suttontools

HSS ENDMILLS

- Slotting, Finishing, Roughing & Profiling
- Short & Long Series
- General purpose & application specific geometries

suttontools

ISO	VDI	Material Group	Sutton	
P	A	Steel	N	UNI
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti	Ni
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For expert tooling recommendations, go to:
www.suttontools.com/expert-tool-selector

Page	130	131	133	134	135	137
Catalogue Code	E178	E100	E102 / E225	E184	E125 / E227	E192
Type of Cut: *Slotting*	●	●	●	●		
Finishing					●	●
Universal					●	●
Roughing	●					
Profiling						
Material	HSS	HSS Co.8	HSS Co.8	HSS Co.8	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*Brt*	*Brt*	*TiAlN*	*Brt*	*TiAlN*
Sutton Designation	N	N	N	N	N	N
Standard	Sutton Std	JIS	JIS	DIN 844L	JIS	DIN 844K
Shank Tolerance	h6	h6	h6	h6	h6	h6

ISO	VDI^ 3323	Material		Condition	HB	N/mm²	130	131	133	134	135	137
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●
	3			QT	250	840	○	○	○	●	○	●
	4		~ 0.75 %C	A	270	910	○	○	○	●	○	●
	5			QT	300	1010		○	○	○	○	○
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	●	○	●	●	●	●
	7			QT	275	930	○	○	○	○	○	○
	8			QT	300	1010		○	○	○	○	○
	9			QT	350	1180						○
	10	Steel - High alloy, cast & tool		A	200	680		○	○	●	○	●
	11			HT	325	1100						○
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680				○	○	○
	13		Martensitic	QT	240	810		○	○	○	○	○
M	14.1	Stainless Steel	Austenitic	AH	180	610				○		○
	14.2		Duplex		250	840				○		○
	14.3		Precipitation Hardening		250	840						○
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	○	○	○	●	○	●
	16		Pearlitic		260	880		○	○	○	○	○
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	○	○	●	○	●
	18		Pearlitic		250	840		○	○	○	○	○
	19	Cast Iron - Malleable	Ferritic		130	460	○	○	○	○	○	●
	20		Pearlitic		230	780		○	○	○	○	○
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	●	●	○	●	○
	22		Heat Treatable	AH	100	360	●	●	●	○	●	○
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○	○	○	○
	24		Heat Treatable	AH	90	320	○	○	○	○	○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460		○	○	○		○
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390		○	○	○	○	○
	27		Brass (CuZn, CuSnZn)		90	320						
	28		Bronze (CuSn)		100	360		○	○	○	○	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics										
	30	Non-metallic - Hard rubber, wood etc.										
S	31	High temp. alloys	Fe based	A	200	680						
	32			AH	280	950						
	33		Ni / Co based	A	250	840						
	34			AH	350	1180						
	35			C	320	1080						
	36	Titanium & Ti alloys	CP Titanium		400 MPa							
	37.1		Alpha alloys		860 MPa							
	37.2		Alpha / Beta alloys	A	960 MPa							
	37.3			AH	1170 MPa							
	37.4		Beta alloys	A	830 MPa							
	37.5			AH	1400 MPa							
H	38.1	Hardened steel		HT	45 HRC							
	38.2			HT	55 HRC							
	39.1			HT	58 HRC							
	39.2			HT	62 HRC							
	40	Cast Iron	Chilled	C	400	1350						●
	41			HT	55 HRC							

Condition: A (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

● Optimal ○ Effective

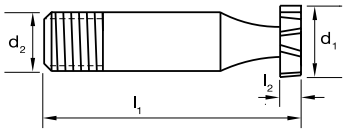
138	139	140	141	142	143	144	144			
E127 / E229	E230	E142 / E144	E143	E146	E113	E168	E169			
								Slotting		
●	●							*Finishing*		
●	●							*Universal*		
		●	●	●		●	●	*Roughing*		
					●			*Profiling*		
HSS Co.8		HSS Co.8		HSS Co.8	HSS Co.8	HSS Co.8				
Brt	*TiCN*	*Brt*	*TiCN*	*Brt*	*Brt*	*Brt*	*TiCN*			
N		WN		WN	N	NH				
JIS		JIS		DIN 844L	Sutton Std	JIS				
h6		h6		h6	h6	h6				
								VDI^ 3323	ISO	
●	●	●	●	●	●			1	P	
●	●	●	●	●	●			2		
○	●	○	○	○	○	●		3		
○	●	○	○	○	○			4		
○	○		○		○	○	●	5		
●	●	●	●	●	●			6		
○	○		○		○	●	●	7		
○	○		○		○	○	●	8		
	○					○	●	9		
○	●				○	○	●	10		
	○					○	●	11		
○	○					○	○	12		
○	○					○	○	13		
	○				○		○	14.1	M	
	○				○		○	14.2		
	○						○	14.3		
○	●		○		○	○	●	15	K	
○	○				○		○	16		
○	●		○		○	○	●	17		
○	○				○		○	18		
○	●		○		○	○	●	19		
○	○				○		○	20		
●	○	●	○	●	●			21	N	
●	○	●	○	●	●			22		
○	○	●	○	●	●			23		
○	○	○	○	○	○			24		
	○				○			25		
○	○	○	○	○	○			26		
						○	●	27		
○	○	○	○	○	○			28		
								29		
								30		
								31	S	
								32		
								33		
								34		
								35		
								36		
								37.1		
								37.2		
								37.3		
								37.4		
								37.5		
								38.1	H	
								38.2		
								39.1		
								39.2		
	●						○	40		
								41		

