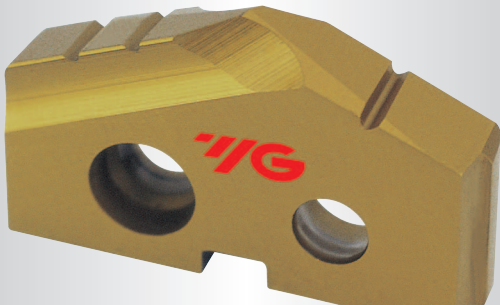




Being the best through innovation

INSERTS & HOLDERS















SPADE DRILLS BOHRMESSER

- Carbide for Long Tool Life, and HSS-PM for General Machines and Large Diameters
Higher Productivity than Other Drilling Tools
- VHM für lange Standzeit; HSS-PM für große Durchmesser und konventionelle Maschinen.
Größere Produktivität als andere Bohrer

SELECTION GUIDE

SPADE DRILL INSERTS

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			MIN	MAX	
SERIES 1~8		SPADE DRILL INSERTS - HSS M4 EINWEG BOHREINSATZ - HSS M4	Ø17.86 (#1)	Ø114.3 (#8)	216
SERIES Y,Z,0,1~4		SPADE DRILL INSERTS - SUPER HSS T15 EINWEG BOHREINSATZ - SUPER HSS T15	Ø9.5 (#Y)	Ø65.09 (#4)	222
SERIES Y,Z,0,1,2		SPADE DRILL INSERTS - PREMIUM HSS M48 EINWEG BOHREINSATZ - PREMIUM HSS M48	Ø9.5 (#Y)	Ø35 (#2)	227
SERIES Y,Z,0,1,2		SPADE DRILL INSERTS for CAST IRON - CARBIDE(K10) EINWEG BOHREINSATZ - VOLLHARTMETALL (K10)	Ø9.5 (#Y)	Ø35 (#2)	230
SERIES Y,Z,0,1~3		SPADE DRILL INSERTS - CARBIDE(K20) EINWEG BOHREINSATZ - VOLLHARTMETALL (K20)	Ø9.5 (#Y)	Ø47.63 (#3)	233
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SPADE DRILL HOLDERS

TAPER SHANK		TAPER SHANK HOLDERS - INCH/METRIC HALTER MIT MORSEKEGEL	263
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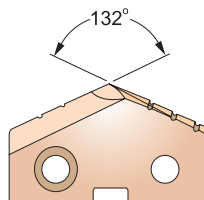
SPADE DRILLS

◎ : Excellent
○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc37 (~HB350)	HRc37~ (HB350~)	~HRc24 (~HB250)	HRc24~ (HB250~)	~HRc13 (~HB200)	HRc13~ (HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (HB220~)	~HRc8 (~HB180)
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SPADE DRILL INSERTS - HSS M4
EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
1 17.53 (.690") to 24.38 (.960")	45/64"	17.86	.7031"	4.0 (5/32")	S1405045	S1410045	S1415045
		18.00	.7087"		S1455180	S1460180	S1465180
	23/32"	18.26	.7188"		S1405046	S1410046	S1415046
		18.50	.7283"		S1455185	S1460185	S1465185
	47/64"	18.65	.7344"		S1405047	S1410047	S1415047
		19.00	.7480"		S1455190	S1460190	S1465190
	3/4"	19.05	.7500"		S1405048	S1410048	S1415048
	49/64"	19.45	.7656"		S1405049	S1410049	S1415049
		19.50	.7677"		S1455195	S1460195	S1465195
	25/32"	19.84	.7813"		S1405050	S1410050	S1415050
		20.00	.7874"		S1455200	S1460200	S1465200
	51/64"	20.24	.7969"		S1405051	S1410051	S1415051
		20.50	.8071"		S1455205	S1460205	S1465205
	13/16"	20.64	.8125"		S1405052	S1410052	S1415052
		21.00	.8268"		S1455210	S1460210	S1465210
	27/32"	21.43	.8438"		S1405054	S1410054	S1415054
	55/64"	21.83	.8594"		S1405055	S1410055	S1415055
	22.00	.8661"	S1455220	S1460220	S1465220		
7/8"	22.23	.8750"	S1405056	S1410056	S1415056		
57/64"	22.62	.8906"	S1405057	S1410057	S1415057		
	23.00	.9055"	S1455230	S1460230	S1465230		
29/32"	23.02	.9063"	S1405058	S1410058	S1415058		
59/64"	23.42	.9219"	S1405059	S1410059	S1415059		
15/16"	23.81	.9375"	S1405060	S1410060	S1415060		
	24.00	.9449"	S1455240	S1460240	S1465240		
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1405062	S1410062	S1415062
	63/64"	25.00	.9843"		S1405063	S1410063	S1415063
	1"	25.40	1.0000"		S1405100	S1410100	S1415100
	1-1/64"	25.80	1.0156"		S1405101	S1410101	S1415101
		26.00	1.0236"		S1455260	S1460260	S1465260
	1-1/32"	26.19	1.0313"		S1405102	S1410102	S1415102
	1-3/64"	26.59	1.0469"		S1405103	S1410103	S1415103
	1-1/16"	26.99	1.0625"		S1405104	S1410104	S1415104
		27.00	1.0630"		S1455270	S1460270	S1465270

