020020116	2	0.2	1	2	5	16	50	4
S-Wing	UR544 020020120	2	0.2	1	2	5	20	50	4
	UR544 020020125	2	0.2	1	2	5	25	60	4
	UR544 020020130	2	0.2	1	2	5	30	70	4
A-Wing	UR544 020020140	2	0.2	1	2	5	40	80	6
	UR544 020020150	2	0.2	1	2	5	50	100	6
	UR544 020020160	2	0.2	1	2	5	60	100	6
	UR544 020020180	2	0.2	1	2	5	80	140	6
Standard	UR544 020020210	2	0.2	2	2	5	10	50	4
	UR544 020020212	2	0.2	2	2	5	12	50	4
	UR544 020020216	2	0.2	2	2	5	16	50	4
Copper-Mate	UR544 020020220	2	0.2	2	2	5	20	50	4
	UR544 020020225	2	0.2	2	2	5	25	60	4
	UR544 020020230	2	0.2	2	2	5	30	70	4
Gra-Mate	UR544 020020240	2	0.2	2	2	5	40	80	6
	UR544 020020250	2	0.2	2	2	5	50	100	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 020020260	2	0.2	2	2	5	60	100	6
UR544 020020280	2	0.2	2	2	5	80	140	8
UR544 020030110	2	0.3	1	2	5	10	50	4
UR544 020030112	2	0.3	1	2	5	12	50	4
UR544 020030116	2	0.3	1	2	5	16	50	4
UR544 020030120	2	0.3	1	2	5	20	50	4
UR544 020030125	2	0.3	1	2	5	25	60	4
UR544 020030130	2	0.3	1	2	5	30	70	4
UR544 020030140	2	0.3	1	2	5	40	80	6
UR544 020030150	2	0.3	1	2	5	50	100	6
UR544 020030160	2	0.3	1	2	5	60	100	6
UR544 020030180	2	0.3	1	2	5	80	140	6
UR544 020030210	2	0.3	2	2	5	10	50	4
UR544 020030212	2	0.3	2	2	5	12	50	4
UR544 020030216	2	0.3	2	2	5	16	50	4
UR544 020030220	2	0.3	2	2	5	20	50	4
UR544 020030225	2	0.3	2	2	5	25	60	4
UR544 020030230	2	0.3	2	2	5	30	70	4
UR544 020030240	2	0.3	2	2	5	40	80	6
UR544 020030250	2	0.3	2	2	5	50	100	6
UR544 020030260	2	0.3	2	2	5	60	100	6
UR544 020030280	2	0.3	2	2	5	80	140	8
UR544 020050110	2	0.5	1	2	5	10	50	4
UR544 020050112	2	0.5	1	2	5	12	50	4
UR544 020050116	2	0.5	1	2	5	16	50	4
UR544 020050120	2	0.5	1	2	5	20	50	4
UR544 020050125	2	0.5	1	2	5	25	60	4
UR544 020050130	2	0.5	1	2	5	30	70	4
UR544 020050140	2	0.5	1	2	5	40	80	6
UR544 020050150	2	0.5	1	2	5	50	100	6
UR544 020050160	2	0.5	1	2	5	60	100	6
UR544 020050180	2	0.5	1	2	5	80	140	6
UR544 020050210	2	0.5	2	2	5	10	50	4
UR544 020050212	2	0.5	2	2	5	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UR544 020050216	2	0.5	2	2	5	16	50	4
	UR544 020050220	2	0.5	2	2	5	20	50	4
	UR544 020050225	2	0.5	2	2	5	25	60	4
	UR544 020050230	2	0.5	2	2	5	30	70	4
	UR544 020050240	2	0.5	2	2	5	40	80	6
E-Star	UR544 020050250	2	0.5	2	2	5	50	100	6
	UR544 020050260	2	0.5	2	2	5	60	100	6
	UR544 020050280	2	0.5	2	2	5	80	140	8
U-Wing	UR544 030020116	3	0.2	1	4.5	6	16	60	6
	UR544 030020120	3	0.2	1	4.5	6	20	65	6
	UR544 030020130	3	0.2	1	4.5	6	30	70	6
	UR544 030020140	3	0.2	1	4.5	6	40	80	6
Zamus Thunder	UR544 030020150	3	0.2	1	4.5	6	50	90	6
	UR544 030020160	3	0.2	1	4.5	6	60	100	6
	UR544 030020216	3	0.2	2	4.5	6	16	60	6
	UR544 030020220	3	0.2	2	4.5	6	20	65	6
X-Star	UR544 030020230	3	0.2	2	4.5	6	30	70	6
	UR544 030020240	3	0.2	2	4.5	6	40	80	6
	UR544 030020250	3	0.2	2	4.5	6	50	90	8
S-Wing	UR544 030020260	3	0.2	2	4.5	6	60	100	8
	UR544 030020270	3	0.2	2	4.5	6	70	120	8
	UR544 030030116	3	0.3	1	4.5	6	16	60	6
A-Wing	UR544 030030120	3	0.3	1	4.5	6	20	65	6
	UR544 030030130	3	0.3	1	4.5	6	30	70	6
	UR544 030030140	3	0.3	1	4.5	6	40	80	6
	UR544 030030150	3	0.3	1	4.5	6	50	90	6
Standard	UR544 030030160	3	0.3	1	4.5	6	60	100	6
	UR544 030030216	3	0.3	2	4.5	6	16	60	6
	UR544 030030220	3	0.3	2	4.5	6	20	65	6
Copper -Mate	UR544 030030230	3	0.3	2	4.5	6	30	70	6
	UR544 030030240	3	0.3	2	4.5	6	40	80	6
	UR544 030030250	3	0.3	2	4.5	6	50	90	8
Gra -Mate	UR544 030030260	3	0.3	2	4.5	6	60	100	8
	UR544 030030270	3	0.3	2	4.5	6	70	120	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 030050116	3	0.5	1	4.5	6	16	60	6
UR544 030050120	3	0.5	1	4.5	6	20	65	6
UR544 030050130	3	0.5	1	4.5	6	30	70	6
UR544 030050140	3	0.5	1	4.5	6	40	80	6
UR544 030050150	3	0.5	1	4.5	6	50	90	6
UR544 030050160	3	0.5	1	4.5	6	60	100	6
UR544 030050216	3	0.5	2	4.5	6	16	60	6
UR544 030050220	3	0.5	2	4.5	6	20	65	6
UR544 030050230	3	0.5	2	4.5	6	30	70	6
UR544 030050240	3	0.5	2	4.5	6	40	80	6
UR544 030050250	3	0.5	2	4.5	6	50	90	8
UR544 030050260	3	0.5	2	4.5	6	60	100	8
UR544 030050270	3	0.5	2	4.5	6	70	120	8
UR544 040020140	4	0.2	1	6	8	40	90	6
UR544 040020150	4	0.2	1	6	8	50	100	6
UR544 040020160	4	0.2	1	6	8	60	110	6
UR544 040020170	4	0.2	1	6	8	70	120	8
UR544 040020240	4	0.2	2	6	8	40	90	8
UR544 040020250	4	0.2	2	6	8	50	100	8
UR544 040020260	4	0.2	2	6	8	60	110	8
UR544 040020270	4	0.2	2	6	8	70	120	10
UR544 040030140	4	0.3	1	6	8	40	90	6
UR544 040030150	4	0.3	1	6	8	50	100	6
UR544 040030160	4	0.3	1	6	8	60	110	6
UR544 040030170	4	0.3	1	6	8	70	120	8
UR544 040030240	4	0.3	2	6	8	40	90	8
UR544 040030250	4	0.3	2	6	8	50	100	8
UR544 040030260	4	0.3	2	6	8	60	110	8
UR544 040030270	4	0.3	2	6	8	70	120	10
UR544 040050140	4	0.5	1	6	8	40	90	6
UR544 040050150	4	0.5	1	6	8	50	100	6
UR544 040050160	4	0.5	1	6	8	60	110	6
UR544 040050170	4	0.5	1	6	8	70	120	8
UR544 040050240	4	0.5	2	6	8	40	90	8

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UR544

4 Flutes Tapered Neck Radius End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UR544 040050250	4	0.5	2	6	8	50	100	8
UR544 040050260	4	0.5	2	6	8	60	110	8
UR544 040050270	4	0.5	2	6	8	70	120	10

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

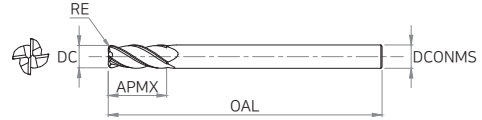
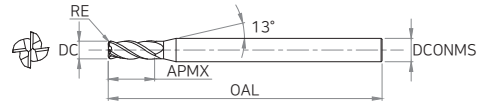
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

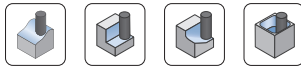
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXR504 4 Flutes Multi Helix Radius End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UXR504 010005	1	0.05	2.5	50	6	UXR504 02505	2.5	0.5	7	60	6
UXR504 01001	1	0.1	2.5	50	6	UXR504 03001	3	0.1	8	60	6
UXR504 01002	1	0.2	2.5	50	6	UXR504 03002	3	0.2	8	60	6
UXR504 01003	1	0.3	2.5	50	6	UXR504 03003	3	0.3	8	60	6
UXR504 012005	1.2	0.05	3	50	6	UXR504 03005	3	0.5	8	60	6
UXR504 01201	1.2	0.1	3	50	6	UXR504 03010	3	1	8	60	6
UXR504 01202	1.2	0.2	3	50	6	UXR504 03501	3.5	0.1	10	70	6
UXR504 01203	1.2	0.3	3	50	6	UXR504 03502	3.5	0.2	10	70	6
UXR504 015005	1.5	0.05	4	50	6	UXR504 03503	3.5	0.3	10	70	6
UXR504 01501	1.5	0.1	4	50	6	UXR504 03505	3.5	0.5	10	70	6
UXR504 01502	1.5	0.2	4	50	6	UXR504 04001	4	0.1	10	70	6
UXR504 01503	1.5	0.3	4	50	6	UXR504 04001100S4	4	0.1	10	100	4
UXR504 01505	1.5	0.5	4	50	6	UXR504 04001S4	4	0.1	10	70	4
UXR504 02001	2	0.1	6	50	6	UXR504 04002	4	0.2	10	70	6
UXR504 02002	2	0.2	6	50	6	UXR504 04002100S4	4	0.2	10	100	4
UXR504 02003	2	0.3	6	50	6	UXR504 04002S4	4	0.2	10	70	4
UXR504 02005	2	0.5	6	50	6	UXR504 04003	4	0.3	10	70	6
UXR504 02501	2.5	0.1	7	60	6	UXR504 04003100S4	4	0.3	10	100	4
UXR504 02502	2.5	0.2	7	60	6	UXR504 04003S4	4	0.3	10	70	4
UXR504 02503	2.5	0.3	7	60	6	UXR504 04005	4	0.5	10	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UXR504 4 Flutes Multi Helix Radius End Mill

Endmill

	EDP No	DC	RE	APMX	OAL	DCON MS		EDP No	DC	RE	APMX	OAL	DCON MS
Zamus Star	UXR504 04005100S4	4	0.5	10	100	4		UXR504 07001	7	0.1	16	90	8
	UXR504 04005S4	4	0.5	10	70	4		UXR504 07002	7	0.2	16	90	8
	UXR504 04010	4	1	10	70	6		UXR504 07003	7	0.3	16	90	8
	UXR504 04010100S4	4	1	10	100	4		UXR504 07005	7	0.5	16	90	8
	UXR504 04010S4	4	1	10	70	4		UXR504 07010	7	1	16	90	8
E-Star	UXR504 04501	4.5	0.1	11	80	6		UXR504 07020	7	2	16	90	8
	UXR504 04502	4.5	0.2	11	80	6		UXR504 08001	8	0.1	20	100	8
	UXR504 04503	4.5	0.3	11	80	6		UXR504 08002	8	0.2	20	100	8
U-Wing	UXR504 04505	4.5	0.5	11	80	6		UXR504 08003	8	0.3	20	100	8
	UXR504 05001	5	0.1	13	90	6		UXR504 08003070	8	0.3	20	70	8
	UXR504 05002	5	0.2	13	90	6		UXR504 08005	8	0.5	20	100	8
	UXR504 05003	5	0.3	13	90	6		UXR504 08005070	8	0.5	20	70	8
Zamus Thunder	UXR504 05005	5	0.5	13	90	6		UXR504 08005120	8	0.5	20	120	8
	UXR504 05010	5	1	13	90	6		UXR504 08005150	8	0.5	20	150	8
	UXR504 05501	5.5	0.1	13	90	6		UXR504 08010	8	1	20	100	8
X-Star	UXR504 05502	5.5	0.2	13	90	6		UXR504 08010070	8	1	20	70	8
	UXR504 05503	5.5	0.3	13	90	6		UXR504 08010120	8	1	20	120	8
	UXR504 05505	5.5	0.5	13	90	6		UXR504 08010150	8	1	20	150	8
	UXR504 05510	5.5	1	13	90	6		UXR504 08015	8	1.5	20	100	8
S-Wing	UXR504 06001	6	0.1	15	90	6		UXR504 08015070	8	1.5	20	70	8
	UXR504 06001060	6	0.1	15	60	6		UXR504 08020	8	2	20	100	8
	UXR504 06002	6	0.2	15	90	6		UXR504 08020070	8	2	20	70	8
A-Wing	UXR504 06002060	6	0.2	15	60	6		UXR504 08025	8	2.5	20	100	8
	UXR504 06003	6	0.3	15	90	6		UXR504 08030	8	3	20	100	8
	UXR504 06005	6	0.5	15	90	6		UXR504 10001	10	0.1	25	100	10
	UXR504 06005060	6	0.5	15	60	6		UXR504 10002	10	0.2	25	100	10
Standard	UXR504 06005110	6	0.5	15	110	6		UXR504 10003	10	0.3	25	100	10
	UXR504 06005130	6	0.5	15	130	6		UXR504 10003075	10	0.3	25	75	10
	UXR504 06010	6	1	15	90	6		UXR504 10005	10	0.5	25	100	10
Copper -Mate	UXR504 06010060	6	1	15	60	6		UXR504 10005075	10	0.5	25	75	10
	UXR504 06010110	6	1	15	110	6		UXR504 10005130	10	0.5	22	130	10
	UXR504 06010130	6	1	15	130	6		UXR504 10005150	10	0.5	22	150	10
Gra -Mate	UXR504 06015	6	1.5	15	90	6		UXR504 10010	10	1	25	100	10
	UXR504 06020	6	2	15	90	6		UXR504 10010075	10	1	25	75	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXR504

4 Flutes Multi Helix Radius End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UXR504 10010130	10	1	22	130	10	UXR504 12025	12	2.5	30	110	12
UXR504 10010150	10	1	22	150	10	UXR504 12025080	12	2.5	30	80	12
UXR504 10015	10	1.5	25	100	10	UXR504 12030	12	3	30	110	12
UXR504 10020	10	2	25	100	10	UXR504 12030080	12	3	30	80	12
UXR504 10025	10	2.5	25	100	10	UXR504 12040	12	4	30	110	12
UXR504 10030	10	3	25	100	10	UXR504 12050	12	5	30	110	12
UXR504 10040	10	4	25	100	10	UXR504 14005	14	0.5	35	150	16
UXR504 11002	11	0.2	25	110	12	UXR504 14010	14	1	35	150	16
UXR504 11003	11	0.3	25	110	12	UXR504 14020	14	2	35	150	16
UXR504 11005	11	0.5	25	110	12	UXR504 16005	16	0.5	40	100	16
UXR504 11010	11	1	25	110	12	UXR504 16005150	16	0.5	40	150	16
UXR504 11020	11	2	25	110	12	UXR504 16010	16	1	40	100	16
UXR504 12001	12	0.1	30	110	12	UXR504 16010150	16	1	40	150	16
UXR504 12002	12	0.2	30	110	12	UXR504 16015	16	1.5	40	100	16
UXR504 12003	12	0.3	30	110	12	UXR504 16015150	16	1.5	40	150	16
UXR504 12003080	12	0.3	30	80	12	UXR504 16020	16	2	40	100	16
UXR504 12005	12	0.5	30	110	12	UXR504 16020150	16	2	40	150	16
UXR504 12005080	12	0.5	30	80	12	UXR504 16030	16	3	40	100	16
UXR504 12005130	12	0.5	30	130	12	UXR504 20005	20	0.5	45	110	20
UXR504 15005150	12	0.5	30	150	12	UXR504 20005150	20	0.5	45	150	20
UXR504 12010	12	1	30	110	12	UXR504 20010	20	1	45	110	20
UXR504 12010080	12	1	30	80	12	UXR504 20010150	20	1	45	150	20
UXR504 12010130	12	1	30	130	12	UXR504 20015	20	1.5	45	110	20
UXR504 12010150	12	1	30	150	12	UXR504 20015150	20	1.5	45	150	20
UXR504 12015	12	1.5	30	110	12	UXR504 20020	20	2	45	110	20
UXR504 12015080	12	1.5	30	80	12	UXR504 20020150	20	2	45	150	20
UXR504 12020	12	2	30	110	12	UXR504 20030	20	3	45	110	20
UXR504 12020080	12	2	30	80	12						

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

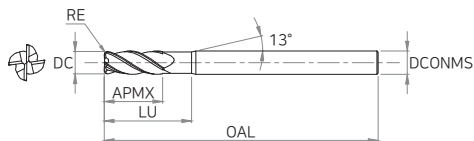
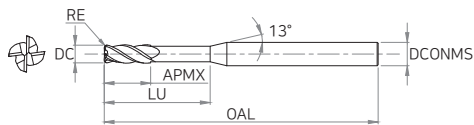
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

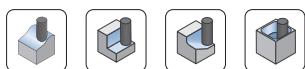
UXR514

4 Flutes Multi Helix Neck Radius End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø20	0 ~ -0.03	h5



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UXR514 01000503	1	0.05	1.5	3	50	4	UXR514 0100206	1	0.2	1.5	6	50	4
UXR514 01000504	1	0.05	1.5	4	50	4	UXR514 0100208	1	0.2	1.5	8	50	4
UXR514 01000506	1	0.05	1.5	6	50	4	UXR514 0100210	1	0.2	1.5	10	50	4
UXR514 01000508	1	0.05	1.5	8	50	4	UXR514 0100212	1	0.2	1.5	12	50	4
UXR514 01000510	1	0.05	1.5	10	50	4	UXR514 0100214	1	0.2	1.5	14	50	4
UXR514 01000512	1	0.05	1.5	12	50	4	UXR514 0100216	1	0.2	1.5	16	50	4
UXR514 01000514	1	0.05	1.5	14	50	4	UXR514 0100220	1	0.2	1.5	20	50	4
UXR514 01000516	1	0.05	1.5	16	50	4	UXR514 0100303	1	0.3	1.5	3	50	4
UXR514 01000520	1	0.05	1.5	20	50	4	UXR514 0100304	1	0.3	1.5	4	50	4
UXR514 0100103	1	0.1	1.5	3	50	4	UXR514 0100306	1	0.3	1.5	6	50	4
UXR514 0100104	1	0.1	1.5	4	50	4	UXR514 0100308	1	0.3	1.5	8	50	4
UXR514 0100106	1	0.1	1.5	6	50	4	UXR514 0100310	1	0.3	1.5	10	50	4
UXR514 0100108	1	0.1	1.5	8	50	4	UXR514 0100312	1	0.3	1.5	12	50	4
UXR514 0100110	1	0.1	1.5	10	50	4	UXR514 0100314	1	0.3	1.5	14	50	4
UXR514 0100112	1	0.1	1.5	12	50	4	UXR514 0100316	1	0.3	1.5	16	50	4
UXR514 0100114	1	0.1	1.5	14	50	4	UXR514 0100320	1	0.3	1.5	20	50	4
UXR514 0100116	1	0.1	1.5	16	50	4	UXR514 01200503	1.2	0.05	1.8	3	50	4
UXR514 0100120	1	0.1	1.5	20	50	4	UXR514 01200504	1.2	0.05	1.8	4	50	4
UXR514 0100203	1	0.2	1.5	3	50	4	UXR514 01200506	1.2	0.05	1.8	6	50	4
UXR514 0100204	1	0.2	1.5	4	50	4	UXR514 01200508	1.2	0.05	1.8	8	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~H225	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXR514

4 Flutes Multi Helix Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UXR514 01200510	1.2	0.05	1.8	10	50	4	UXR514 01500516	1.5	0.05	2.3	16	50	4
UXR514 01200512	1.2	0.05	1.8	12	50	4	UXR514 01500520	1.5	0.05	2.3	20	50	4
UXR514 01200516	1.2	0.05	1.8	16	50	4	UXR514 01500522	1.5	0.05	2.3	22	60	4
UXR514 01200520	1.2	0.05	1.8	20	50	4	UXR514 01500526	1.5	0.05	2.3	26	60	4
UXR514 0120103	1.2	0.1	1.8	3	50	4	UXR514 0150104	1.5	0.1	2.3	4	50	4
UXR514 0120104	1.2	0.1	1.8	4	50	4	UXR514 0150106	1.5	0.1	2.3	6	50	4
UXR514 0120106	1.2	0.1	1.8	6	50	4	UXR514 0150108	1.5	0.1	2.3	8	50	4
UXR514 0120108	1.2	0.1	1.8	8	50	4	UXR514 0150110	1.5	0.1	2.3	10	50	4
UXR514 0120110	1.2	0.1	1.8	10	50	4	UXR514 0150112	1.5	0.1	2.3	12	50	4
UXR514 0120112	1.2	0.1	1.8	12	50	4	UXR514 0150114	1.5	0.1	2.3	14	50	4
UXR514 0120116	1.2	0.1	1.8	16	50	4	UXR514 0150116	1.5	0.1	2.3	16	50	4
UXR514 0120120	1.2	0.1	1.8	20	50	4	UXR514 0150120	1.5	0.1	2.3	20	50	4
UXR514 0120203	1.2	0.2	1.8	3	50	4	UXR514 0150122	1.5	0.1	2.3	22	60	4
UXR514 0120204	1.2	0.2	1.8	4	50	4	UXR514 0150126	1.5	0.1	2.3	26	60	4
UXR514 0120206	1.2	0.2	1.8	6	50	4	UXR514 0150204	1.5	0.2	2.3	4	50	4
UXR514 0120208	1.2	0.2	1.8	8	50	4	UXR514 0150206	1.5	0.2	2.3	6	50	4
UXR514 0120210	1.2	0.2	1.8	10	50	4	UXR514 0150208	1.5	0.2	2.3	8	50	4
UXR514 0120212	1.2	0.2	1.8	12	50	4	UXR514 0150210	1.5	0.2	2.3	10	50	4
UXR514 0120216	1.2	0.2	1.8	16	50	4	UXR514 0150212	1.5	0.2	2.3	12	50	4
UXR514 0120220	1.2	0.2	1.8	20	50	4	UXR514 0150214	1.5	0.2	2.3	14	50	4
UXR514 0120303	1.2	0.3	1.8	3	50	4	UXR514 0150216	1.5	0.2	2.3	16	50	4
UXR514 0120304	1.2	0.3	1.8	4	50	4	UXR514 0150220	1.5	0.2	2.3	20	50	4
UXR514 0120306	1.2	0.3	1.8	6	50	4	UXR514 0150222	1.5	0.2	2.3	22	60	4
UXR514 0120308	1.2	0.3	1.8	8	50	4	UXR514 0150226	1.5	0.2	2.3	26	60	4
UXR514 0120310	1.2	0.3	1.8	10	50	4	UXR514 0150304	1.5	0.3	2.3	4	50	4
UXR514 0120312	1.2	0.3	1.8	12	50	4	UXR514 0150306	1.5	0.3	2.3	6	50	4
UXR514 0120316	1.2	0.3	1.8	16	50	4	UXR514 0150308	1.5	0.3	2.3	8	50	4
UXR514 0120320	1.2	0.3	1.8	20	50	4	UXR514 0150310	1.5	0.3	2.3	10	50	4
UXR514 01500504	1.5	0.05	2.3	4	50	4	UXR514 0150312	1.5	0.3	2.3	12	50	4
UXR514 01500506	1.5	0.05	2.3	6	50	4	UXR514 0150314	1.5	0.3	2.3	14	50	4
UXR514 01500508	1.5	0.05	2.3	8	50	4	UXR514 0150316	1.5	0.3	2.3	16	50	4
UXR514 01500510	1.5	0.05	2.3	10	50	4	UXR514 0150320	1.5	0.3	2.3	20	50	4
UXR514 01500512	1.5	0.05	2.3	12	50	4	UXR514 0150322	1.5	0.3	2.3	22	60	4
UXR514 01500514	1.5	0.05	2.3	14	50	4	UXR514 0150326	1.5	0.3	2.3	26	60	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UXR514

4 Flutes Multi Helix Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	UXR514 0150504	1.5	0.5	2.3	4	50	4		UXR514 0200314	2	0.3	3	14	50	4
	UXR514 0150506	1.5	0.5	2.3	6	50	4		UXR514 0200316	2	0.3	3	16	50	4
	UXR514 0150508	1.5	0.5	2.3	8	50	4		UXR514 0200320	2	0.3	3	20	50	4
	UXR514 0150510	1.5	0.5	2.3	10	50	4		UXR514 0200322	2	0.3	3	22	60	4
	UXR514 0150512	1.5	0.5	2.3	12	50	4		UXR514 0200326	2	0.3	3	26	60	4
E-Star	UXR514 0150514	1.5	0.5	2.3	14	50	4		UXR514 0200330	2	0.3	3	30	70	4
	UXR514 0150516	1.5	0.5	2.3	16	50	4		UXR514 0200506	2	0.5	3	6	50	4
	UXR514 0150520	1.5	0.5	2.3	20	50	4		UXR514 0200508	2	0.5	3	8	50	4
U-Wing	UXR514 0150522	1.5	0.5	2.3	22	60	4		UXR514 0200510	2	0.5	3	10	50	4
	UXR514 0150526	1.5	0.5	2.3	26	60	4		UXR514 0200512	2	0.5	3	12	50	4
	UXR514 0200106	2	0.1	3	6	50	4		UXR514 0200514	2	0.5	3	14	50	4
	UXR514 0200108	2	0.1	3	8	50	4		UXR514 0200516	2	0.5	3	16	50	4
Zamus Thunder	UXR514 0200110	2	0.1	3	10	50	4		UXR514 0200520	2	0.5	3	20	50	4
	UXR514 0200112	2	0.1	3	12	50	4		UXR514 0200522	2	0.5	3	22	60	4
	UXR514 0200114	2	0.1	3	14	50	4		UXR514 0200526	2	0.5	3	26	60	4
	UXR514 0200116	2	0.1	3	16	50	4		UXR514 0200530	2	0.5	3	30	70	4
X-Star	UXR514 0200120	2	0.1	3	20	50	4		UXR514 0250108	2.5	0.1	4	8	50	4
	UXR514 0200122	2	0.1	3	22	60	4		UXR514 0250110	2.5	0.1	4	10	50	4
	UXR514 0200126	2	0.1	3	26	60	4		UXR514 0250112	2.5	0.1	4	12	50	4
S-Wing	UXR514 0200130	2	0.1	3	30	70	4		UXR514 0250114	2.5	0.1	4	14	50	4
	UXR514 0200206	2	0.2	3	6	50	4		UXR514 0250116	2.5	0.1	4	16	50	4
	UXR514 0200208	2	0.2	3	8	50	4		UXR514 0250120	2.5	0.1	4	20	50	4
A-Wing	UXR514 0200210	2	0.2	3	10	50	4		UXR514 0250126	2.5	0.1	4	26	60	4
	UXR514 0200212	2	0.2	3	12	50	4		UXR514 0250130	2.5	0.1	4	30	70	4
	UXR514 0200214	2	0.2	3	14	50	4		UXR514 0250208	2.5	0.2	4	8	50	4
	UXR514 0200216	2	0.2	3	16	50	4		UXR514 0250210	2.5	0.2	4	10	50	4
Standard	UXR514 0200220	2	0.2	3	20	50	4		UXR514 0250212	2.5	0.2	4	12	50	4
	UXR514 0200222	2	0.2	3	22	60	4		UXR514 0250214	2.5	0.2	4	14	50	4
	UXR514 0200226	2	0.2	3	26	60	4		UXR514 0250216	2.5	0.2	4	16	50	4
	UXR514 0200230	2	0.2	3	30	70	4		UXR514 0250220	2.5	0.2	4	20	50	4
Copper -Mate	UXR514 0200306	2	0.3	3	6	50	4		UXR514 0250226	2.5	0.2	4	26	60	4
	UXR514 0200308	2	0.3	3	8	50	4		UXR514 0250230	2.5	0.2	4	30	70	4
	UXR514 0200310	2	0.3	3	10	50	4		UXR514 0250308	2.5	0.3	4	8	50	4
Gra -Mate	UXR514 0200312	2	0.3	3	12	50	4		UXR514 0250310	2.5	0.3	4	10	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXR514

4 Flutes Multi Helix Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UXR514 0250312	2.5	0.3	4	12	50	4	UXR514 0300308	3	0.3	4.5	8	50	6
UXR514 0250314	2.5	0.3	4	14	50	4	UXR514 0300310	3	0.3	4.5	10	50	6
UXR514 0250316	2.5	0.3	4	16	50	4	UXR514 0300312	3	0.3	4.5	12	50	6
UXR514 0250320	2.5	0.3	4	20	50	4	UXR514 0300314	3	0.3	4.5	14	60	6
UXR514 0250326	2.5	0.3	4	26	60	4	UXR514 0300316	3	0.3	4.5	16	60	6
UXR514 0250330	2.5	0.3	4	30	70	4	UXR514 0300320	3	0.3	4.5	20	60	6
UXR514 0250508	2.5	0.5	4	8	50	4	UXR514 0300326	3	0.3	4.5	26	65	6
UXR514 0250510	2.5	0.5	4	10	50	4	UXR514 0300330	3	0.3	4.5	30	70	6
UXR514 0250512	2.5	0.5	4	12	50	4	UXR514 0300335	3	0.3	4.5	35	70	6
UXR514 0250514	2.5	0.5	4	14	50	4	UXR514 0300340	3	0.3	4.5	40	80	6
UXR514 0250516	2.5	0.5	4	16	50	4	UXR514 0300508	3	0.5	4.5	8	50	6
UXR514 0250520	2.5	0.5	4	20	50	4	UXR514 0300510	3	0.5	4.5	10	50	6
UXR514 0250526	2.5	0.5	4	26	60	4	UXR514 0300512	3	0.5	4.5	12	50	6
UXR514 0250530	2.5	0.5	4	30	70	4	UXR514 0300514	3	0.5	4.5	14	60	6
UXR514 0300108	3	0.1	4.5	8	50	6	UXR514 0300516	3	0.5	4.5	16	60	6
UXR514 0300110	3	0.1	4.5	10	50	6	UXR514 0300520	3	0.5	4.5	20	60	6
UXR514 0300112	3	0.1	4.5	12	50	6	UXR514 0300526	3	0.5	4.5	26	65	6
UXR514 0300114	3	0.1	4.5	14	60	6	UXR514 0300530	3	0.5	4.5	30	70	6
UXR514 0300116	3	0.1	4.5	16	60	6	UXR514 0300535	3	0.5	4.5	35	70	6
UXR514 0300120	3	0.1	4.5	20	60	6	UXR514 0300540	3	0.5	4.5	40	80	6
UXR514 0300126	3	0.1	4.5	26	65	6	UXR514 0301008	3	1	4.5	8	50	6
UXR514 0300130	3	0.1	4.5	30	70	6	UXR514 0301010	3	1	4.5	10	50	6
UXR514 0300135	3	0.1	4.5	35	70	6	UXR514 0301012	3	1	4.5	12	50	6
UXR514 0300140	3	0.1	4.5	40	80	6	UXR514 0301014	3	1	4.5	14	60	6
UXR514 0300208	3	0.2	4.5	8	50	6	UXR514 0301016	3	1	4.5	16	60	6
UXR514 0300210	3	0.2	4.5	10	50	6	UXR514 0301020	3	1	4.5	20	60	6
UXR514 0300212	3	0.2	4.5	12	50	6	UXR514 0301026	3	1	4.5	26	65	6
UXR514 0300214	3	0.2	4.5	14	60	6	UXR514 0301030	3	1	4.5	30	70	6
UXR514 0300216	3	0.2	4.5	16	60	6	UXR514 0301035	3	1	4.5	35	70	6
UXR514 0300220	3	0.2	4.5	20	60	6	UXR514 0301040	3	1	4.5	40	80	6
UXR514 0300226	3	0.2	4.5	26	65	6	UXR514 0400110	4	0.1	6	10	50	6
UXR514 0300230	3	0.2	4.5	30	70	6	UXR514 0400112	4	0.1	6	12	50	6
UXR514 0300235	3	0.2	4.5	35	70	6	UXR514 0400114	4	0.1	6	14	60	6
UXR514 0300240	3	0.2	4.5	40	80	6	UXR514 0400116	4	0.1	6	16	60	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UXR514

4 Flutes Multi Helix Neck Radius End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	UXR514 0400120	4	0.1	6	20	60	6		UXR514 0400526	4	0.5	6	26	65	6
	UXR514 0400126	4	0.1	6	26	65	6		UXR514 0400530	4	0.5	6	30	70	6
	UXR514 0400130	4	0.1	6	30	70	6		UXR514 0400535	4	0.5	6	35	70	6
	UXR514 0400135	4	0.1	6	35	70	6		UXR514 0400540	4	0.5	6	40	80	6
	UXR514 0400140	4	0.1	6	40	80	6		UXR514 0400545	4	0.5	6	45	90	6
E-Star	UXR514 0400145	4	0.1	6	45	90	6		UXR514 0400550	4	0.5	6	50	100	6
	UXR514 0400150	4	0.1	6	50	100	6		UXR514 0401010	4	1	6	10	50	6
	UXR514 0400210	4	0.2	6	10	50	6		UXR514 0401012	4	1	6	12	50	6
U-Wing	UXR514 0400212	4	0.2	6	12	50	6		UXR514 0401014	4	1	6	14	60	6
	UXR514 0400214	4	0.2	6	14	60	6		UXR514 0401016	4	1	6	16	60	6
	UXR514 0400216	4	0.2	6	16	60	6		UXR514 0401020	4	1	6	20	60	6
	UXR514 0400220	4	0.2	6	20	60	6		UXR514 0401026	4	1	6	26	65	6
Zamus Thunder	UXR514 0400226	4	0.2	6	26	65	6		UXR514 0401030	4	1	6	30	70	6
	UXR514 0400230	4	0.2	6	30	70	6		UXR514 0401035	4	1	6	35	70	6
	UXR514 0400235	4	0.2	6	35	70	6		UXR514 0401040	4	1	6	40	80	6
	UXR514 0400240	4	0.2	6	40	80	6		UXR514 0401045	4	1	6	45	90	6
X-Star	UXR514 0400245	4	0.2	6	45	90	6		UXR514 0401050	4	1	6	50	100	6
	UXR514 0400250	4	0.2	6	50	100	6		UXR514 05001	5	0.1	8	15	60	6
	UXR514 0400310	4	0.3	6	10	50	6		UXR514 05002	5	0.2	8	15	60	6
S-Wing	UXR514 0400312	4	0.3	6	12	50	6		UXR514 05003	5	0.3	8	15	60	6
	UXR514 0400314	4	0.3	6	14	60	6		UXR514 05005	5	0.5	8	15	60	6
	UXR514 0400316	4	0.3	6	16	60	6		UXR514 05010	5	1	8	15	60	6
A-Wing	UXR514 0400320	4	0.3	6	20	60	6		UXR514 05015	5	1.5	8	15	60	6
	UXR514 0400326	4	0.3	6	26	65	6		UXR514 05020	5	2	8	15	60	6
	UXR514 0400330	4	0.3	6	30	70	6		UXR514 06001	6	0.1	9	20	60	6
	UXR514 0400335	4	0.3	6	35	70	6		UXR514 06002	6	0.2	9	20	60	6
Standard	UXR514 0400340	4	0.3	6	40	80	6		UXR514 06003	6	0.3	9	20	60	6
	UXR514 0400345	4	0.3	6	45	90	6		UXR514 06003090	6	0.3	15	30	90	6
	UXR514 0400350	4	0.3	6	50	100	6		UXR514 06005	6	0.5	9	20	60	6
	UXR514 0400510	4	0.5	6	10	50	6		UXR514 06005090	6	0.5	15	30	90	6
Copper -Mate	UXR514 0400512	4	0.5	6	12	50	6		UXR514 06010	6	1	9	20	60	6
	UXR514 0400514	4	0.5	6	14	60	6		UXR514 06010090	6	1	15	30	90	6
	UXR514 0400516	4	0.5	6	16	60	6		UXR514 06015	6	1.5	9	20	60	6
Gra -Mate	UXR514 0400520	4	0.5	6	20	60	6		UXR514 06020	6	2	9	20	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UXR514

4 Flutes Multi Helix Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UXR514 08001	8	0.1	12	25	70	8	UXR514 10020	10	2	15	30	75	10
UXR514 08002	8	0.2	12	25	70	8	UXR514 12002	12	0.2	18	32	80	12
UXR514 08003	8	0.3	12	25	70	8	UXR514 12003	12	0.3	18	32	80	12
UXR514 08003100	8	0.3	20	35	100	8	UXR514 12003110	12	0.3	30	45	110	12
UXR514 08005	8	0.5	12	25	70	8	UXR514 12005	12	0.5	18	32	80	12
UXR514 08005100	8	0.5	20	35	100	8	UXR514 12005110	12	0.5	30	45	110	12
UXR514 08010	8	1	12	25	70	8	UXR514 12010	12	1	18	32	80	12
UXR514 08010100	8	1	20	35	100	8	UXR514 12010110	12	1	30	45	110	12
UXR514 08015	8	1.5	12	25	70	8	UXR514 12015	12	1.5	18	32	80	12
UXR514 08020	8	2	12	25	70	8	UXR514 12020	12	2	18	32	80	12
UXR514 10001	10	0.1	15	30	75	10	UXR514 16005	16	0.5	20	35	100	16
UXR514 10002	10	0.2	15	30	75	10	UXR514 16005150	16	0.5	35	50	150	16
UXR514 10003	10	0.3	15	30	75	10	UXR514 16010	16	1	20	35	100	16
UXR514 10003100	10	0.3	25	40	100	10	UXR514 16010150	16	1	35	50	150	16
UXR514 10005	10	0.5	15	30	75	10	UXR514 20005	20	0.5	25	40	100	20
UXR514 10005100	10	0.5	25	40	100	10	UXR514 20005150	20	0.5	40	55	150	20
UXR514 10010	10	1	15	30	75	10	UXR514 20010	20	1	25	40	100	20
UXR514 10010100	10	1	25	40	100	10	UXR514 20010150	20	1	40	55	150	20
UXR514 10015	10	1.5	15	30	75	10							