Section Finder

Roughers Woodruff Cutter, Threaded

suttontools

- For cutting key seats to suit standard imperial woodruff keys



Catalogue Code	**E178**
Discount Group	B0709
Material	**HSS**
Surface Finish	***Brt***
Sutton Designation	**General Purpose**
Geometry	-
Shank Form (DIN 1835)	D
Shank Tolerance	h6

Size Ref.	BS Cutter & Key #	d_1	l_2	l_1	d_2	Item #
0204	204	1/2	1/16	2	1/2	E178 0204
0304	304	1/2	3/32	2	1/2	E178 0304
0305	305	5/8	3/32	2	1/2	E178 0305
0404	404	1/2	1/8	2	1/2	E178 0404
0405	405	5/8	1/8	2	1/2	E178 0405
0406	406	3/4	1/8	2-1/4	1/2	E178 0406
0505	505	5/8	5/32	2	1/2	E178 0505
0506	506	3/4	5/32	2-1/4	1/2	E178 0506
0507	507	7/8	5/32	2-1/2	1/2	E178 0507
0606	606	3/4	3/16	2-1/4	1/2	E178 0606
0607	607	7/8	3/16	2-1/2	1/2	E178 0607
0608	608	1	3/16	2-3/4	1/2	E178 0608
0609	609	1-1/8	3/16	2-3/4	1/2	E178 0609
0807	807	7/8	1/4	2-1/2	1/2	E178 0807
0808	808	1	1/4	2-3/4	1/2	E178 0808
0809	809	1-1/8	1/4	2-3/4	1/2	E178 0809
0810	810	1-1/4	1/4	2-3/4	1/2	E178 0810
0812	812	1-1/2	1/4	3	1/2	E178 0812
1008	1008	1	5/16	2-3/4	1/2	E178 1008
1009	1009	1-1/8	5/16	2-3/4	1/2	E178 1009
1010	1010	1-1/4	5/16	2-3/4	1/2	E178 1010
1011	1011	1-3/8	5/16	3	1/2	E178 1011
1012	1012	1-1/2	5/16	3	1/2	E178 1012
1210	1210	1-1/4	3/8	2-3/4	1/2	E178 1210
1211	1211	1-3/8	3/8	3	1/2	E178 1211
1212	1212	1-1/2	3/8	3	1/2	E178 1212

ISO	P													M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E178	●	●	○	○		●	○										○		○		○		●	●	○	○																							

P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metals | S Titanium & Super Alloys | H Hard Materials

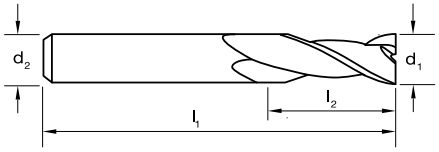
● Optimal ○ Effective

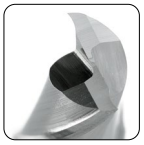
Slot Drills 2 Flute, R30 N, Regular

suttontools

- For precision milling of slots & cavities
- Suitable for materials up to 1000 N/mm²
- For soft steels & non-ferrous material