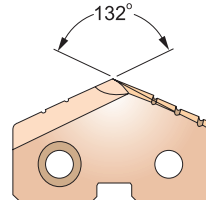
◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc37 (~HB350)	HRc37~ (HB350~)	~HRc24 (~HB250)	HRc24~ (HB250~)	~HRc13 (~HB200)	HRc13~ (HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (HB220~)	~HRc8 (~HB180)
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SPADE DRILL INSERTS - HSS M4 EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	1-3/32"	27.78	1.0938"	4.8 (3/16")	S1405106	S1410106	S1415106
		28.00	1.1024"		S1455280	S1460280	S1465280
	1-7/64"	28.18	1.1094"		S1405107	S1410107	S1415107
	1-1/8"	28.58	1.1250"		S1405108	S1410108	S1415108
		29.00	1.1417"		S1455290	S1460290	S1465290
	1-5/32"	29.37	1.1563"		S1405110	S1410110	S1415110
		30.00	1.1811"		S1455300	S1460300	S1465300
	1-3/16"	30.16	1.1875"		S1405112	S1410112	S1415112
	1-7/32"	30.96	1.2188"		S1405114	S1410114	S1415114
		31.00	1.2205"		S1455310	S1460310	S1465310
	1-1/4"	31.75	1.2500"		S1405116	S1410116	S1415116
		32.00	1.2598"		S1455320	S1460320	S1465320
	1-9/32"	32.54	1.2813"		S1405118	S1410118	S1415118
		33.00	1.2992"		S1455330	S1460330	S1465330
	1-5/16"	33.34	1.3125"		S1405120	S1410120	S1415120
	34.00	1.3386"	S1455340	S1460340	S1465340		
1-11/32"	34.13	1.3438"	S1405122	S1410122	S1415122		
1-3/8"	34.93	1.3750"	S1405124	S1410124	S1415124		
	35.00	1.3780"	S1455350	S1460350	S1465350		
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4063"	6.4 (1/4")	S1405126	S1410126	S1415126
		36.00	1.4173"		S1455360	S1460360	S1465360
	1-7/16"	36.51	1.4375"		S1405128	S1410128	S1415128
		37.00	1.4567"		S1455370	S1460370	S1465370
	1-15/32"	37.31	1.4688"		S1405130	S1410130	S1415130
		38.00	1.4961"		S1455380	S1460380	S1465380
	1-1/2"	38.10	1.5000"		S1405132	S1410132	S1415132
	1-17/32"	38.89	1.5313"		S1405134	S1410134	S1415134
		39.00	1.5354"		S1455390	S1460390	S1465390
	1-9/16"	39.69	1.5625"		S1405136	S1410136	S1415136
		40.00	1.5748"		S1455400	S1460400	S1465400
	1-19/32"	40.48	1.5938"		S1405138	S1410138	S1415138
		41.00	1.6142"		S1455410	S1460410	S1465410
	1-5/8"	41.28	1.6250"		S1405140	S1410140	S1415140
		42.00	1.6535"		S1455420	S1460420	S1465420