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

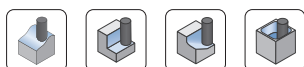
UDR503

3 Flutes double Radius End Mill



► Tolerance

DC		Shank Dia
ø6 ~ ø20	0 ~ -0.02	h5



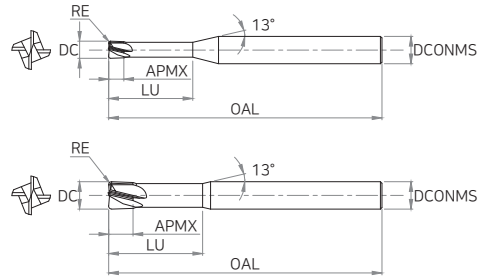
EDP No	DC	RE ¹	RE ²	APMX	OAL	DCONMS
UDR503 06005	6	0.5	6	10	90	6
UDR503 06010	6	1	6	10	90	6
UDR503 06020	6	2	6	10	90	6
UDR503 08005	8	0.5	8	16	100	8
UDR503 08010	8	1	8	16	100	8
UDR503 08020	8	2	8	16	100	8
UDR503 10005	10	0.5	10	20	100	10
UDR503 10010	10	1	10	20	100	10
UDR503 10020	10	2	10	20	100	10
UDR503 12005	12	0.5	12	24	110	12
UDR503 12010	12	1	12	24	110	12
UDR503 12020	12	2	12	24	110	12
UDR503 16005	16	0.5	16	32	150	16
UDR503 16010	16	1	16	32	150	16
UDR503 20005	20	0.5	20	40	150	20
UDR503 20010	20	1	20	40	150	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

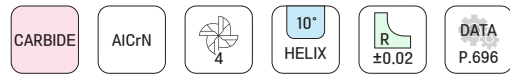
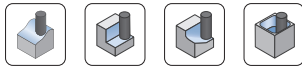
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

USPM4 4 Flutes Radius End Mill For High Speed Machining



► Tolerance

DC		Shank Dia
Ø1 ~ Ø20	0 ~ -0.03	h5



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
USPM4 010-01	1	0.1	1	2.5	50	6	USPM4 060-05	6	0.5	6	15	60	6
USPM4 010-02	1	0.2	1	2.5	50	6	USPM4 060-05L	6	0.5	6	15	90	6
USPM4 010-03	1	0.3	1	2.5	50	6	USPM4 060-10	6	1	6	15	60	6
USPM4 015-02	1.5	0.2	1.5	4	50	6	USPM4 060-10L	6	1	6	15	90	6
USPM4 015-03	1.5	0.3	1.5	4	50	6	USPM4 060-20	6	2	6	15	60	6
USPM4 015-05	1.5	0.5	1.5	4	50	6	USPM4 060-20L	6	2	6	15	90	6
USPM4 020-02	2	0.2	2	6	50	6	USPM4 080-02	8	0.2	8	20	70	8
USPM4 020-03	2	0.3	2	6	50	6	USPM4 080-02L	8	0.2	8	20	100	8
USPM4 020-05	2	0.5	2	6	50	6	USPM4 080-03	8	0.3	8	20	70	8
USPM4 030-02	3	0.2	3	8	50	6	USPM4 080-03L	8	0.3	8	20	100	8
USPM4 030-03	3	0.3	3	8	50	6	USPM4 080-05	8	0.5	8	20	70	8
USPM4 030-05	3	0.5	3	8	50	6	USPM4 080-05L	8	0.5	8	20	100	8
USPM4 040-02	4	0.2	4	10	50	6	USPM4 080-10	8	1	8	20	70	8
USPM4 040-03	4	0.3	4	10	50	6	USPM4 080-10L	8	1	8	20	100	8
USPM4 040-05	4	0.5	4	10	50	6	USPM4 080-20	8	2	8	20	70	8
USPM4 040-10	4	1	4	10	50	6	USPM4 080-20L	8	2	8	20	100	8
USPM4 060-02	6	0.2	6	15	60	6	USPM4 100-02	10	0.2	10	25	75	10
USPM4 060-02L	6	0.2	6	15	90	6	USPM4 100-02L	10	0.2	10	25	100	10
USPM4 060-03	6	0.3	6	15	60	6	USPM4 100-03	10	0.3	10	25	75	10
USPM4 060-03L	6	0.3	6	15	90	6	USPM4 100-03L	10	0.3	10	25	100	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

USPM4

4 Flutes Radius End Mill For High Speed Machining

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

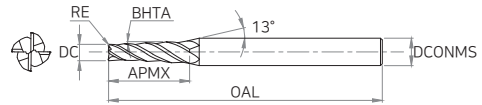
EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
USPM4 100-05	10	0.5	10	25	75	10	USPM4 120-20	12	2	12	30	80	12
USPM4 100-05L	10	0.5	10	25	100	10	USPM4 120-20L	12	2	12	30	110	12
USPM4 100-10	10	1	10	25	75	10	USPM4 120-30	12	3	12	30	80	12
USPM4 100-10L	10	1	10	25	100	10	USPM4 120-30L	12	3	12	30	110	12
USPM4 100-15	10	1.5	10	25	75	10	USPM4 160-05	16	0.5	16	35	100	16
USPM4 100-15L	10	1.5	10	25	100	10	USPM4 160-05L	16	0.5	16	35	150	16
USPM4 100-20	10	2	10	25	75	10	USPM4 160-10	16	1	16	35	100	16
USPM4 100-20L	10	2	10	25	100	10	USPM4 160-10L	16	1	16	35	150	16
USPM4 120-03	12	0.3	12	30	80	12	USPM4 160-20	16	2	16	35	100	16
USPM4 120-03L	12	0.3	12	30	110	12	USPM4 160-20L	16	2	16	35	150	16
USPM4 120-05	12	0.5	12	30	80	12	USPM4 200-05	20	0.5	20	40	100	20
USPM4 120-05L	12	0.5	12	30	110	12	USPM4 200-05L	20	0.5	20	40	150	20
USPM4 120-10	12	1	12	30	80	12	USPM4 200-10	20	1	20	40	100	20
USPM4 120-10L	12	1	12	30	110	12	USPM4 200-10L	20	1	20	40	150	20
USPM4 120-15	12	1.5	12	30	80	12	USPM4 200-20	20	2	20	40	100	20
USPM4 120-15L	12	1.5	12	30	110	12	USPM4 200-20L	20	2	20	40	150	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

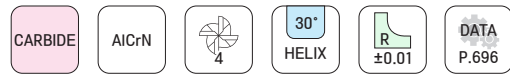
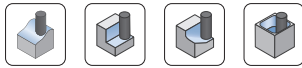
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTR504 4 Flutes Tapered Radius End Mill



► Tolerance

DC		Shank Dia
∅0.8 ~ ∅2.5	0 ~ -0.03	h5



EDP No	DC	RE	APMX	BHTA	OAL	DCONMS	EDP No	DC	RE	APMX	BHTA	OAL	DCONMS
UTR504 008010104	0.8	0.1	4	1	45	4	UTR504 0100101510	1	0.1	10	1.5	50	4
UTR504 008010106	0.8	0.1	6	1	45	4	UTR504 0100101512	1	0.1	12	1.5	50	4
UTR504 008010108	0.8	0.1	8	1	45	4	UTR504 010010204	1	0.1	4	2	50	4
UTR504 0080101504	0.8	0.1	4	1.5	45	4	UTR504 010010206	1	0.1	6	2	50	4
UTR504 0080101506	0.8	0.1	6	1.5	45	4	UTR504 010010208	1	0.1	8	2	50	4
UTR504 0080101508	0.8	0.1	8	1.5	45	4	UTR504 010010210	1	0.1	10	2	50	4
UTR504 008020104	0.8	0.2	4	1	45	4	UTR504 010010212	1	0.1	12	2	50	4
UTR504 008020106	0.8	0.2	6	1	45	4	UTR504 010010304	1	0.1	4	3	50	4
UTR504 008020108	0.8	0.2	8	1	45	4	UTR504 010010306	1	0.1	6	3	50	4
UTR504 0080201504	0.8	0.2	4	1.5	45	4	UTR504 010010308	1	0.1	8	3	50	4
UTR504 0080201506	0.8	0.2	6	1.5	45	4	UTR504 010010310	1	0.1	10	3	50	4
UTR504 0080201508	0.8	0.2	8	1.5	45	4	UTR504 010010312	1	0.1	12	3	50	4
UTR504 010010104	1	0.1	4	1	50	4	UTR504 010020104	1	0.2	4	1	50	4
UTR504 010010106	1	0.1	6	1	50	4	UTR504 010020106	1	0.2	6	1	50	4
UTR504 010010108	1	0.1	8	1	50	4	UTR504 010020108	1	0.2	8	1	50	4
UTR504 010010110	1	0.1	10	1	50	4	UTR504 010020110	1	0.2	10	1	50	4
UTR504 010010112	1	0.1	12	1	50	4	UTR504 010020112	1	0.2	12	1	50	4
UTR504 0100101504	1	0.1	4	1.5	50	4	UTR504 0100201504	1	0.2	4	1.5	50	4
UTR504 0100101506	1	0.1	6	1.5	50	4	UTR504 0100201506	1	0.2	6	1.5	50	4
UTR504 0100101508	1	0.1	8	1.5	50	4	UTR504 0100201508	1	0.2	8	1.5	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UTR504

4 Flutes Tapered Radius End Mill

Endmill

	EDP No	DC	RE	APMX	BHTA	OAL	DCON MS		EDP No	DC	RE	APMX	BHTA	OAL	DCON MS
Zamus Star	UTR504 0100201510	1	0.2	10	1.5	50	4		UTR504 012010110	1.2	0.1	10	1	50	4
	UTR504 0100201512	1	0.2	12	1.5	50	4		UTR504 012010112	1.2	0.1	12	1	50	4
	UTR504 010020204	1	0.2	4	2	50	4		UTR504 012010206	1.2	0.1	6	2	50	4
	UTR504 010020206	1	0.2	6	2	50	4		UTR504 012010208	1.2	0.1	8	2	50	4
E-Star	UTR504 010020208	1	0.2	8	2	50	4		UTR504 012010210	1.2	0.1	10	2	50	4
	UTR504 010020210	1	0.2	10	2	50	4		UTR504 012010212	1.2	0.1	12	2	50	4
	UTR504 010020212	1	0.2	12	2	50	4		UTR504 012010306	1.2	0.1	6	3	50	4
	UTR504 010020304	1	0.2	4	3	50	4		UTR504 012010308	1.2	0.1	8	3	50	4
U-Wing	UTR504 010020306	1	0.2	6	3	50	4		UTR504 012010310	1.2	0.1	10	3	50	4
	UTR504 010020308	1	0.2	8	3	50	4		UTR504 012010312	1.2	0.1	12	3	50	4
	UTR504 010020310	1	0.2	10	3	50	4		UTR504 012020106	1.2	0.2	6	1	50	4
	UTR504 010020312	1	0.2	12	3	50	4		UTR504 012020108	1.2	0.2	8	1	50	4
Zamus Thunder	UTR504 010030104	1	0.3	4	1	50	4		UTR504 012020110	1.2	0.2	10	1	50	4
	UTR504 010030106	1	0.3	6	1	50	4		UTR504 012020112	1.2	0.2	12	1	50	4
	UTR504 010030108	1	0.3	8	1	50	4		UTR504 012020206	1.2	0.2	6	2	50	4
	UTR504 010030110	1	0.3	10	1	50	4		UTR504 012020208	1.2	0.2	8	2	50	4
X-Star	UTR504 010030112	1	0.3	12	1	50	4		UTR504 012020210	1.2	0.2	10	2	50	4
	UTR504 0100301504	1	0.3	4	1.5	50	4		UTR504 012020212	1.2	0.2	12	2	50	4
	UTR504 0100301506	1	0.3	6	1.5	50	4		UTR504 012020306	1.2	0.2	6	3	50	4
	UTR504 0100301508	1	0.3	8	1.5	50	4		UTR504 012020308	1.2	0.2	8	3	50	4
S-Wing	UTR504 0100301510	1	0.3	10	1.5	50	4		UTR504 012020310	1.2	0.2	10	3	50	4
	UTR504 0100301512	1	0.3	12	1.5	50	4		UTR504 012020312	1.2	0.2	12	3	50	4
	UTR504 010030204	1	0.3	4	2	50	4		UTR504 012030106	1.2	0.3	6	1	50	4
	UTR504 010030206	1	0.3	6	2	50	4		UTR504 012030108	1.2	0.3	8	1	50	4
A-Wing	UTR504 010030208	1	0.3	8	2	50	4		UTR504 012030110	1.2	0.3	10	1	50	4
	UTR504 010030210	1	0.3	10	2	50	4		UTR504 012030112	1.2	0.3	12	1	50	4
	UTR504 010030212	1	0.3	12	2	50	4		UTR504 012030206	1.2	0.3	6	2	50	4
	UTR504 010030304	1	0.3	4	3	50	4		UTR504 012030208	1.2	0.3	8	2	50	4
Standard	UTR504 010030306	1	0.3	6	3	50	4		UTR504 012030210	1.2	0.3	10	2	50	4
	UTR504 010030308	1	0.3	8	3	50	4		UTR504 012030212	1.2	0.3	12	2	50	4
	UTR504 010030310	1	0.3	10	3	50	4		UTR504 012030306	1.2	0.3	6	3	50	4
	UTR504 010030312	1	0.3	12	3	50	4		UTR504 012030308	1.2	0.3	8	3	50	4
Copper -Mate	UTR504 012010106	1.2	0.1	6	1	50	4		UTR504 012030310	1.2	0.3	10	3	50	4
	UTR504 012010108	1.2	0.1	8	1	50	4		UTR504 012030312	1.2	0.3	12	3	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTR504

4 Flutes Tapered Radius End Mill

Endmill

EDP No	DC	RE	APMX	BHTA	OAL	DCON MS	EDP No	DC	RE	APMX	BHTA	OAL	DCON MS
UTR504 015010106	1.5	0.1	6	1	50	4	UTR504 015020316	1.5	0.2	16	3	50	4
UTR504 015010108	1.5	0.1	8	1	50	4	UTR504 015020320	1.5	0.2	20	3	60	4
UTR504 015010110	1.5	0.1	10	1	50	4	UTR504 015030106	1.5	0.3	6	1	50	4
UTR504 015010112	1.5	0.1	12	1	50	4	UTR504 015030108	1.5	0.3	8	1	50	4
UTR504 015010116	1.5	0.1	16	1	50	4	UTR504 015030110	1.5	0.3	10	1	50	4
UTR504 015010120	1.5	0.1	20	1	60	4	UTR504 015030112	1.5	0.3	12	1	50	4
UTR504 015010206	1.5	0.1	6	2	50	4	UTR504 015030116	1.5	0.3	16	1	50	4
UTR504 015010208	1.5	0.1	8	2	50	4	UTR504 015030120	1.5	0.3	20	1	60	4
UTR504 015010210	1.5	0.1	10	2	50	4	UTR504 015030206	1.5	0.3	6	2	50	4
UTR504 015010212	1.5	0.1	12	2	50	4	UTR504 015030208	1.5	0.3	8	2	50	4
UTR504 015010216	1.5	0.1	16	2	50	4	UTR504 015030210	1.5	0.3	10	2	50	4
UTR504 015010220	1.5	0.1	20	2	60	4	UTR504 015030212	1.5	0.3	12	2	50	4
UTR504 015010306	1.5	0.1	6	3	50	4	UTR504 015030216	1.5	0.3	16	2	50	4
UTR504 015010308	1.5	0.1	8	3	50	4	UTR504 015030220	1.5	0.3	20	2	60	4
UTR504 015010310	1.5	0.1	10	3	50	4	UTR504 015030306	1.5	0.3	6	3	50	4
UTR504 015010312	1.5	0.1	12	3	50	4	UTR504 015030308	1.5	0.3	8	3	50	4
UTR504 015010316	1.5	0.1	16	3	50	4	UTR504 015030310	1.5	0.3	10	3	50	4
UTR504 015010320	1.5	0.1	20	3	60	4	UTR504 015030312	1.5	0.3	12	3	50	4
UTR504 015020106	1.5	0.2	6	1	50	4	UTR504 015030316	1.5	0.3	16	3	50	4
UTR504 015020108	1.5	0.2	8	1	50	4	UTR504 015030320	1.5	0.3	20	3	60	4
UTR504 015020110	1.5	0.2	10	1	50	4	UTR504 020010108	2	0.1	8	1	50	4
UTR504 015020112	1.5	0.2	12	1	50	4	UTR504 020010110	2	0.1	10	1	50	4
UTR504 015020116	1.5	0.2	16	1	50	4	UTR504 020010112	2	0.1	12	1	50	4
UTR504 015020120	1.5	0.2	20	1	60	4	UTR504 020010116	2	0.1	16	1	50	4
UTR504 015020206	1.5	0.2	6	2	50	4	UTR504 020010120	2	0.1	20	1	60	4
UTR504 015020208	1.5	0.2	8	2	50	4	UTR504 020010125	2	0.1	25	1	60	4
UTR504 015020210	1.5	0.2	10	2	50	4	UTR504 020010208	2	0.1	8	2	50	4
UTR504 015020212	1.5	0.2	12	2	50	4	UTR504 020010210	2	0.1	10	2	50	4
UTR504 015020216	1.5	0.2	16	2	50	4	UTR504 020010212	2	0.1	12	2	50	4
UTR504 015020220	1.5	0.2	20	2	60	4	UTR504 020010216	2	0.1	16	2	50	4
UTR504 015020306	1.5	0.2	6	3	50	4	UTR504 020010220	2	0.1	20	2	60	4
UTR504 015020308	1.5	0.2	8	3	50	4	UTR504 020010225	2	0.1	25	2	60	4
UTR504 015020310	1.5	0.2	10	3	50	4	UTR504 020010308	2	0.1	8	3	50	4
UTR504 015020312	1.5	0.2	12	3	50	4	UTR504 020010310	2	0.1	10	3	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UTR504 4 Flutes Tapered Radius End Mill

Endmill

	EDP No	DC	RE	APMX	BHTA	OAL	DCON MS		EDP No	DC	RE	APMX	BHTA	OAL	DCON MS
Zamus Star	UTR504 020010312	2	0.1	12	3	50	4		UTR504 020030308	2	0.3	8	3	50	4
	UTR504 020010316	2	0.1	16	3	50	4		UTR504 020030310	2	0.3	10	3	50	4
	UTR504 020010320	2	0.1	20	3	60	6		UTR504 020030312	2	0.3	12	3	50	4
	UTR504 020010325	2	0.1	25	3	60	6		UTR504 020030316	2	0.3	16	3	50	4
	UTR504 020020108	2	0.2	8	1	50	4		UTR504 020030320	2	0.3	20	3	60	6
E-Star	UTR504 020020110	2	0.2	10	1	50	4		UTR504 020030325	2	0.3	25	3	60	6
	UTR504 020020112	2	0.2	12	1	50	4		UTR504 025010110	2.5	0.1	10	1	50	4
	UTR504 020020116	2	0.2	16	1	50	4		UTR504 025010112	2.5	0.1	12	1	50	4
U-Wing	UTR504 020020120	2	0.2	20	1	60	4		UTR504 025010116	2.5	0.1	16	1	50	4
	UTR504 020020125	2	0.2	25	1	60	4		UTR504 025010120	2.5	0.1	20	1	60	4
	UTR504 020020208	2	0.2	8	2	50	4		UTR504 025010125	2.5	0.1	25	1	60	4
	UTR504 020020210	2	0.2	10	2	50	4		UTR504 025010130	2.5	0.1	30	1	60	4
Zamus Thunder	UTR504 020020212	2	0.2	12	2	50	4		UTR504 025010210	2.5	0.1	10	2	50	4
	UTR504 020020216	2	0.2	16	2	50	4		UTR504 025010212	2.5	0.1	12	2	50	4
	UTR504 020020220	2	0.2	20	2	60	4		UTR504 025010216	2.5	0.1	16	2	50	4
	UTR504 020020225	2	0.2	25	2	60	4		UTR504 025010220	2.5	0.1	20	2	60	4
X-Star	UTR504 020020308	2	0.2	8	3	50	4		UTR504 025010225	2.5	0.1	25	2	60	6
	UTR504 020020310	2	0.2	10	3	50	4		UTR504 025010230	2.5	0.1	30	2	60	6
	UTR504 020020312	2	0.2	12	3	50	4		UTR504 025010310	2.5	0.1	10	3	50	4
	UTR504 020020316	2	0.2	16	3	50	4		UTR504 025010312	2.5	0.1	12	3	50	4
S-Wing	UTR504 020020320	2	0.2	20	3	60	6		UTR504 025010316	2.5	0.1	16	3	50	6
	UTR504 020020325	2	0.2	25	3	60	6		UTR504 025010320	2.5	0.1	20	3	60	6
	UTR504 020030108	2	0.3	8	1	50	4		UTR504 025010325	2.5	0.1	25	3	60	6
A-Wing	UTR504 020030110	2	0.3	10	1	50	4		UTR504 025010330	2.5	0.1	30	3	60	6
	UTR504 020030112	2	0.3	12	1	50	4		UTR504 025020110	2.5	0.2	10	1	50	4
	UTR504 020030116	2	0.3	16	1	50	4		UTR504 025020112	2.5	0.2	12	1	50	4
Standard	UTR504 020030120	2	0.3	20	1	60	4		UTR504 025020116	2.5	0.2	16	1	50	4
	UTR504 020030125	2	0.3	25	1	60	4		UTR504 025020120	2.5	0.2	20	1	60	4
	UTR504 020030208	2	0.3	8	2	50	4		UTR504 025020125	2.5	0.2	25	1	60	4
	UTR504 020030210	2	0.3	10	2	50	4		UTR504 025020130	2.5	0.2	30	1	60	4
Copper -Mate	UTR504 020030212	2	0.3	12	2	50	4		UTR504 025020210	2.5	0.2	10	2	50	4
	UTR504 020030216	2	0.3	16	2	50	4		UTR504 025020212	2.5	0.2	12	2	50	4
	UTR504 020030220	2	0.3	20	2	60	4		UTR504 025020216	2.5	0.2	16	2	50	4
	UTR504 020030225	2	0.3	25	2	60	4		UTR504 025020220	2.5	0.2	20	2	60	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTR504

4 Flutes Tapered Radius End Mill

Endmill

EDP No	DC	RE	APMX	BHTA	OAL	DCON MS	EDP No	DC	RE	APMX	BHTA	OAL	DCON MS
UTR504 025020225	2.5	0.2	25	2	60	6	UTR504 025030130	2.5	0.3	30	1	60	4
UTR504 025020230	2.5	0.2	30	2	60	6	UTR504 025030210	2.5	0.3	10	2	50	4
UTR504 025020310	2.5	0.2	10	3	50	4	UTR504 025030212	2.5	0.3	12	2	50	4
UTR504 025020312	2.5	0.2	12	3	50	4	UTR504 025030216	2.5	0.3	16	2	50	4
UTR504 025020316	2.5	0.2	16	3	50	6	UTR504 025030220	2.5	0.3	20	2	60	4
UTR504 025020320	2.5	0.2	20	3	60	6	UTR504 025030225	2.5	0.3	25	2	60	6
UTR504 025020325	2.5	0.2	25	3	60	6	UTR504 025030230	2.5	0.3	30	2	60	6
UTR504 025020330	2.5	0.2	30	3	60	6	UTR504 025030310	2.5	0.3	10	3	50	4
UTR504 025030110	2.5	0.3	10	1	50	4	UTR504 025030312	2.5	0.3	12	3	50	4
UTR504 025030112	2.5	0.3	12	1	50	4	UTR504 025030316	2.5	0.3	16	3	50	6
UTR504 025030116	2.5	0.3	16	1	50	4	UTR504 025030320	2.5	0.3	20	3	60	6
UTR504 025030120	2.5	0.3	20	1	60	4	UTR504 025030325	2.5	0.3	25	3	60	6
UTR504 025030125	2.5	0.3	25	1	60	4	UTR504 025030330	2.5	0.3	30	3	60	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

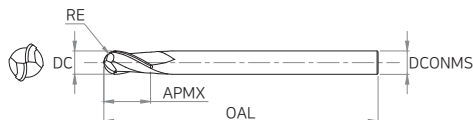
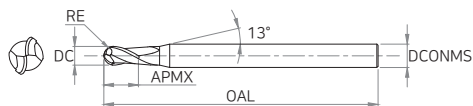
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB502 2 Flutes Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø6	0 ~ -0.012	h5
Ø6.5 ~ Ø25	0 ~ -0.015	



CARBIDE

AlCrN



R3 OR UNDER ABOVE R3

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UB502 001S	0.1	0.05	0.1	40	4	UB502 006S3	0.6	0.3	1.2	40	3
UB502 001	0.1	0.05	0.2	40	4	UB502 007S	0.7	0.35	0.7	40	4
UB502 001S3	0.1	0.05	0.2	40	3	UB502 007	0.7	0.35	1.4	40	4
UB502 0015S	0.15	0.075	0.15	40	4	UB502 007S3	0.7	0.35	1.4	40	3
UB502 0015	0.15	0.075	0.3	40	4	UB502 008S	0.8	0.4	0.8	40	4
UB502 0015S3	0.15	0.075	0.3	40	3	UB502 008	0.8	0.4	1.6	40	4
UB502 002S	0.2	0.1	0.2	40	4	UB502 008S3	0.8	0.4	1.6	40	3
UB502 002	0.2	0.1	0.4	40	4	UB502 009S	0.9	0.45	0.9	40	4
UB502 002S3	0.2	0.1	0.4	40	3	UB502 009	0.9	0.45	1.8	40	4
UB502 003S	0.3	0.15	0.3	40	4	UB502 009S3	0.9	0.45	1.8	40	3
UB502 003	0.3	0.15	0.6	40	4	UB502 010S	1	0.5	1.5	40	6
UB502 003S3	0.3	0.15	0.6	40	3	UB502 010S3	1	0.5	2.5	50	3
UB502 004S	0.4	0.2	0.4	40	4	UB502 010S4	1	0.5	2.5	50	4
UB502 004	0.4	0.2	0.8	40	4	UB502 010	1	0.5	2.5	50	6
UB502 004S3	0.4	0.2	0.8	40	3	UB502 010070	1	0.5	2.5	70	6
UB502 005S	0.5	0.25	0.5	40	4	UB502 010100	1	0.5	2.5	100	6
UB502 005	0.5	0.25	1	40	4	UB502 012S	1.2	0.6	2	40	6
UB502 005S3	0.5	0.25	1	40	3	UB502 012S3	1.2	0.6	3	50	3
UB502 006S	0.6	0.3	0.6	40	4	UB502 012S4	1.2	0.6	3	50	4
UB502 006	0.6	0.3	1.2	40	4	UB502 012	1.2	0.6	3	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB502

2 Flutes Ball End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UB502 012070	1.2	0.6	3	70	6	UB502 045	4.5	2.25	9	80	6
UB502 012100	1.2	0.6	3	100	6	UB502 050S	5	2.5	7.5	60	6
UB502 015S	1.5	0.75	2.5	40	6	UB502 050	5	2.5	10	80	6
UB502 015S3	1.5	0.75	4	50	3	UB502 050S5	5	2.5	10	80	5
UB502 015S4	1.5	0.75	4	50	4	UB502 055	5.5	2.75	11	90	6
UB502 015	1.5	0.75	4	50	6	UB502 060S	6	3	9	50	6
UB502 015070	1.5	0.75	4	70	6	UB502 060060	6	3	9	60	6
UB502 015100	1.5	0.75	4	100	6	UB502 060080	6	3	9	80	6
UB502 020S	2	1	3	40	6	UB502 060	6	3	12	90	6
UB502 020S3	2	1	5	50	3	UB502 060110	6	3	12	110	6
UB502 020S4	2	1	5	50	4	UB502 060130	6	3	12	130	6
UB502 020	2	1	5	50	6	UB502 060150	6	3	12	150	6
UB502 020080	2	1	5	80	6	UB502 065	6.5	3.25	13	90	8
UB502 020100	2	1	5	100	6	UB502 070	7	3.5	14	90	8
UB502 025S	2.5	1.25	4	40	6	UB502 080S	8	4	12	50	8
UB502 025S3	2.5	1.25	6	60	3	UB502 080060	8	4	12	60	8
UB502 025S4	2.5	1.25	6	60	4	UB502 080080	8	4	12	80	8
UB502 025	2.5	1.25	6	60	6	UB502 080090	8	4	12	90	8
UB502 025080	2.5	1.25	6	80	6	UB502 080	8	4	14	100	8
UB502 025100	2.5	1.25	6	100	6	UB502 080130	8	4	14	130	8
UB502 030S	3	1.5	4.5	40	6	UB502 080150	8	4	14	150	8
UB502 030S3	3	1.5	6	60	3	UB502 085	8.5	4.25	16	100	10
UB502 030S4	3	1.5	6	60	4	UB502 090	9	4.5	18	100	10
UB502 030	3	1.5	6	60	6	UB502 100S	10	5	15	50	10
UB502 030080	3	1.5	6	80	6	UB502 100060	10	5	15	60	10
UB502 030100	3	1.5	6	100	6	UB502 100080	10	5	15	80	10
UB502 035	3.5	1.75	8	70	6	UB502 100090	10	5	15	90	10
UB502 040S	4	2	6	50	6	UB502 100	10	5	18	100	10
UB502 040S4	4	2	8	70	4	UB502 100130	10	5	18	130	10
UB502 040	4	2	8	70	6	UB502 100150	10	5	18	150	10
UB502 040100S4	4	2	8	100	4	UB502 100180	10	5	18	180	10
UB502 040120S4	4	2	8	120	4	UB502 100200	10	5	18	200	10
UB502 040100	4	2	8	100	6	UB502 110	11	5.5	20	100	12
UB502 040120	4	2	8	120	6	UB502 120S	12	6	18	60	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB502

2 Flutes Ball End Mill

Endmill

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UB502 120080	12	6	18	80	12	UB502 160100	16	8	24	100	16
UB502 120090	12	6	18	90	12	UB502 160130	16	8	24	130	16
UB502 120100	12	6	18	100	12	UB502 160	16	8	30	150	16
UB502 120	12	6	24	110	12	UB502 160180	16	8	30	180	16
UB502 120130	12	6	24	130	12	UB502 160200	16	8	30	200	16
UB502 120150	12	6	24	150	12	UB502 180S16	18	9	34	150	16
UB502 120180	12	6	24	180	12	UB502 180	18	9	34	150	18
UB502 120200	12	6	24	200	12	UB502 200100	20	10	30	100	20
UB502 130	13	6.5	24	100	12	UB502 200130	20	10	30	130	20
UB502 140S12	14	7	26	100	12	UB502 200	20	10	38	150	20
UB502 140	14	7	26	100	14	UB502 200200	20	10	38	200	20
UB502 140S16	14	7	26	100	16	UB502 250120	25	12.5	50	120	25
UB502 150	15	7.5	28	140	16	UB502 250180	25	12.5	50	180	25

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

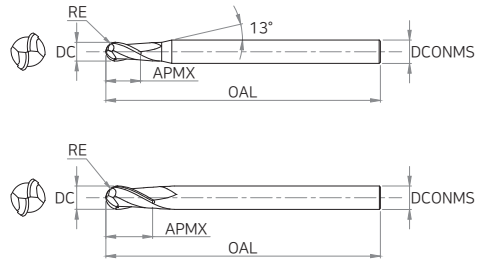
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB502-P

2 Flutes High Precision Ball End Mill



► Tolerance

DC		Shank Dia
∅0.1 ~ ∅6	0 ~ -0.012	h5
∅8 ~ ∅12	0 ~ -0.015	



EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
UB502 001P	0.1	0.05	0.2	40	4	UB502 012P	1.2	0.6	3	50	6
UB502 0015P	0.15	0.075	0.3	40	4	UB502 015P	1.5	0.75	4	50	6
UB502 002P	0.2	0.1	0.4	40	4	UB502 020P	2	1	5	50	6
UB502 003P	0.3	0.15	0.6	40	4	UB502 025P	2.5	1.25	6	60	6
UB502 004P	0.4	0.2	0.8	40	4	UB502 030P	3	1.5	6	60	6
UB502 005P	0.5	0.25	1	40	4	UB502 040P	4	2	8	70	6
UB502 006P	0.6	0.3	1.2	40	4	UB502 050P	5	2.5	10	80	6
UB502 007P	0.7	0.35	1.4	40	4	UB502 060P	6	3	12	90	6
UB502 008P	0.8	0.4	1.6	40	4	UB502 080P	8	4	14	100	8
UB502 009P	0.9	0.45	1.8	40	4	UB502 100P	10	5	18	100	10
UB502 010P	1	0.5	2.5	50	6	UB502 120P	12	6	24	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

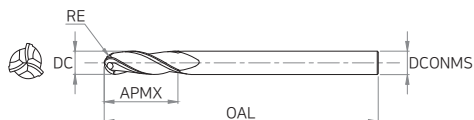
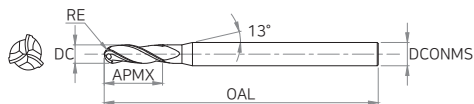
A-Wing

Standard

Copper
-Mate

Gra
-Mate

UB503 3 Flutes Ball End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø12	0 ~ -0.02	h5



R3 OR UNDER

ABOVE R3

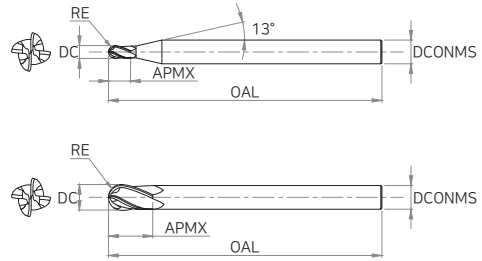
EDP No	DC	RE	APMX	OAL	DCONMS
UB503 010	1	0.5	1	50	6
UB503 015	1.5	0.75	1.5	50	6
UB503 020	2	1	2	50	6
UB503 030	3	1.5	3	60	6
UB503 040	4	2	4	70	6
UB503 050	5	2.5	5	80	6
UB503 060	6	3	6	90	6
UB503 080	8	4	8	100	8
UB503 100	10	5	10	100	10
UB503 120	12	6	12	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

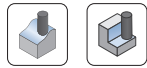
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FC500					
○		○	◎	◎	○					

UB504 4 Flutes Ball End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø12	0 ~ -0.02	h5



EDP No	DC	RE	APMX	OAL	DCONMS
UB504 010	1	0.5	1	50	6
UB504 015	1.5	0.75	1.5	50	6
UB504 020	2	1	2	50	6
UB504 030	3	1.5	3	60	6
UB504 040	4	2	4	70	6
UB504 050	5	2.5	5	80	6
UB504 060	6	3	6	90	6
UB504 080	8	4	8	100	8
UB504 100	10	5	10	100	10
UB504 120	12	6	12	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

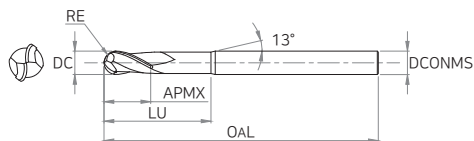
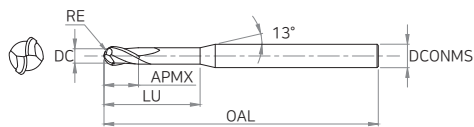
Standard

Copper
-Mate

Gra
-Mate

UB512

2 Flutes Long Neck Ball End Mill



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UB512 001002	0.1	0.05	0.1	0.2	40	4	UB512 00403	0.4	0.2	0.4	3	40	4
UB512 001003	0.1	0.05	0.1	0.3	40	4	UB512 00404	0.4	0.2	0.4	4	40	4
UB512 001005	0.1	0.05	0.1	0.5	40	4	UB512 00405	0.4	0.2	0.4	5	40	4
UB512 00101	0.1	0.05	0.1	1	40	4	UB512 00406	0.4	0.2	0.4	6	40	4
UB512 002005	0.2	0.1	0.2	0.5	40	4	UB512 00408	0.4	0.2	0.4	8	40	4
UB512 00201	0.2	0.1	0.2	1	40	4	UB512 00410	0.4	0.2	0.4	10	40	4
UB512 002015	0.2	0.1	0.2	1.5	40	4	UB512 00501	0.5	0.25	0.5	1	45	4
UB512 00202	0.2	0.1	0.2	2	40	4	UB512 005015	0.5	0.25	0.5	1.5	45	4
UB512 00203	0.2	0.1	0.2	3	40	4	UB512 00502	0.5	0.25	0.5	2	45	4
UB512 00301	0.3	0.15	0.3	1	40	4	UB512 005025	0.5	0.25	0.5	2.5	45	4
UB512 003015	0.3	0.15	0.3	1.5	40	4	UB512 00503	0.5	0.25	0.5	3	45	4
UB512 00302	0.3	0.15	0.3	2	40	4	UB512 00504	0.5	0.25	0.5	4	45	4
UB512 003025	0.3	0.15	0.3	2.5	40	4	UB512 00505	0.5	0.25	0.5	5	45	4
UB512 00303	0.3	0.15	0.3	3	40	4	UB512 00506	0.5	0.25	0.5	6	45	4
UB512 00304	0.3	0.15	0.3	4	40	4	UB512 00508	0.5	0.25	0.5	8	45	4
UB512 00305	0.3	0.15	0.3	5	40	4	UB512 00510	0.5	0.25	0.5	10	45	4
UB512 00401	0.4	0.2	0.4	1	40	4	UB512 00512	0.5	0.25	0.5	12	45	4
UB512 004015	0.4	0.2	0.4	1.5	40	4	UB512 00514	0.5	0.25	0.5	14	45	4
UB512 00402	0.4	0.2	0.4	2	40	4	UB512 00516	0.5	0.25	0.5	16	45	4
UB512 004025	0.4	0.2	0.4	2.5	40	4	UB512 00601	0.6	0.3	0.6	1	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB512