JIS





Catalogue Code	E100
Discount Group	B0502
Material	HSS Co.8
Surface Finish	*Brt*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #
0100	1	50	3	6	2	E100 0100
0150	1.5	50	4.5	6	2	E100 0150
0200	2	50	7	6	2	E100 0200
0250	2.5	50	7	6	2	E100 0250
0300	3	50	9	6	2	E100 0300
0350	3.5	60	12	8	2	E100 0350
0400	4	60	12	8	2	E100 0400
0450	4.5	60	15	8	2	E100 0450
0500	5	60	15	8	2	E100 0500
0550	5.5	60	15	8	2	E100 0550
0600	6	60	15	8	2	E100 0600
0650	6.5	65	20	10	2	E100 0650
0700	7	65	20	10	2	E100 0700
0750	7.5	65	20	10	2	E100 0750
0800	8	65	20	10	2	E100 0800
0850	8.5	75	25	10	2	E100 0850
0900	9	75	25	10	2	E100 0900
0950	9.5	75	25	10	2	E100 0950
1000	10	75	25	10	2	E100 1000
1100	11	80	30	12	2	E100 1100
1200	12	80	30	12	2	E100 1200
1300	13	90	35	16	2	E100 1300
1400	14	90	35	16	2	E100 1400
1500	15	95	40	16	2	E100 1500
1600	16	95	40	16	2	E100 1600
1700	17	105	40	20	2	E100 1700
1800	18	105	40	20	2	E100 1800
1900	19	110	45	20	2	E100 1900
2000	20	110	45	20	2	E100 2000
2100	21	110	45	20	2	E100 2100
2200	22	110	45	20	2	E100 2200
2400	24	120	50	25	2	E100 2400
2500	25	120	50	25	2	E100 2500
2800	28	125	55	25	2	E100 2800
3000	30	125	55	25	2	E100 3000
3200	32	145	60	32	2	E100 3200

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E100	●	●	○	○	○	○	○	○		○			○				○	○	○	○	○	○	●	●	○	○	○	○		○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

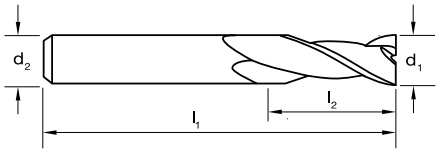
Section Finder

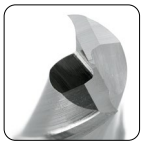
Slot Drills 2 Flute, R30 N, Regular

suttontools

- For precision milling of slots & cavities
- Suitable for materials up to 1000 N/mm²
- For soft steels & non-ferrous material

JIS





Catalogue Code	**E100**
Discount Group	B0502
Material	**HSS Co.8**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #
0159	**1/16**	1-31/32	1/8	1/4	2	E100 0159
0238	**3/32**	1-31/32	3/16	1/4	2	E100 0238
0318	**1/8**	1-31/32	7/32	1/4	2	E100 0318
0476	**3/16**	2-3/8	3/8	1/4	2	E100 0476
0635	**1/4**	2-9/16	9/16	1/4	2	E100 0635
0794	**5/16**	2-9/16	9/16	3/8	2	E100 0794
0953	**3/8**	2-3/4	23/32	3/8	2	E100 0953
1270	**1/2**	3-17/32	1	1/2	2	E100 1270
1588	**5/8**	3-3/4	1-3/16	5/8	2	E100 1588
1905	**3/4**	4-5/16	1-9/16	3/4	2	E100 1905
2540	**1**	4-23/32	2	3/4	2	E100 2540

ISO	P													M			K						N									S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E100	●	●	○	○	○	○	○	○		○			○				○	○	○	○	○	○	●	●	○	○	○	○		○																		

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

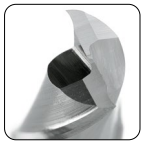
● Optimal ○ Effective

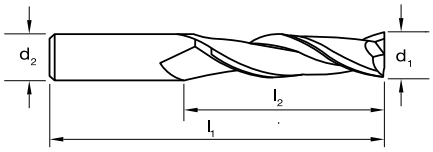
Section Finder

Slot Drills 2 Flute, R30 N, Long

suttontools

- For long-reach slotting applications
- Suitable for materials up to 1000 N/mm²
- For soft steels & non-ferrous material





Catalogue Code	E102	E225
Discount Group	B0502	B0502
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*Brt*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #	Item #
0300	3.0	60	15	6	2	E102 0300	
0350	3.5	60	20	6	2	E102 0350	
0400	4.0	60	20	6	2		E225 0400
0400	4.0	60	20	8	2	E102 0400	
0450	4.5	60	25	6	2	E102 0450	
0500	5.0	65	25	6	2		E225 0500
0500	5.0	65	25	8	2	E102 0500	
0550	5.5	65	25	6	2	E102 0550	
0600	6.0	65	25	6	2		E225 0600
0600	6.0	65	25	8	2	E102 0600	
0650	6.5	80	35	10	2	E102 0650	
0700	7.0	80	35	10	2	E102 0700	
0750	7.5	80	35	10	2	E102 0750	
0800	8.0	80	35	10	2	E102 0800	
0850	8.5	95	45	10	2	E102 0850	
0900	9.0	95	45	10	2	E102 0900	
0950	9.5	95	45	10	2	E102 0950	
1000	10.0	95	45	10	2	E102 1000	
1100	11.0	105	55	12	2	E102 1100	
1200	12.0	105	55	12	2	E102 1200	
1400	14.0	110	55	16	2	E102 1400	
1600	16.0	120	65	16	2	E102 1600	
1800	18.0	130	65	20	2	E102 1800	
2000	20.0	140	75	20	2	E102 2000	
2200	22.0	140	75	20	2	E102 2200	
2400	24.0	160	90	25	2	E102 2400	
2500	25.0	160	90	25	2	E102 2500	
Sutton Standard							
0635	1/4	2-9/16	1	1/4	2	E102 0635	
0953	3/8	3-3/4	1-3/4	3/8	2	E102 0953	
1270	1/2	4-5/16	2-5/32	1/2	2	E102 1270	
1905	3/4	5-1/2	2-61/64	3/4	2	E102 1905	

ISO	P													M			K						N										S														H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E102	●	●	○	○	○	●	○	○		○									○				●	●	○	○		○		○																				
E225	●	●	○	○	○	●	○	○		○									○				●	●	○	○		○		○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

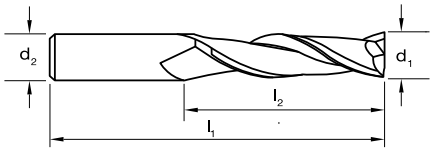
Section Finder

Slot Drills 2 Flute, R30 N, Long

suttontools

- For long-reach slotting applications
- Suitable for materials up to 1000 N/mm²
- For soft steels & non-ferrous material
- TiAlN for longer tool life

DIN 844L



Catalogue Code	E184
Discount Group	B0608
Material	HSS Co.8
Surface Finish	*TiAlN*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #
0300	3.0	56	12	6	2	E184 0300
0350	3.5	59	15	6	2	E184 0350
0400	4.0	63	19	6	2	E184 0400
0500	5.0	68	24	6	2	E184 0500
0600	6.0	68	24	6	2	E184 0600
0800	8.0	88	38	10	2	E184 0800
1000	10.0	95	45	10	2	E184 1000
1200	12.0	110	53	12	2	E184 1200
1400	14.0	110	53	12	2	E184 1400
1600	16.0	123	63	16	2	E184 1600
1800	18.0	123	63	16	2	E184 1800
2000	20.0	141	75	20	2	E184 2000

ISO	P													M			K						N										S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E184	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●		●				○	○	○	○	○	○		○																			

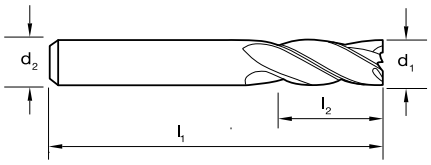
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills 4 Flute, R30 N, Regular

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²



Catalogue Code	E125	E227
Discount Group	B0502	B0502
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*Brt*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (k9)	l_1	l_2	d_2	z	Item #	Item #
0150	1.5	50	3	6	4	E125 0150	
0200	2.0	50	6	6	4	E125 0200	
0250	2.5	50	7	6	4	E125 0250	
0300	3.0	50	9	6	4	E125 0300	
0350	3.5	60	12	6	4		E227 0350
0350	3.5	60	12	8	4	E125 0350	
0400	4.0	60	12	6	4		E227 0400
0400	4.0	60	12	8	4	E125 0400	
0450	4.5	60	15	6	4		E227 0450
0450	4.5	60	15	8	4	E125 0450	
0500	5.0	60	15	6	4		E227 0500
0500	5.0	60	15	8	4	E125 0500	
0550	5.5	60	15	6	4		E227 0550
0550	5.5	60	15	8	4	E125 0550	
0600	6.0	60	15	6	4		E227 0600
0600	6.0	60	15	8	4	E125 0600	
0650	6.5	65	20	10	4	E125 0650	
0700	7.0	65	20	10	4	E125 0700	
0750	7.5	65	20	10	4	E125 0750	
0800	8.0	65	20	10	4	E125 0800	
0850	8.5	75	25	10	4	E125 0850	
0900	9.0	75	25	10	4	E125 0900	
0950	9.5	75	25	10	4	E125 0950	
1000	10.0	75	25	10	4	E125 1000	
1050	10.5	80	30	12	4	E125 1050	
1100	11.0	80	30	12	4	E125 1100	
1150	11.5	80	30	12	4	E125 1150	
1200	12.0	80	30	12	4	E125 1200	
1300	13.0	90	35	16	4	E125 1300	
1400	14.0	90	35	16	4	E125 1400	
1500	15.0	95	40	16	4	E125 1500	
1600	16.0	95	40	16	4	E125 1600	
1700	17.0	105	40	20	4	E125 1700	
1800	18.0	105	40	20	4	E125 1800	
1900	19.0	110	45	20	4	E125 1900	
2000	20.0	110	45	20	4	E125 2000	
2200	22.0	110	45	20	4	E125 2200	
2400	24.0	120	50	25	4	E125 2400	
2500	25.0	120	50	25	4	E125 2500	
2600	26.0	120	50	25	4	E125 2600	
2800	28.0	125	55	25	6	E125 2800	
3000	30.0	125	55	25	6	E125 3000	
3200	32.0	145	60	32	6	E125 3200	