2 Flutes Long Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UB512 00602	0.6	0.3	0.6	2	45	4	UB512 010025	1	0.5	1	2.5	50	4
UB512 00603	0.6	0.3	0.6	3	45	4	UB512 01003	1	0.5	1	3	50	4
UB512 00604	0.6	0.3	0.6	4	45	4	UB512 01004	1	0.5	1	4	50	4
UB512 00605	0.6	0.3	0.6	5	45	4	UB512 01005	1	0.5	1	5	50	4
UB512 00606	0.6	0.3	0.6	6	45	4	UB512 01006	1	0.5	1	6	50	4
UB512 00608	0.6	0.3	0.6	8	45	4	UB512 01007	1	0.5	1	7	50	4
UB512 00610	0.6	0.3	0.6	10	45	4	UB512 01008	1	0.5	1	8	50	4
UB512 00612	0.6	0.3	0.6	12	45	4	UB512 01009	1	0.5	1	9	50	4
UB512 00614	0.6	0.3	0.6	14	45	4	UB512 01010	1	0.5	1	10	50	4
UB512 00616	0.6	0.3	0.6	16	45	4	UB512 01012	1	0.5	1	12	50	4
UB512 00702	0.7	0.35	0.7	2	45	4	UB512 01014	1	0.5	1	14	50	4
UB512 00704	0.7	0.35	0.7	4	45	4	UB512 01016	1	0.5	1	16	50	4
UB512 00706	0.7	0.35	0.7	6	45	4	UB512 01018	1	0.5	1	18	50	4
UB512 00708	0.7	0.35	0.7	8	45	4	UB512 01020	1	0.5	1	20	55	4
UB512 00710	0.7	0.35	0.7	10	45	4	UB512 01022	1	0.5	1	22	60	4
UB512 00712	0.7	0.35	0.7	12	45	4	UB512 01026	1	0.5	1	26	60	4
UB512 00801	0.8	0.4	0.8	1	45	4	UB512 01030	1	0.5	1	30	70	4
UB512 00802	0.8	0.4	0.8	2	45	4	UB512 01040	1	0.5	1	40	80	4
UB512 00803	0.8	0.4	0.8	3	45	4	UB512 01050	1	0.5	1	50	100	4
UB512 00804	0.8	0.4	0.8	4	45	4	UB512 01204	1.2	0.6	1.2	4	50	4
UB512 00805	0.8	0.4	0.8	5	45	4	UB512 01206	1.2	0.6	1.2	6	50	4
UB512 00806	0.8	0.4	0.8	6	45	4	UB512 01208	1.2	0.6	1.2	8	50	4
UB512 00807	0.8	0.4	0.8	7	45	4	UB512 01210	1.2	0.6	1.2	10	50	4
UB512 00808	0.8	0.4	0.8	8	45	4	UB512 01212	1.2	0.6	1.2	12	50	4
UB512 00810	0.8	0.4	0.8	10	45	4	UB512 01214	1.2	0.6	1.2	14	50	4
UB512 00812	0.8	0.4	0.8	12	45	4	UB512 01216	1.2	0.6	1.2	16	50	4
UB512 00814	0.8	0.4	0.8	14	45	4	UB512 01220	1.2	0.6	1.2	20	55	4
UB512 00816	0.8	0.4	0.8	16	45	4	UB512 01226	1.2	0.6	1.2	26	60	4
UB512 00820	0.8	0.4	0.8	20	45	4	UB512 01406	1.4	0.7	1.4	6	50	4
UB512 00904	0.9	0.45	0.9	4	45	4	UB512 01408	1.4	0.7	1.4	8	50	4
UB512 00906	0.9	0.45	0.9	6	45	4	UB512 01410	1.4	0.7	1.4	10	50	4
UB512 00908	0.9	0.45	0.9	8	45	4	UB512 01412	1.4	0.7	1.4	12	50	4
UB512 00910	0.9	0.45	0.9	10	45	4	UB512 01416	1.4	0.7	1.4	16	50	4
UB512 01002	1	0.5	1	2	50	4	UB512 01503	1.5	0.75	1.5	3	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB512

2 Flutes Long Neck Ball End Mill

Endmill

	EDP No	DC	RE	APMX	LU	OAL	DCON MS		EDP No	DC	RE	APMX	LU	OAL	DCON MS
Zamus Star	UB512 01504	1.5	0.75	1.5	4	50	4		UB512 02010	2	1	2	10	50	4
	UB512 01505	1.5	0.75	1.5	5	50	4		UB512 02012	2	1	2	12	50	4
	UB512 01506	1.5	0.75	1.5	6	50	4		UB512 02014	2	1	2	14	50	4
	UB512 01507	1.5	0.75	1.5	7	50	4		UB512 02016	2	1	2	16	50	4
	UB512 01508	1.5	0.75	1.5	8	50	4		UB512 02018	2	1	2	18	55	4
E-Star	UB512 01510	1.5	0.75	1.5	10	50	4		UB512 02020	2	1	2	20	55	4
	UB512 01512	1.5	0.75	1.5	12	50	4		UB512 02022	2	1	2	22	60	4
	UB512 01514	1.5	0.75	1.5	14	50	4		UB512 02026	2	1	2	26	60	4
U-Wing	UB512 01516	1.5	0.75	1.5	16	50	4		UB512 02030	2	1	2	30	70	4
	UB512 01518	1.5	0.75	1.5	18	50	4		UB512 02035	2	1	2	35	70	4
	UB512 01520	1.5	0.75	1.5	20	55	4		UB512 02040	2	1	2	40	80	4
	UB512 01522	1.5	0.75	1.5	22	60	4		UB512 02045	2	1	2	45	90	4
Zamus Thunder	UB512 01526	1.5	0.75	1.5	26	60	4		UB512 02050	2	1	2	50	100	4
	UB512 01530	1.5	0.75	1.5	30	70	4		UB512 02060	2	1	2	60	110	4
	UB512 01535	1.5	0.75	1.5	35	70	4		UB512 02508	2.5	1.25	2.5	8	50	4
X-Star	UB512 01540	1.5	0.75	1.5	40	80	4		UB512 02510	2.5	1.25	2.5	10	50	4
	UB512 01604	1.6	0.8	1.6	4	50	4		UB512 02512	2.5	1.25	2.5	12	50	4
	UB512 01606	1.6	0.8	1.6	6	50	4		UB512 02516	2.5	1.25	2.5	16	50	4
	UB512 01608	1.6	0.8	1.6	8	50	4		UB512 02520	2.5	1.25	2.5	20	50	4
S-Wing	UB512 01610	1.6	0.8	1.6	10	50	4		UB512 02522	2.5	1.25	2.5	22	60	4
	UB512 01612	1.6	0.8	1.6	12	50	4		UB512 02526	2.5	1.25	2.5	26	60	4
	UB512 01616	1.6	0.8	1.6	16	50	4		UB512 02530	2.5	1.25	2.5	30	70	4
A-Wing	UB512 01620	1.6	0.8	1.6	20	50	4		UB512 02535	2.5	1.25	2.5	35	70	4
	UB512 01804	1.8	0.9	1.8	4	50	4		UB512 02540	2.5	1.25	2.5	40	80	4
	UB512 01806	1.8	0.9	1.8	6	50	4		UB512 02545	2.5	1.25	2.5	45	90	4
Standard	UB512 01808	1.8	0.9	1.8	8	50	4		UB512 02550	2.5	1.25	2.5	50	100	4
	UB512 01810	1.8	0.9	1.8	10	50	4		UB512 03006	3	1.5	3	6	50	6
	UB512 01812	1.8	0.9	1.8	12	50	4		UB512 03008	3	1.5	3	8	50	6
	UB512 01816	1.8	0.9	1.8	16	50	4		UB512 03010	3	1.5	3	10	50	6
Copper -Mate	UB512 01820	1.8	0.9	1.8	20	50	4		UB512 03012	3	1.5	3	12	50	6
	UB512 02004	2	1	2	4	50	4		UB512 03014	3	1.5	3	14	60	6
	UB512 02005	2	1	2	5	50	4		UB512 03016	3	1.5	3	16	60	6
Gra -Mate	UB512 02006	2	1	2	6	50	4		UB512 03018	3	1.5	3	18	60	6
	UB512 02008	2	1	2	8	50	4		UB512 03020	3	1.5	3	20	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB512 2 Flutes Long Neck Ball End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UB512 03022	3	1.5	3	22	65	6	UB512 05020	5	2.5	6	20	60	6
UB512 03026	3	1.5	3	26	65	6	UB512 05026	5	2.5	6	26	65	6
UB512 03030	3	1.5	3	30	70	6	UB512 05030	5	2.5	6	30	70	6
UB512 03035	3	1.5	3	35	70	6	UB512 05035	5	2.5	6	35	70	6
UB512 03040	3	1.5	3	40	80	6	UB512 05040	5	2.5	6	40	80	6
UB512 03045	3	1.5	3	45	90	6	UB512 05045	5	2.5	6	45	90	6
UB512 03050	3	1.5	3	50	100	6	UB512 05050	5	2.5	6	50	100	6
UB512 03060	3	1.5	3	60	100	6	UB512 05055	5	2.5	6	55	100	6
UB512 04008	4	2	4	8	50	6	UB512 05060	5	2.5	6	60	100	6
UB512 04010	4	2	4	10	50	6	UB512 06020	6	3	8	20	60	6
UB512 04012	4	2	4	12	50	6	UB512 0602090	6	3	12	20	90	6
UB512 04014	4	2	4	14	60	6	UB512 06030	6	3	8	30	60	6
UB512 04016	4	2	4	16	60	6	UB512 0603090	6	3	12	30	90	6
UB512 04018	4	2	4	18	60	6	UB512 08025	8	4	10	25	70	8
UB512 04020	4	2	4	20	60	6	UB512 08025100	8	4	14	25	100	8
UB512 04022	4	2	4	22	65	6	UB512 08035	8	4	10	35	70	8
UB512 04026	4	2	4	26	65	6	UB512 08035100	8	4	14	35	100	8
UB512 04030	4	2	4	30	70	6	UB512 10030	10	5	12	30	75	10
UB512 04035	4	2	4	35	70	6	UB512 10030100	10	5	18	30	100	10
UB512 04040	4	2	4	40	80	6	UB512 10040	10	5	12	40	75	10
UB512 04045	4	2	4	45	90	6	UB512 10040100	10	5	18	40	100	10
UB512 04050	4	2	4	50	100	6	UB512 12032	12	6	14	32	80	12
UB512 04055	4	2	4	55	100	6	UB512 12032110	12	6	22	32	110	12
UB512 04060	4	2	4	60	100	6	UB512 12045	12	6	14	45	80	12
UB512 05015	5	2.5	6	15	60	6	UB512 12045110	12	6	22	45	110	12

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

Gra -Mate

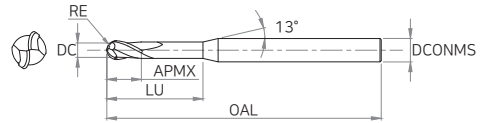
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

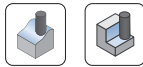
UB512 S6

2 Flutes Long Neck Ball End Mill (Shank 6)



► Tolerance

DC	Shank Dia
Ø0.5 ~ Ø2	0 ~ -0.012 h5



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UB512 00501S6	0.5	0.25	0.5	1	45	6	UB512 00808S6	0.8	0.4	0.8	8	45	6
UB512 00502S6	0.5	0.25	0.5	2	45	6	UB512 00810S6	0.8	0.4	0.8	10	45	6
UB512 00504S6	0.5	0.25	0.5	4	45	6	UB512 00812S6	0.8	0.4	0.8	12	45	6
UB512 00601S6	0.6	0.3	0.6	1	45	6	UB512 00814S6	0.8	0.4	0.8	14	45	6
UB512 00602S6	0.6	0.3	0.6	2	45	6	UB512 00816S6	0.8	0.4	0.8	16	45	6
UB512 00603S6	0.6	0.3	0.6	3	45	6	UB512 00820S6	0.8	0.4	0.8	20	55	6
UB512 00604S6	0.6	0.3	0.6	4	45	6	UB512 01002S6	1	0.5	1	2	50	6
UB512 00605S6	0.6	0.3	0.6	5	45	6	UB512 01003S6	1	0.5	1	3	50	6
UB512 00606S6	0.6	0.3	0.6	6	45	6	UB512 01004S6	1	0.5	1	4	50	6
UB512 00608S6	0.6	0.3	0.6	8	45	6	UB512 01005S6	1	0.5	1	5	50	6
UB512 00610S6	0.6	0.3	0.6	10	45	6	UB512 01006S6	1	0.5	1	6	50	6
UB512 00612S6	0.6	0.3	0.6	12	45	6	UB512 01007S6	1	0.5	1	7	50	6
UB512 00614S6	0.6	0.3	0.6	14	45	6	UB512 01008S6	1	0.5	1	8	50	6
UB512 00616S6	0.6	0.3	0.6	16	45	6	UB512 01009S6	1	0.5	1	9	50	6
UB512 00801S6	0.8	0.4	0.8	1	45	6	UB512 01010S6	1	0.5	1	10	50	6
UB512 00802S6	0.8	0.4	0.8	2	45	6	UB512 01012S6	1	0.5	1	12	50	6
UB512 00803S6	0.8	0.4	0.8	3	45	6	UB512 01014S6	1	0.5	1	14	50	6
UB512 00804S6	0.8	0.4	0.8	4	45	6	UB512 01016S6	1	0.5	1	16	50	6
UB512 00805S6	0.8	0.4	0.8	5	45	6	UB512 01018S6	1	0.5	1	18	50	6
UB512 00806S6	0.8	0.4	0.8	6	45	6	UB512 01020S6	1	0.5	1	20	55	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
○		○	◎	◎	○					

UB512 S6

2 Flutes Long Neck Ball End Mill (Shank 6)

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
UB512 01022S6	1	0.5	1	22	60	6	UB512 01540S6	1.5	0.75	1.5	40	80	6
UB512 01026S6	1	0.5	1	26	60	6	UB512 02004S6	2	1	2	4	50	6
UB512 01030S6	1	0.5	1	30	70	6	UB512 02006S6	2	1	2	6	50	6
UB512 01503S6	1.5	0.75	1.5	3	50	6	UB512 02008S6	2	1	2	8	50	6
UB512 01504S6	1.5	0.75	1.5	4	50	6	UB512 02010S6	2	1	2	10	50	6
UB512 01506S6	1.5	0.75	1.5	6	50	6	UB512 02012S6	2	1	2	12	50	6
UB512 01508S6	1.5	0.75	1.5	8	50	6	UB512 02014S6	2	1	2	14	50	6
UB512 01510S6	1.5	0.75	1.5	10	50	6	UB512 02016S6	2	1	2	16	50	6
UB512 01512S6	1.5	0.75	1.5	12	50	6	UB512 02018S6	2	1	2	18	50	6
UB512 01514S6	1.5	0.75	1.5	14	50	6	UB512 02020S6	2	1	2	20	50	6
UB512 01516S6	1.5	0.75	1.5	16	50	6	UB512 02022S6	2	1	2	22	60	6
UB512 01518S6	1.5	0.75	1.5	18	50	6	UB512 02026S6	2	1	2	26	60	6
UB512 01520S6	1.5	0.75	1.5	20	55	6	UB512 02030S6	2	1	2	30	70	6
UB512 01522S6	1.5	0.75	1.5	22	60	6	UB512 02035S6	2	1	2	35	70	6
UB512 01526S6	1.5	0.75	1.5	26	60	6	UB512 02040S6	2	1	2	40	80	6
UB512 01530S6	1.5	0.75	1.5	30	70	6	UB512 02045S6	2	1	2	45	90	6
UB512 01535S6	1.5	0.75	1.5	35	70	6	UB512 02050S6	2	1	2	50	100	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

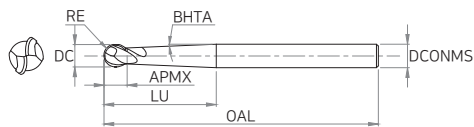
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB532

2 Flutes Lollipop Style Ball End Mill



► Tolerance

DC		Shank Dia
Ø3 ~ Ø12	0 ~ -0.03	h5



EDP No	DC	RE	BHTA	APMX	LU	OAL	DCONMS
UB532 030	3	1.5	1.5	2.3	16	80	6
UB532 040	4	2	1.5	3.1	20	80	6
UB532 050	5	2.5	1.5	3.9	25	80	6
UB532 060	6	3	1.5	4.9	30	100	6
UB532 080	8	4	1.5	6.3	35	100	8
UB532 100	10	5	1.5	7.9	40	100	10
UB532 120	12	6	1.5	9.5	50	100	12

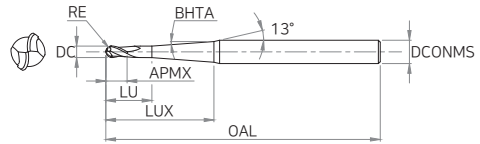
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

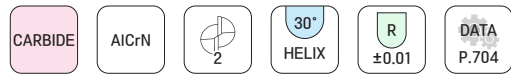
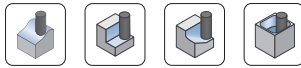
UB542

2 Flutes Tapered Neck Ball End Mill



► Tolerance

DC		Shank Dia
Ø0.1 ~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 00105005	0.1	0.05	0.5	0.1	-	0.5	40	4
UB542 0010501	0.1	0.05	0.5	0.1	-	1	40	4
UB542 00110005	0.1	0.05	1	0.1	-	0.5	40	4
UB542 0011001	0.1	0.05	1	0.1	-	1	40	4
UB542 00115005	0.1	0.05	1.5	0.1	-	0.5	40	4
UB542 0011501	0.1	0.05	1.5	0.1	-	1	40	4
UB542 00120005	0.1	0.05	2	0.1	-	0.5	40	4
UB542 0012001	0.1	0.05	2	0.1	-	1	40	4
UB542 00130005	0.1	0.05	3	0.1	-	0.5	40	4
UB542 0013001	0.1	0.05	3	0.1	-	1	40	4
UB542 0020501	0.2	0.1	0.5	0.2	0.4	1	40	4
UB542 0020502	0.2	0.1	0.5	0.2	0.4	2	40	4
UB542 0020503	0.2	0.1	0.5	0.2	0.4	3	40	4
UB542 0021001	0.2	0.1	1	0.2	0.4	1	40	4
UB542 0021002	0.2	0.1	1	0.2	0.4	2	40	4
UB542 0021003	0.2	0.1	1	0.2	0.4	3	40	4
UB542 0021501	0.2	0.1	1.5	0.2	0.4	1	40	4
UB542 0021502	0.2	0.1	1.5	0.2	0.4	2	40	4
UB542 0021503	0.2	0.1	1.5	0.2	0.4	3	40	4
UB542 0022001	0.2	0.1	2	0.2	0.4	1	40	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UB542 0022002	0.2	0.1	2	0.2	0.4	2	40	4
	UB542 0022003	0.2	0.1	2	0.2	0.4	3	40	4
	UB542 0023001	0.2	0.1	3	0.2	0.4	1	40	4
E-Star	UB542 0023002	0.2	0.1	3	0.2	0.4	2	40	4
	UB542 0023003	0.2	0.1	3	0.2	0.4	3	40	4
	UB542 0025002	0.2	0.1	5	0.2	0.4	2	40	4
U-Wing	UB542 0025003	0.2	0.1	5	0.2	0.4	3	40	4
	UB542 0030502	0.3	0.15	0.5	0.3	0.6	2	40	4
	UB542 0030503	0.3	0.15	0.5	0.3	0.6	3	40	4
Zamus Thunder	UB542 0030504	0.3	0.15	0.5	0.3	0.6	4	40	4
	UB542 0030505	0.3	0.15	0.5	0.3	0.6	5	40	4
	UB542 0031002	0.3	0.15	1	0.3	0.6	2	40	4
X-Star	UB542 0031003	0.3	0.15	1	0.3	0.6	3	40	4
	UB542 0031004	0.3	0.15	1	0.3	0.6	4	40	4
	UB542 0031005	0.3	0.15	1	0.3	0.6	5	40	4
S-Wing	UB542 0031502	0.3	0.15	1.5	0.3	0.6	2	40	4
	UB542 0031503	0.3	0.15	1.5	0.3	0.6	3	40	4
	UB542 0031504	0.3	0.15	1.5	0.3	0.6	4	40	4
A-Wing	UB542 0031505	0.3	0.15	1.5	0.3	0.6	5	40	4
	UB542 0032002	0.3	0.15	2	0.3	0.6	2	40	4
	UB542 0032003	0.3	0.15	2	0.3	0.6	3	40	4
Standard	UB542 0032004	0.3	0.15	2	0.3	0.6	4	40	4
	UB542 0032005	0.3	0.15	2	0.3	0.6	5	40	4
	UB542 0033002	0.3	0.15	3	0.3	0.6	2	40	4
Copper -Mate	UB542 0033003	0.3	0.15	3	0.3	0.6	3	40	4
	UB542 0033004	0.3	0.15	3	0.3	0.6	4	40	4
	UB542 0033005	0.3	0.15	3	0.3	0.6	5	40	4
Gra -Mate	UB542 0035005	0.3	0.15	5	0.3	0.6	5	40	4
	UB542 0040502	0.4	0.2	0.5	0.4	0.8	2	50	4
	UB542 0040503	0.4	0.2	0.5	0.4	0.8	3	50	4
	UB542 0040504	0.4	0.2	0.5	0.4	0.8	4	50	4
	UB542 0040505	0.4	0.2	0.5	0.4	0.8	5	50	4
	UB542 0040506	0.4	0.2	0.5	0.4	0.8	6	50	4
	UB542 0041002	0.4	0.2	1	0.4	0.8	2	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0041003	0.4	0.2	1	0.4	0.8	3	50	4
UB542 0041004	0.4	0.2	1	0.4	0.8	4	50	4
UB542 0041005	0.4	0.2	1	0.4	0.8	5	50	4
UB542 0041006	0.4	0.2	1	0.4	0.8	6	50	4
UB542 0041502	0.4	0.2	1.5	0.4	0.8	2	50	4
UB542 0041503	0.4	0.2	1.5	0.4	0.8	3	50	4
UB542 0041504	0.4	0.2	1.5	0.4	0.8	4	50	4
UB542 0041505	0.4	0.2	1.5	0.4	0.8	5	50	4
UB542 0041506	0.4	0.2	1.5	0.4	0.8	6	50	4
UB542 0042002	0.4	0.2	2	0.4	0.8	2	50	4
UB542 0042003	0.4	0.2	2	0.4	0.8	3	50	4
UB542 0042004	0.4	0.2	2	0.4	0.8	4	50	4
UB542 0042005	0.4	0.2	2	0.4	0.8	5	50	4
UB542 0042006	0.4	0.2	2	0.4	0.8	6	50	4
UB542 0043002	0.4	0.2	3	0.4	0.8	2	50	4
UB542 0043003	0.4	0.2	3	0.4	0.8	3	50	4
UB542 0043004	0.4	0.2	3	0.4	0.8	4	50	4
UB542 0043005	0.4	0.2	3	0.4	0.8	5	50	4
UB542 0043006	0.4	0.2	3	0.4	0.8	6	50	4
UB542 0045004	0.4	0.2	5	0.4	0.8	4	50	4
UB542 0045006	0.4	0.2	5	0.4	0.8	6	50	4
UB542 0050504	0.5	0.25	0.5	0.5	1	4	50	4
UB542 0050506	0.5	0.25	0.5	0.5	1	6	50	4
UB542 0050508	0.5	0.25	0.5	0.5	1	8	50	4
UB542 0050510	0.5	0.25	0.5	0.5	1	10	50	4
UB542 0051004	0.5	0.25	1	0.5	1	4	50	4
UB542 0051006	0.5	0.25	1	0.5	1	6	50	4
UB542 0051008	0.5	0.25	1	0.5	1	8	50	4
UB542 0051010	0.5	0.25	1	0.5	1	10	50	4
UB542 0051504	0.5	0.25	1.5	0.5	1	4	50	4
UB542 0051506	0.5	0.25	1.5	0.5	1	6	50	4
UB542 0051508	0.5	0.25	1.5	0.5	1	8	50	4
UB542 0051510	0.5	0.25	1.5	0.5	1	10	50	4
UB542 0052004	0.5	0.25	2	0.5	1	4	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UB542 0052006	0.5	0.25	2	0.5	1	6	50	4
	UB542 0052008	0.5	0.25	2	0.5	1	8	50	4
	UB542 0052010	0.5	0.25	2	0.5	1	10	50	4
	UB542 0053004	0.5	0.25	3	0.5	1	4	50	4
E-Star	UB542 0053006	0.5	0.25	3	0.5	1	6	50	4
	UB542 0053008	0.5	0.25	3	0.5	1	8	50	4
	UB542 0053010	0.5	0.25	3	0.5	1	10	50	4
	UB542 0060504	0.6	0.3	0.5	0.6	1.2	4	50	4
U-Wing	UB542 0060506	0.6	0.3	0.5	0.6	1.2	6	50	4
	UB542 0060508	0.6	0.3	0.5	0.6	1.2	8	50	4
	UB542 0060510	0.6	0.3	0.5	0.6	1.2	10	50	4
	UB542 0060512	0.6	0.3	0.5	0.6	1.2	12	50	4
Zamus Thunder	UB542 0061004	0.6	0.3	1	0.6	1.2	4	50	4
	UB542 0061006	0.6	0.3	1	0.6	1.2	6	50	4
	UB542 0061008	0.6	0.3	1	0.6	1.2	8	50	4
	UB542 0061010	0.6	0.3	1	0.6	1.2	10	50	4
X-Star	UB542 0061012	0.6	0.3	1	0.6	1.2	12	50	4
	UB542 0061504	0.6	0.3	1.5	0.6	1.2	4	50	4
	UB542 0061506	0.6	0.3	1.5	0.6	1.2	6	50	4
	UB542 0061508	0.6	0.3	1.5	0.6	1.2	8	50	4
S-Wing	UB542 0061510	0.6	0.3	1.5	0.6	1.2	10	50	4
	UB542 0061512	0.6	0.3	1.5	0.6	1.2	12	50	4
A-Wing	UB542 0062004	0.6	0.3	2	0.6	1.2	4	50	4
	UB542 0062006	0.6	0.3	2	0.6	1.2	6	50	4
	UB542 0062008	0.6	0.3	2	0.6	1.2	8	50	4
	UB542 0062010	0.6	0.3	2	0.6	1.2	10	50	4
Standard	UB542 0062012	0.6	0.3	2	0.6	1.2	12	50	4
	UB542 0063004	0.6	0.3	3	0.6	1.2	4	50	4
	UB542 0063006	0.6	0.3	3	0.6	1.2	6	50	4
	UB542 0063008	0.6	0.3	3	0.6	1.2	8	50	4
Copper -Mate	UB542 0063010	0.6	0.3	3	0.6	1.2	10	50	4
	UB542 0063012	0.6	0.3	3	0.6	1.2	12	50	4
Gra -Mate	UB542 0080504	0.8	0.4	0.5	0.8	1.6	4	50	4
	UB542 0080506	0.8	0.4	0.5	0.8	1.6	6	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0080508	0.8	0.4	0.5	0.8	1.6	8	50	4
UB542 0080510	0.8	0.4	0.5	0.8	1.6	10	50	4
UB542 0080512	0.8	0.4	0.5	0.8	1.6	12	50	4
UB542 0080516	0.8	0.4	0.5	0.8	1.6	16	50	4
UB542 0081004	0.8	0.4	1	0.8	1.6	4	50	4
UB542 0081006	0.8	0.4	1	0.8	1.6	6	50	4
UB542 0081008	0.8	0.4	1	0.8	1.6	8	50	4
UB542 0081010	0.8	0.4	1	0.8	1.6	10	50	4
UB542 0081012	0.8	0.4	1	0.8	1.6	12	50	4
UB542 0081016	0.8	0.4	1	0.8	1.6	16	50	4
UB542 0081504	0.8	0.4	1.5	0.8	1.6	4	50	4
UB542 0081506	0.8	0.4	1.5	0.8	1.6	6	50	4
UB542 0081508	0.8	0.4	1.5	0.8	1.6	8	50	4
UB542 0081510	0.8	0.4	1.5	0.8	1.6	10	50	4
UB542 0081512	0.8	0.4	1.5	0.8	1.6	12	50	4
UB542 0081516	0.8	0.4	1.5	0.8	1.6	16	50	4
UB542 0082004	0.8	0.4	2	0.8	1.6	4	50	4
UB542 0082006	0.8	0.4	2	0.8	1.6	6	50	4
UB542 0082008	0.8	0.4	2	0.8	1.6	8	50	4
UB542 0082010	0.8	0.4	2	0.8	1.6	10	50	4
UB542 0082012	0.8	0.4	2	0.8	1.6	12	50	4
UB542 0082016	0.8	0.4	2	0.8	1.6	16	50	4
UB542 0083004	0.8	0.4	3	0.8	1.6	4	50	4
UB542 0083006	0.8	0.4	3	0.8	1.6	6	50	4
UB542 0083008	0.8	0.4	3	0.8	1.6	8	50	4
UB542 0083010	0.8	0.4	3	0.8	1.6	10	50	4
UB542 0083012	0.8	0.4	3	0.8	1.6	12	50	4
UB542 0083016	0.8	0.4	3	0.8	1.6	16	50	4
UB542 0100506	1	0.5	0.5	1	2.5	6	50	4
UB542 0100508	1	0.5	0.5	1	2.5	8	50	4
UB542 0100510	1	0.5	0.5	1	2.5	10	50	4
UB542 0100512	1	0.5	0.5	1	2.5	12	50	4
UB542 0100516	1	0.5	0.5	1	2.5	16	50	4
UB542 0100520	1	0.5	0.5	1	2.5	20	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UB542 0100525	1	0.5	0.5	1	2.5	25	60	4
	UB542 0100530	1	0.5	0.5	1	2.5	30	70	4
	UB542 0100540	1	0.5	0.5	1	2.5	40	80	4
	UB542 0100550	1	0.5	0.5	1	2.5	50	90	4
	UB542 0101006	1	0.5	1	1	2.5	6	50	4
E-Star	UB542 0101008	1	0.5	1	1	2.5	8	50	4
	UB542 0101010	1	0.5	1	1	2.5	10	50	4
	UB542 0101012	1	0.5	1	1	2.5	12	50	4
U-Wing	UB542 0101016	1	0.5	1	1	2.5	16	50	4
	UB542 0101020	1	0.5	1	1	2.5	20	50	4
	UB542 0101025	1	0.5	1	1	2.5	25	60	4
Zamus Thunder	UB542 0101030	1	0.5	1	1	2.5	30	70	4
	UB542 0101040	1	0.5	1	1	2.5	40	80	4
	UB542 0101050	1	0.5	1	1	2.5	50	90	4
	UB542 0101506	1	0.5	1.5	1	2.5	6	50	4
	UB542 0101508	1	0.5	1.5	1	2.5	8	50	4
X-Star	UB542 0101510	1	0.5	1.5	1	2.5	10	50	4
	UB542 0101512	1	0.5	1.5	1	2.5	12	50	4
	UB542 0101516	1	0.5	1.5	1	2.5	16	50	4
S-Wing	UB542 0101520	1	0.5	1.5	1	2.5	20	50	4
	UB542 0101525	1	0.5	1.5	1	2.5	25	60	4
	UB542 0101530	1	0.5	1.5	1	2.5	30	70	4
A-Wing	UB542 0101540	1	0.5	1.5	1	2.5	40	80	4
	UB542 0101550	1	0.5	1.5	1	2.5	50	90	4
	UB542 0102006	1	0.5	2	1	2.5	6	50	4
Standard	UB542 0102008	1	0.5	2	1	2.5	8	50	4
	UB542 0102010	1	0.5	2	1	2.5	10	50	4
	UB542 0102012	1	0.5	2	1	2.5	12	50	4
	UB542 0102016	1	0.5	2	1	2.5	16	50	4
Copper-Mate	UB542 0102020	1	0.5	2	1	2.5	20	50	4
	UB542 0102025	1	0.5	2	1	2.5	25	60	4
	UB542 0102030	1	0.5	2	1	2.5	30	70	4
Gra-Mate	UB542 0102040	1	0.5	2	1	2.5	40	80	4
	UB542 0102050	1	0.5	2	1	2.5	50	90	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0103006	1	0.5	3	1	2.5	6	50	4
UB542 0103008	1	0.5	3	1	2.5	8	50	4
UB542 0103010	1	0.5	3	1	2.5	10	50	4
UB542 0103012	1	0.5	3	1	2.5	12	50	4
UB542 0103016	1	0.5	3	1	2.5	16	50	4
UB542 0103020	1	0.5	3	1	2.5	20	50	4
UB542 0103025	1	0.5	3	1	2.5	25	60	4
UB542 0103030	1	0.5	3	1	2.5	30	70	6
UB542 0103040	1	0.5	3	1	2.5	40	80	6
UB542 0103050	1	0.5	3	1	2.5	50	90	6
UB542 0105030	1	0.5	5	1	2.5	30	70	6
UB542 0120508	1.2	0.6	0.5	1.2	3	8	50	4
UB542 0120512	1.2	0.6	0.5	1.2	3	12	50	4
UB542 0120516	1.2	0.6	0.5	1.2	3	16	50	4
UB542 0120520	1.2	0.6	0.5	1.2	3	20	50	4
UB542 0120525	1.2	0.6	0.5	1.2	3	25	60	4
UB542 0120530	1.2	0.6	0.5	1.2	3	30	70	4
UB542 0121008	1.2	0.6	1	1.2	3	8	50	4
UB542 0121012	1.2	0.6	1	1.2	3	12	50	4
UB542 0121016	1.2	0.6	1	1.2	3	16	50	4
UB542 0121020	1.2	0.6	1	1.2	3	20	50	4
UB542 0121025	1.2	0.6	1	1.2	3	25	60	4
UB542 0121030	1.2	0.6	1	1.2	3	30	70	4
UB542 0121508	1.2	0.6	1.5	1.2	3	8	50	4
UB542 0121512	1.2	0.6	1.5	1.2	3	12	50	4
UB542 0121516	1.2	0.6	1.5	1.2	3	16	50	4
UB542 0121520	1.2	0.6	1.5	1.2	3	20	50	4
UB542 0121525	1.2	0.6	1.5	1.2	3	25	60	4
UB542 0121530	1.2	0.6	1.5	1.2	3	30	70	4
UB542 0122008	1.2	0.6	2	1.2	3	8	50	4
UB542 0122012	1.2	0.6	2	1.2	3	12	50	4
UB542 0122016	1.2	0.6	2	1.2	3	16	50	4
UB542 0122020	1.2	0.6	2	1.2	3	20	50	4
UB542 0122025	1.2	0.6	2	1.2	3	25	60	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UB542 0122030	1.2	0.6	2	1.2	3	30	70	4
	UB542 0123008	1.2	0.6	3	1.2	3	8	50	4
	UB542 0123012	1.2	0.6	3	1.2	3	12	50	4
	UB542 0123016	1.2	0.6	3	1.2	3	16	50	4
	UB542 0123020	1.2	0.6	3	1.2	3	20	50	4
E-Star	UB542 0123025	1.2	0.6	3	1.2	3	25	60	4
	UB542 0123030	1.2	0.6	5	1.2	3	30	70	6
	UB542 0150508	1.5	0.75	0.5	1.5	4	8	50	4
U-Wing	UB542 0150510	1.5	0.75	0.5	1.5	4	10	50	4
	UB542 0150512	1.5	0.75	0.5	1.5	4	12	50	4
	UB542 0150516	1.5	0.75	0.5	1.5	4	16	50	4
	UB542 0150520	1.5	0.75	0.5	1.5	4	20	50	4
Zamus Thunder	UB542 0150525	1.5	0.75	0.5	1.5	4	25	60	4
	UB542 0150530	1.5	0.75	0.5	1.5	4	30	70	4
	UB542 0150540	1.5	0.75	0.5	1.5	4	40	80	4
	UB542 0150550	1.5	0.75	0.5	1.5	4	50	90	4
X-Star	UB542 0151008	1.5	0.75	1	1.5	4	8	50	4
	UB542 0151010	1.5	0.75	1	1.5	4	10	50	4
	UB542 0151012	1.5	0.75	1	1.5	4	12	50	4
S-Wing	UB542 0151016	1.5	0.75	1	1.5	4	16	50	4
	UB542 0151020	1.5	0.75	1	1.5	4	20	50	4
	UB542 0151025	1.5	0.75	1	1.5	4	25	60	4
A-Wing	UB542 0151030	1.5	0.75	1	1.5	4	30	70	4
	UB542 0151040	1.5	0.75	1	1.5	4	40	80	4
	UB542 0151050	1.5	0.75	1	1.5	4	50	90	4
Standard	UB542 0151508	1.5	0.75	1.5	1.5	4	8	50	4
	UB542 0151510	1.5	0.75	1.5	1.5	4	10	50	4
	UB542 0151512	1.5	0.75	1.5	1.5	4	12	50	4
	UB542 0151516	1.5	0.75	1.5	1.5	4	16	50	4
Copper -Mate	UB542 0151520	1.5	0.75	1.5	1.5	4	20	50	4
	UB542 0151525	1.5	0.75	1.5	1.5	4	25	60	4
	UB542 0151530	1.5	0.75	1.5	1.5	4	30	70	4
Gra -Mate	UB542 0151540	1.5	0.75	1.5	1.5	4	40	80	4
	UB542 0151550	1.5	0.75	1.5	1.5	4	50	90	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0121016	1.2	0.6	1	1.2	3	16	50	4
UB542 0121020	1.2	0.6	1	1.2	3	20	50	4
UB542 0121025	1.2	0.6	1	1.2	3	25	60	4
UB542 0121030	1.2	0.6	1	1.2	3	30	70	4
UB542 0121508	1.2	0.6	1.5	1.2	3	8	50	4
UB542 0121512	1.2	0.6	1.5	1.2	3	12	50	4
UB542 0121516	1.2	0.6	1.5	1.2	3	16	50	4
UB542 0121520	1.2	0.6	1.5	1.2	3	20	50	4
UB542 0121525	1.2	0.6	1.5	1.2	3	25	60	4
UB542 0121530	1.2	0.6	1.5	1.2	3	30	70	4
UB542 0122008	1.2	0.6	2	1.2	3	8	50	4
UB542 0122012	1.2	0.6	2	1.2	3	12	50	4
UB542 0122016	1.2	0.6	2	1.2	3	16	50	4
UB542 0122020	1.2	0.6	2	1.2	3	20	50	4
UB542 0122025	1.2	0.6	2	1.2	3	25	60	4
UB542 0122030	1.2	0.6	2	1.2	3	30	70	4
UB542 0123008	1.2	0.6	3	1.2	3	8	50	4
UB542 0123012	1.2	0.6	3	1.2	3	12	50	4
UB542 0123016	1.2	0.6	3	1.2	3	16	50	4
UB542 0123020	1.2	0.6	3	1.2	3	20	50	4
UB542 0123025	1.2	0.6	3	1.2	3	25	60	4
UB542 0123030	1.2	0.6	5	1.2	3	30	70	6
UB542 0150508	1.5	0.75	0.5	1.5	4	8	50	4
UB542 0150510	1.5	0.75	0.5	1.5	4	10	50	4
UB542 0150512	1.5	0.75	0.5	1.5	4	12	50	4
UB542 0150516	1.5	0.75	0.5	1.5	4	16	50	4
UB542 0150520	1.5	0.75	0.5	1.5	4	20	50	4
UB542 0150525	1.5	0.75	0.5	1.5	4	25	60	4
UB542 0150530	1.5	0.75	0.5	1.5	4	30	70	4
UB542 0150540	1.5	0.75	0.5	1.5	4	40	80	4
UB542 0150550	1.5	0.75	0.5	1.5	4	50	90	4
UB542 0151008	1.5	0.75	1	1.5	4	8	50	4
UB542 0151010	1.5	0.75	1	1.5	4	10	50	4
UB542 0151012	1.5	0.75	1	1.5	4	12	50	4