ISO	P													M			K						N									S													H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E125	●	●	○	○	○	●	○	○		○		○	○				○	○	○	○	○	○	●	●	○	○		○		○																				
E227	●	●	○	○	○	●	○	○		○		○	○				○	○	○	○	○	○	●	●	○	○		○		○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

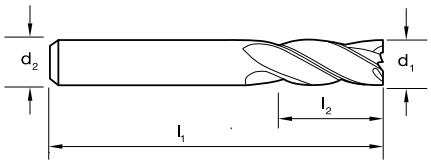
● Optimal ○ Effective

Section Finder

Endmills 4 Flute, R30 N, Regular

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²



Catalogue Code	**E125**
Discount Group	B0502
Material	**HSS Co.8**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k9)	l_1	l_2	d_2	z	Item #
0159	**1/16**	1-31/32	1/4	1/4	4	E125 0159
0238	**3/32**	1-31/32	9/32	1/4	4	E125 0238
0318	**1/8**	1-31/32	11/32	1/4	4	E125 0318
0476	**3/16**	2-11/32	19/32	1/4	4	E125 0476
0635	**1/4**	2-11/32	19/32	1/4	4	E125 0635
0794	**5/16**	2-9/16	25/32	3/8	4	E125 0794
0953	**3/8**	2-15/16	31/32	3/8	4	E125 0953
1270	**1/2**	3-7/32	1-3/8	1/2	4	E125 1270
1588	**5/8**	3-3/4	1-9/16	5/8	4	E125 1588
1905	**3/4**	4-5/16	1-3/4	3/4	4	E125 1905
2223	**7/8**	4-5/16	1-3/4	3/4	4	E125 2223
2540	**1**	4-23/32	1-31/32	3/4	4	E125 2540
2541	**1**	4-23/32	1-31/32	1	4	E125 2541

ISO	P													M			K						N									S										H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E125	●	●	○	○	○	●	○	○		○		○	○				○	○	○	○	○	○	●	●	○	○		○		○																		

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

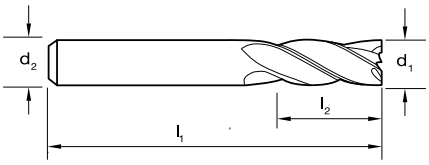
Section Finder

Endmills 4 Flute, R30 N, Regular

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²
- TiAlN for longer tool life

DIN 844K



Catalogue Code	E192
Discount Group	B0608
Material	HSS Co.8
Surface Finish	*TiAlN*
Sutton Designation	N
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k9)	l_1	l_2	d_2	z	Item #
0200	2.0	51	7	6	4	E192 0200
0250	2.5	52	8	6	4	E192 0250
0300	3.0	52	8	6	4	E192 0300
0400	4.0	55	11	6	4	E192 0400
0500	5.0	57	13	6	4	E192 0500
0600	6.0	57	13	6	4	E192 0600
0700	7.0	66	16	10	4	E192 0700
0800	8.0	69	19	10	4	E192 0800
0900	9.0	69	19	10	4	E192 0900
1000	10.0	72	22	10	4	E192 1000
1100	11.0	79	22	12	4	E192 1100
1200	12.0	83	26	12	4	E192 1200
1300	13.0	83	26	12	4	E192 1300
1400	14.0	83	26	12	4	E192 1400
1500	15.0	83	26	12	4	E192 1500
1600	16.0	92	32	16	4	E192 1600
1700	17.0	92	32	16	4	E192 1700
1800	18.0	92	32	16	4	E192 1800
2000	20.0	104	38	20	4	E192 2000
2200	22.0	121	45	20	6	E192 2200

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E192	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●	○	●	○	●	○	○	○	○	○	○	○		○																			●	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

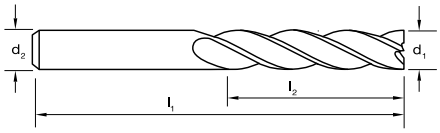
Section Finder

Endmills 4 Flute, R30 N, Long

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²

JIS



Catalogue Code	E127	E229
Discount Group	B0502	B0502
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*Brt*
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (k10)	l_1	l_2	d_2	z	Item #	Item #
0200	2.0	60	10	6	4	E127 0200	
0250	2.5	60	15	6	4	E127 0250	
0300	3.0	60	15	6	4	E127 0300	
0350	3.5	60	20	6	4		E229 0350
0400	4.0	60	20	6	4		E229 0400
0400	4.0	60	20	8	4	E127 0400	
0450	4.5	65	25	6	4		E229 0450
0500	5.0	65	25	6	4		E229 0500
0500	5.0	65	25	8	4	E127 0500	
0550	5.5	65	25	6	4		E229 0550
0600	6.0	65	25	6	4		E229 0600
0600	6.0	65	25	8	4	E127 0600	
0650	6.5	80	35	10	4	E127 0650	
0700	7.0	80	35	10	4	E127 0700	
0750	7.5	80	35	10	4	E127 0750	
0800	8.0	80	35	10	4	E127 0800	
0900	9.0	95	45	10	4	E127 0900	
0950	9.5	95	45	10	4	E127 0950	
1000	10.0	95	45	10	4	E127 1000	
1100	11.0	105	55	12	4	E127 1100	
1200	12.0	105	55	12	4	E127 1200	
1400	14.0	110	55	16	4	E127 1400	
1600	16.0	120	65	16	4	E127 1600	
1800	18.0	130	65	20	4	E127 1800	
2000	20.0	140	75	20	4	E127 2000	
2200	22.0	140	75	20	4	E127 2200	
2400	24.0	160	90	25	4	E127 2400	
2500	25.0	160	90	25	4	E127 2500	
3200	32.0	190	105	32	6	E127 3200	
0159	1/16	2-3/8	3/8	1/4	4	E127 0159	
0318	1/8	2-3/8	19/32	1/4	4	E127 0318	
0476	3/16	2-9/16	31/32	1/4	4	E127 0476	
0635	1/4	2-9/16	31/32	1/4	4	E127 0635	
0794	5/16	3-5/32	1-3/8	3/8	4	E127 0794	
0953	3/8	3-3/4	1-25/32	3/8	4	E127 0953	
1270	1/2	4-5/16	2-5/32	1/2	4	E127 1270	
1588	5/8	4-23/32	2-9/16	5/8	4	E127 1588	
1905	3/4	5-1/2	2-15/16	3/4	4	E127 1905	
2540	1	6-5/16	3-17/32	3/4	4	E127 2540	

ISO	P													M			K						N										S											H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E127	●	●	○	○	○	●	○	○		○		○	○				○	○	○	○	○	○	●	●	○	○		○		○																			
E229	●	●	○	○	○	●	○	○		○		○	○				○	○	○	○	○	○	●	●	○	○		○		○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

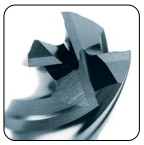
● Optimal ○ Effective

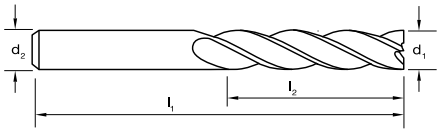
• Available on request as special manufacture. Subject to lead time.

Endmills 4 Flute, R30 N, Long

suttontools

- For precision finish milling applications
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life





Catalogue Code	**E230**
Discount Group	B0516
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (k10)	l_1	l_2	d_2	z	Item #
0400	**4.0**	60	20	6	4	E230 0400
0500	**5.0**	65	25	6	4	E230 0500
0600	**6.0**	65	25	6	4	E230 0600

ISO	P												M			K						N								S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E230	●	●	●	●	○	●	○	○	○	●	○	○	○	○	○	○	●	○	●	○	●	○	○	○	○	○	○	○		○																		●	