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

	EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
Zamus Star	UB542 0151016	1.5	0.75	1	1.5	4	16	50	4
	UB542 0151020	1.5	0.75	1	1.5	4	20	50	4
	UB542 0151025	1.5	0.75	1	1.5	4	25	60	4
	UB542 0151030	1.5	0.75	1	1.5	4	30	70	4
	UB542 0151040	1.5	0.75	1	1.5	4	40	80	4
E-Star	UB542 0151050	1.5	0.75	1	1.5	4	50	90	4
	UB542 0151508	1.5	0.75	1.5	1.5	4	8	50	4
	UB542 0151510	1.5	0.75	1.5	1.5	4	10	50	4
U-Wing	UB542 0151512	1.5	0.75	1.5	1.5	4	12	50	4
	UB542 0151516	1.5	0.75	1.5	1.5	4	16	50	4
	UB542 0151520	1.5	0.75	1.5	1.5	4	20	50	4
	UB542 0151525	1.5	0.75	1.5	1.5	4	25	60	4
Zamus Thunder	UB542 0151530	1.5	0.75	1.5	1.5	4	30	70	4
	UB542 0151540	1.5	0.75	1.5	1.5	4	40	80	4
	UB542 0151550	1.5	0.75	1.5	1.5	4	50	90	4
X-Star	UB542 0152008	1.5	0.75	2	1.5	4	8	50	4
	UB542 0152010	1.5	0.75	2	1.5	4	10	50	4
	UB542 0152012	1.5	0.75	2	1.5	4	12	50	4
	UB542 0152016	1.5	0.75	2	1.5	4	16	50	4
S-Wing	UB542 0152020	1.5	0.75	2	1.5	4	20	50	4
	UB542 0152025	1.5	0.75	2	1.5	4	25	60	4
	UB542 0152030	1.5	0.75	2	1.5	4	30	70	4
A-Wing	UB542 0152040	1.5	0.75	2	1.5	4	40	80	6
	UB542 0152050	1.5	0.75	2	1.5	4	50	90	6
	UB542 0153020	1.5	0.75	3	1.5	4	20	50	6
Standard	UB542 0153030	1.5	0.75	3	1.5	4	30	70	6
	UB542 0153040	1.5	0.75	3	1.5	4	40	80	6
	UB542 0153050	1.5	0.75	3	1.5	4	50	90	8
	UB542 0155030	1.5	0.75	5	1.5	4	30	70	8
Copper-Mate	UB542 0200510	2	1	0.5	2	5	10	50	4
	UB542 0200512	2	1	0.5	2	5	12	50	4
	UB542 0200516	2	1	0.5	2	5	16	50	4
Gra-Mate	UB542 0200520	2	1	0.5	2	5	20	50	4
	UB542 0200525	2	1	0.5	2	5	25	60	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0200530	2	1	0.5	2	5	30	70	4
UB542 0200540	2	1	0.5	2	5	40	80	4
UB542 0200550	2	1	0.5	2	5	50	100	6
UB542 0200560	2	1	0.5	2	5	60	100	6
UB542 0200580	2	1	0.5	2	5	80	140	6
UB542 0201010	2	1	1	2	5	10	50	4
UB542 0201012	2	1	1	2	5	12	50	4
UB542 0201016	2	1	1	2	5	16	50	4
UB542 0201020	2	1	1	2	5	20	50	4
UB542 0201025	2	1	1	2	5	25	60	4
UB542 0201030	2	1	1	2	5	30	70	4
UB542 0201040	2	1	1	2	5	40	80	6
UB542 0201050	2	1	1	2	5	50	100	6
UB542 0201060	2	1	1	2	5	60	100	6
UB542 0201080	2	1	1	2	5	80	140	6
UB542 0201510	2	1	1.5	2	5	10	50	4
UB542 0201512	2	1	1.5	2	5	12	50	4
UB542 0201516	2	1	1.5	2	5	16	50	4
UB542 0201520	2	1	1.5	2	5	20	50	4
UB542 0201525	2	1	1.5	2	5	25	60	4
UB542 0201530	2	1	1.5	2	5	30	70	6
UB542 0201540	2	1	1.5	2	5	40	80	6
UB542 0201550	2	1	1.5	2	5	50	100	6
UB542 0201560	2	1	1.5	2	5	60	100	6
UB542 0201580	2	1	1.5	2	5	80	140	6
UB542 0202010	2	1	2	2	5	10	50	4
UB542 0202012	2	1	2	2	5	12	50	4
UB542 0202016	2	1	2	2	5	16	50	4
UB542 0202020	2	1	2	2	5	20	55	4
UB542 0202025	2	1	2	2	5	25	60	4
UB542 0202030	2	1	2	2	5	30	70	4
UB542 0202040	2	1	2	2	5	40	80	6
UB542 0202050	2	1	2	2	5	50	90	6
UB542 0202060	2	1	2	2	5	60	100	6

Zamus
Star

E-Star

U-Wing

Zamus
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X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0202080	2	1	2	2	5	80	140	8
UB542 0203030	2	1	3	2	5	30	70	6
UB542 0203040	2	1	3	2	5	40	80	6
Zamus Star	UB542 0203050	2	1	3	2	5	50	8
	UB542 0203060	2	1	3	2	5	60	8
	UB542 0203080	2	1	3	2	5	80	10
E-Star	UB542 0205030	2	1	5	2	5	30	8
	UB542 0205040	2	1	5	2	5	40	10
	UB542 0300516	3	1.5	0.5	4.5	6	16	6
U-Wing	UB542 0300520	3	1.5	0.5	4.5	6	20	6
	UB542 0300530	3	1.5	0.5	4.5	6	30	6
	UB542 0300540	3	1.5	0.5	4.5	6	40	6
	UB542 0300550	3	1.5	0.5	4.5	6	50	6
Zamus Thunder	UB542 0300560	3	1.5	0.5	4.5	6	60	6
	UB542 0301016	3	1.5	1	4.5	6	16	6
	UB542 0301020	3	1.5	1	4.5	6	20	6
X-Star	UB542 0301030	3	1.5	1	4.5	6	30	6
	UB542 0301040	3	1.5	1	4.5	6	40	6
	UB542 0301050	3	1.5	1	4.5	6	50	6
	UB542 0301060	3	1.5	1	4.5	6	60	6
S-Wing	UB542 0301070	3	1.5	1	4.5	6	70	6
	UB542 0301516	3	1.5	1.5	4.5	6	16	6
	UB542 0301520	3	1.5	1.5	4.5	6	20	6
A-Wing	UB542 0301530	3	1.5	1.5	4.5	6	30	6
	UB542 0301540	3	1.5	1.5	4.5	6	40	6
	UB542 0301550	3	1.5	1.5	4.5	6	50	6
	UB542 0301560	3	1.5	1.5	4.5	6	60	6
Standard	UB542 0302016	3	1.5	2	4.5	6	16	6
	UB542 0302020	3	1.5	2	4.5	6	20	6
	UB542 0302030	3	1.5	2	4.5	6	30	6
Copper -Mate	UB542 0302040	3	1.5	2	4.5	6	40	6
	UB542 0302050	3	1.5	2	4.5	6	50	8
	UB542 0303030	3	1.5	3	4.5	6	30	6
Gra -Mate	UB542 0303040	3	1.5	3	4.5	6	40	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0305030	3	1.5	5	4.5	6	30	70	8
UB542 0305040	3	1.5	5	4.5	6	40	90	10
UB542 0400540	4	2	0.5	6	8	40	90	6
UB542 0400550	4	2	0.5	6	8	50	100	6
UB542 0400560	4	2	0.5	6	8	60	110	6
UB542 0400570	4	2	0.5	6	8	70	120	6
UB542 0401040	4	2	1	6	8	40	90	6
UB542 0401050	4	2	1	6	8	50	100	6
UB542 0401060	4	2	1	6	8	60	110	8
UB542 0401070	4	2	1	6	8	70	120	8
UB542 0401540	4	2	1.5	6	8	40	90	6
UB542 0401550	4	2	1.5	6	8	50	100	8
UB542 0401560	4	2	1.5	6	8	60	110	8
UB542 0401570	4	2	1.5	6	8	70	120	8
UB542 0403050	4	2	3	6	8	50	100	10
UB542 0405050	4	2	5	6	8	50	100	12
UB542 0501060	5	2.5	1	10	13	60	120	8
UB542 0501560	5	2.5	1.5	10	13	60	120	8
UB542 0503040	5	2.5	3	10	13	40	120	8
UB542 0601060	6	3	1	12	15	60	120	8
UB542 0601090	6	3	1	12	15	90	150	10
UB542 0601560	6	3	1.5	12	15	60	120	10
UB542 0601590	6	3	1.5	12	15	90	150	10
UB542 0602060	6	3	2	12	15	60	120	10
UB542 0602090	6	3	2	12	15	90	150	12
UB542 0603060	6	3	3	12	15	60	120	12
UB542 0603090	6	3	3	12	15	90	150	14
UB542 08010100	8	4	1	14	18	100	150	12
UB542 0801070	8	4	1	14	18	70	130	10
UB542 08015100	8	4	1.5	14	18	100	150	14
UB542 0801570	8	4	1.5	14	18	70	130	12
UB542 08020100	8	4	2	14	18	100	150	14
UB542 0802070	8	4	2	14	18	70	130	12
UB542 08030100	8	4	3	14	18	100	150	18

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

UB542

2 Flutes Tapered Neck Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	LU	LUX	OAL	DCONMS
UB542 0803070	8	4	3	14	18	70	130	14
UB542 10010100	10	5	1	18	22	100	200	14
UB542 1001070	10	5	1	18	22	70	130	12
UB542 1001080	10	5	1	18	22	80	150	14
UB542 10015100	10	5	1.5	18	22	100	200	16
UB542 1001570	10	5	1.5	18	22	70	130	14
UB542 1001580	10	5	1.5	18	22	80	150	14
UB542 10020100	10	5	2	18	22	100	200	16
UB542 1002070	10	5	2	18	22	70	130	14
UB542 1002080	10	5	2	18	22	80	150	16
UB542 10030100	10	5	3	18	22	100	200	20
UB542 1003070	10	5	3	18	22	70	130	16
UB542 1003080	10	5	3	18	22	80	150	18
UB542 12010100	12	6	1	22	25	100	200	16
UB542 1201060	12	6	1	22	25	60	130	14
UB542 1201080	12	6	1	22	25	80	150	14
UB542 1201090	12	6	1	22	25	90	180	16
UB542 12015100	12	6	1.5	22	25	100	200	16
UB542 1201560	12	6	1.5	22	25	60	130	14
UB542 1201580	12	6	1.5	22	25	80	150	16
UB542 1201590	12	6	1.5	22	25	90	180	16
UB542 12020100	12	6	2	22	25	100	200	18
UB542 1202060	12	6	2	22	25	60	130	16
UB542 1202080	12	6	2	22	25	80	150	16
UB542 1202090	12	6	2	22	25	90	180	18
UB542 12030100	12	6	3	22	25	100	200	20
UB542 1203060	12	6	3	22	25	60	130	16
UB542 1203080	12	6	3	22	25	80	150	18
UB542 1203090	12	6	3	22	25	90	180	20

Copper
-Mate

Gra
-Mate

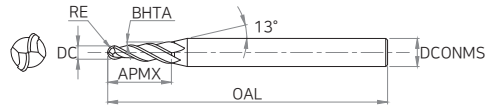
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

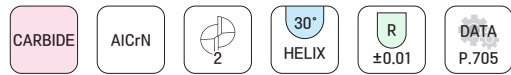
UTB502

2 Flutes Tapered Ball End Mill



► Tolerance

DC		Shank Dia
$\phi 0.3 \sim \phi 2$	$0 \sim -0.03$	h5



EDP No	DC	RE	BHTA	APMX	OAL	DCONMS
UTB502 00305	0.3	0.15	5	1.2	40	4
UTB502 00303	0.3	0.15	3	1.2	40	4
UTB502 00302	0.3	0.15	2	1.2	40	4
UTB502 003015	0.3	0.15	1.5	1.2	40	4
UTB502 00301	0.3	0.15	1	1.2	40	4
UTB502 003005	0.3	0.15	0.5	1.2	40	4
UTB502 00310	0.3	0.15	10	1.5	40	4
UTB502 00307	0.3	0.15	7	1.5	40	4
UTB502 00405	0.4	0.2	5	1.6	40	4
UTB502 00403	0.4	0.2	3	1.6	40	4
UTB502 00402	0.4	0.2	2	1.6	40	4
UTB502 004015	0.4	0.2	1.5	1.6	40	4
UTB502 00401	0.4	0.2	1	1.6	40	4
UTB502 004005	0.4	0.2	0.5	1.6	40	4
UTB502 00410	0.4	0.2	10	2	40	4
UTB502 00407	0.4	0.2	7	2	40	4
UTB502 00505	0.5	0.25	5	2	45	4
UTB502 00503	0.5	0.25	3	2	45	4
UTB502 00502	0.5	0.25	2	2	45	4
UTB502 005015	0.5	0.25	1.5	2	45	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

UTB502 2 Flutes Tapered Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	OAL	DCONMS
UTB502 00501	0.5	0.25	1	2	45	4
UTB502 005005	0.5	0.25	0.5	2	45	4
UTB502 00510	0.5	0.25	10	2.5	45	4
UTB502 00507	0.5	0.25	7	2.5	45	4
UTB502 00605	0.6	0.3	5	2	45	4
UTB502 00603	0.6	0.3	3	2	45	4
UTB502 00602	0.6	0.3	2	2	45	4
UTB502 006015	0.6	0.3	1.5	2	45	4
UTB502 00601	0.6	0.3	1	2	45	4
UTB502 006005	0.6	0.3	0.5	2	45	4
UTB502 00610	0.6	0.3	10	2.5	45	4
UTB502 00607	0.6	0.3	7	2.5	45	4
UTB502 00705	0.7	0.35	5	2.5	45	4
UTB502 00703	0.7	0.35	3	2.5	45	4
UTB502 00702	0.7	0.35	2	2.5	45	4
UTB502 007015	0.7	0.35	1.5	2.5	45	4
UTB502 00701	0.7	0.35	1	2.5	45	4
UTB502 007005	0.7	0.35	0.5	2.5	45	4
UTB502 00710	0.7	0.35	10	3	45	4
UTB502 00707	0.7	0.35	7	3	45	4
UTB502 00810	0.8	0.4	10	3.2	45	4
UTB502 00807	0.8	0.4	7	3.2	45	4
UTB502 00805	0.8	0.4	5	3.2	45	4
UTB502 00803	0.8	0.4	3	3.2	45	4
UTB502 00802	0.8	0.4	2	3.2	45	4
UTB502 008015	0.8	0.4	1.5	3.2	45	4
UTB502 00801	0.8	0.4	1	3.2	45	4
UTB502 008005	0.8	0.4	0.5	3.2	45	4
UTB502 01010	1	0.5	10	4	50	4
UTB502 01007	1	0.5	7	4	50	4
UTB502 01005	1	0.5	5	4	50	4
UTB502 01003	1	0.5	3	4	50	4
UTB502 01002	1	0.5	2	4	50	4
UTB502 010015	1	0.5	1.5	4	50	4

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UTB502

2 Flutes Tapered Ball End Mill

Endmill

EDP No	DC	RE	BHTA	APMX	OAL	DCONMS
UTB502 01001	1	0.5	1	4	50	4
UTB502 010005	1	0.5	0.5	4	50	4
UTB502 015015	1.5	0.75	1.5	6	50	4
UTB502 01501	1.5	0.75	1	6	50	4
UTB502 015005	1.5	0.75	0.5	6	50	4
UTB502 01502	1.5	0.75	2	7	50	4
UTB502 01503	1.5	0.75	3	8	50	4
UTB502 01510	1.5	0.75	10	10	50	6
UTB502 01507	1.5	0.75	7	10	50	4
UTB502 01505	1.5	0.75	5	10	50	4
UTB502 020015	2	1	1.5	6	50	4
UTB502 02001	2	1	1	6	50	4
UTB502 020005	2	1	0.5	6	50	4
UTB502 02007	2	1	7	10	50	6
UTB502 02005	2	1	5	10	50	4
UTB502 02003	2	1	3	10	50	4
UTB502 02002	2	1	2	10	50	4
UTB502 02010	2	1	10	11	50	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

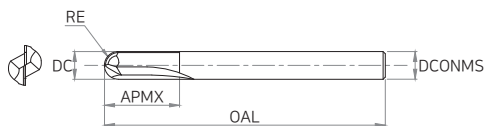
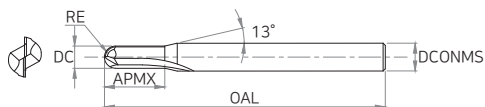
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

USB502 2 Flutes Straight Neck Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
Ø3 ~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



R3 OR UNDER

ABOVE R3

EDP No	DC	RE	APMX	OAL	DCONMS
USB502 030	3	1.5	10	70	6
USB502 040	4	2	12	70	6
USB502 050	5	2.5	18	90	6
USB502 060	6	3	20	90	6
USB502 080	8	4	25	100	8
USB502 100	10	5	30	100	10
USB502 120	12	6	32	110	12
USB502 160	16	8	35	150	16
USB502 200	20	10	40	150	20

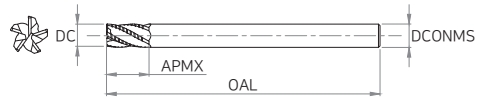
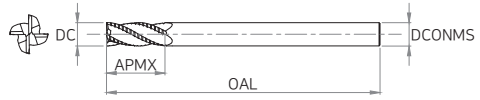
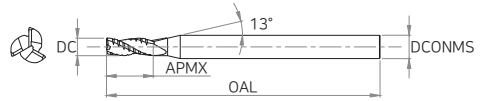
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

UF50

3~5 Flutes Chamfer Pitch Roughing End Mill



► Tolerance

DC		Shank Dia
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø25	0 ~ -0.015	



CARBIDE

AlCrN



EDP No	DC	RE	APMX	OAL	DCONMS	NOF	EDP No	DC	RE	APMX	OAL	DCONMS	NOF
UF50 3030	3	0.2	8	50	6	3	UF50 412030	12	0.3	30	80	12	4
UF50 3040	4	0.2	10	50	6	3	UF50 5130	13	0.5	35	100	12	5
UF50 4050	5	0.2	13	50	6	4	UF50 5140S16	14	0.5	35	100	16	5
UF50 4060	6	0.2	10	50	6	4	UF50 5140	14	0.5	35	100	14	5
UF50 406015	6	0.2	15	60	6	4	UF50 5150	15	0.5	35	100	16	5
UF50 4070	7	0.2	18	70	8	4	UF50 5160	16	1	25	80	16	5
UF50 4080	8	0.2	12	60	8	4	UF50 516040	16	1	40	100	16	5
UF50 408020	8	0.2	20	70	8	4	UF50 5180S20	18	1	40	100	20	5
UF50 4090	9	0.3	22	75	10	4	UF50 5180	18	1	40	100	18	5
UF50 4100	10	0.3	15	65	10	4	UF50 5200	20	1	25	80	20	5
UF50 410025	10	0.3	25	75	10	4	UF50 520045	20	1	45	100	20	5
UF50 4110	11	0.3	27	80	12	4	UF50 5250	25	1	45	100	25	5
UF50 4120	12	0.3	20	70	12	4							

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

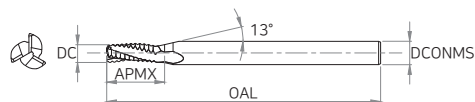
Standard

Copper
-Mate

Gra
-Mate

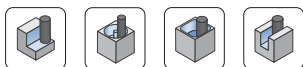
UF51

3~5 Flutes Fine Pitch Roughing End Mill



► Tolerance

DC		Shank Dia
Ø3	0 ~ -0.04	h5
Ø4 ~ Ø6	0 ~ -0.048	
Ø7 ~ Ø10	0 ~ -0.058	
Ø11 ~ Ø18	0 ~ -0.07	
Ø20 ~ Ø25	0 ~ -0.084	



EDP No	DC	APMX	OAL	DCONMS	NOF
UF51 3030	3	8	50	6	3
UF51 3040	4	10	50	6	3
UF51 3050	5	13	50	6	3
UF51 3060	6	15	60	6	3
UF51 306020	6	20	60	6	3
UF51 3070	7	18	70	8	3
UF51 3080	8	20	70	8	3
UF51 308025	8	25	70	8	3
UF51 4090	9	22	75	10	4
UF51 4100	10	25	75	10	4
UF51 410030	10	30	75	10	4
UF51 4110	11	27	80	12	4
UF51 4120	12	30	80	12	4
UF51 412035	12	35	80	12	4
UF51 4130	13	35	100	12	4
UF51 4140	14	35	100	16	4
UF51 4160	16	40	100	16	4
UF51 4180	18	40	100	18	4
UF51 4200	20	50	100	20	4
UF51 5250	25	50	100	25	5

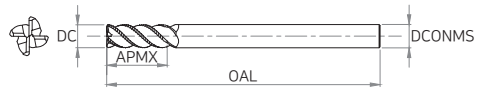
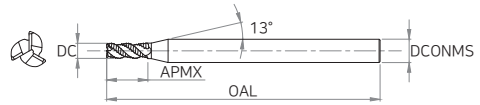
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
○		○	◎	◎	○					

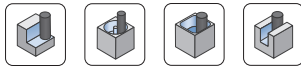
UF51-H

3~5 Flutes 45° Helix Fine Pitch Roughing End Mill



► Tolerance

DC		Shank Dia
Ø3 ~ Ø25	0 ~ -0.05	h5



EDP No	DC	APMX	OAL	DCONMS	NOF
UF51 3030H	3	8	50	6	3
UF51 3040H	4	10	50	6	3
UF51 4050H	5	13	50	6	4
UF51 4060H	6	10	50	6	4
UF51 406015H	6	15	60	6	4
UF51 4070H	7	18	70	8	4
UF51 4080H	8	12	60	8	4
UF51 408020H	8	20	70	8	4
UF51 4090H	9	22	75	10	4
UF51 4100H	10	15	65	10	4
UF51 410025H	10	25	75	10	4
UF51 4110H	11	27	80	12	4

EDP No	DC	APMX	OAL	DCONMS	NOF
UF51 4120H	12	20	70	12	4
UF51 412030H	12	30	80	12	4
UF51 5130H	13	35	100	12	5
UF51 5140S16H	14	35	100	16	5
UF51 5140H	14	35	100	14	5
UF51 5160H	16	25	80	16	5
UF51 516040H	16	40	100	16	5
UF51 5180S20H	18	40	100	20	5
UF51 5180H	18	40	100	18	5
UF51 5200H	20	25	80	20	5
UF51 520045H	20	45	100	20	5
UF51 5250H	25	45	100	25	5

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
○		○	◎	◎	○					

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

Zamus Thunder Endmill

Low Hardness HRc 10~30

Features

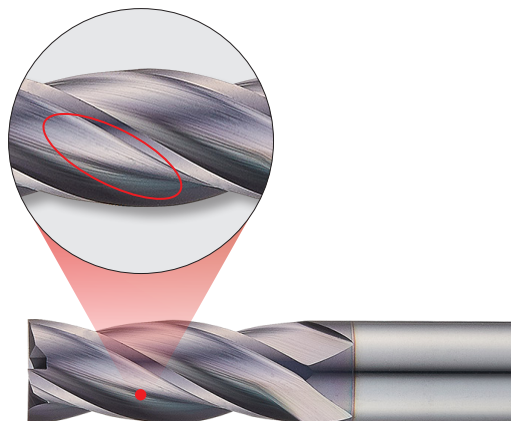
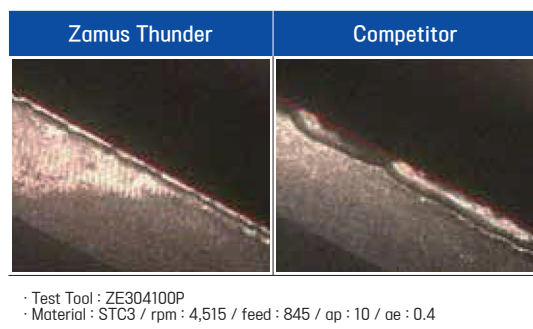
- Suitable for low hardness steel(HRc 10~30) : alloy steel, carbon steel, pre-harden, hardened steel etc.
- General purpose suitable for rough machining, finishing and curved and sloped surfaces

Characteristics

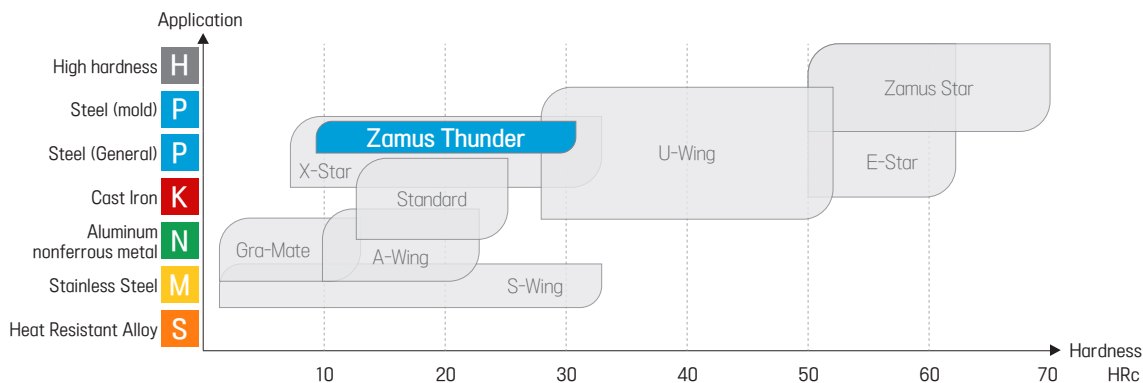
- Excellent Rake angle and Cutting edge considered the characteristics of workpiece.
- Improved chipping resistance and enhanced machinability by using high toughness materials
- TiAlN coating for enhanced oxidation resistance and chipping resistance

Case Study

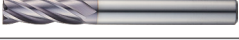
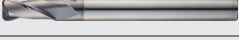
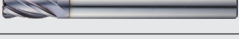
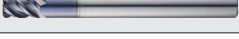
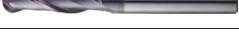
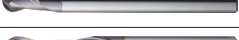
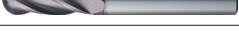
► 4F D3.0 Square End Mill



Applications



Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	TX202		2 Flutes Short Shank Square End Mill	1	20	299
	4F	TX204		4 Flutes Short Shank Square End Mill	1	20	300
	2F	TX222		2 Flutes Long Square End Mill	3	20	301
	4F	TX224		4 Flutes Long Square End Mill	3	20	302
	2F	TX302		2 Flutes Square End Mill	1	20	303
	4F	TX304		4 Flutes Square End Mill	1	20	304
	4F	TX304H		4 Flutes 45° Helix Square End Mill	3	20	305
	2F	ZE302P		2 Flutes Square End Mill	1	20	306
	4F	ZE304P		4 Flutes Square End Mill	1	20	307
	2F	ZE322		2 Flutes Extra Long Square End Mill	3	20	308
	4F	ZE324		4 Flutes Extra Long Square End Mill	3	20	309
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	2F	ZR322		2 Flutes Long Shank Radius End Mill	3	12	311
	4F	ZR324		4 Flutes Long Shank Radius End Mill	3	12	312
	4F	ZR324H		4 Flutes 45° Helix Radius End Mill	6	12	313
Ball	2F	DB312		2 Flutes Ball End Mill	1	20	314
	2F	DB342		2 Flutes Tapered Neck Ball End Mill	1	12	315
	2F	TXB202		2 Flutes Short Shank Ball End Mill	1	20	316
	4F	TXB204		4 Flutes Short Shank Ball End Mill	2	20	317
	2F	TXB222		2 Flutes Long Ball End Mill	3	20	318
	2F	TXB232		2 Flutes Long Shank Ball End Mill	3	20	319
	2F	TXB302		2 Flutes Ball End Mill	1	20	320
	4F	TXB304		4 Flutes Ball End Mill	1	20	321

Zamus Thunder Endmill

Low Hardness HRc 10~30

EDP No. System

*If expressed as an integer, the decimal point is omitted.

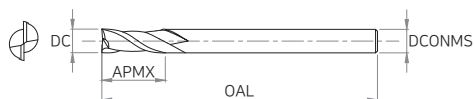
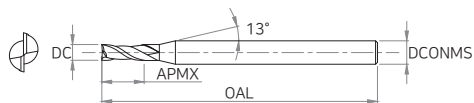
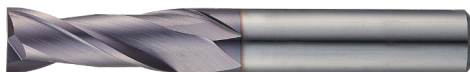


①	②	③	④	⑤	⑥	⑦	⑧
Type	Appearance	Grade	Length, Shank Type	Flute	Cutting Dia	Corner R	Shank Dia
D : Dynamic	E : Square	2 : Grade	0 : Straight	3 : 3 Flutes	1	0.05	0.2
Z : Zamus Endmill	R : Radius	3 : Grade	1 : Long Cutting Length	4 : 4 Flutes	~	~	~
T : Thunder	B : Ball		2 : Long Cutting Length	4H : 4 Flutes (Helix 45°)	20	5	300
	X : Square		3 : Long Shank				
	S : Square		4 : Tapered Neck				
	XB : Ball						

EX) 4 Flutes 45° Helix / Cutting Dia Ø8 / Corner R 1.0 / 30 Grade / Corner Radius Long Cutting Length Type Zamus End Mill

TX202

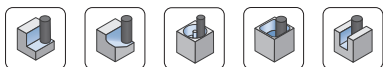
2 Flutes Short Shank Square End Mill



► Tolerance

DC	Shank Dia
Ø1 ~ Ø3	-0.014 ~ -0.028
Ø4 ~ Ø6	-0.02 ~ -0.038
Ø8 ~ Ø10	-0.025 ~ -0.047
Ø12 ~ Ø16	-0.032 ~ -0.059
Ø20 ~	-0.04 ~ -0.073

h6



CARBIDE

TIAlN



EDP No	DC	APMX	OAL	DCONMS
TX202 010	1	3	39	3
TX202 015	1.5	5	39	3
TX202 020	2	7	39	3
TX202 025	2.5	8	39	3
TX202 030	3	10	39	3
TX202 040	4	14	51	4
TX202 050	5	16	51	5
TX202 060	6	19	64	6
TX202 080	8	21	64	8
TX202 100	10	25	70	10
TX202 120	12	25	76	12
TX202 160	16	32	89	16
TX202 200	20	38	102	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

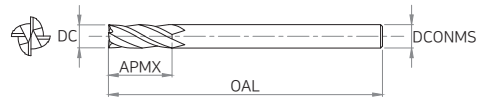
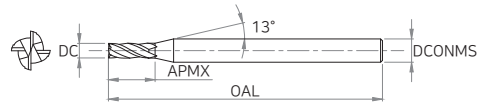
Standard

Copper
-Mate

Gra
-Mate

TX204

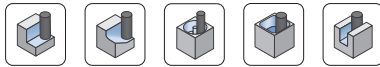
4 Flutes Short Shank Square End Mill



► Tolerance

DC	Shank Dia
Ø1 ~ Ø3	-0.014 ~ -0.028
Ø4 ~ Ø6	-0.02 ~ -0.038
Ø8 ~ Ø10	-0.025 ~ -0.047
Ø12 ~ Ø16	-0.032 ~ -0.059
Ø20 ~	-0.04 ~ -0.073

h6



CARBIDE

TIAlN



30°
HELIX

DATA
P.708

EDP No	DC	APMX	OAL	DCONMS
TX204 010	1	3	39	3
TX204 015	1.5	5	39	3
TX204 020	2	7	39	3
TX204 025	2.5	8	39	3
TX204 030	3	10	39	3
TX204 040	4	14	51	4
TX204 050	5	16	51	5
TX204 060	6	19	64	6
TX204 080	8	21	64	8
TX204 100	10	25	70	10
TX204 120	12	25	76	12
TX204 160	16	32	89	16
TX204 200	20	38	102	20

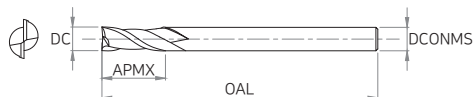
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
		◎	◎	○						

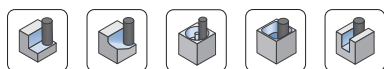
TX222

2 Flutes Long Square End Mill



► Tolerance

DC		Shank Dia
Ø3	-0.014 ~ -0.028	h6
Ø4 ~ Ø6	-0.02 ~ -0.038	
Ø8 ~ Ø10	-0.025 ~ -0.047	
Ø12 ~ Ø18	-0.032 ~ -0.059	
Ø20 ~	-0.04 ~ -0.073	



EDP No	DC	APMX	OAL	DCONMS
TX222 030	3	20	60	3
TX222 040	4	20	60	4
TX222 050	5	25	75	5
TX222 060	6	30	75	6
TX222 080	8	30	75	8
TX222 100	10	40	100	10
TX222 120	12	45	100	12
TX222 140	14	45	100	14
TX222 160	16	45	100	16
TX222 180	18	45	100	18
TX222 200	20	45	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

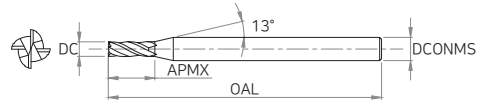
Standard

Copper
-Mate

Gra
-Mate

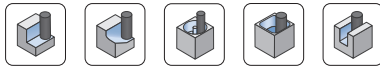
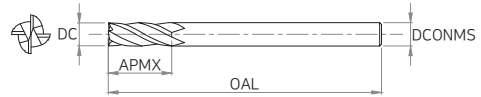
TX224 4 Flutes Long Square End Mill

Endmill



► Tolerance

DC	Shank Dia
ø3	h6
ø4 ~ ø6	
ø8 ~ ø10	
ø12 ~ ø18	
ø20 ~	



EDP No	DC	APMX	OAL	DCONMS
TX224 030	3	20	60	3
TX224 040	4	20	60	4
TX224 050	5	25	75	5
TX224 060	6	30	75	6
TX224 080	8	30	75	8
TX224 081	8	30	100	8
TX224 100	10	40	100	10
TX224 120	12	45	100	12
TX224 140	14	45	100	14
TX224 160	16	45	100	16
TX224 180	18	45	100	18
TX224 200	20	45	100	20

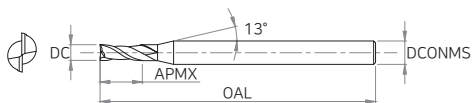
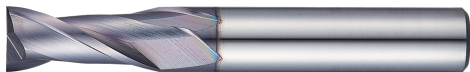
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
		◎	◎	○						

TX302

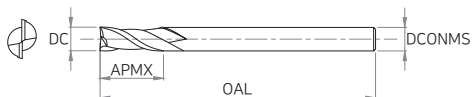
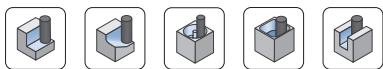
2 Flutes Square End Mill



► Tolerance

DC	Shank Dia
Ø1 ~ Ø3	-0.014 ~ -0.028
Ø4 ~ Ø6	-0.02 ~ -0.038
Ø7 ~ Ø10	-0.025 ~ -0.047
Ø12 ~ Ø18	-0.032 ~ -0.059
Ø20 ~	-0.04 ~ -0.073

h6



CARBIDE

TIAIN



EDP No	DC	APMX	OAL	DCONMS
TX302 010	1	3	50	4
TX302 015	1.5	4	50	4
TX302 020	2	6	50	4
TX302 025	2.5	8	50	4
TX302 030	3	9	50	4
TX302 040	4	11	50	4
TX302 050	5	13	50	6
TX302 060	6	16	50	6
TX302 070	7	16	60	8
TX302 080	8	19	60	8
TX302 090	9	19	60	10
TX302 100	10	25	75	10
TX302 120	12	30	75	12
TX302 140	14	32	75	14
TX302 160	16	32	100	16
TX302 180	18	32	100	18
TX302 200	20	38	100	20

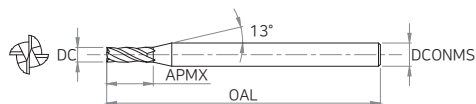
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

TX304

4 Flutes Square End Mill



► Tolerance

DC	Shank Dia
Ø1 ~ Ø3	-0.014 ~ -0.028
Ø4 ~ Ø6	-0.02 ~ -0.038
Ø7 ~ Ø10	-0.025 ~ -0.047
Ø12 ~ Ø18	-0.032 ~ -0.059
Ø20 ~	-0.04 ~ -0.073

h6



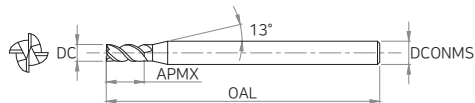
EDP No	DC	APMX	OAL	DCONMS
TX304 010	1	3	50	4
TX304 015	1.5	4	50	4
TX304 020	2	6	50	4
TX304 025	2.5	8	50	4
TX304 030	3	9	50	4
TX304 040	4	11	50	4
TX304 050	5	13	50	6
TX304 060	6	16	50	6
TX304 070	7	16	60	8
TX304 080	8	19	60	8
TX304 090	9	19	60	10
TX304 100	10	25	75	10
TX304 120	12	30	75	12
TX304 140	14	32	75	14
TX304 160	16	32	100	16
TX304 180	18	32	100	18
TX304 200	20	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
		◎	◎	○						

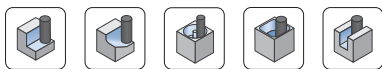
TX304H 4 Flutes 45° Helix Square End Mill



► Tolerance

DC	Shank Dia
Ø3	-0.014 ~ -0.028
Ø4 ~ Ø6	-0.02 ~ -0.038
Ø8 ~ Ø10	-0.025 ~ -0.047
Ø12 ~ Ø18	-0.032 ~ -0.059
Ø20 ~	-0.04 ~ -0.073

h6



EDP No	DC	APMX	OAL	DCONMS
TX304H 030	3	8	50	6
TX304H 030S3	3	8	50	3
TX304H 030S4	3	8	50	4
TX304H 040	4	11	50	6
TX304H 040S4	4	11	50	4
TX304H 050	5	13	50	6
TX304H 060	6	13	50	6
TX304H 080	8	19	60	8
TX304H 100	10	22	70	10
TX304H 120	12	26	75	12
TX304H 130	13	26	80	12
TX304H 140	14	26	80	14
TX304H 160	16	32	90	16
TX304H 180	18	32	100	18
TX304H 200	20	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel ~HB225	Alloy Steel HB225 ~325	Prehardened Steel HRC30~50	Cast Iron ~FCD500	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~									
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

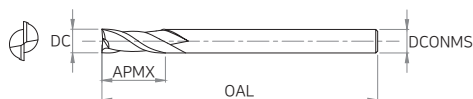
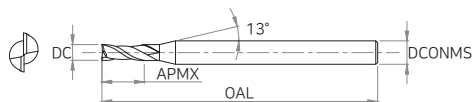
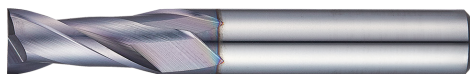
A-Wing

Standard

Copper
-Mate

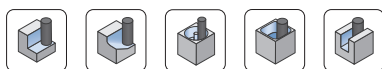
Gra
-Mate

ZE302P 2 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



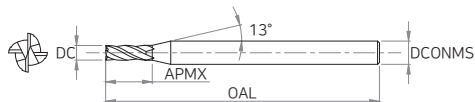
EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
ZE302 010P	1	2.5	50	6	ZE302 085P	8.5	22	70	10
ZE302 015P	1.5	4	50	6	ZE302 090P	9	22	70	10
ZE302 020P	2	6	50	6	ZE302 095P	9.5	24	70	10
ZE302 025P	2.5	8	50	6	ZE302 100P	10	25	70	10
ZE302 030P	3	10	50	6	ZE302 105P	10.5	26	80	12
ZE302 035P	3.5	10	50	6	ZE302 110P	11	30	80	12
ZE302 040P	4	12	50	6	ZE302 115P	11.5	30	80	12
ZE302 045P	4.5	14	50	6	ZE302 120P	12	30	80	12
ZE302 050P	5	15	60	6	ZE302 130P	13	35	90	12
ZE302 055P	5.5	15	60	6	ZE302 140P	14	35	100	14
ZE302 060P	6	15	60	6	ZE302 150P	15	40	100	16
ZE302 065P	6.5	18	60	8	ZE302 160P	16	40	100	16
ZE302 070P	7	20	65	8	ZE302 180P	18	45	100	18
ZE302 075P	7.5	20	65	8	ZE302 200P	20	45	100	20
ZE302 080P	8	20	65	8					

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

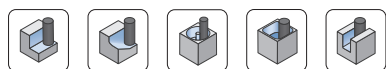
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

ZE304P 4 Flutes Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	APMX	OAL	DCONMS
ZE304 010P	1	2.5	50	6
ZE304 015P	1.5	4	50	6
ZE304 020P	2	6	50	6
ZE304 025P	2.5	8	50	6
ZE304 030P	3	10	50	6
ZE304 035P	3.5	10	50	6
ZE304 040P	4	12	50	6
ZE304 045P	4.5	14	50	6
ZE304 050P	5	15	60	6
ZE304 055P	5.5	15	60	6
ZE304 060P	6	15	60	6
ZE304 065P	6.5	18	60	8
ZE304 070P	7	20	65	8
ZE304 075P	7.5	20	65	8
ZE304 080P	8	20	65	8

EDP No	DC	APMX	OAL	DCONMS
ZE304 085P	8.5	22	70	10
ZE304 090P	9	22	70	10
ZE304 095P	9.5	24	70	10
ZE304 100P	10	25	70	10
ZE304 105P	10.5	26	80	12
ZE304 110P	11	30	80	12
ZE304 115P	11.5	30	80	12
ZE304 120P	12	30	80	12
ZE304 130P	13	35	90	12
ZE304 140P	14	35	100	14
ZE304 150P	15	40	100	16
ZE304 160P	16	40	100	16
ZE304 180P	18	45	100	18
ZE304 200P	20	45	100	20

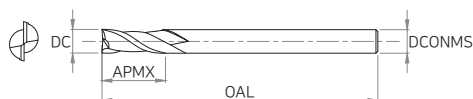
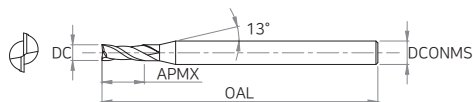
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

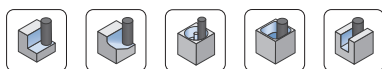
ZE322

2 Flutes Extra Long Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



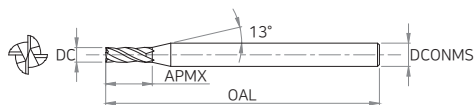
EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
ZE322 030	3	15	60	6	ZE322 101	10	35	100	10
ZE322 031	3	20	70	6	ZE322 102	10	45	150	10
ZE322 030S	3	20	100	3	ZE322 103	10	55	180	10
ZE322 040	4	15	60	6	ZE322 120	12	30	90	12
ZE322 041	4	20	70	6	ZE322 121	12	40	110	12
ZE322 040S	4	20	100	4	ZE322 122	12	50	150	12
ZE322 050	5	20	60	6	ZE322 123	12	60	200	12
ZE322 051	5	20	80	6	ZE322 140	14	40	120	14
ZE322 052	5	25	100	6	ZE322 141	14	60	150	14
ZE322 060	6	20	80	6	ZE322 160	16	50	140	16
ZE322 061	6	30	100	6	ZE322 161	16	70	160	16
ZE322 062	6	40	150	6	ZE322 162	16	80	200	16
ZE322 080	8	30	90	8	ZE322 180	18	50	140	18
ZE322 081	8	35	100	8	ZE322 200	20	60	150	20
ZE322 082	8	40	150	8	ZE322 201	20	100	200	20
ZE322 100	10	30	90	10	ZE322 202	20	130	250	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

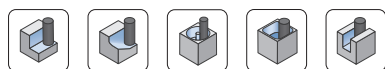
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

ZE324 4 Flutes Extra Long Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	APMX	OAL	DCONMS
ZE324 030	3	15	60	6
ZE324 031	3	20	70	6
ZE324 030S	3	20	100	3
ZE324 040	4	15	60	6
ZE324 041	4	20	70	6
ZE324 040S	4	20	100	4
ZE324 050	5	20	60	6
ZE324 051	5	20	80	6
ZE324 052	5	25	100	6
ZE324 060	6	20	80	6
ZE324 061	6	30	100	6
ZE324 062	6	40	150	6
ZE324 080	8	30	90	8
ZE324 081	8	35	100	8
ZE324 082	8	40	150	8
ZE324 100	10	30	90	10

EDP No	DC	APMX	OAL	DCONMS
ZE324 101	10	35	100	10
ZE324 102	10	45	150	10
ZE324 103	10	55	180	10
ZE324 120	12	30	90	12
ZE324 121	12	40	110	12
ZE324 122	12	50	150	12
ZE324 123	12	60	200	12
ZE324 140	14	40	120	14
ZE324 141	14	60	150	14
ZE324 160	16	50	140	16
ZE324 161	16	70	160	16
ZE324 162	16	80	200	16
ZE324 180	18	50	140	18
ZE324 200	20	60	150	20
ZE324 201	20	100	200	20
ZE324 202	20	130	250	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

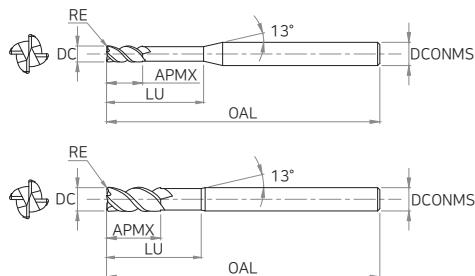
Standard

Copper
-Mate

Gra
-Mate

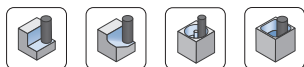
ZR304H

4 Flutes 45° Helix Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	RE	APMX	LU	OAL	DCON MS	EDP No	DC	RE	APMX	LU	OAL	DCON MS
ZR304H 0303	3	0.3	4	12	55	6	ZR304H 0610	6	1	7	20	60	6
ZR304H 0302S3	3	0.2	4	12	55	3	ZR304H 0805	8	0.5	10	25	65	8
ZR304H 0303S4	3	0.3	4	12	55	4	ZR304H 0810	8	1	10	25	65	8
ZR304H 0305	3	0.5	4	12	55	6	ZR304H 1005	10	0.5	12	30	70	10
ZR304H 0305S3	3	0.5	4	12	55	3	ZR304H 1010	10	1	12	30	70	10
ZR304H 0305S4	3	0.5	4	12	55	4	ZR304H 1015	10	1.5	12	30	70	10
ZR304H 0402S4	4	0.2	5	16	55	4	ZR304H 1020	10	2	12	30	70	10
ZR304H 0403	4	0.3	5	16	55	6	ZR304H 1205	12	0.5	15	30	80	12
ZR304H 0403S4	4	0.3	5	16	55	4	ZR304H 1210	12	1	15	30	80	12
ZR304H 0405	4	0.5	5	16	55	6	ZR304H 1215	12	1.5	15	30	80	12
ZR304H 0405S4	4	0.5	5	16	55	4	ZR304H 1220	12	2	15	30	80	12
ZR304H 0605	6	0.5	7	20	60	6							

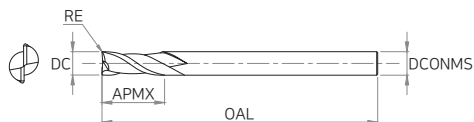
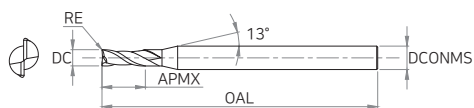
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

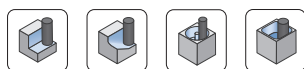
ZR322

2 Flutes Long Shank Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	RE	APMX	OAL	DCON MS
ZR322 0302S4	3	0.2	8	60	4
ZR322 0302	3	0.2	8	60	6
ZR322 0303	3	0.3	8	60	6
ZR322 0305S4	3	0.5	8	60	4
ZR322 0305	3	0.5	8	60	6
ZR322 0402S4	4	0.2	11	70	4
ZR322 0402	4	0.2	11	70	6
ZR322 0403	4	0.3	11	70	6
ZR322 0405S4	4	0.5	11	70	4
ZR322 0405	4	0.5	11	70	6
ZR322 0410S4	4	1	11	70	4
ZR322 0410	4	1	11	70	6
ZR322 0502	5	0.2	13	80	6
ZR322 0503	5	0.3	13	80	6
ZR322 0505	5	0.5	13	80	6
ZR322 0510	5	1	13	80	6
ZR322 0602	6	0.2	13	90	6
ZR322 0603	6	0.3	13	90	6
ZR322 0605	6	0.5	13	90	6

EDP No	DC	RE	APMX	OAL	DCON MS
ZR322 0610	6	1	13	90	6
ZR322 0803	8	0.3	19	100	8
ZR322 0805	8	0.5	19	100	8
ZR322 0810	8	1	19	100	8
ZR322 0815	8	1.5	19	100	8
ZR322 0820	8	2	19	100	8
ZR322 1003	10	0.3	22	100	10
ZR322 1005	10	0.5	22	100	10
ZR322 1010	10	1	22	100	10
ZR322 1015	10	1.5	22	100	10
ZR322 1020	10	2	22	100	10
ZR322 1025	10	2.5	22	100	10
ZR322 1205	12	0.5	26	110	12
ZR322 1210	12	1	26	110	12
ZR322 1215	12	1.5	26	110	12
ZR322 1220	12	2	26	110	12
ZR322 1225	12	2.5	26	110	12
ZR322 1230	12	3	26	110	12

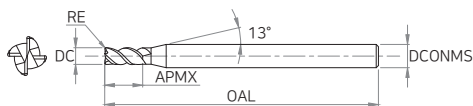
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

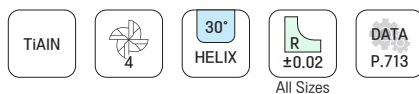
ZR324 4 Flutes Long Shank Radius End Mill

Endmill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



All Sizes

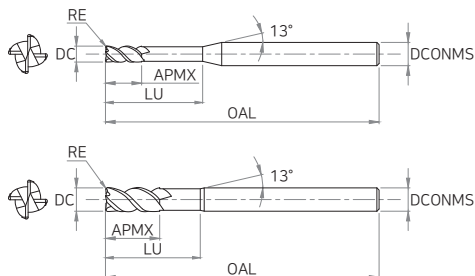
EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
ZR324 0302S4	3	0.2	8	60	4	ZR324 0610	6	1	13	90	6
ZR324 0302	3	0.2	8	60	6	ZR324 0803	8	0.3	19	100	8
ZR324 0303	3	0.3	8	60	6	ZR324 0805	8	0.5	19	100	8
ZR324 0305S4	3	0.5	8	60	4	ZR324 0810	8	1	19	100	8
ZR324 0305	3	0.5	8	60	6	ZR324 0815	8	1.5	19	100	8
ZR324 0402S4	4	0.2	11	70	4	ZR324 0820	8	2	19	100	8
ZR324 0402	4	0.2	11	70	6	ZR324 1003	10	0.3	22	100	10
ZR324 0403	4	0.3	11	70	6	ZR324 1005	10	0.5	22	100	10
ZR324 0405S4	4	0.5	11	70	4	ZR324 1010	10	1	22	100	10
ZR324 0405	4	0.5	11	70	6	ZR324 1015	10	1.5	22	100	10
ZR324 0410S4	4	1	11	70	4	ZR324 1020	10	2	22	100	10
ZR324 0410	4	1	11	70	6	ZR324 1025	10	2.5	22	100	10
ZR324 0502	5	0.2	13	80	6	ZR324 1205	12	0.5	26	110	12
ZR324 0503	5	0.3	13	80	6	ZR324 1210	12	1	26	110	12
ZR324 0505	5	0.5	13	80	6	ZR324 1215	12	1.5	26	110	12
ZR324 0510	5	1	13	80	6	ZR324 1220	12	2	26	110	12
ZR324 0602	6	0.2	13	90	6	ZR324 1225	12	2.5	26	110	12
ZR324 0603	6	0.3	13	90	6	ZR324 1230	12	3	26	110	12
ZR324 0605	6	0.5	13	90	6						

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

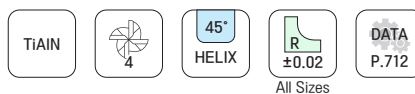
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

ZR324H 4 Flutes 45° Helix Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	RE	APMX	LU	OAL	DCONMS
ZR324H 0605	6	0.5	9	20	90	6
ZR324H 0610	6	1	9	20	90	6
ZR324H 0805	8	0.5	12	25	100	8
ZR324H 0810	8	1	12	25	100	8
ZR324H 1005	10	0.5	15	32	100	10
ZR324H 1010	10	1	15	32	100	10
ZR324H 1015	10	1.5	15	32	100	10
ZR324H 1020	10	2	15	32	100	10
ZR324H 1205	12	0.5	18	38	110	12
ZR324H 1210	12	1	18	38	110	12
ZR324H 1215	12	1.5	18	38	110	12
ZR324H 1220	12	2	18	38	110	12

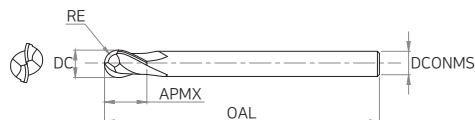
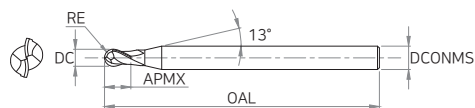
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		◎	◎	○						

DB312 2 Flutes Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



All Sizes

EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
DB312 010S4	1	0.5	2.5	50	4	DB312 055	5.5	2.75	10	80	6
DB312 010	1	0.5	2.5	50	6	DB312 060S	6	3	12	60	6
DB312 012	1.2	0.6	3	50	6	DB312 060	6	3	12	90	6
DB312 015	1.5	0.75	4	50	6	DB312 065	6.5	3.25	12	90	8
DB312 020S4	2	1	5	50	4	DB312 070	7	3.5	14	90	8
DB312 020	2	1	5	50	6	DB312 080S	8	4	14	60	8
DB312 025	2.5	1.25	6	60	6	DB312 080	8	4	14	100	8
DB312 030S3	3	1.5	8	60	3	DB312 090	9	4.5	18	100	10
DB312 030S4	3	1.5	8	60	4	DB312 100S	10	5	18	60	10
DB312 030	3	1.5	8	60	6	DB312 100	10	5	18	100	10
DB312 035	3.5	1.75	8	70	6	DB312 120	12	6	22	110	12
DB312 040S4	4	2	8	70	4	DB312 140	14	7	26	110	14
DB312 040	4	2	8	70	6	DB312 160	16	8	30	140	16
DB312 045	4.5	2.25	8	70	6	DB312 180	18	9	34	140	18
DB312 050	5	2.5	10	80	6	DB312 200	20	10	38	160	20

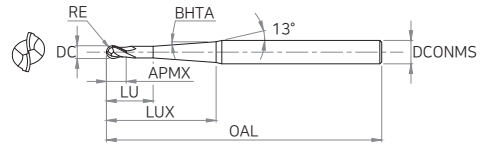
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

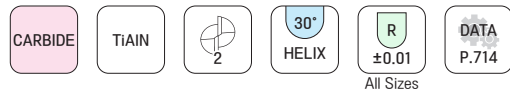
DB342

2 Flutes Tapered Neck Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	RE	APMX	LU	LUX	OAL	DCONMS	BHTA
DB342 01015	1	0.5	2	4	23	60	6	1°30'
DB342 01050	1	0.5	2	4	23	60	6	5°
DB342 01030	1	0.5	2	4	42	80	6	3°
DB342 02015	2	1	4	6	23	60	6	1°30'
DB342 02050	2	1	4	6	23	60	6	5°
DB342 02030	2	1	4	6	41	80	6	3°
DB342 03030	3	1.5	6	8	32	70	6	3°
DB342 03015	3	1.5	6	8	52	90	6	1°30'
DB342 04030	4	2	8	10	28	70	6	3°
DB342 04015	4	2	8	10	49	90	6	1°30'
DB342 05030	5	2.5	10	12	41	90	8	3°
DB342 05015	5	2.5	10	12	61	110	8	1°30'
DB342 06030	6	3	12	15	34	90	8	3°
DB342 06015	6	3	12	15	53	110	8	1°30'
DB342 08030	8	4	14	17	36	100	10	3°
DB342 08015	8	4	14	17	55	120	10	1°30'
DB342 10030	10	5	18	21	40	110	12	3°
DB342 10015	10	5	18	21	59	130	12	1°30'
DB342 12030	12	6	22	25	63	140	16	3°
DB342 12015	12	6	22	25	83	160	16	1°30'

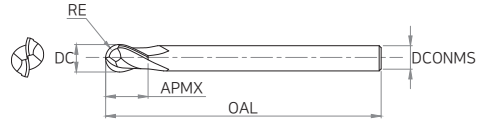
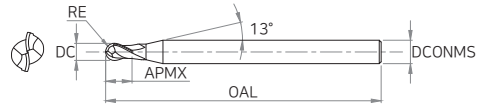
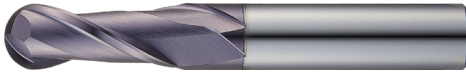
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		◎	◎	○						

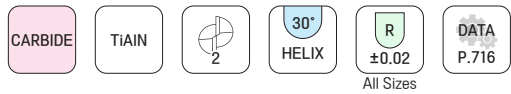
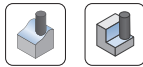
TXB202 2 Flutes Short Shank Ball End Mill

Endmill



► Tolerance

DC	Shank Dia
All Sizes	0 ~ -0.04 h6



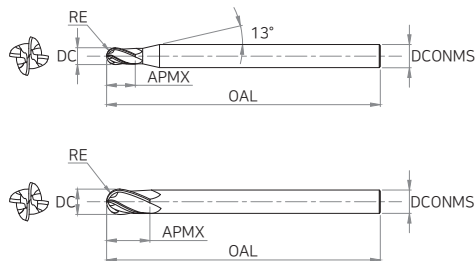
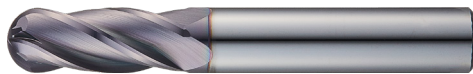
EDP No	DC	RE	APMX	OAL	DCONMS
TXB202 010	1	0.5	3	39	3
TXB202 015	1.5	0.75	5	39	3
TXB202 020	2	1	7	39	3
TXB202 025	2.5	1.25	8	39	3
TXB202 030	3	1.5	10	39	3
TXB202 040	4	2	14	51	4
TXB202 050	5	2.5	16	51	5
TXB202 060	6	3	19	64	6
TXB202 080	8	4	21	64	8
TXB202 100	10	5	25	70	10
TXB202 120	12	6	25	76	12
TXB202 160	16	8	32	89	16
TXB202 200	20	10	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

TXB204 4 Flutes Short Shank Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.04	h6



EDP No	DC	RE	APMX	OAL	DCONMS
TXB204 020	2	1	7	39	3
TXB204 030	3	1.5	10	39	3
TXB204 040	4	2	14	51	4
TXB204 050	5	2.5	16	51	5
TXB204 060	6	3	19	64	6
TXB204 080	8	4	21	64	8
TXB204 100	10	5	25	70	10
TXB204 120	12	6	25	76	12
TXB204 160	16	8	32	89	16
TXB204 200	20	10	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

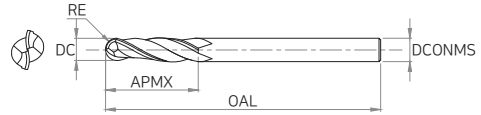
A-Wing

Standard

Copper
-Mate

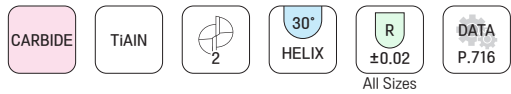
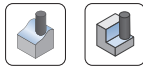
Gra
-Mate

TXB222 2 Flutes Long Ball End Mill



► Tolerance

DC	Shank Dia
All Sizes	0 ~ -0.04 h6



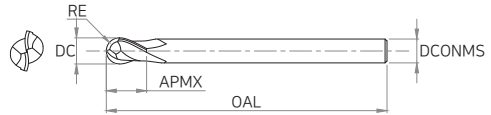
EDP No	DC	RE	APMX	OAL	DCONMS
TXB222 030	3	1.5	20	60	3
TXB222 040	4	2	20	60	4
TXB222 050	5	2.5	25	75	5
TXB222 060	6	3	30	75	6
TXB222 080	8	4	30	100	8
TXB222 100	10	5	40	100	10
TXB222 120	12	6	45	100	12
TXB222 140	14	7	45	100	14
TXB222 160	16	8	45	100	16
TXB222 180	18	9	45	100	18
TXB222 200	20	10	45	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

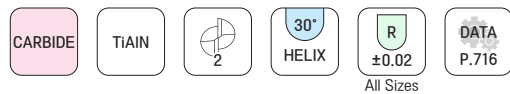
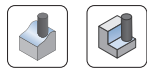
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		◎	◎	○						

TXB232 2 Flutes Long Shank Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.04	h6



EDP No	DC	RE	APMX	OAL	DCONMS
TXB232 030	3	1.5	5	75	3
TXB232 040	4	2	8	75	4
TXB232 050	5	2.5	9	75	5
TXB232 060	6	3	10	100	6
TXB232 060-75	6	3	10	75	6
TXB232 080	8	4	12	100	8
TXB232 080-75	8	4	12	75	8
TXB232 100	10	5	14	100	10
TXB232 100L	10	5	14	150	10
TXB232 120	12	6	16	100	12
TXB232 120L	12	6	16	150	12
TXB232 140	14	7	18	100	14
TXB232 160	16	8	22	150	16
TXB232 200	20	10	26	150	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

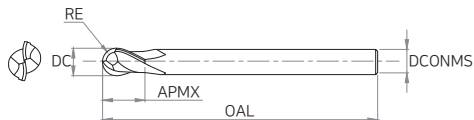
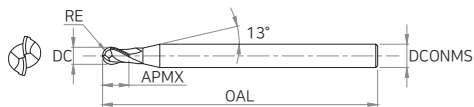
A-Wing

Standard

Copper
-Mate

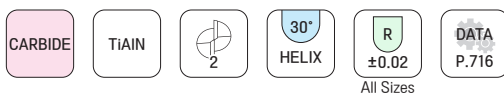
Gra
-Mate

TXB302 2 Flutes Ball End Mill



► Tolerance

DC	Shank Dia
All Sizes	0 ~ -0.04 h6



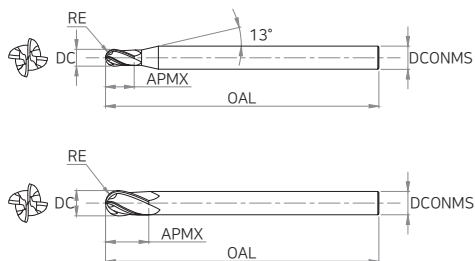
EDP No	DC	RE	APMX	OAL	DCONMS
TXB302 010	1	0.5	2	50	4
TXB302 015	1.5	0.75	3	50	4
TXB302 020	2	1	4	50	4
TXB302 025	2.5	1.25	6	50	4
TXB302 030	3	1.5	6	50	4
TXB302 040	4	2	8	50	4
TXB302 050	5	2.5	10	50	6
TXB302 060	6	3	12	50	6
TXB302 080	8	4	14	60	8
TXB302 100	10	5	18	75	10
TXB302 120	12	6	22	75	12
TXB302 140	14	7	32	75	14
TXB302 160	16	8	32	100	16
TXB302 180	18	9	32	100	18
TXB302 200	20	10	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○						

TXB304 4 Flutes Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.04	h6



EDP No	DC	RE	APMX	OAL	DCONMS
TXB304 010	1	0.5	2	50	4
TXB304 015	1.5	0.75	3	50	4
TXB304 020	2	1	4	50	4
TXB304 030	3	1.5	6	50	4
TXB304 040	4	2	8	50	4
TXB304 050	5	2.5	10	50	6
TXB304 060	6	3	12	50	6
TXB304 080	8	4	14	60	8
TXB304 100	10	5	18	75	10
TXB304 120	12	6	22	75	12
TXB304 140	14	7	32	75	14
TXB304 160	16	8	32	100	16
TXB304 180	18	9	32	100	18
TXB304 200	20	10	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		◎	◎	○						

- Endmill
- Zamus Star
- E-Star
- U-Wing
- Zamus Thunder
- X-Star
- S-Wing
- A-Wing
- Standard
- Copper-Mate
- Gra-Mate

X-Star Endmill

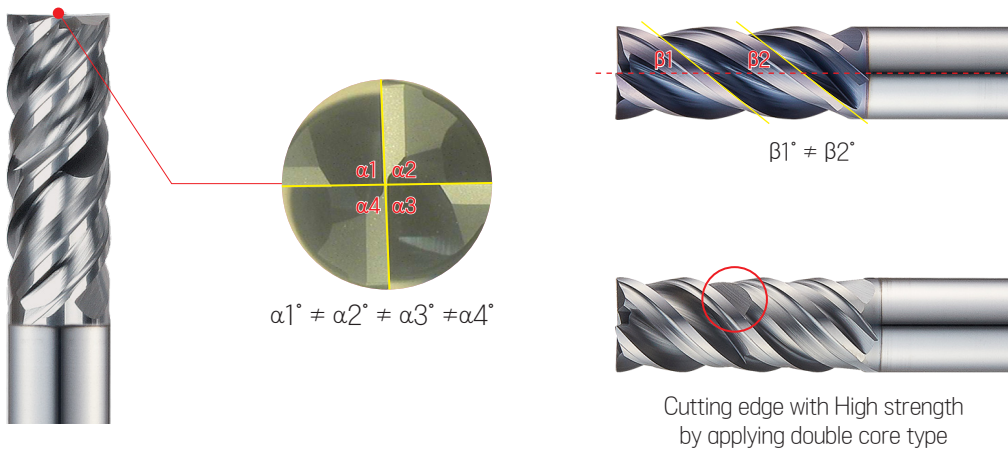
Difficult To Cut Material and Low Hardness Material HRc ~35

Characteristics

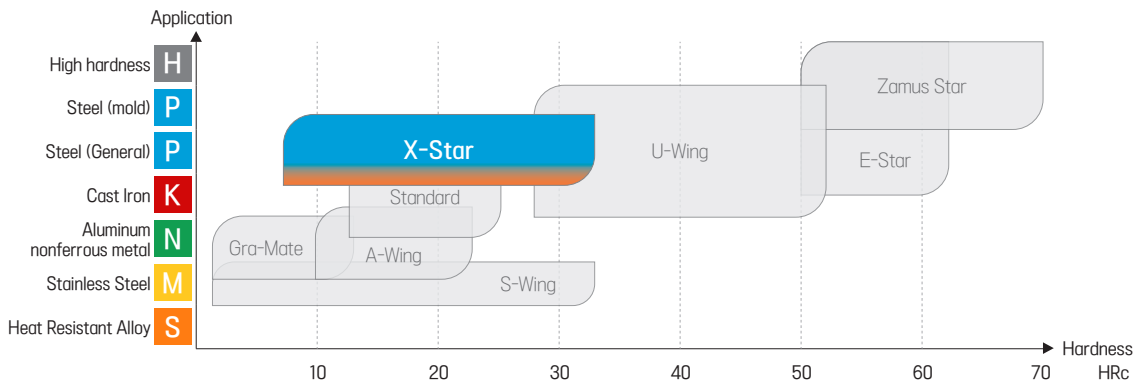
- Suitable for the difficult to cut material and low hardness material (HRc ~35) Stainless and Inconel etc.
- Various product line considered machining methods for rough and finishing for the difficult to cut materials and flat, sloped surfaces.

Features

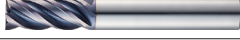
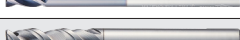
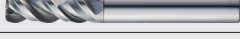
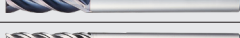
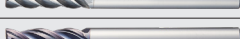
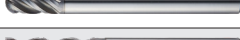
- High machining efficiency through unequal index cutting edge in all series
- Excellent chipping resistance and Minimized sudden breakage by using high toughness materials
- TiAlN, AlTiN coating for enhanced oxidation resistance and high hardness on surface
- Superb Groove design to improve chip emission according to workpiece's characteristics



Applications



Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	3F	XCE503		3 Flutes Double Core Square End Mill	2	25	325
	4F	XCE504		4 Flutes Double Core Square End Mill	6	25	326
	4F	XE504		4 Flutes Variable Helix Square End Mill	1	25	327
	5F	XE505		5 Flutes Variable Helix Square End Mill	6	25	328
	4F	XE514		4 Flutes Variable Helix Neck Type Square End Mill	1	20	329
	5F	XE515		5 Flutes Variable Helix Neck Type Square End Mill	6	20	330
	4F	XE524		4 Flutes Variable Helix Long Shank Square End Mill	6	16	331
Radius	3F	XCR503		3 Flutes Double Core Radius End Mill	5	25	332
	4F	XCR504		4 Flutes Double Core Radius End Mill	6	25	333
	4F	XR504		4 Flutes Variable Helix Radius End Mill	2	25	334
	5F	XR505		5 Flutes Variable Helix Radius End Mill	6	25	335
	4F	XR514		4 Flutes Variable Helix Radius End Mill	2	20	336
Ball	4F	XXB504		4 Flutes Variable Helix Ball End Mill	4	12	337
Chamfer	3F	XCC503		3 Flutes Double Core Chamfer End Mill	2	25	338
	4F	XCC504		4 Flutes Double Core Chamfer End Mill	6	25	339

X-Star Endmill

Difficult To Cut Material and Low Hardness Material HRc ~35

EDP No. System

*If expressed as an integer, the decimal point is omitted.

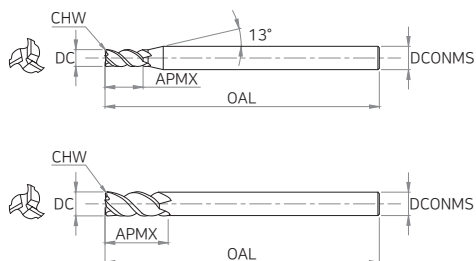


①	②	③	④	⑤	⑥	⑦
Section	Appearance	Grade	Length, Shank Type	Flutes	Cutting Dia	Corner R
X : X-Star (Unequal Pitch)	E : Square	3 : Grade	0 : Straight	3 : 3 Flutes	1	0.1
	R : Radius	5 : Grade	1 : Neck	4 : 4 Flutes	~	~
	XE : Square		2 : Long neck	5 : 5 Flutes	25.4	5
	XB : Ball					
	XR : Radius (Edge Protection)					
	CE : Square (Double Core)					
	CC : Chamfer (Double Core)					
	CR : Radius (Double Core)					

EX) 3 Flutes / Cutting Dia Ø12 / 50 Grade / Straight type Double Core Radius X-Star End Mill

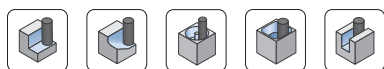
XCE503

3 Flutes Double Core Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	APMX	OAL	DCONMS
XCE503 020	2	6	50	6
XCE503 025	2.5	8	50	6
XCE503 030	3	10	50	6
XCE503 035	3.5	10	50	6
XCE503 040	4	12	50	6
XCE503 045	4.5	14	50	6
XCE503 050	5	15	50	6
XCE503 055	5.5	15	50	6
XCE503 060	6	15	50	6
XCE503 080	8	20	60	8
XCE503 100	10	25	70	10
XCE503 120	12	30	75	12
XCE503 160	16	40	90	16
XCE503 200	20	45	100	20
XCE503 250	25	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

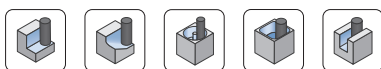
XCE504

4 Flutes Double Core Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



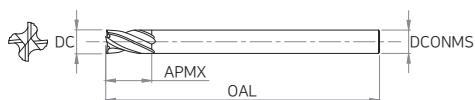
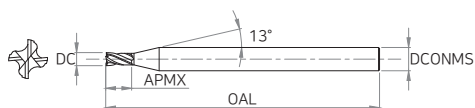
EDP No	DC	APMX	OAL	DCONMS
XCE504 060	6	15	50	6
XCE504 080	8	20	60	8
XCE504 100	10	25	70	10
XCE504 120	12	30	75	12
XCE504 160	16	40	90	16
XCE504 200	20	45	100	20
XCE504 250	25	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

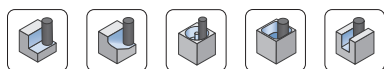
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

XE504 4 Flutes Variable Helix Square End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø12	0 ~ -0.02	h6
Ø13 ~ Ø25	0 ~ -0.03	



EDP No	DC	APMX	OAL	DCONMS
XE504 010	1	2.5	45	4
XE504 020	2	5	45	4
XE504 030	3	8	50	6
XE504 040	4	11	50	6
XE504 050	5	13	50	6
XE504 060	6	13	50	6
XE504 070	7	16	60	8
XE504 080	8	19	60	8
XE504 090	9	19	70	10
XE504 100	10	22	70	10
XE504 110	11	22	75	12
XE504 120	12	26	75	12
XE504 130	13	26	80	12
XE504 140	14	26	80	14
XE504 160	16	32	90	16
XE504 180	18	32	100	18
XE504 200	20	38	100	20
XE504 250	25	45	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○	○					◎	

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

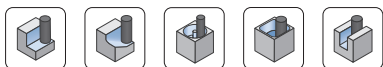
XE505

5 Flutes Variable Helix Square End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø8	0 ~ -0.04	h6
Ø10 ~ Ø25	0 ~ -0.05	



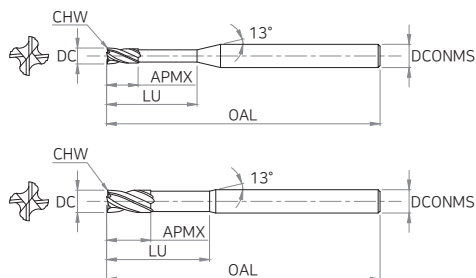
EDP No	DC	APMX	OAL	DCONMS
XE505 060	6	13	57	6
XE505 080	8	19	63	8
XE505 100	10	22	72	10
XE505 120	12	26	83	12
XE505 140	14	26	83	14
XE505 160	16	32	92	16
XE505 180	18	32	92	18
XE505 200	20	38	104	20
XE505 250	25	38	104	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○	○					◎	

XE514 4 Flutes Variable Helix Neck Type Square End Mill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø12	0 ~ -0.02	h6
Ø16 ~ Ø20	0 ~ -0.03	



EDP No	DC	APMX	LU	OAL	DCONMS
XE514 010	1	2	10	45	4
XE514 020	2	3	12	45	4
XE514 030	3	4	14	50	6
XE514 040	4	5	16	50	6
XE514 050	5	6	18	50	6
XE514 060	6	7	20	50	6
XE514 080	8	9	26	60	8
XE514 100	10	11	31	70	10
XE514 120	12	13	37	75	12
XE514 160	16	17	43	90	16
XE514 200	20	21	53	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○	○					◎	

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

XE515

5 Flutes Variable Helix Neck Type Square End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø8	0 ~ -0.04	h6
Ø10 ~ Ø20	0 ~ -0.04	



EDP No	DC	APMX	OAL	DCONMS
XE515 060	6	25	75	6
XE515 080	8	30	75	8
XE515 100	10	45	100	10
XE515 120	12	75	150	12
XE515 160	16	75	150	16
XE515 200	20	75	150	20

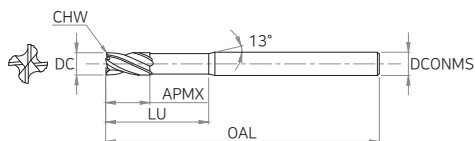
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○	○					◎	

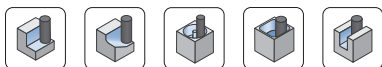
XE524

4 Flutes Variable Helix Long Shank Square End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø12	0 ~ -0.02	h6
Ø16	0 ~ -0.03	



EDP No	DC	APMX	LU	OAL	DCONMS
XE524 060	6	7	33	70	6
XE524 080	8	9	43	80	8
XE524 100	10	11	43	84	10
XE524 120	12	13	51	97	12
XE524 160	16	17	66	115	16

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

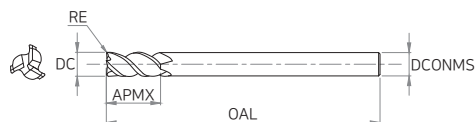
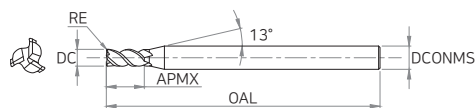
Standard

Copper
-Mate

Gra
-Mate

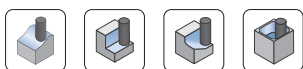
XCR503

3 Flutes Double Core Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



All Sizes

EDP No	DC	RE	APMX	OAL	DCONMS
XCR503 0502	5	0.2	15	50	6
XCR503 0602	6	0.2	15	50	6
XCR503 0605	6	0.5	15	50	6
XCR503 0610	6	1	15	50	6
XCR503 0805	8	0.5	20	60	8
XCR503 0810	8	1	20	60	8
XCR503 1005	10	0.5	25	70	10
XCR503 1010	10	1	25	70	10
XCR503 1205	12	0.5	30	75	12
XCR503 1210	12	1	30	75	12
XCR503 1605	16	0.5	40	90	16
XCR503 1610	16	1	40	90	16
XCR503 2005	20	0.5	45	100	20
XCR503 2010	20	1	45	100	20
XCR503 2505	25	0.5	50	120	25
XCR503 2510	25	1	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