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

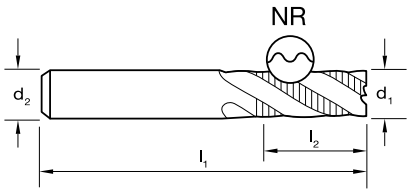
● Optimal ○ Effective

Section Finder

Roughers NR (normal), R30 WN, Regular

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1000 N/mm²



Catalogue Code	E142	E144
Discount Group	B0402	B0402
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*Brt*
Sutton Designation	WN	WN
Geometry	R30 NR	R30 NR
Shank Form (DIN 1835)	A	B
Shank Tolerance	h6	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #	Item #
0600	6.0	60	15	10	3	E142 0600	
0800	8.0	65	20	10	3	E142 0800	
1000	10.0	75	25	10	4	E142 1000	
1200	12.0	80	30	12	4	E142 1200	
1400	14.0	90	35	16	4	E142 1400	
1500	15.0	95	40	16	4	E142 1500	
1600	16.0	95	40	16	4		E144 1600
2000	20.0	110	45	20	4		E144 2000
2500	25.0	120	50	25	5		E144 2500
3000	30.0	125	55	25	6		E144 3000

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E142	●	●	○	○		●																	●	●	●	○		○		○																				
E144	●	●	○	○		●																	●	●	●	○		○		○																				

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

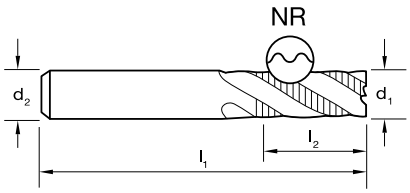
● Optimal ○ Effective

Section Finder

Roughers NR (normal), R30 WN, Regular

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1000 N/mm²
- TiCN for longer tool life



Catalogue Code	**E143**
Discount Group	B0404
Material	**HSS Co.8**
Surface Finish	***TiCN***
Sutton Designation	**WN**
Geometry	R30 NR
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6.0**	60	15	10	3	E143 0600
0800	**8.0**	65	20	10	3	E143 0800
1000	**10.0**	75	25	10	4	E143 1000
1200	**12.0**	80	30	12	4	E143 1200

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E143	●	●	○	○	○	●	○	○									○		○		○		○	○	○	○		○		○																			

P Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

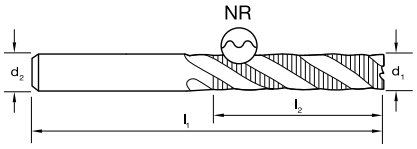
● Optimal ○ Effective

Section Finder

Roughers NR (normal), R30 WN, Long

suttontools

- For roughing applications
- NR geometry allows for heavy cuts
- Suitable for materials up to 1000 N/mm²



Catalogue Code	**E146**
Discount Group	B0402
Material	**HSS Co.8**
Surface Finish	***Brt***
Sutton Designation	**WN**
Geometry	R30 NR (coarse pitch)
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #
0600	**6**	68	24	6	3	E146 0600
0800	**8**	88	38	10	3	E146 0800
1000	**10**	95	45	10	4	E146 1000
1200	**12**	110	53	12	4	E146 1200
1600	**16**	123	63	16	4	E146 1600
1800	**18**	123	63	16	4	E146 1800
2000	**20**	141	75	20	4	E146 2000
2200	**22**	141	75	20	5	E146 2200
2500	**25**	166	90	25	5	E146 2500
3000	**30**	166	90	25	6	E146 3000
3200	**32**	186	106	32	6	•
1270	**1/2**	4-5/16	2-1/16	1/2	4	E146 1270
1588	**5/8**	4-27/32	2-1/2	5/8	4	E146 1588
1905	**3/4**	5-9/16	2-15/16	3/4	4	E146 1905
2540	**1**	6-9/16	3-9/16	1	5	E146 2540
3175	**1-1/4**	7-5/16	4-3/16	1-1/4	6	E146 3175
3810	**1-1/2**	8-17/32	4-29/32	1-1/4	6	E146 3810

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E146	●	●	○	○		●																	●	●	●	○		○		○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

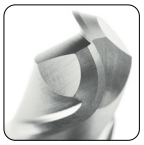
● Optimal ○ Effective

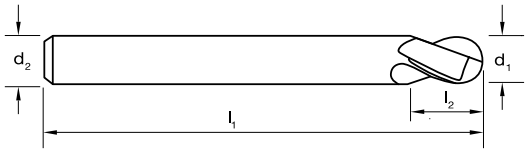
• Available on request as special manufacture. Subject to lead time.

Slot Drills Ballnose, 2 Flute, R30 N, Long

suttontools

- For long-reach profiling & contour milling applications
- Suitable for materials up to 1000 N/mm²





Catalogue Code	**E113**
Discount Group	B0502
Material	**HSS Co.8**
Surface Finish	***Brt***
Sutton Designation	**N**
Geometry	R30
Shank Form (DIN 1835)	A
Shank Tolerance	h6

Size Ref.	d_1 (e8)	l_1	l_2	d_2	z	Item #
0150	**1.5**	55	3	6	2	E113 0150
0200	**2**	55	4	6	2	E113 0200
0250	**2.5**	55	5	6	2	E113 0250
0300	**3**	60	6	6	2	E113 0300
0400	**4**	70	8	6	2	E113 0400
0450	**4.5**	70	8	6	2	•
0500	**5**	80	10	6	2	E113 0500
0600	**6**	90	12	6	2	E113 0600
0700	**7**	90	14	6	2	E113 0700
0800	**8**	100	16	8	2	E113 0800
0900	**9**	100	18	8	2	E113 0900
1000	**10**	100	20	10	2	E113 1000
1200	**12**	110	24	12	2	E113 1200
1400	**14**	110	28	12	2	E113 1400
1600	**16**	140	32	16	2	E113 1600
2000	**20**	160	40	20	2	E113 2000
2500	**25**	180	50	25	2	E113 2500
3000	**30**	180	55	25	2	E113 3000

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E113	●	●	○	○	○	●	○	○		○				○	○		○	○	○	○	○	○	●	●	●	○	○	○		○																			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

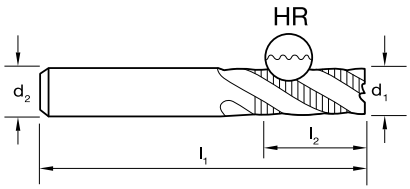
● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Roughers HR (fine), R30 NH, Regular

suttontools

- For roughing applications
- HR geometry allows for heavy cuts, in harder materials
- Suitable for materials up to 1300 N/mm²
- TiCN for longer tool life



Catalogue Code	E168	E169
Discount Group	B0402	B0404
Material	HSS Co.8	HSS Co.8
Surface Finish	*Brt*	*TiCN*
Sutton Designation	NH	NH
Geometry	R30 HR	R30 HR
Shank Form (DIN 1835)	A	A
Shank Tolerance	h6	h6

Size Ref.	d_1 (js14)	l_1	l_2	d_2	z	Item #	Item #
0600	6.0	60	15	10	3	E168 0600	E169 0600
0800	8.0	65	20	10	3	E168 0800	E169 0800
1000	10.0	75	25	10	4	E168 1000	E169 1000
1200	12.0	80	30	12	4	E168 1200	E169 1200

ISO	P												M			K						N									S												H					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E168			●		○		●	○	○	○	○	○	○				○		○		○								○																				
E169					●		●	●	●	●	●	○	○	○	○	○	●	○	●	○	●	○							●																			○	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

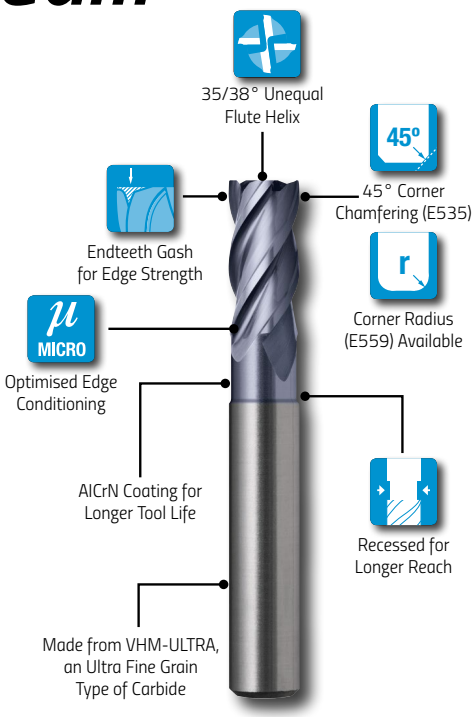
Section Finder

Performance Unequalled... Harmony Endmills

The Harmony range of Endmills represents world's latest technologies to provide increases in both performance and tool life. The key to successful milling is to minimise or eliminate the harmonic vibration produced in the cutting action.

The Harmony Endmill overcomes vibration, through the latest technologies in tool engineering:

- Premium Grade Carbide
- AlCrN Coating
- 35/38° Variable Helix
- 45° Corner Chamfering
- Gash grind of the endteeth
- Post grind treatment of cutting edges

The bottom line for you:

- Longer tool life
- Improved surface finish
- Increased productivity
- Reduced production costs