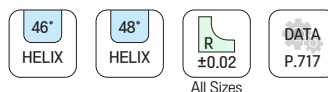
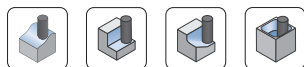
XCR504

4 Flutes Double Core Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



All Sizes

EDP No	DC	RE	APMX	OAL	DCONMS
XCR504 0602	6	0.2	15	50	6
XCR504 0605	6	0.5	15	50	6
XCR504 0610	6	1	15	50	6
XCR504 0805	8	0.5	20	60	8
XCR504 0810	8	1	20	60	8
XCR504 1005	10	0.5	25	70	10
XCR504 1010	10	1	25	70	10
XCR504 1205	12	0.5	30	75	12
XCR504 1210	12	1	30	75	12
XCR504 1605	16	0.5	40	90	16
XCR504 1610	16	1	40	90	16
XCR504 2005	20	0.5	45	100	20
XCR504 2010	20	1	45	100	20
XCR504 2505	25	0.5	50	120	25
XCR504 2510	25	1	50	120	25

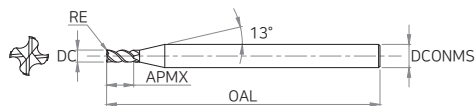
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	

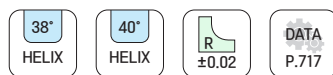
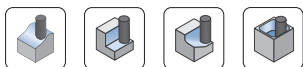
XR504

4 Flutes Variable Helix Radius End Mill



► Tolerance

DC		Shank Dia
Ø2 ~ Ø12	0 ~ -0.02	h6
Ø13 ~ Ø25	0 ~ -0.03	



All Sizes

EDP No	DC	RE	APMX	OAL	DCONMS
XR504 020	2	0.1	5	45	4
XR504 030	3	0.1	8	50	6
XR504 040	4	0.2	11	50	6
XR504 050	5	0.2	13	50	6
XR504 060	6	0.2	13	50	6
XR504 070	7	0.2	16	60	8
XR504 080	8	0.2	19	60	8
XR504 090	9	0.2	19	70	10
XR504 100	10	0.3	22	70	10
XR504 110	11	0.3	22	75	12
XR504 120	12	0.3	26	75	12
XR504 130	13	0.3	26	80	12
XR504 140	14	0.3	26	80	14
XR504 160	16	0.3	32	90	16
XR504 180	18	0.3	32	100	18
XR504 200	20	0.3	38	100	20
XR504 250	25	0.3	45	120	25

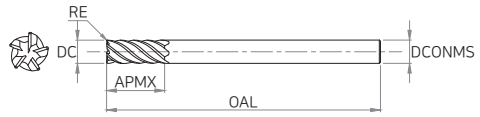
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
		○	○	○					◎	

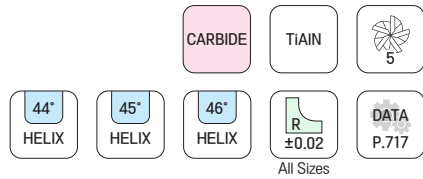
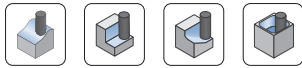
XR505

5 Flutes Variable Helix Radius End Mill



► Tolerance

DC		Shank Dia
Ø6 ~ Ø8	0 ~ -0.04	h6
Ø10 ~ Ø25	0 ~ -0.05	



EDP No	DC	RE	APMX	OAL	DCONMS
XR505 06050	6	0.5	13	57	6
XR505 08050	8	0.5	19	63	8
XR505 10050	10	0.5	22	72	10
XR505 12075	12	0.75	26	83	12
XR505 14075	14	0.75	26	83	14
XR505 14075S16	14	0.75	26	92	16
XR505 16100	16	1	32	92	16
XR505 18100	18	1	32	92	18
XR505 18100S20	18	1	32	104	20
XR505 20100	20	1	38	104	20
XR505 25100	25	1	38	104	25

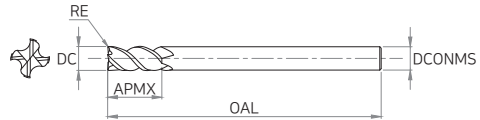
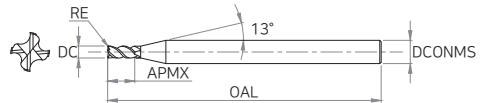
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	

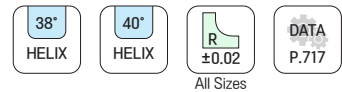
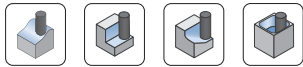
XR514

4 Flutes Variable Helix Radius End Mill



► Tolerance

DC		Shank Dia
Ø2 ~ Ø12	0 ~ -0.02	h6
Ø16 ~ Ø20	0 ~ -0.03	



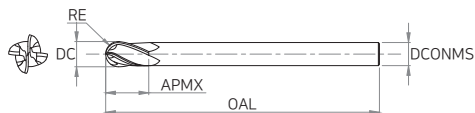
EDP No	DC	RE	APMX	OAL	DCON MS	EDP No	DC	RE	APMX	OAL	DCON MS
XR514 0201	2	0.1	5	45	4	XR514 0820	8	2	19	60	8
XR514 0202	2	0.2	5	45	4	XR514 1005	10	0.5	22	70	10
XR514 0302	3	0.2	8	50	6	XR514 1010	10	1	22	70	10
XR514 0303	3	0.3	8	50	6	XR514 1015	10	1.5	22	70	10
XR514 0305	3	0.5	8	50	6	XR514 1020	10	2	22	70	10
XR514 0403	4	0.3	10	50	6	XR514 1205	12	0.5	26	75	12
XR514 0405	4	0.5	10	50	6	XR514 1210	12	1	26	75	12
XR514 0410	4	1	10	50	6	XR514 1215	12	1.5	26	75	12
XR514 0505	5	0.5	13	50	6	XR514 1220	12	2	26	75	12
XR514 0510	5	1	13	50	6	XR514 1230	12	3	26	75	12
XR514 0605	6	0.5	13	50	6	XR514 1615	16	1.5	32	90	16
XR514 0610	6	1	13	50	6	XR514 1620	16	2	32	90	16
XR514 0615	6	1.5	13	50	6	XR514 1630	16	3	32	90	16
XR514 0805	8	0.5	19	60	8	XR514 2030	20	3	38	100	20
XR514 0810	8	1	19	60	8	XR514 2040	20	4	38	100	20
XR514 0815	8	1.5	19	60	8	XR514 2050	20	5	38	100	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
		○	○	○					◎	

XXB504 4 Flutes Variable Helix Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	RE	APMX	OAL	DCONMS
XXB504 040	4	2	8	70	4
XXB504 060	6	3	12	90	6
XXB504 080	8	4	15	100	8
XXB504 100	10	5	20	100	10
XXB504 120	12	6	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

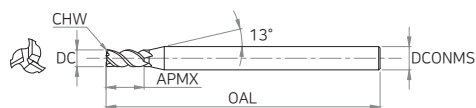
Standard

Copper
-Mate

Gra
-Mate

XCC503

3 Flutes Double Core Chamfer End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	CHW	APMX	OAL	DCONMS
XCC503 020	2	0.025	6	50	6
XCC503 025	2.5	0.025	8	50	6
XCC503 030	3	0.035	10	50	6
XCC503 035	3.5	0.035	10	50	6
XCC503 040	4	0.045	12	50	6
XCC503 045	4.5	0.045	14	50	6
XCC503 050	5	0.055	15	50	6
XCC503 055	5.5	0.055	15	50	6
XCC503 060	6	0.075	15	50	6
XCC503 080	8	0.1	20	60	8
XCC503 100	10	0.125	25	70	10
XCC503 120	12	0.15	30	75	12
XCC503 160	16	0.2	40	90	16
XCC503 200	20	0.25	45	100	20
XCC503 250	25	0.3	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

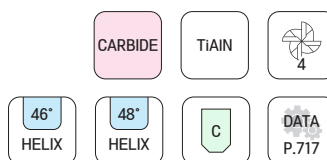
XCC504

4 Flutes Double Core Chamfer End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	CHW	APMX	OAL	DCONMS
XCC504 060	6	0.075	15	50	6
XCC504 080	8	0.1	20	60	8
XCC504 100	10	0.125	25	70	10
XCC504 120	12	0.15	30	75	12
XCC504 160	16	0.2	40	90	16
XCC504 200	20	0.3	45	100	20
XCC504 250	25	0.3	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	

S-Wing Endmill **NEW**

For Stainless Steels

Characteristics

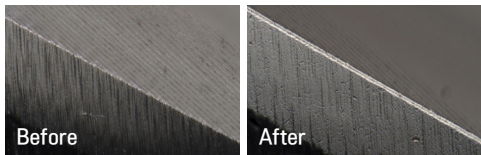
- Suitable for machining difficult-to-cut materials such as stainless steel and titanium through variable Helix
- New coatings with high oxidation resistance and surface hardness
- Advanced surface roughness with improved chip emission and deposition resistance

Features

- Stable high speed processing with minimum vibration, unequal index and optimal rake angle
- High processability and low vibration by applying unequal index in cutting edge
- Minimum vibration through optimized helix angle and R gash, enhanced chip emission with stiffness supplementation
- Reduced friction resistance and improved chip emission by applying new coatings with high surface hardness oxidation resistance
- Enhanced chipping resistance and deposition resistance with new strengthened flute

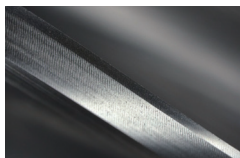
Cutting edge

- Improved initial chipping resistance for high-hardness steels
- Enhancing wear resistance and inducing stable processing
- High quality by stabilizing cutting edge



Additional finishing edge

- Improved surface roughness by enhancing the first O.D grinding roughness
- High quality of cutting edge and improved deposition resistance



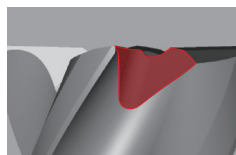
Raw-material for high performance

- Chipping resistance and working stability through high performance raw-material



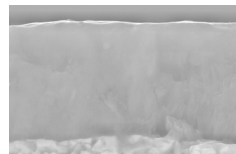
Unequal Index / R gash

- High chip emission through R gash shape
- Stability when shouldering machining



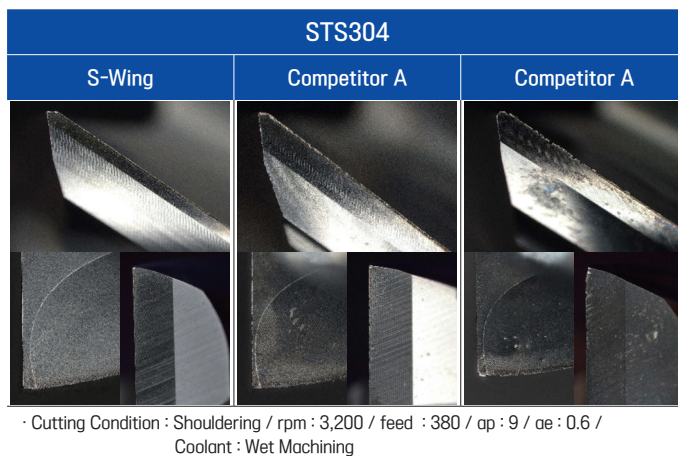
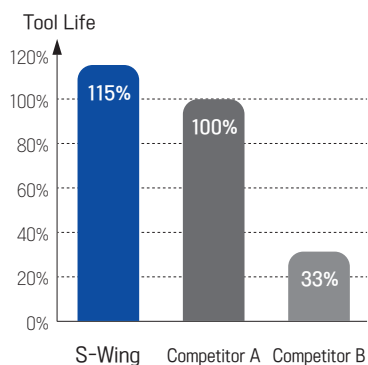
AlCrN coating

- Improved lubrication through containing Cr
- Improved heat resistance

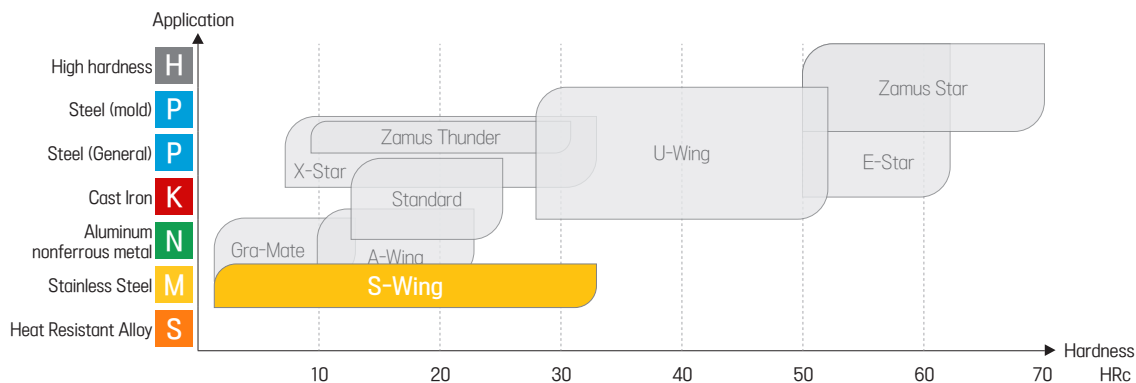


Case Study

► 4 Flutes D6.0 Square End Mill



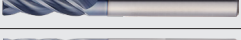
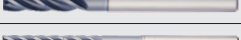
Applications



S-Wing Endmill NEW

For Stainless Steels

Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	SE502		2 Flutes Square End Mill	1	20	343
	3F	SE503		3 Flutes Square End Mill	1	20	344
	4F	SE504		4 Flutes Square End Mill	1	20	345
	6F	SE506		6 Flutes Square End Mill	6	20	347
Radius	4F	SR504		4 Flutes Radius End Mill	1	20	348
	5F	SR505		5 Flutes Chip Breaker Type Radius End Mill	6	20	350
	7F	SR507		7 Flutes Chip Breaker Type Radius End Mill	6	20	351
Ball	2F	SB502		2 Flutes Ball End Mill	1	12	352
	4F	SB504		4 Flutes Ball End Mill	3	20	353
Roughing	3~5F	SF51H		3~5 Flutes Roughing End Mill	3	20	354

EDP No. System

*If expressed as an integer, the decimal point is omitted.

S	F	5	1	4	120	03	H
①	②	③	④	⑤	⑥	⑦	⑧

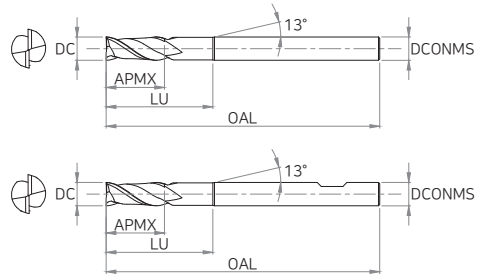
①	②	③	④	⑤	⑥	⑦	⑧	
Section	Appearance	Grade	Length, Shank Type	Flutes	Cutting Dia	Corner R	Helix	
S : STS high Performance	E : Square	5 : Grade	0 : Standard	2 : 2 Flutes	1	0.1	H : High Helix	
	R : Radius		1 : Straight, Neck	3 : 3 Flutes	~	~		
	B : Ball			4 : 4 Flutes	20	2		
	F : Roughing			5 : 5 Flutes				
				6 : 6 Flutes				
				7 : 7 Flutes				

EX) 4 Flute / Cutting Dia $\varnothing 2$ / Corner R 0.3 / Shank Dia $\varnothing 4$ / 50 Grade / Corner Radius Standard Type STS high Performance End Mill

SE502

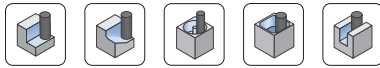
2 Flutes Square End Mill

※ The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.015	h5
Ø6	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	APMX	LU	OAL	DCONMS
JIS	DIN					
SE502 010	SE502 010F	1	2.5	7.5	50	6
SE502 012	SE502 012F	1.2	3	8	50	6
SE502 015	SE502 015F	1.5	4	9	50	6
SE502 020	SE502 020F	2	6	11	50	6
SE502 025	SE502 025F	2.5	7	12	50	6
SE502 030	SE502 030F	3	8	13	55	6
SE502 040	SE502 040F	4	10	15	55	6
SE502 050	SE502 050F	5	15	20	55	6
SE502 060	SE502 060F	6	15	22	60	6
SE502 080	SE502 080F	8	20	32	70	8
SE502 100	SE502 100F	10	25	33	75	10
SE502 120	SE502 120F	12	30	35	80	12
SE502 140	SE502 140F	14	35	42	90	16
SE502 160	SE502 160F	16	42	52	100	16
SE502 180	-	18	45	-	100	16
SE502 200	SE502 200F	20	48	50	100	20

► Applicable Working Material

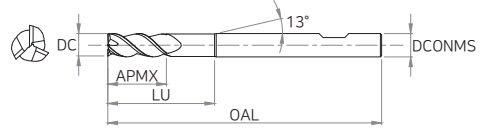
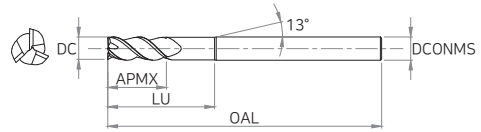
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SE503

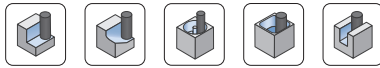
3 Flutes Square End Mill

※ The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.015	h5
Ø6	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	APMX	LU	OAL	DCONMS
JIS	DIN					
SE503 010	SE503 010F	1	2.5	7.5	50	6
SE503 012	SE503 012F	1.2	3	8	50	6
SE503 015	SE503 015F	1.5	4	9	50	6
SE503 020	SE503 020F	2	6	11	50	6
SE503 025	SE503 025F	2.5	7	12	50	6
SE503 030	SE503 030F	3	8	13	55	6
SE503 03010	SE503 03010F	3	10	15	60	6
SE503 040	SE503 040F	4	10	15	55	6
SE503 04012	SE503 04012F	4	12	17	60	6
SE503 050	SE503 050F	5	13	18	55	6
SE503 060	SE503 060F	6	15	22	60	6
SE503 06020	SE503 06020F	6	20	27	65	6
SE503 080	SE503 080F	8	20	32	70	8
SE503 08030	SE503 08030F	8	30	42	80	8
SE503 100	SE503 100F	10	25	33	75	10
SE503 10035	SE503 10035F	10	35	43	85	10
SE503 120	SE503 120F	12	30	35	80	12
SE503 12040	SE503 12040F	12	40	45	90	12
SE503 140	SE503 140F	14	35	42	90	16
SE503 160	SE503 160F	16	42	52	100	16
SE503 180	-	18	45	-	100	16
SE503 200	SE503 200F	20	48	50	100	20

► Applicable Working Material

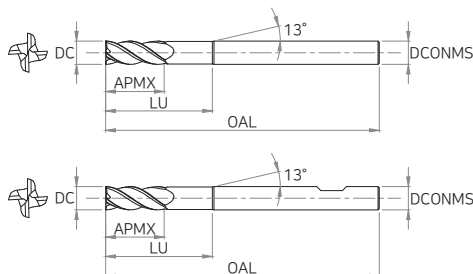
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FC500					
		○	○	○					◎	○

SE504

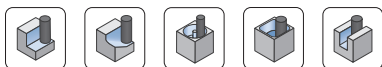
4 Flutes Square End Mill

※ The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5.5	0 ~ -0.015	h5
Ø6 ~ Ø7	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	APMX	LU	OAL	DCONMS
JIS	DIN					
SE504 010	SE504 010F	1	2.5	7.5	50	6
SE504 012	SE504 012F	1.2	3	8	50	6
SE504 015	SE504 015F	1.5	4	9	50	6
SE504 020	SE504 020F	2	6	11	50	6
SE504 025	SE504 025F	2.5	7	12	50	6
SE504 030	SE504 030F	3	8	13	55	6
SE504 03010	SE504 03010F	3	10	15	60	6
SE504 035	SE504 035F	3.5	10	15	55	6
SE504 040	SE504 040F	4	10	15	55	6
SE504 04012	SE504 04012F	4	12	17	60	6
SE504 045	SE504 045F	4.5	12	17	55	6
SE504 050	SE504 050F	5	15	20	55	6
SE504 055	SE504 055F	5.5	15	20	60	6
SE504 060	SE504 060F	6	15	22	60	6
SE504 06020	SE504 06020F	6	20	27	65	6
SE504 065	SE504 065F	6.5	15	22	60	8
SE504 070	SE504 070F	7	20	42	80	8
SE504 080	SE504 080F	8	20	32	70	8
SE504 08025	SE504 08025F	8	25	32	70	8
SE504 08030	SE504 08030F	8	30	42	80	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

SE504

4 Flutes Square End Mill

※ The tools of DIN standard
are made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
JIS	DIN					
SE504 085	SE504 085F	8.5	20	28	70	10
SE504 090	SE504 090F	9	25	38	80	10
SE504 100	SE504 100F	10	25	33	75	10
SE504 10035	SE504 10035F	10	35	43	85	10
SE504 120	SE504 120F	12	30	35	80	12
SE504 12040	SE504 12040F	12	40	45	90	12
SE504 140	SE504 140F	14	35	42	90	16
SE504 160	SE504 160F	16	42	52	100	16
SE504 180	-	18	45	-	100	16
SE504 200	SE504 200F	20	48	50	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

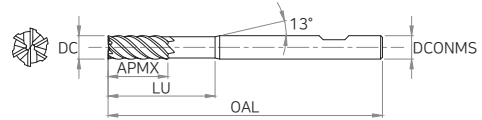
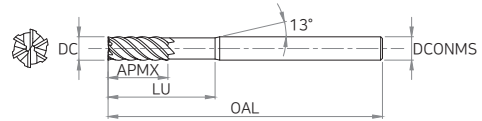
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SE506

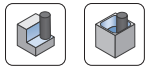
6 Flutes Square End Mill

※ The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø6	0 ~ -0.02	h5
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	APMX	LU	OAL	DCONMS
JIS	DIN					
SE506 060	SE506 060F	6	15	22	60	6
SE506 080	SE506 080F	8	20	32	70	8
SE506 100	SE506 100F	10	25	33	75	10
SE506 120	SE506 120F	12	30	35	80	12
SE506 160	SE506 160F	16	42	52	100	16
SE506 200	SE506 200F	20	48	50	100	20

► Applicable Working Material

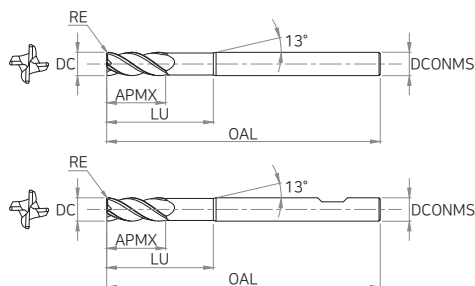
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SR504

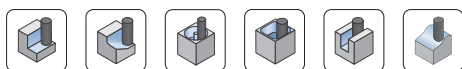
4 Flutes Radius End Mill

* The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.015	h5
Ø6 ~ Ø7	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SR504 01001	SR504 01001F	1	0.1	2.5	7.5	50	6
SR504 01002	SR504 01002F	1	0.2	2.5	7.5	50	6
SR504 01201	SR504 01201F	1.2	0.1	3	8	50	6
SR504 01501	SR504 01501F	1.5	0.1	4	9	50	6
SR504 01502	SR504 01502F	1.5	0.2	4	9	50	6
SR504 02001	SR504 02001F	2	0.1	6	11	50	6
SR504 02002	SR504 02002F	2	0.2	6	11	50	6
SR504 02502	SR504 02502F	2.5	0.2	7	12	50	6
SR504 03002	SR504 03002F	3	0.2	8	13	55	6
SR504 03003	SR504 03003F	3	0.3	8	13	55	6
SR504 03005	SR504 03005F	3	0.5	8	13	55	6
SR504 04002	SR504 04002F	4	0.2	10	15	55	6
SR504 04003	SR504 04003F	4	0.3	10	15	55	6
SR504 04005	SR504 04005F	4	0.5	10	15	55	6
SR504 05002	SR504 05002F	5	0.2	15	20	55	6
SR504 05003	SR504 05003F	5	0.3	15	20	55	6
SR504 05005	SR504 05005F	5	0.5	15	20	55	6
SR504 06003	SR504 06003F	6	0.3	15	22	60	6
SR504 06005	SR504 06005F	6	0.5	15	22	60	6
SR504 06010	SR504 06010F	6	1	15	22	60	6
SR504 07003	SR504 07003F	7	0.3	15	22	60	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SR504

4 Flutes Radius End Mill

* The tools of DIN standard
are made to order

Endmill

EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SR504 08002	SR504 08002F	8	0.2	20	32	70	8
SR504 08003	SR504 08003F	8	0.3	20	32	70	8
SR504 08005	SR504 08005F	8	0.5	20	32	70	8
SR504 08010	SR504 08010F	8	1	20	32	70	8
SR504 10003	SR504 10003F	10	0.3	25	33	75	10
SR504 10005	SR504 10005F	10	0.5	25	33	75	10
SR504 10010	SR504 10010F	10	1	25	33	75	10
SR504 10015	SR504 10015F	10	1.5	25	33	75	10
SR504 10020	SR504 10020F	10	2	25	33	75	10
SR504 10030	SR504 10030F	10	3	25	33	75	10
SR504 12003	SR504 12003F	12	0.3	30	35	80	12
SR504 12005	SR504 12005F	12	0.5	30	35	80	12
SR504 12010	SR504 12010F	12	1	30	35	80	12
SR504 12015	SR504 12015F	12	1.5	30	35	80	12
SR504 12020	SR504 12020F	12	2	30	35	80	12
SR504 12030	SR504 12030F	12	3	30	35	80	12
SR504 12040	SR504 12040F	12	4	30	35	80	12
SR504 14005	SR504 14005F	14	0.5	35	42	90	16
SR504 14010	SR504 14010F	14	1	35	42	90	16
SR504 14020	SR504 14020F	14	2	35	42	90	16
SR504 14030	SR504 14030F	14	3	35	42	90	16
SR504 14040	SR504 14040F	14	4	35	42	90	16
SR504 16005	SR504 16005F	16	0.5	42	52	100	16
SR504 16010	SR504 16010F	16	1	42	52	100	16
SR504 16020	SR504 16020F	16	2	42	52	100	16
SR504 16030	SR504 16030F	16	3	42	52	100	16
SR504 16040	SR504 16040F	16	4	42	52	100	16
SR504 16050	SR504 16050F	16	5	42	52	100	16
SR504 18005	-	18	0.5	45	-	100	16
SR504 20005	SR504 20005F	20	0.5	48	50	100	20
SR504 20010	SR504 20010F	20	1	48	50	100	20
SR504 20020	SR504 20020F	20	2	48	50	100	20
SR504 20030	SR504 20030F	20	3	48	50	100	20
SR504 20040	SR504 20040F	20	4	48	50	100	20
SR504 20050	SR504 20050F	20	5	48	50	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

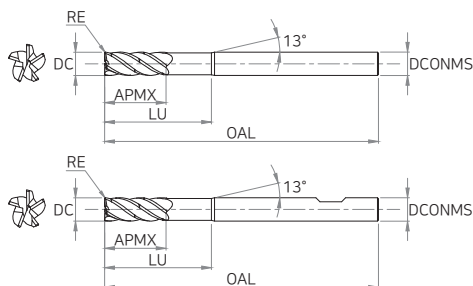
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SR505

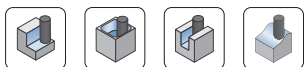
5 Flutes Chip Breaker Type
Radius End Mill

※ The tools of DIN standard
are made to order



► Tolerance

DC		Shank Dia
Ø6	0 ~ -0.02	h5
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SR505 06005	SR505 06005F	6	0.5	15	22	60	6
SR505 0602405	SR505 0602405F	6	0.5	24	32	70	6
SR505 08005	SR505 08005F	8	0.5	20	32	70	8
SR505 0803205	SR505 0803205F	8	0.5	32	52	90	8
SR505 10005	SR505 10005F	10	0.5	25	33	75	10
SR505 1004005	SR505 1004005F	10	0.5	40	58	100	10
SR505 12005	SR505 12005F	12	0.5	30	35	80	12
SR505 12010	SR505 12010F	12	1	30	35	80	12
SR505 12020	SR505 12020F	12	2	30	35	80	12
SR505 12030	SR505 12030F	12	3	30	35	80	12
SR505 1204805	SR505 1204805F	12	0.5	48	63	110	12
SR505 16005	SR505 16005F	16	0.5	42	52	100	16
SR505 16010	SR505 16010F	16	1	42	52	100	16
SR505 16020	SR505 16020F	16	2	42	52	100	16
SR505 16030	SR505 16030F	16	3	42	52	100	16
SR505 16040	SR505 16040F	16	4	42	52	100	16
SR505 1606505	SR505 1606505F	16	0.5	65	80	130	16
SR505 20005	SR505 20005F	20	0.5	48	58	110	20
SR505 2006505	SR505 2006505F	20	0.5	65	78	130	20

► Applicable Working Material

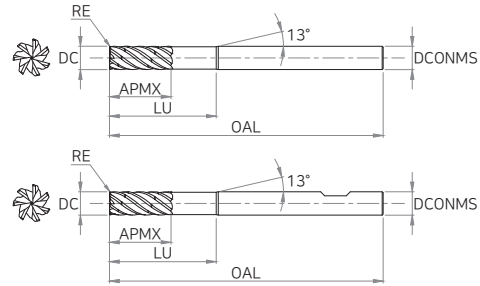
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SR507

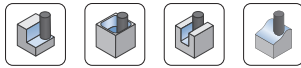
7 Flutes Chip Breaker Type
Radius End Mill

※ The tools of DIN standard
are made to order



► Tolerance

DC		Shank Dia
ø6	0 ~ -0.02	h5
ø8 ~ ø20	0 ~ -0.03	



EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SR507 06005	SR507 06005F	6	0.5	15	22	60	6
SR507 0602405	SR507 0602405F	6	0.5	24	32	70	6
SR507 08005	SR507 08005F	8	0.5	20	32	70	8
SR507 0803205	SR507 0803205F	8	0.5	32	52	90	8
SR507 10005	SR507 10005F	10	0.5	25	33	75	10
SR507 1004005	SR507 1004005F	10	0.5	40	58	100	10
SR507 12005	SR507 12005F	12	0.5	30	35	80	12
SR507 12010	SR507 12010F	12	1	30	35	80	12
SR507 12020	SR507 12020F	12	2	30	35	80	12
SR507 12030	SR507 12030F	12	3	30	35	80	12
SR507 12040	SR507 12040F	12	4	30	35	80	12
SR507 1204805	SR507 1204805F	12	0.5	48	63	110	12
SR507 16005	SR507 16005F	16	0.5	42	52	100	16
SR507 16010	SR507 16010F	16	1	42	52	100	16
SR507 16020	SR507 16020F	16	2	42	52	100	16
SR507 16030	SR507 16030F	16	3	42	52	100	16
SR507 16040	SR507 16040F	16	4	42	52	100	16
SR507 16050	SR507 16050F	16	5	42	52	100	16
SR507 1606505	SR507 1606505F	16	0.5	65	80	130	16
SR507 20005	SR507 20005F	20	0.5	48	58	110	20
SR507 2006505	SR507 2006505F	20	0.5	65	78	130	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

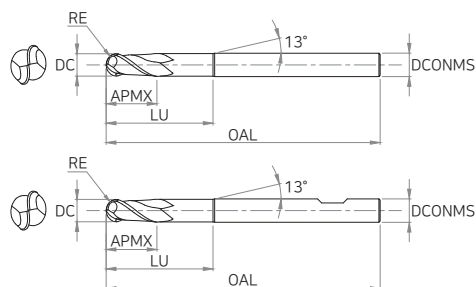
Copper
-Mate

Gra
-Mate

SB502 2 Flutes Ball End Mill

* The tools of DIN standard are made to order

Endmill



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.015	h5
Ø6	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SB502 010	SB502 010F	1	0.5	3	8	50	6
SB502 020	SB502 020F	2	1	6	11	50	6
SB502 030	SB502 030F	3	1.5	8	13	50	6
SB502 030L	SB502 030LF	3	1.5	8	13	70	6
SB502 040	SB502 040F	4	2	10	15	50	6
SB502 040L	SB502 040LF	4	2	10	15	70	6
SB502 050	SB502 050F	5	2.5	13	18	50	6
SB502 050L	SB502 050LF	5	2.5	13	18	80	6
SB502 060	SB502 060F	6	3	13	20	50	6
SB502 060L	SB502 060LF	6	3	13	52	90	6
SB502 080	SB502 080F	8	4	19	24	60	8
SB502 080L	SB502 080LF	8	4	19	62	100	8
SB502 100	SB502 100F	10	5	22	30	70	10
SB502 100L	SB502 100LF	10	5	22	58	100	10
SB502 120	SB502 120F	12	6	26	30	75	12
SB502 120L	SB502 120LF	12	6	26	63	110	12

► Applicable Working Material

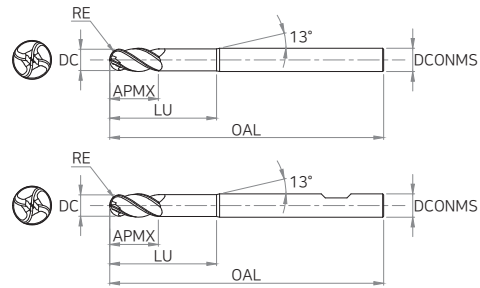
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○	○					◎	○

SB504

4 Flutes Ball End Mill

* The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
Ø3 ~ Ø5	0 ~ -0.015	h5
Ø6	0 ~ -0.02	
Ø8 ~ Ø20	0 ~ -0.03	



EDP No		DC	RE	APMX	LU	OAL	DCONMS
JIS	DIN						
SB504 030	SB504 030F	3	1.5	8	13	60	6
SB504 040	SB504 040F	4	2	8	13	70	6
SB504 050	SB504 050F	5	2.5	12	17	80	6
SB504 060	SB504 060F	6	3	12	52	90	6
SB504 080	SB504 080F	8	4	16	62	100	8
SB504 100	SB504 100F	10	5	20	58	100	10
SB504 120	SB504 120F	12	6	25	53	100	12
SB504 160	SB504 160F	16	8	30	50	100	16
SB504 200	SB504 200F	20	10	38	48	100	20

► Applicable Working Material

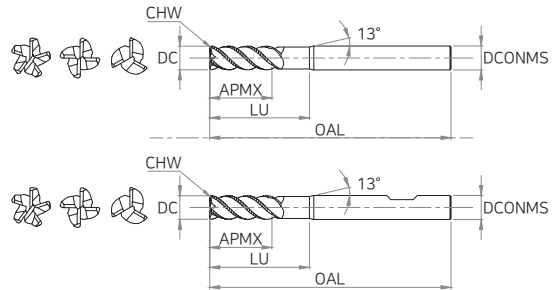
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○	○					◎	○

SF51H

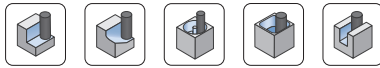
3~5 Flutes Roughing End Mill

* The tools of DIN standard are made to order



► Tolerance

DC		Shank Dia
ø3 ~ ø20	0 ~ -0.05	h5



EDP No		DC	CHW	APMX	LU	OAL	DCONMS	NOF
JIS	DIN							
SF51 303002H	SF51 303002HF	3	0.2	8	13	50	6	3
SF51 304002H	SF51 304002HF	4	0.2	10	15	50	6	3
SF51 405002H	SF51 405002HF	5	0.3	13	18	50	6	4
SF51 406002H	SF51 406002HF	6	0.3	13	22	60	6	4
SF51 406002NH	SF51 406002NHF	6	0.3	10	22	60	6	4
SF51 407002H	SF51 407002HF	7	0.4	18	32	70	8	4
SF51 408002H	SF51 408002HF	8	0.4	19	32	70	8	4
SF51 408002NH	SF51 408002NHF	8	0.4	12	32	70	8	4
SF51 409003H	SF51 409003HF	9	0.4	20	28	70	10	4
SF51 410003H	SF51 410003HF	10	0.4	22	33	75	10	4
SF51 410003NH	SF51 410003NHF	10	0.4	15	33	75	10	4
SF51 411003H	SF51 411003HF	11	0.5	25	33	80	12	4
SF51 412003H	SF51 412003HF	12	0.5	26	35	80	12	4
SF51 412003NH	SF51 412003NHF	12	0.5	20	35	80	12	4
SF51 506002H	SF51 506002HF	6	0.5	13	22	60	6	5
SF51 508002H	SF51 508002HF	8	0.5	19	27	65	8	5
SF51 510003H	SF51 510003HF	10	0.5	22	30	70	10	5
SF51 512003H	SF51 512003HF	12	0.5	26	35	80	12	5
SF51 514005H	SF51 514005HF	14	0.5	28	40	90	16	5
SF51 516005H	SF51 516005HF	16	0.5	32	50	100	16	5

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FC500					
		○	○	○					◎	○

SF51H

3~5 Flutes Roughing End Mill

※ The tools of DIN standard are made to order

Endmill

EDP No		DC	CHW	APMX	LU	OAL	DCONMS	NOF
JIS	DIN							
SF51 51600542H	SF51 51600542HF	16	0.5	42	52	100	16	5
SF51 520005H	SF51 520005HF	20	0.5	38	48	100	20	5
SF51 52000545H	SF51 52000545HF	20	0.5	45	50	100	20	5

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○	○					◎	○

A-Wing Endmill

NEW

For Aluminum

Features

- Specialized design for cutting aluminum and aluminum alloys
- Excellent chip evacuation through Profile design
- Applicable on a wide range of machining from roughing to finishing
- Wide range of product specification

D.L.C Coating info

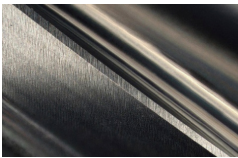
- Our pure carbon-based, diamond-like coating, applied with FVAS (Filtered Vacuum Arc Source) technology, delivers exceptional surface finish and release performance, significantly reducing wear and material buildup when machining non-ferrous metals like aluminum and copper

Color	Film hardness (Hv)	Friction Coefficient	Coating Thickness (pin axis, μm)	Max. Operating Temp ($^{\circ}\text{C}$)
Rainbow	4000~7000	0.15	0.1~0.7	500

* Coated products are made to order.

Cylindrical Land

- Reduced vibration and chatter
- Reduced friction, improved surface finish



Roughing Profile design

- Enhanced performance with dual profile design
- Excellent chip evacuation
- Reduced machining load



Chip Breaker Profile design

- Short chip formation
- Improved chip evacuation performance

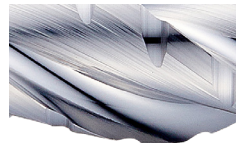
High toughness material

- Provides chipping resistance and machining stability



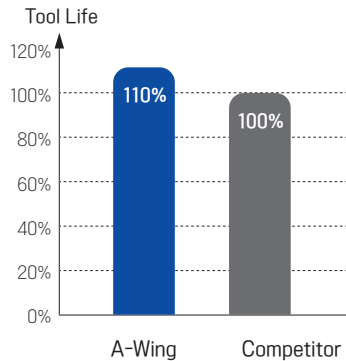
Fine Surface Finish on the Grooves

- Enhanced adhesion, reduced machining load
- Enhanced chip evacuation

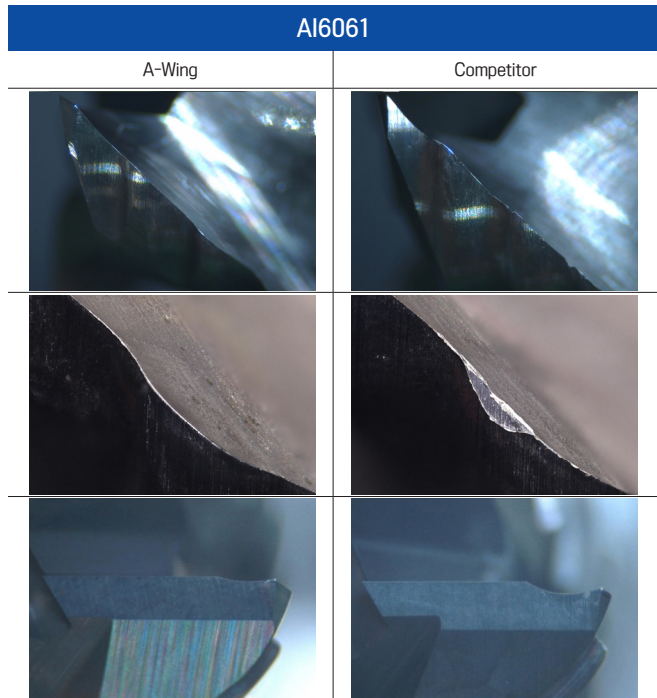


Case Study

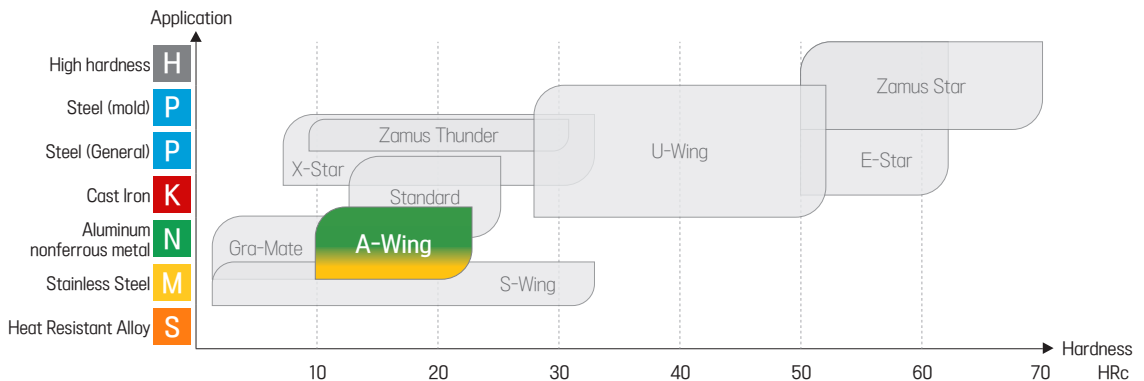
► 3F D10.0 Roughing End Mill



Cutting Condition	
Cutting Method	Shouldering
RPM	8,500
Feed	4,300
ap	10
ae	5
Coolant	Wet Machining



Applications



A-Wing Endmill NEW

For Aluminum

Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	1F	AWE311		1 Flutes Square End Mill	1	12	359
		AWE311...C					
	2F	AWE312		2 Flutes Square End Mill	1	20	361
		AWE312...C					
	3F	AWE313		3 Flutes Square End Mill	1	20	363
		AWE313...C					
Radius	2F	AWR312		2 Flutes Radius End Mill	1	20	368
		AWR312...C					
	3F	AWR313		3 Flutes Radius End Mill	1	20	370
		AWR313...C					
Ball	2F	AWB312		2 Flutes Ball End Mill	6	20	372
		AWB312...C					
Chip Breaker (Nick)	3F	AWN513		3 Flutes Chip Breaker End Mill	3	20	373
Roughing	3F	AWF513		3 Flutes 38° Helix Roughing End Mill	4	20	374
		AWF513...C					
	3F	AWF583		3 Flutes 45° Helix Roughing End Mill	4	20	376
		AWF583...C					

EDP No. System

*If expressed as an integer, the decimal point is omitted.

AW	E	3	1	2	010	03	S4	C
①	②	③	④	⑤	⑥	⑦	⑧	⑨

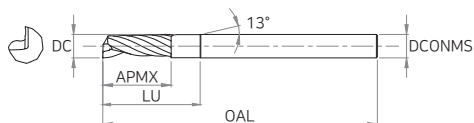
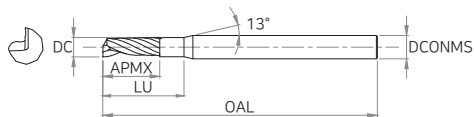
①	②	③	④	⑤	⑥		⑦		⑧	⑨
Section	Shape	Grade	Appearance	Flutes	Cutting Dia	Corner R	Length of Cut	Effective Length	Shank Dia	Coating
AW : A-WING	E : Flat	3 : Grade	1 : Neck	1 : 1 Flutes	1	0.05	2	7	4	C
	R : Radius	5 : Grade	2 : Long Shank	2 : 2 Flutes	~	~	~	~	~	
	B : Ball		8 : High Helix	3 : 3 Flutes	20	10	150	160	20	
	N : Chip breaker(Nick)									
	F : Roughing									

EX) AWE3120100354C (A-WING HRC30 2F D1 LOC3 Shank Dia.4 Flat type coated End Mill)

AWE311

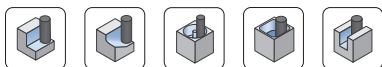
1 Flutes Square End Mill

※ Coated products are made to order



► Tolerance

DC		Shank Dia
Ø1 ~ Ø5	0 ~ -0.02	h5
Ø6 ~ Ø12	0 ~ -0.03	



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE311 01003	AWE311 01003C	1	3	8	45	6
AWE311 010045	AWE311 010045C	1	4.5	9.5	45	6
AWE311 01006	AWE311 01006C	1	6	11	50	6
AWE311 01203	AWE311 01203C	1.2	3	8	45	6
AWE311 01205	AWE311 01205C	1.2	5	10	45	6
AWE311 01206	AWE311 01206C	1.2	6	11	50	6
AWE311 01504	AWE311 01504C	1.5	4	9	45	6
AWE311 01506	AWE311 01506C	1.5	6	11	50	6
AWE311 01508	AWE311 01508C	1.5	8	13	50	6
AWE311 02006	AWE311 02006C	2	6	11	50	6
AWE311 02008	AWE311 02008C	2	8	13	50	6
AWE311 02010	AWE311 02010C	2	10	15	50	6
AWE311 02507	AWE311 02507C	2.5	7	12	50	6
AWE311 02508	AWE311 02508C	2.5	8	13	50	6
AWE311 02510	AWE311 02510C	2.5	10	15	50	6
AWE311 02512	AWE311 02512C	2.5	12	17	50	6
AWE311 03008	AWE311 03008C	3	8	13	50	6
AWE311 03012	AWE311 03012C	3	12	17	50	6
AWE311 03015	AWE311 03015C	3	15	20	50	6
AWE311 04010	AWE311 04010C	4	10	15	50	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

AWE311

1 Flutes Square End Mill

* Coated products are made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE311 04015	AWE311 04015C	4	15	20	50	6
AWE311 04020	AWE311 04020C	4	20	25	60	6
AWE311 05013	AWE311 05013C	5	13	18	60	6
AWE311 05020	AWE311 05020C	5	20	25	60	6
AWE311 05025	AWE311 05025C	5	25	30	60	6
AWE311 06015	AWE311 06015C	6	15	22	60	6
AWE311 06020	AWE311 06020C	6	20	27	60	6
AWE311 06025	AWE311 06025C	6	25	32	60	6
AWE311 08020	AWE311 08020C	8	20	27	70	8
AWE311 08025	AWE311 08025C	8	25	32	75	8
AWE311 10022	AWE311 10022C	10	22	30	75	10
AWE311 10030	AWE311 10030C	10	30	38	80	10
AWE311 12026	AWE311 12026C	12	26	36	75	12
AWE311 12035	AWE311 12035C	12	35	45	90	12

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

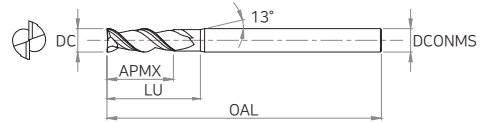
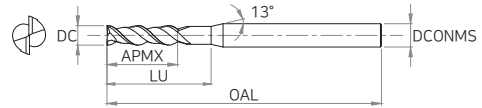
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
						○		◎		

AWE312

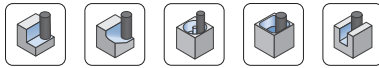
2 Flutes Square End Mill

※ Coated products are
made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE312 01003S4	AWE312 01003S4C	1	3	8	50	4
AWE312 01006	AWE312 01006C	1	6	11	60	6
AWE312 01204	AWE312 01204C	1.2	4	9	50	6
AWE312 01506	AWE312 01506C	1.5	6	11	50	6
AWE312 01508	AWE312 01508C	1.5	8	13	60	6
AWE312 02006S4	AWE312 02006S4C	2	6	11	50	4
AWE312 02006	AWE312 02006C	2	6	11	50	6
AWE312 02010	AWE312 02010C	2	10	15	60	6
AWE312 02508	AWE312 02508C	2.5	8	13	55	6
AWE312 02512	AWE312 02512C	2.5	12	17	55	6
AWE312 03012	AWE312 03012C	3	12	17	55	6
AWE312 03015	AWE312 03015C	3	15	20	65	6
AWE312 03514	AWE312 03514C	3.5	14	19	57	6
AWE312 04014	AWE312 04014C	4	14	19	55	6
AWE312 04016	AWE312 04016C	4	16	21	65	6
AWE312 05017	AWE312 05017C	5	17	22	55	6
AWE312 05022	AWE312 05022C	5	22	27	60	6
AWE312 06017	AWE312 06017C	6	17	24	60	6
AWE312 06022	AWE312 06022C	6	22	29	60	6
AWE312 06025	AWE312 06025C	6	25	32	70	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

AWE312

2 Flutes Square End Mill

* Coated products are made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE312 07022	AWE312 07022C	7	22	29	65	8
AWE312 08023	AWE312 08023C	8	23	30	70	8
AWE312 08031	AWE312 08031C	8	31	38	80	8
AWE312 09025	AWE312 09025C	9	25	32	72	10
AWE312 10028	AWE312 10028C	10	28	36	75	10
AWE312 10036	AWE312 10036C	10	36	44	90	10
AWE312 11030	AWE312 11030C	11	30	38	80	12
AWE312 12033	AWE312 12033C	12	33	43	80	12
AWE312 12041	AWE312 12041C	12	41	51	95	12
AWE312 12045	AWE312 12045C	12	45	55	100	12
AWE312 13035	AWE312 13035C	13	35	45	85	14
AWE312 14038S14	AWE312 14038S14C	14	38	58	90	14
AWE312 14038	AWE312 14038C	14	38	58	90	16
AWE312 15040	AWE312 15040C	15	40	50	90	16
AWE312 16045	AWE312 16045C	16	45	55	100	16
AWE312 16053	AWE312 16053C	16	53	63	110	16
AWE312 18049	AWE312 18049C	18	49	59	100	18
AWE312 20050	AWE312 20050C	20	50	60	110	20
AWE312 20055	AWE312 20055C	20	55	65	110	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

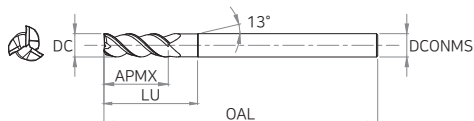
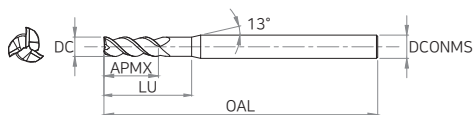
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
						○		◎		

AWE313

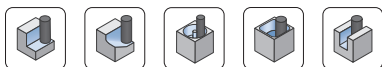
3 Flutes Square End Mill

※ Coated products are
made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE313 01002	AWE313 01002C	1	2	7	40	6
AWE313 01003	AWE313 01003C	1	3	8	50	6
AWE313 01004	AWE313 01004C	1	4	9	60	6
AWE313 01006	AWE313 01006C	1	6	11	60	6
AWE313 01204	AWE313 01204C	1.2	4	9	50	6
AWE313 01503	AWE313 01503C	1.5	3	8	45	6
AWE313 01504	AWE313 01504C	1.5	4	9	45	6
AWE313 01505	AWE313 01505C	1.5	5	10	50	6
AWE313 01506	AWE313 01506C	1.5	6	11	60	6
AWE313 01508	AWE313 01508C	1.5	8	13	60	6
AWE313 01510	AWE313 01510C	1.5	10	15	60	6
AWE313 02003	AWE313 02003C	2	3	8	45	6
AWE313 02006	AWE313 02006C	2	6	11	50	6
AWE313 02008	AWE313 02008C	2	8	13	60	6
AWE313 02010	AWE313 02010C	2	10	15	60	6
AWE313 02012	AWE313 02012C	2	12	17	60	6
AWE313 02504	AWE313 02504C	2.5	4	9	45	6
AWE313 02508	AWE313 02508C	2.5	8	13	50	6
AWE313 02510	AWE313 02510C	2.5	10	15	55	6
AWE313 02512	AWE313 02512C	2.5	12	17	60	6

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

AWE313

3 Flutes Square End Mill

* Coated products are made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE313 03004	AWE313 03004C	3	4	9	45	6
AWE313 03008	AWE313 03008C	3	8	13	50	6
AWE313 03012	AWE313 03012C	3	12	17	55	6
AWE313 03015	AWE313 03015C	3	15	20	65	6
AWE313 03512	AWE313 03512C	3.5	12	17	55	6
AWE313 04006	AWE313 04006C	4	6	11	45	6
AWE313 04008	AWE313 04008C	4	8	13	50	6
AWE313 04011	AWE313 04011C	4	11	16	50	6
AWE313 04014	AWE313 04014C	4	14	19	55	6
AWE313 04016	AWE313 04016C	4	16	21	65	6
AWE313 04020	AWE313 04020C	4	20	25	70	6
AWE313 04515	AWE313 04515C	4.5	15	20	55	6
AWE313 05006	AWE313 05006C	5	6	11	45	6
AWE313 05017	AWE313 05017C	5	17	22	55	6
AWE313 05022	AWE313 05022C	5	22	27	60	6
AWE313 05026	AWE313 05026C	5	26	31	70	6
AWE313 05517	AWE313 05517C	5.5	17	22	55	6
AWE313 06007	AWE313 06007C	6	7	14	50	6
AWE313 06013	AWE313 06013C	6	13	20	55	6
AWE313 06017	AWE313 06017C	6	17	24	60	6
AWE313 06022	AWE313 06022C	6	22	29	60	6
AWE313 06026	AWE313 06026C	6	26	33	70	6
AWE313 06031	AWE313 06031C	6	31	38	75	6
AWE313 07023	AWE313 07023C	7	23	30	65	8
AWE313 08012	AWE313 08012C	8	12	19	60	8
AWE313 08020	AWE313 08020C	8	20	27	60	8
AWE313 08023	AWE313 08023C	8	23	30	70	8
AWE313 08029	AWE313 08029C	8	29	36	80	8
AWE313 08031	AWE313 08031C	8	31	38	80	8
AWE313 08036	AWE313 08036C	8	36	43	85	8
AWE313 09028	AWE313 09028C	9	28	35	70	10
AWE313 10012	AWE313 10012C	10	12	20	65	10
AWE313 10015	AWE313 10015C	10	15	23	65	10
AWE313 10023	AWE313 10023C	10	23	31	65	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
						○		◎		

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE313 10028	AWE313 10028C	10	28	36	75	10
AWE313 10033	AWE313 10033C	10	33	41	90	10
AWE313 10036	AWE313 10036C	10	36	44	90	10
AWE313 10041	AWE313 10041C	10	41	49	90	10
AWE313 10046	AWE313 10046C	10	46	54	100	10
AWE313 10051	AWE313 10051C	10	51	59	100	10
AWE313 11030	AWE313 11030C	11	30	38	80	12
AWE313 12014	AWE313 12014C	12	14	24	70	12
AWE313 12027	AWE313 12027C	12	27	37	75	12
AWE313 12033	AWE313 12033C	12	33	43	80	12
AWE313 12041	AWE313 12041C	12	41	51	95	12
AWE313 12046	AWE313 12046C	12	46	56	100	12
AWE313 12051	AWE313 12051C	12	51	61	100	12
AWE313 12056	AWE313 12056C	12	56	66	110	12
AWE313 12061	AWE313 12061C	12	61	71	110	12
AWE313 13035	AWE313 13035C	13	35	45	85	14
AWE313 14038S14	AWE313 14038S14C	14	38	48	90	14
AWE313 14038	AWE313 14038C	14	38	48	90	16
AWE313 15040	AWE313 15040C	15	40	50	90	16
AWE313 16019	AWE313 16019C	16	19	29	90	16
AWE313 16033	AWE313 16033C	16	33	43	90	16
AWE313 16045	AWE313 16045C	16	45	55	100	16
AWE313 16053	AWE313 16053C	16	53	63	105	16
AWE313 16056	AWE313 16056C	16	56	66	110	16
AWE313 16066	AWE313 16066C	16	66	76	130	16
AWE313 16076	AWE313 16076C	16	76	86	150	16
AWE313 18049	AWE313 18049C	18	49	59	100	18
AWE313 20023	AWE313 20023C	20	23	33	90	20
AWE313 20039	AWE313 20039C	20	39	49	95	20
AWE313 20050	AWE313 20050C	20	50	60	105	20
AWE313 20055	AWE313 20055C	20	55	65	110	20
AWE313 20060	AWE313 20060C	20	60	70	120	20
AWE313 20065	AWE313 20065C	20	65	75	130	20
AWE313 20070	AWE313 20070C	20	70	80	130	20
AWE313 20076	AWE313 20076C	20	76	86	150	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

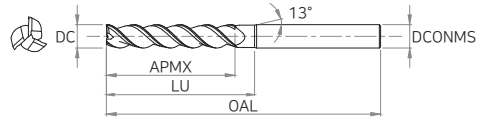
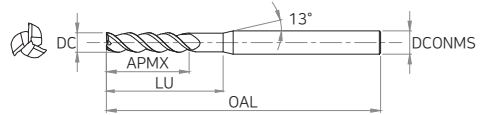
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
						○		◎		

AWE323

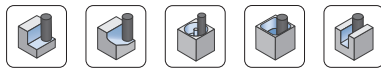
3 Flutes Square End Mill

* Coated products are made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE323 01512	AWE323 01512C	1.5	12	17	60	6
AWE323 02014	AWE323 02014C	2	14	19	60	6
AWE323 02016	AWE323 02016C	2	16	21	60	6
AWE323 02515	AWE323 02515C	2.5	15	20	60	6
AWE323 03020	AWE323 03020C	3	20	25	70	6
AWE323 03025	AWE323 03025C	3	25	30	75	6
AWE323 03030	AWE323 03030C	3	30	35	80	6
AWE323 04026	AWE323 04026C	4	26	31	75	6
AWE323 04030	AWE323 04030C	4	30	35	80	6
AWE323 05031	AWE323 05031C	5	31	36	75	6
AWE323 05036	AWE323 05036C	5	36	41	80	6
AWE323 05041	AWE323 05041C	5	41	46	85	6
AWE323 05046	AWE323 05046C	5	46	51	90	6
AWE323 06036	AWE323 06036C	6	36	43	80	6
AWE323 06043	AWE323 06043C	6	43	50	90	6
AWE323 06051	AWE323 06051C	6	51	58	100	6
AWE323 08041	AWE323 08041C	8	41	48	90	8
AWE323 08046	AWE323 08046C	8	46	53	95	8
AWE323 08051	AWE323 08051C	8	51	58	100	8
AWE323 08056	AWE323 08056C	8	56	63	105	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
						○		◎		

AWE323

3 Flutes Square End Mill

※ Coated products are
made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWE323 08060	AWE323 08060C	8	60	67	110	8
AWE323 08066	AWE323 08066C	8	66	73	110	8
AWE323 10056	AWE323 10056C	10	56	64	110	10
AWE323 10061	AWE323 10061C	10	61	69	110	10
AWE323 10066	AWE323 10066C	10	66	74	120	10
AWE323 12066	AWE323 12066C	12	66	76	120	12
AWE323 12071	AWE323 12071C	12	71	81	120	12
AWE323 12076	AWE323 12076C	12	76	86	135	12
AWE323 12080	AWE323 12080C	12	80	90	140	12
AWE323 16080	AWE323 16080C	16	80	90	160	16
AWE323 16086	AWE323 16086C	16	86	96	160	16
AWE323 16096	AWE323 16096C	16	96	106	180	16
AWE323 160100	AWE323 160100C	16	100	110	190	16
AWE323 160106	AWE323 160106C	16	106	116	190	16
AWE323 160116	AWE323 160116C	16	116	126	200	16
AWE323 20086	AWE323 20086C	20	86	96	160	20
AWE323 20096	AWE323 20096C	20	96	106	180	20
AWE323 200106	AWE323 200106C	20	106	116	190	20
AWE323 200116	AWE323 200116C	20	116	126	200	20
AWE323 200126	AWE323 200126C	20	126	136	220	20
AWE323 200150	AWE323 200150C	20	150	160	220	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

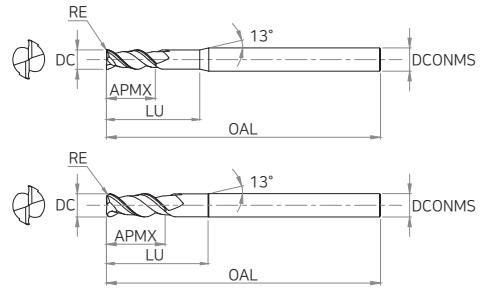
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

AWR312

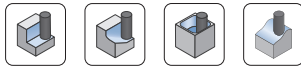
2 Flutes Radius End Mill

* Coated products are made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



All Sizes

EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWR312 010005	AWR312 010005C	1	0.05	3	8	45	6
AWR312 015005	AWR312 015005C	1.5	0.05	5	10	45	6
AWR312 02001	AWR312 02001C	2	0.1	6	11	45	6
AWR312 0200112	AWR312 0200112C	2	0.1	12	17	50	6
AWR312 03001	AWR312 03001C	3	0.1	10	15	50	6
AWR312 0300120	AWR312 0300120C	3	0.1	20	25	60	6
AWR312 04001	AWR312 04001C	4	0.1	12	17	50	6
AWR312 0400120	AWR312 0400120C	4	0.1	20	25	60	6
AWR312 05001	AWR312 05001C	5	0.1	15	20	55	6
AWR312 06001	AWR312 06001C	6	0.1	15	22	55	6
AWR312 06005	AWR312 06005C	6	0.5	15	22	55	6
AWR312 06010	AWR312 06010C	6	1	15	22	55	6
AWR312 06015	AWR312 06015C	6	1.5	15	22	55	6
AWR312 06020	AWR312 06020C	6	2	15	22	55	6
AWR312 07001	AWR312 07001C	7	0.1	20	27	60	8
AWR312 08001	AWR312 08001C	8	0.1	20	27	60	8
AWR312 08005	AWR312 08005C	8	0.5	20	27	60	8
AWR312 08010	AWR312 08010C	8	1	20	27	60	8
AWR312 08015	AWR312 08015C	8	1.5	20	27	60	8
AWR312 08020	AWR312 08020C	8	2	20	27	60	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
						○		◎		

AWR312

2 Flutes Radius End Mill

※ Coated products are
made to order

Endmill

EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWR312 08030	AWR312 08030C	8	3	20	27	60	8
AWR312 09001	AWR312 09001C	9	0.1	25	32	70	10
AWR312 10002	AWR312 10002C	10	0.2	25	33	70	10
AWR312 10005	AWR312 10005C	10	0.5	25	33	70	10
AWR312 10010	AWR312 10010C	10	1	25	33	70	10
AWR312 10015	AWR312 10015C	10	1.5	25	33	70	10
AWR312 10020	AWR312 10020C	10	2	25	33	70	10
AWR312 10030	AWR312 10030C	10	3	25	33	70	10
AWR312 10040	AWR312 10040C	10	4	25	33	70	10
AWR312 11005	AWR312 11005C	11	0.5	30	38	80	12
AWR312 12005	AWR312 12005C	12	0.5	30	40	80	12
AWR312 12010	AWR312 12010C	12	1	30	40	80	12
AWR312 12020	AWR312 12020C	12	2	30	40	80	12
AWR312 12030	AWR312 12030C	12	3	30	40	80	12
AWR312 12040	AWR312 12040C	12	4	30	40	80	12
AWR312 14010S14	AWR312 14010S14C	14	1	35	45	85	14
AWR312 14020S14	AWR312 14020S14C	14	2	35	45	85	14
AWR312 14030S14	AWR312 14030S14C	14	3	35	45	85	14
AWR312 14040S14	AWR312 14040S14C	14	4	35	45	85	14
AWR312 14050S14	AWR312 14050S14C	14	5	35	45	85	14
AWR312 14010	AWR312 14010C	14	1	35	45	85	16
AWR312 14020	AWR312 14020C	14	2	35	45	85	16
AWR312 14030	AWR312 14030C	14	3	35	45	85	16
AWR312 14040	AWR312 14040C	14	4	35	45	85	16
AWR312 14050	AWR312 14050C	14	5	35	45	85	16
AWR312 16010	AWR312 16010C	16	1	40	50	90	16
AWR312 16020	AWR312 16020C	16	2	40	50	90	16
AWR312 16030	AWR312 16030C	16	3	40	50	90	16
AWR312 16040	AWR312 16040C	16	4	40	50	90	16
AWR312 16050	AWR312 16050C	16	5	40	50	90	16
AWR312 20010	AWR312 20010C	20	1	45	55	100	20
AWR312 20020	AWR312 20020C	20	2	45	55	100	20
AWR312 20030	AWR312 20030C	20	3	45	55	100	20
AWR312 20040	AWR312 20040C	20	4	45	55	100	20
AWR312 20050	AWR312 20050C	20	5	45	55	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

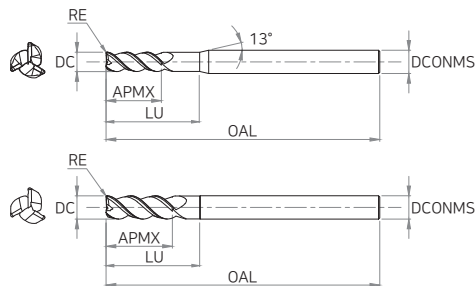
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

AWR313

3 Flutes Radius End Mill

* Coated products are made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



All Sizes

EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWR313 01001	AWR313 01001C	1	0.1	3	8	50	6
AWR313 01501	AWR313 01501C	1.5	0.1	5	10	50	6
AWR313 02001	AWR313 02001C	2	0.1	6	11	50	6
AWR313 02502	AWR313 02502C	2.5	0.2	10	15	50	6
AWR313 03001	AWR313 03001C	3	0.1	12	17	60	6
AWR313 03002	AWR313 03002C	3	0.2	12	17	60	6
AWR313 04002	AWR313 04002C	4	0.2	14	19	60	6
AWR313 04005	AWR313 04005C	4	0.5	14	19	60	6
AWR313 04010	AWR313 04010C	4	1	14	19	60	6
AWR313 06003	AWR313 06003C	6	0.3	17	24	60	6
AWR313 06005	AWR313 06005C	6	0.5	17	24	60	6
AWR313 06010	AWR313 06010C	6	1	17	24	60	6
AWR313 06015	AWR313 06015C	6	1.5	17	24	60	6
AWR313 06020	AWR313 06020C	6	2	17	24	60	6
AWR313 08003	AWR313 08003C	8	0.3	20	27	60	8
AWR313 08005	AWR313 08005C	8	0.5	20	27	60	8
AWR313 08010	AWR313 08010C	8	1	20	27	60	8
AWR313 08015	AWR313 08015C	8	1.5	20	27	60	8
AWR313 08020	AWR313 08020C	8	2	20	27	60	8
AWR313 08030	AWR313 08030C	8	3	20	27	60	8

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
						○		◎		

AWR313

3 Flutes Radius End Mill

※ Coated products are
made to order

Endmill

EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWR313 10003	AWR313 10003C	10	0.3	25	33	70	10
AWR313 10005	AWR313 10005C	10	0.5	25	33	70	10
AWR313 10010	AWR313 10010C	10	1	25	33	70	10
AWR313 10015	AWR313 10015C	10	1.5	25	33	70	10
AWR313 10020	AWR313 10020C	10	2	25	33	70	10
AWR313 10030	AWR313 10030C	10	3	25	33	70	10
AWR313 10040	AWR313 10040C	10	4	25	33	70	10
AWR313 12005	AWR313 12005C	12	0.5	30	40	80	12
AWR313 12010	AWR313 12010C	12	1	30	40	80	12
AWR313 12020	AWR313 12020C	12	2	30	40	80	12
AWR313 12030	AWR313 12030C	12	3	30	40	80	12
AWR313 12040	AWR313 12040C	12	4	30	40	80	12
AWR313 14010S14	AWR313 14010S14C	14	1	35	45	85	14
AWR313 14020S14	AWR313 14020S14C	14	2	35	45	85	14
AWR313 14030S14	AWR313 14030S14C	14	3	35	45	85	14
AWR313 14040S14	AWR313 14040S14C	14	4	35	45	85	14
AWR313 14050S14	AWR313 14050S14C	14	5	35	45	85	14
AWR313 14005	AWR313 14005C	14	0.5	35	45	85	16
AWR313 14010	AWR313 14010C	14	1	35	45	85	16
AWR313 14020	AWR313 14020C	14	2	35	45	85	16
AWR313 14030	AWR313 14030C	14	3	35	45	85	16
AWR313 14040	AWR313 14040C	14	4	35	45	85	16
AWR313 14050	AWR313 14050C	16	5	35	45	85	16
AWR313 16005	AWR313 16005C	16	0.5	40	50	90	16
AWR313 16010	AWR313 16010C	16	1	40	50	90	16
AWR313 16020	AWR313 16020C	16	2	40	50	90	16
AWR313 16030	AWR313 16030C	16	3	40	50	90	16
AWR313 16040	AWR313 16040C	16	4	40	50	90	16
AWR313 16050	AWR313 16050C	16	5	40	50	90	16
AWR313 20005	AWR313 20005C	20	0.5	45	55	100	20
AWR313 20010	AWR313 20010C	20	1	45	55	100	20
AWR313 20020	AWR313 20020C	20	2	45	55	100	20
AWR313 20030	AWR313 20030C	20	3	45	55	100	20
AWR313 20040	AWR313 20040C	20	4	45	55	100	20
AWR313 20050	AWR313 20050C	20	5	45	55	100	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

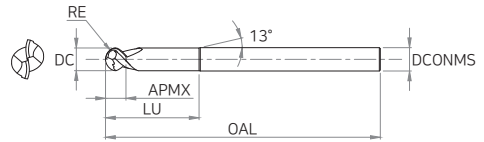
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

AWB312

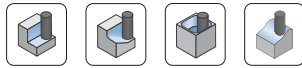
2 Flutes Ball End Mill

* Coated products are made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



CARBIDE

D.L.C

Bright

2

50°
HELIX

R
±0.02

DATA
P.732

All Sizes

EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWB312 06025	AWB312 06025C	6	3	5.5	25	55	6
AWB312 06040	AWB312 06040C	6	3	5.5	40	90	6
AWB312 08030	AWB312 08030C	8	4	7	30	65	8
AWB312 08050	AWB312 08050C	8	4	7	50	100	8
AWB312 10035	AWB312 10035C	10	5	8.5	35	75	10
AWB312 10050	AWB312 10050C	10	5	10	50	100	10
AWB312 10060	AWB312 10060C	10	5	10	60	150	10
AWB312 12040	AWB312 12040C	12	6	10.5	40	75	12
AWB312 12050	AWB312 12050C	12	6	12	50	110	12
AWB312 12060	AWB312 12060C	12	6	12	60	150	12
AWB312 16050	AWB312 16050C	16	8	14	50	90	16
AWB312 16070	AWB312 16070C	16	8	16	70	150	16
AWB312 16090	AWB312 16090C	16	8	16	90	200	16
AWB312 20050	AWB312 20050C	20	10	17	50	100	20

► Applicable Working Material

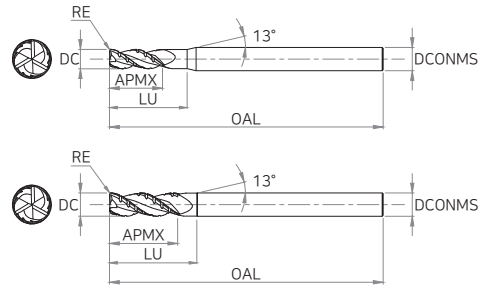
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
						○		◎		

AWN513

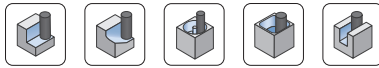
3 Flutes Chip Breaker End Mill

※ Coated products are made to order



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h5



EDP No		DC	RE	APMX	LU	OAL	DCONMS
Uncoated	Coated						
AWN513 03011	AWN513 03011C	3	0.2	11	16	55	6
AWN513 04013	AWN513 04013C	4	0.2	13	18	55	6
AWN513 05017	AWN513 05017C	5	0.2	17	22	55	6
AWN513 06017	AWN513 06017C	6	0.3	17	24	60	6
AWN513 06025	AWN513 06025C	6	0.3	25	32	80	6
AWN513 08022	AWN513 08022C	8	0.3	22	29	70	8
AWN513 08030	AWN513 08030C	8	0.3	30	37	90	8
AWN513 10027	AWN513 10027C	10	0.5	27	35	75	10
AWN513 10040	AWN513 10040C	10	0.5	40	48	100	10
AWN513 12035	AWN513 12035C	12	0.5	35	45	90	12
AWN513 12050	AWN513 12050C	12	0.5	50	60	110	12
AWN513 16042	AWN513 16042C	16	0.5	42	52	100	16
AWN513 16052	AWN513 16052C	16	0.5	52	62	150	16
AWN513 20048	AWN513 20048C	20	0.5	48	58	100	20
AWN513 20055	AWN513 20055C	20	0.5	55	65	160	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
						○		◎		

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

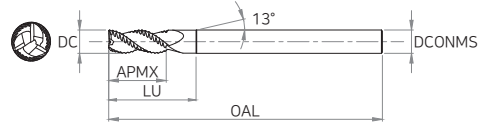
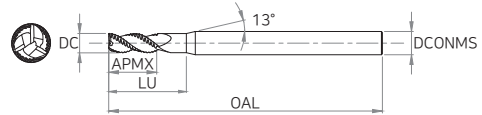
Copper
-Mate

Gra
-Mate

AWF513

3 Flutes 38° Helix Roughing End Mill

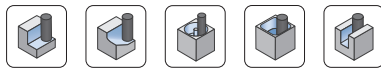
* Coated products are made to order



► Tolerance

DC	Shank Dia
Ø4 ~ Ø6	0 ~ -0.048
Ø7 ~ Ø10	0 ~ -0.058
Ø12 ~ Ø18	0 ~ -0.07
Ø20 ~	0 ~ -0.084

h5



CARBIDE



Bright



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWF513 04010	AWF513 04010C	4	10	15	55	6
AWF513 05015	AWF513 05015C	5	15	20	55	6
AWF513 06016	AWF513 06016C	6	16	23	60	6
AWF513 06025	AWF513 06025C	6	25	32	80	6
AWF513 07016	AWF513 07016C	7	16	23	63	8
AWF513 08020	AWF513 08020C	8	20	27	65	8
AWF513 08030	AWF513 08030C	8	30	37	90	8
AWF513 09019	AWF513 09019C	9	19	26	72	10
AWF513 10025	AWF513 10025C	10	25	33	75	10
AWF513 10040	AWF513 10040C	10	40	48	100	10
AWF513 12030	AWF513 12030C	12	30	40	90	12
AWF513 12050	AWF513 12050C	12	50	60	110	12
AWF513 14035S14	AWF513 14035S14C	14	35	45	100	14
AWF513 14035	AWF513 14035C	14	35	45	100	16
AWF513 16042	AWF513 16042C	16	42	52	100	16
AWF513 16052	AWF513 16052C	16	52	62	150	16
AWF513 16065	AWF513 16065C	16	65	75	150	16
AWF513 18032	AWF513 18032C	18	32	42	92	18

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FC500					
						○		◎		

AWF513

3 Flutes 38° Helix Roughing End Mill

※ Coated products are made to order

Endmill

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWF513 20038	AWF513 20038C	20	38	48	104	20
AWF513 20055	AWF513 20055C	20	55	65	160	20

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

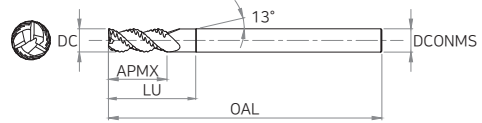
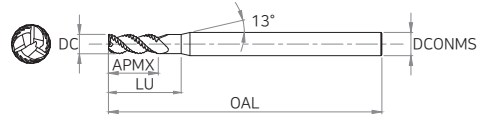
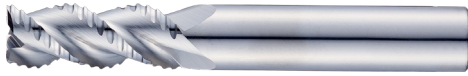
○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
						○		◎		

AWF583

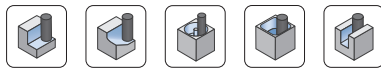
3 Flutes 45° Helix Roughing End Mill

* Coated products are made to order



Tolerance

DC		Shank Dia
Ø4 ~ Ø6	0 ~ -0.048	h5
Ø8 ~ Ø10	0 ~ -0.058	
Ø12 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWF583 04006	AWF583 04006C	4	6	12	60	6
AWF583 04010	AWF583 04010C	4	10	15	60	6
AWF583 05007	AWF583 05007C	5	7	20	60	6
AWF583 05015	AWF583 05015C	5	15	20	60	6
AWF583 06008	AWF583 06008C	6	8	20	70	6
AWF583 06015	AWF583 06015C	6	15	22	60	6
AWF583 06025	AWF583 06025C	6	25	32	80	6
AWF583 08010	AWF583 08010C	8	10	26	80	8
AWF583 08020	AWF583 08020C	8	20	27	65	8
AWF583 08030	AWF583 08030C	8	30	37	90	8
AWF583 10012	AWF583 10012C	10	12	32	90	10
AWF583 10025	AWF583 10025C	10	25	33	70	10
AWF583 10040	AWF583 10040C	10	40	48	100	10
AWF583 12014	AWF583 12014C	12	14	36	100	12
AWF583 12030	AWF583 12030C	12	30	40	90	12
AWF583 12050	AWF583 12050C	12	50	60	110	12
AWF583 14035	AWF583 14035C	14	35	45	100	16
AWF583 16018	AWF583 16018C	16	18	46	120	16
AWF583 16042	AWF583 16042C	16	42	52	100	16
AWF583 16052	AWF583 16052C	16	52	62	150	16

Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	Steel ~HB225	HB225 ~325	HRc30~50	~FCD500					
						○		◎		

AWF583

3 Flutes 45° Helix Roughing End Mill

※ Coated products are made to order

EDP No		DC	APMX	LU	OAL	DCONMS
Uncoated	Coated					
AWF583 18045	AWF583 18045	18	45	55	110	20
AWF583 20022	AWF583 20022	20	22	52	120	20
AWF583 20048	AWF583 20048	20	48	58	110	20
AWF583 20055	AWF583 20055	20	55	65	160	20

Endmill

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

Gra -Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	HB225 ~HB225	HB225 ~325	HRc30~50	~FCD500					
						○		◎		

Standard End Mill

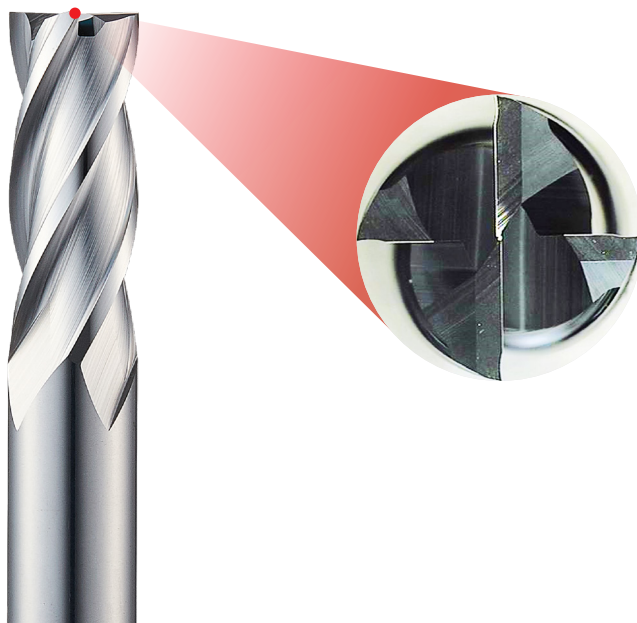
Low hardness materials under HRc 30

Characteristics

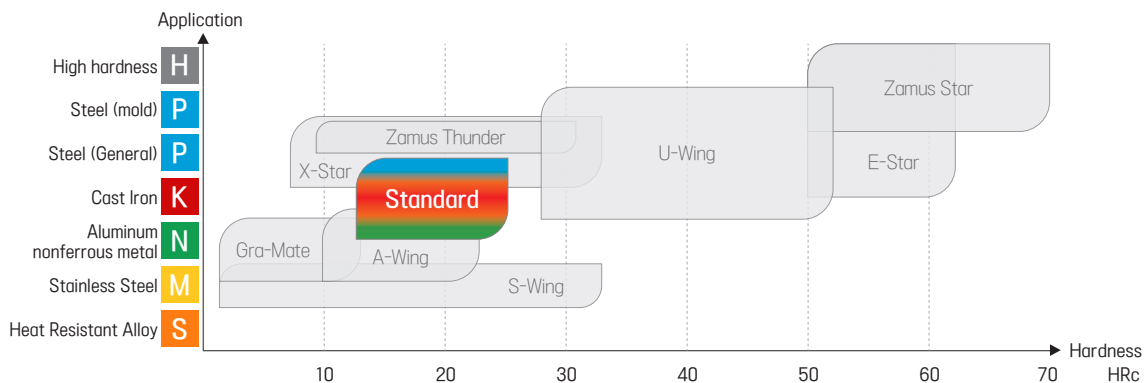
- Suitable for low hardness materials under HRc 30
- Various product line : Square, Ball, Brazing type

Features

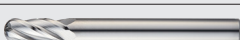
- Improved chipping resistance by using high toughness materials
- Proper cutting edge for low hardness materials



Applications



Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	E302		2 Flutes Square End Mill	1	25	380
	4F	E304		4 Flutes Square End Mill	2	25	381
	2F	E322		2 Flutes Long Shank Square End Mill	3	20	382
	4F	E324		4 Flutes Long Shank Square End Mill	3	20	383
	2F	EL422		2 Flutes Long Extra Square End Mill	3	10	384
	2F	EB302-W		2 Flutes Brazed Square End Mill	14	50	385
	4F	EB304-W		4 Flutes Brazed Square End Mill	14	50	386
	2F	EB322-W		2 Flutes Brazed Long Shank Square End Mill	14	26	388
	4F	EB324-W		4 Flutes Brazed Long Shank Square End Mill	14	50	389
Ball	2F	B302		2 Flutes Ball End Mill	1	25	390
	4F	B304		4 Flutes Ball End Mill	3	25	391
	2F	BL422		2 Flutes Extra Long Ball End Mill	3	20	392
	2F	BB302-W		2 Flutes Brazed Ball End Mill	15	32	393

EDP No. System

*If expressed as an integer, the decimal point is omitted.

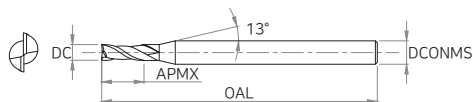
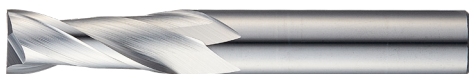
E	3	0	4	130	S16
①	②	③	④	⑤	⑥

① Section	② Appearance	③ Length, Shank Type	④ Flutes	⑤ Cutting Dia	⑥ Shank Dia
E : Square	3 : Standard	0 : Regular Length	2 : 2 Flutes	1	3
B : Ball	4 : Long Length	2 : Long Length	4 : 4 Flutes	~	~
BL : Long Length Ball				50	42
EB : Brazed Square					
BB : Brazed Ball					

EX) 4 Flutes / Cutting Dia $\varnothing$ 13 / Shank Dia 16 / Standard Type Square Endmill

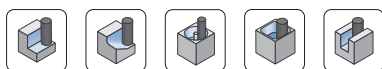
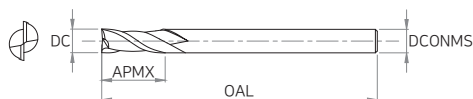
E302 2 Flutes Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø3.5 ~ Ø6	0 ~ -0.048	
Ø6.5 ~ Ø10	0 ~ -0.058	
Ø10.5 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



EDP No	DC	APMX	OAL	DCONMS
E302 010S4	1	3	42	4
E302 010	1	3	42	6
E302 015S4	1.5	4	42	4
E302 015	1.5	4	42	6
E302 020S4	2	6	42	4
E302 020	2	6	42	6
E302 025S4	2.5	8	42	4
E302 025	2.5	8	42	6
E302 030	3	10	50	6
E302 035	3.5	10	50	6
E302 040	4	12	50	6
E302 045	4.5	14	50	6
E302 050	5	15	50	6
E302 055	5.5	15	50	6
E302 060	6	15	50	6
E302 065	6.5	18	60	8
E302 070	7	20	60	8
E302 075	7.5	20	60	8

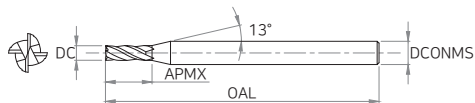
EDP No	DC	APMX	OAL	DCONMS
E302 080	8	20	60	8
E302 085	8.5	23	70	10
E302 090	9	25	70	10
E302 095	9.5	25	70	10
E302 100	10	25	70	10
E302 105	10.5	28	75	12
E302 110	11	30	75	12
E302 115	11.5	30	75	12
E302 120	12	30	75	12
E302 130	13	35	85	14
E302 130S16	13	35	90	16
E302 140	14	35	85	14
E302 140S16	14	35	90	16
E302 150	15	40	90	16
E302 160	16	40	90	16
E302 180	18	45	100	18
E302 200	20	45	100	20
E302 250	25	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○							

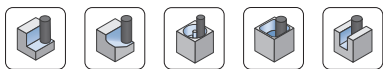
E304 4 Flutes Square End Mill



► Tolerance

DC	Shank Dia
~ Ø3	0 ~ -0.04
Ø3.5 ~ Ø6	0 ~ -0.048
Ø6.5 ~ Ø10	0 ~ -0.058
Ø10.5 ~ Ø18	0 ~ -0.07
Ø20 ~	0 ~ -0.084

h6



EDP No	DC	APMX	OAL	DCONMS
E304 020S4	2	6	42	4
E304 020	2	6	42	6
E304 025	2.5	8	42	6
E304 030	3	10	50	6
E304 035	3.5	10	50	6
E304 040	4	12	50	6
E304 045	4.5	14	50	6
E304 050	5	15	50	6
E304 055	5.5	15	50	6
E304 060	6	15	50	6
E304 065	6.5	18	60	8
E304 070	7	20	60	8
E304 075	7.5	20	60	8
E304 080	8	20	60	8
E304 085	8.5	23	70	10
E304 090	9	25	70	10

EDP No	DC	APMX	OAL	DCONMS
E304 095	9.5	25	70	10
E304 100	10	25	70	10
E304 105	10.5	28	75	12
E304 110	11	30	75	12
E304 115	11.5	30	75	12
E304 120	12	30	75	12
E304 130	13	35	85	14
E304 130S16	13	35	90	16
E304 140	14	35	85	14
E304 140S16	14	35	90	16
E304 150	15	40	90	16
E304 160	16	40	90	16
E304 180	18	45	100	18
E304 200	20	45	100	20
E304 250	25	50	120	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel ~HB225	Alloy Steel HB225 ~325	Prehardened Steel HRC30~50	Cast Iron ~FCD500	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~									
		○	○							

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

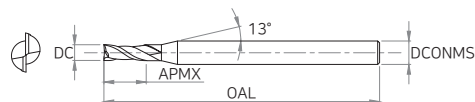
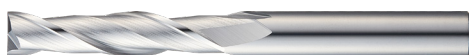
Standard

Copper
-Mate

Gra
-Mate

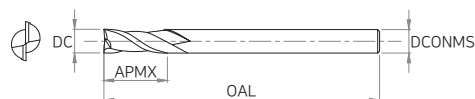
E322 2 Flutes Long Shank Square End Mill

Endmill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø4 ~ Ø6	0 ~ -0.048	
Ø7 ~ Ø10	0 ~ -0.058	
Ø12 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



U-Wing



CARBIDE

Bright

2

30°
HELIX

DATA
P.734

Zamus
Thunder

EDP No	DC	APMX	OAL	DCONMS
E322 030	3	25	75	6
E322 040	4	25	75	6
E322 050	5	30	85	6
E322 060	6	30	85	6
E322 070	7	35	85	8
E322 080	8	35	85	8
E322 090	9	45	100	10
E322 100	10	45	100	10
E322 101	10	60	155	10
E322 120	12	55	120	12
E322 121	12	65	155	12
E322 140	14	60	120	14
E322 160	16	60	120	16
E322 161	16	75	165	16
E322 180	18	60	120	18
E322 200	20	60	120	20
E322 201	20	75	165	20

Standard

Copper
-Mate

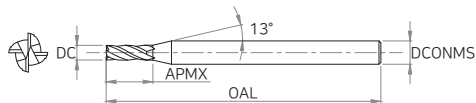
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

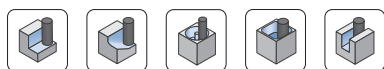
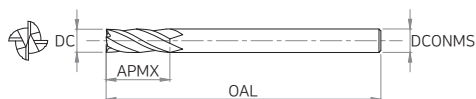
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
		○	○							

E324 4 Flutes Long Shank Square End Mill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø4 ~ Ø6	0 ~ -0.048	
Ø7 ~ Ø10	0 ~ -0.058	
Ø12 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



EDP No	DC	APMX	OAL	DCONMS
E324 030	3	25	75	6
E324 040	4	25	75	6
E324 050	5	30	85	6
E324 060	6	30	85	6
E324 070	7	35	85	8
E324 080	8	35	85	8
E324 090	9	45	100	10
E324 100	10	45	100	10
E324 101	10	60	155	10
E324 120	12	55	120	12
E324 121	12	65	155	12
E324 140	14	60	120	14
E324 160	16	60	120	16
E324 161	16	75	165	16
E324 180	18	60	120	18
E324 200	20	60	120	20
E324 201	20	75	165	20

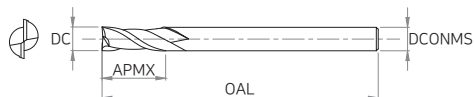
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○							

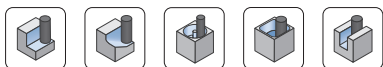
EL422

2 Flutes Long Extra Square End Mill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø4 ~ Ø6	0 ~ -0.048	
Ø8 ~ Ø10	0 ~ -0.058	



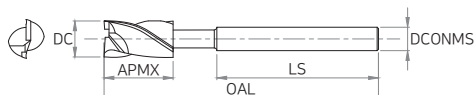
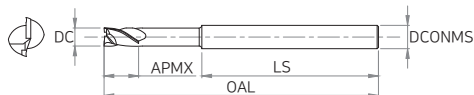
EDP No	DC	APMX	OAL	DCONMS
EL422 030	3	30	75	3
EL422 040	4	30	75	4
EL422 050	5	40	100	5
EL422 060	6	50	150	6
EL422 080	8	50	150	8
EL422 100	10	60	150	10

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

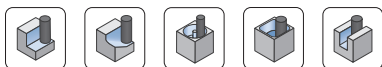
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○							

EB302-W 2 Flutes Brazed Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.05	h7



EDP No	DC	APMX	LS	OAL	DCON MS
EB302 140W	14	28	60	98	16
EB302 150W	15	28	60	98	16
EB302 160W	16	28	60	98	16
EB302 170W	17	32	70	115	20
EB302 180W	18	32	70	115	20
EB302 190W	19	32	70	115	20
EB302 200W	20	32	70	115	20
EB302 210W	21	32	70	115	20
EB302 220W	22	32	70	115	20
EB302 230W	23	40	85	140	25
EB302 240W	24	40	85	140	25
EB302 250W	25	40	85	140	25
EB302 260W	26	40	85	140	25

EDP No	DC	APMX	LS	OAL	DCON MS
EB302 270W	27	40	85	140	25
EB302 280W	28	40	85	140	25
EB302 290W	29	50	85	150	32
EB302 300W	30	50	85	150	32
EB302 310W	31	50	85	150	32
EB302 320W	32	50	85	150	32
EB302 350W	35	50	85	150	32
EB302 360W	36	50	85	150	32
EB302 380W	38	55	85	155	32
EB302 400W	40	55	85	155	32
EB302 420W	42	55	85	155	32
EB302 450W	45	63	85	160	32
EB302 500W	50	63	85	160	32

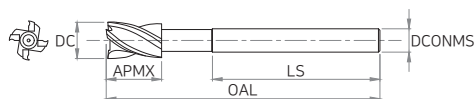
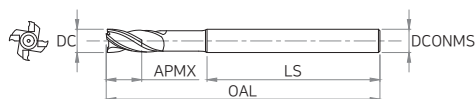
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○							

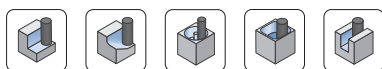
EB304-W

4 Flutes Brazed Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.05	h6



EDP No	DC	APMX	LS	OAL	DCONMS
EB304 140W	14	28	60	98	16
EB304 150W	15	28	60	98	16
EB304 160W	16	28	60	98	16
EB304 170W	17	32	70	115	20
EB304 180W	18	32	70	115	20
EB304 190W	19	32	70	115	20
EB304 200W	20	32	70	115	20
EB304 210W	21	32	70	115	20
EB304 220W	22	32	70	115	20
EB304 230W	23	40	85	140	25
EB304 240W	24	40	85	140	25
EB304 250W	25	40	85	140	25
EB304 260W	26	40	85	140	25
EB304 270W	27	40	85	140	25
EB304 280W	28	40	85	140	25
EB304 290W	29	50	85	150	32
EB304 300W	30	50	85	150	32
EB304 310W	31	50	85	150	32
EB304 320W	32	50	85	150	32
EB304 350W	35	50	85	150	32

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○							

EB304-W

4 Flutes Brazed Square End Mill

Endmill

EDP No	DC	APMX	LS	OAL	DCONMS
EB304 360W	36	50	85	150	32
EB304 380W	38	55	85	155	32
EB304 400W	40	55	85	155	32
EB304 420W	42	55	85	155	32
EB304 450W	45	63	85	160	32
EB304 500W	50	63	85	160	32

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

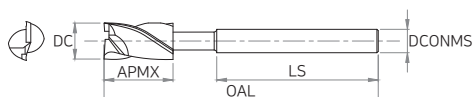
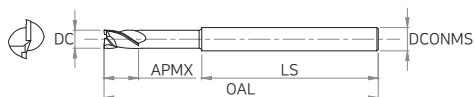
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○							

EB322-W

2 Flutes Brazed Long Shank Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.05	h6



EDP No	DC	APMX	LS	OAL	DCONMS
EB322 140W	14	50	60	130	16
EB322 150W	15	50	60	130	16
EB322 160W	16	50	60	130	16
EB322 180W	18	60	60	140	20
EB322 200W	20	60	60	140	20
EB322 220W	22	60	60	140	20
EB322 240W	24	70	60	150	25
EB322 250W	25	70	60	150	25
EB322 260W	26	70	60	150	25
EB322 280W	28	70	60	150	25
EB322 300W	30	80	70	180	32
EB322 320W	32	90	70	190	32
EB322 350W	35	100	70	200	32
EB322 380W	38	100	70	220	32
EB322 400W	40	100	70	220	32
EB322 450W	46	120	80	230	32

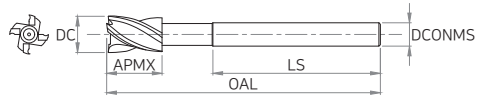
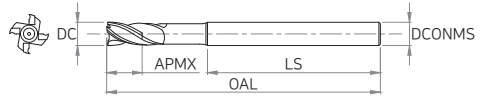
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
		○	○							

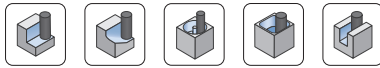
EB324-W

4 Flutes Brazed Long Shank Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.05	h6



EDP No	DC	APMX	LS	OAL	DCONMS
EB324 140W	14	50	60	130	16
EB324 150W	15	50	60	130	16
EB324 160W	16	50	60	130	16
EB324 180W	18	60	60	140	20
EB324 200W	20	60	60	140	20
EB324 220W	22	60	60	140	20
EB324 240W	24	70	60	150	25
EB324 250W	25	70	60	150	25
EB324 260W	26	70	60	150	25
EB324 280W	28	70	60	150	25
EB324 300W	30	80	70	180	32
EB324 320W	32	90	70	190	32
EB324 350W	35	100	70	200	32
EB324 380W	38	100	70	220	32
EB324 400W	40	100	70	220	32
EB324 450W	45	120	80	230	32
EB324 500W	50	140	80	240	32

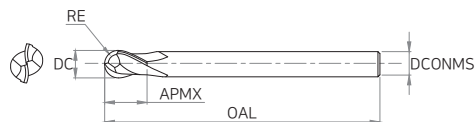
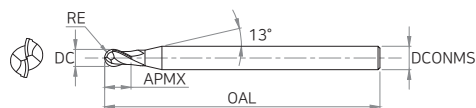
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○							

B302 2 Flutes Ball End Mill

Endmill



► Tolerance

DC	Shank Dia
Ø1 ~ Ø3	0 ~ -0.04
Ø3.5 ~ Ø6	0 ~ -0.048
Ø6.5 ~ Ø10	0 ~ -0.058
Ø11 ~ Ø18	0 ~ -0.07
Ø20 ~	0 ~ -0.084

h6



All Sizes

EDP No	DC	RE	APMX	OAL	DCONMS	EDP No	DC	RE	APMX	OAL	DCONMS
B302 010	1	0.5	3	50	6	B302 080	8	4	20	100	8
B302 015	1.5	0.75	4	50	6	B302 090	9	4.5	25	100	10
B302 020	2	1	6	60	6	B302 100	10	5	25	100	10
B302 025	2.5	1.25	6	60	6	B302 110	11	5.5	30	110	12
B302 030	3	1.5	8	70	6	B302 120	12	6	30	110	12
B302 035	3.5	1.75	8	70	6	B302 130	13	6.5	35	120	14
B302 040	4	2	8	70	6	B302 140	14	7	35	120	14
B302 045	4.5	2.25	10	70	6	B302 150	15	7.5	40	140	16
B302 050	5	2.5	12	80	6	B302 160	16	8	40	140	16
B302 055	5.5	2.75	12	80	6	B302 180	18	9	45	150	18
B302 060	6	3	12	90	6	B302 200	20	10	45	160	20
B302 065	6.5	3.25	12	90	8	B302 250	25	12.5	50	180	25
B302 070	7	3.5	20	90	8						

Standard

Copper
-Mate

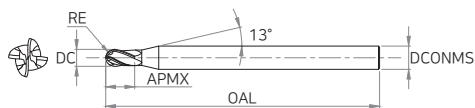
Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

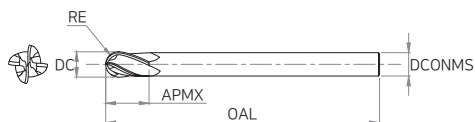
H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	Steel ~HB225	HB225 ~325	Steel HRC30~50	~FCD500					
		○	○							

B304 4 Flutes Ball End Mill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø4 ~ Ø6	0 ~ -0.048	
Ø7 ~ Ø10	0 ~ -0.058	
Ø11 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



EDP No	DC	RE	APMX	OAL	DCONMS
B304 030	3	1.5	8	70	6
B304 040	4	2	8	70	6
B304 050	5	2.5	12	80	6
B304 060	6	3	12	90	6
B304 070	7	3.5	20	90	8
B304 080	8	4	20	100	8
B304 090	9	4.5	25	100	10
B304 100	10	5	25	100	10
B304 110	11	5.5	30	110	12
B304 120	12	6	30	110	12
B304 130	13	6.5	35	120	14
B304 140	14	7	35	120	14
B304 150	15	7.5	40	140	16
B304 160	16	8	40	140	16
B304 180	18	9	45	150	18
B304 200	20	10	45	160	20
B304 250	25	12.5	50	180	25

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
		○	○							

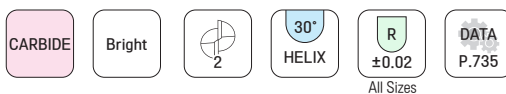
BL422

2 Flutes Extra Long Ball End Mill



► Tolerance

DC		Shank Dia
~ Ø3	0 ~ -0.04	h6
Ø4 ~ Ø6	0 ~ -0.048	
Ø8 ~ Ø10	0 ~ -0.058	
Ø12 ~ Ø18	0 ~ -0.07	
Ø20 ~	0 ~ -0.084	



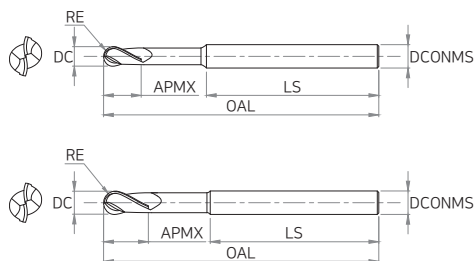
EDP No	DC	RE	APMX	OAL	DCONMS
BL422 030	3	1.5	30	75	3
BL422 040	4	2	30	75	4
BL422 050	5	2.5	40	100	5
BL422 060	6	3	50	150	6
BL422 080	8	4	50	150	8
BL422 090	9	4.5	60	150	10
BL422 100	10	5	60	150	10
BL422 120	12	6	75	150	12
BL422 140	14	7	75	150	14
BL422 160	16	8	75	150	16
BL422 180	18	9	75	150	18
BL422 200	20	10	75	150	20

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
		○	○							

BB302-W 2 Flutes Brazed Ball End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.05	h7



EDP No	DC	RE	APMX	LS	OAL	DCONMS
BB302 150W	15	7.5	28	55	100	16
BB302 160W	16	8	28	55	100	16
BB302 180W	18	9	29	55	110	20
BB302 200W	20	10	29	55	110	20
BB302 220W	22	11	36	60	110	25
BB302 240W	24	12	37	60	110	25
BB302 250W	25	12.5	38	60	120	25
BB302 280W	28	14	40	65	120	32
BB302 300W	30	15	46	65	130	32
BB302 320W	32	16	47	65	140	32

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Steel HRc30~50	~FCD500					
		○	○							

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

Copper-Mate Endmill

Copper, Bronze and Non-ferrous materials

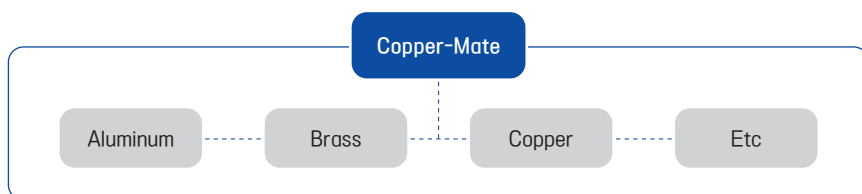
Characteristics

- Suitable for Copper, Bronze and Non-ferrous materials
- Ball, Radius type

Features

- Cutting edge considered the characteristics of non-ferrous materials
- CrN coating for enhanced oxidation resistance and corrosion resistance

Applications



Contents

Section		Geometry	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Radius	2F	RC502		2 Flutes Radius End Mill	2	12	395
Ball	2F	BC502		2 Flutes Ball End Mill	1	12	396

EDP No. System

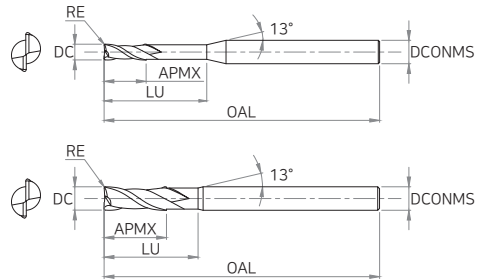
*If expressed as an integer, the decimal point is omitted.

R	C	5	0	2	020	05	09
①	②	③	④	⑤	⑥	⑦	⑧

①	②	③	④	⑤	⑥	⑦	⑧
Appearance	Shape	Grade	Length, Shank Type	Flutes	Cutting Dia	Corner R	Shank Dia
R : Radius	C : Copper	5 : Grade	0 : Neck	2 : 2 Flutes	1	0.5	3
B : Ball					~	~	~
					12	1	38

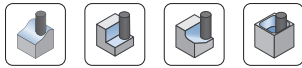
EX) 2 Flutes / Cutting Dia $\varnothing$ 2 / Corner R 0.5 / Shank Dia 9 / 50 Grade / Corner Radius Neck Type Radius End Mill

RC502 2 Flutes Radius End Mill



► Tolerance

DC		Shank Dia
Ø2 ~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



EDP No	DC	RE	APMX	LU	OAL	DCONMS
RC502 0200509	2	0.5	3	9	55	6
RC502 0300509	3	0.5	4	9	55	6
RC502 0305016	3	0.5	4	16	55	6
RC502 0305020	3	0.5	4	20	55	6
RC502 0400512	4	0.5	5	12	55	6
RC502 0400516	4	0.5	5	16	55	6
RC502 0400520	4	0.5	5	20	55	6
RC502 0600520	6	0.5	7	20	60	6
RC502 0601020	6	1	7	20	60	6
RC502 0800525	8	0.5	9	25	60	8
RC502 0801025	8	1	9	25	60	8
RC502 1000532	10	0.5	11	32	70	10
RC502 1001032	10	1	11	32	70	10
RC502 1200538	12	0.5	12	38	80	12
RC502 1201038	12	1	12	38	80	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○			○		○		

Endmill

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

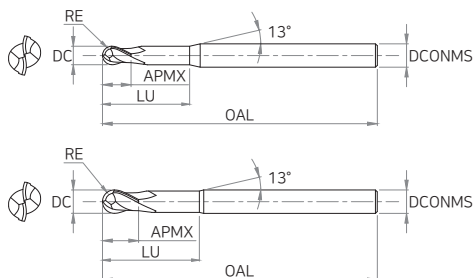
Standard

Copper
-Mate

Gra
-Mate

BC502 2 Flutes Ball End Mill

Endmill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	RE	APMX	LU	OAL	DCONMS
BC502 010	1	0.5	1.5	3	50	6
BC502 015	1.5	0.75	2	4	50	6
BC502 020	2	1	2.5	5	50	6
BC502 025	2.5	1.25	3	7	50	6
BC502 030	3	1.5	4	10	60	6
BC502 040	4	2	5	10	60	6
BC502 050	5	2.5	6	12	60	6
BC502 060	6	3	7	12	60	6
BC502 061	6	3	7	12	90	6
BC502 080	8	4	9	15	70	8
BC502 081	8	4	9	16	100	8
BC502 100	10	5	11	25	75	10
BC502 101	10	5	11	25	100	10
BC502 120	12	6	12	25	80	12
BC502 121	12	6	12	25	110	12

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	○			○		○		

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Gra-Mate Endmill

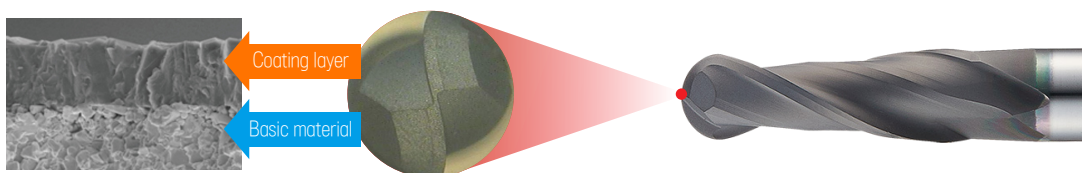
Graphite, Reinforced Plastics, Non-ferrous Materials

Characteristics

- Suitable for Graphite, Reinforced Plastics, Non-ferrous materials
- High hardness Diamond Coating for better tool life
- Maximizing and Stabilizing Coating Thickness for Improved Wear Resistance
- Various specifications for a variety of machining methods

Features

- High surface hardness and tool life with high adhesion diamond coating
- Minimize accidental damage by using dedicated materials with excellent wear resistance



Contents

Section		EDP No	Geometry	Product	Diameter(DC)		Page
Shape	Flute				Min	Max	
Square	2F	GE		2 Flutes Neck Square End Mill	0.5	12	399
	4F	WGE504		4 Flutes Square End Mill	2	20	400
Radius	2F	WGR502		2 Flutes Neck Radius End Mill	0.2	6	401
	4F	WGR504		4 Flutes Radius End Mill	3	20	403
Ball	2F	G		2 Flutes Neck Ball End Mill	0.5	12	405
	4F	WGB504		4 Flutes Ball End Mill	1	20	408

EDP No. System

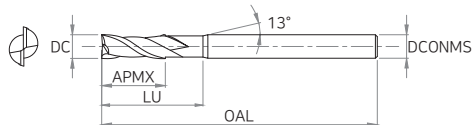
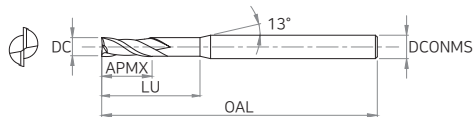
*If expressed as an integer, the decimal point is omitted.

WG	R	5	0	4	080	10	130
①	②	③	④	⑤	⑥	⑦	⑧

①	②	③	④	⑤	⑥	⑦	⑧
Section	Appearance	Grade	Length, Shank Type	Flutes	Cutting Dia	Corner R	Shank Dia
G : Graphite	E : Square	5 : Grade	0 : Straight, Neck	2 : 2 Flutes	0.2	0.05	40
WG : Winner Graphite	R : Radius			4 : 4 Flutes	~	~	~
					20	1	200

EX) 4 Flutes / Cutting Dia Ø8 / Corner R 1.0 / Shank Dia 130 / 50 Grade / Corner Radius Endmill For Graphith

GE 2 Flutes Neck Square End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	APMX	LU	OAL	DCON MS
GE 00501006	0.5	1	6	50	4
GE 00601206	0.6	1.2	6	50	4
GE 00601210	0.6	1.2	10	50	4
GE 00701506	0.7	1.5	6	50	4
GE 00802006	0.8	2	6	50	4
GE 0100308	1	3	8	60	4
GE 0100310	1	3	10	60	4
GE 0100312	1	3	12	60	4
GE 0150412	1.5	4	12	60	4
GE 0200612	2	6	12	60	4
GE 0200612S6	2	6	12	60	6
GE 0250812	2.5	8	12	60	4
GE 0301012	3	10	12	60	4
GE 0301016	3	10	16	60	4
GE 0301012S6	3	10	12	60	6
GE 0301016S6	3	10	16	60	6

EDP No	DC	APMX	LU	OAL	DCON MS
GE 04012S	4	12	-	60	6
GE 0401216	4	12	16	60	6
GE 0401220	4	12	20	60	6
GE 0501520	5	15	20	60	6
GE 06020S	6	20	-	60	6
GE 0602030	6	20	30	80	6
GE 0603050	6	30	50	150	6
GE 08025S	8	25	-	70	8
GE 0802540	8	25	40	100	8
GE 0804070	8	40	70	150	8
GE 10030S	10	30	-	80	10
GE 1003050	10	30	50	100	10
GE 1004580	10	45	80	160	10
GE 12030S	12	30	-	80	12
GE 1203050	12	30	50	110	12
GE 1205080	12	50	80	160	12

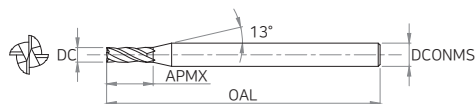
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
							◎	○		

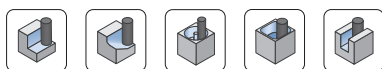
WGE504 4 Flutes Square End Mill

Endmill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.03	h6



EDP No	DC	APMX	OAL	DCONMS	EDP No	DC	APMX	OAL	DCONMS
WGE504 020	2	6	50	4	WGE504 06030	6	30	150	6
WGE504 02008	2	8	50	4	WGE504 080	8	20	70	8
WGE504 02010	2	10	50	4	WGE504 08030	8	30	110	8
WGE504 025	2.5	8	50	4	WGE504 08040	8	40	150	8
WGE504 030	3	8	50	6	WGE504 100	10	25	75	10
WGE504 03010	3	10	50	6	WGE504 10040	10	40	110	10
WGE504 03012	3	12	50	6	WGE504 10050	10	50	150	10
WGE504 03016	3	16	60	6	WGE504 120	12	30	80	12
WGE504 03020	3	20	60	6	WGE504 12050	12	50	120	12
WGE504 040	4	10	50	6	WGE504 12060	12	60	160	12
WGE504 04012	4	12	50	6	WGE504 160	16	50	110	16
WGE504 04016	4	16	60	6	WGE504 16070	16	70	160	16
WGE504 04020	4	20	60	6	WGE504 16090	16	90	160	16
WGE504 04025	4	25	60	6	WGE504 160100	16	100	200	16
WGE504 050	5	15	60	6	WGE504 200	20	70	160	20
WGE504 060	5	15	60	6	WGE504 20090	20	90	160	20
WGE504 06020	6	20	110	6	WGE504 200100	20	100	200	20

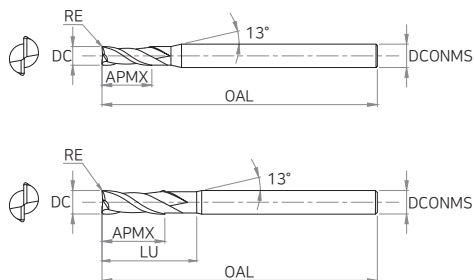
► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	~325	HRC30~50	~FCD500					
							◎	○		

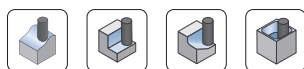
WGR502

2 Flutes Neck Radius End Mill



► Tolerance

DC		Shank Dia
All Sizes	0 ~ -0.02	h6



EDP No	DC	RE	APMX	LU	OAL	DCONMS
WGR502 002	0.2	-	0.3	-	40	3
WGR502 003	0.3	-	0.5	-	40	3
WGR502 004	0.4	-	0.6	-	40	3
WGR502 005025	0.5	0.05	0.7	2.5	40	3
WGR502 005040	0.5	0.05	0.7	4	40	3
WGR502 006030	0.6	0.05	0.9	3	40	3
WGR502 006050	0.6	0.05	0.9	5	40	3
WGR502 008040	0.8	0.05	1.2	4	40	3
WGR502 008070	0.8	0.05	1.2	7	40	3
WGR502 010050	1	0.1	1.5	5	40	3
WGR502 010085	1	0.1	1.5	8.5	40	3
WGR502 010120	1	0.1	1.5	12	40	3
WGR502 012060	1.2	0.1	1.8	6	50	3
WGR502 012100	1.2	0.1	1.8	10	50	3
WGR502 015075	1.5	0.15	2.2	7.5	50	3
WGR502 015120	1.5	0.15	2.2	12	50	3
WGR502 015180	1.5	0.15	2.2	18	50	3
WGR502 020100	2	0.15	2.2	10	60	3
WGR502 020160	2	0.15	2.2	16	60	3
WGR502 020250	2	0.15	2.2	25	60	3

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRc55	SKD11 HRc55~	~HB225	~325	HRc30~50	~FCD500					
							◎	○		

WGR502

2 Flutes Neck Radius End Mill

Endmill

EDP No	DC	RE	APMX	LU	OAL	DCONMS
WGR502 030100	3	0.2	3	10	65	4
WGR502 030150	3	0.2	3	15	65	4
WGR502 030200	3	0.2	3	20	65	4
WGR502 030250	3	0.2	3	25	75	4
WGR502 030300	3	0.2	3	30	75	4
WGR502 040200	4	0.2	4	20	65	6
WGR502 040300	4	0.2	4	30	75	6
WGR502 040400	4	0.2	4	40	90	6
WGR502 050200	5	0.3	5	20	75	6
WGR502 050300	5	0.3	5	30	75	6
WGR502 050400	5	0.3	5	40	90	6
WGR502 050500	5	0.3	5	50	90	6
WGR502 060300	6	0.3	6	30	75	6
WGR502 060400	6	0.3	6	40	90	6
WGR502 060500	6	0.3	6	50	90	6
WGR502 060600	6	0.3	6	60	100	6

Zamus
Star

E-Star

U-Wing

Zamus
Thunder

X-Star

S-Wing

A-Wing

Standard

Copper
-Mate

Gra
-Mate

► Applicable Working Material

○ : GOOD ◎ : EXCELLENT

H		P			K	N			M	S
Hardened Steel		Carbon Steel	Alloy Steel	Prehardened Steel	Cast Iron	Copper	Graphite	Aluminum	Stainless Steel	Heat Resistant Alloy
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
							◎	○		