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)	HRc13~ (-HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220~)	-HRc8 (-HB180)
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SPADE DRILL INSERTS - HSS M4
EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-21/32"	42.07	1.6563"	6.4 (1/4")	S1405142	S1410142	S1415142
	1-11/16"	42.86	1.6875"		S1405144	S1410144	S1415144
		43.00	1.6929"		S1455430	S1460430	S1465430
	1-23/32"	43.66	1.7188"		S1405146	S1410146	S1415146
		44.00	1.7323"		S1455440	S1460440	S1465440
	1-3/4"	44.45	1.7500"		S1405148	S1410148	S1415148
		45.00	1.7717"		S1455450	S1460450	S1465450
	1-25/32"	45.24	1.7813"		S1405150	S1410150	S1415150
		46.00	1.8110"		S1455460	S1460460	S1465460
	1-13/16"	46.04	1.8125"		S1405152	S1410152	S1415152
	1-27/32"	46.83	1.8438"		S1405154	S1410154	S1415154
		47.00	1.8504"		S1455470	S1460470	S1465470
4 46.99 (1.850") to 65.28 (2.570")	1-7/8"	47.63	1.8750"	7.9 (5/16")	S1405156	S1410156	S1415156
		48.00	1.8898"		S1455480	S1460480	S1465480
	1-29/32"	48.42	1.9063"		S1405158	S1410158	S1415158
		49.00	1.9291"		S1455490	S1460490	S1465490
	1-15/16"	49.21	1.9375"		S1405160	S1410160	S1415160
		50.00	1.9685"		S1455500	S1460500	S1465500
	1-31/32"	50.01	1.9688"		S1405162	S1410162	S1415162
	2"	50.80	2.0000"		S1405200	S1410200	S1415200
		51.00	2.0079"		S1455510	S1460510	S1465510
	2-1/32"	51.59	2.0313"		S1405202	S1410202	S1415202
	2-3/64"	52.00	2.0472"		S1405203	S1410203	S1415203
	2-1/16"	52.39	2.0625"		S1405204	S1410204	S1415204
		53.00	2.0866"		S1455530	S1460530	S1465530
	2-3/32"	53.18	2.0938"		S1405206	S1410206	S1415206
	2-1/8"	53.98	2.1250"		S1405208	S1410208	S1415208
		54.00	2.1260"		S1455540	S1460540	S1465540
	2-5/32"	54.79	2.1563"		S1405210	S1410210	S1415210
		55.00	2.1654"		S1455550	S1460550	S1465550
2-3/16"	55.56	2.1875"	S1405212	S1410212	S1415212		
	56.00	2.2047"	S1455560	S1460560	S1465560		
2-7/32"	56.36	2.2188"	S1405214	S1410214	S1415214		
	57.00	2.2441"	S1455570	S1460570	S1465570		

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)
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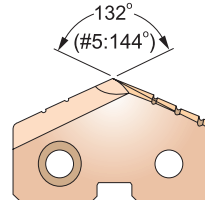
SPADE DRILLS

SERIES 4,5

SPADE DRILL INSERTS - HSS M4 EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
4 46.99 (1.850") to 65.28 (2.570")	2-1/4"	57.15	2.2500"	7.9 (5/16")	S1405216	S1410216	S1415216
	2-9/32"	57.94	2.2813"		S1405218	S1410218	S1415218
		58.00	2.2835"		S1455580	S1460580	S1465580
	2-5/16"	58.74	2.3125"		S1405220	S1410220	S1415220
		59.00	2.3228"		S1455590	S1460590	S1465590
	2-11/32"	59.53	2.3438"		S1405222	S1410222	S1415222
		60.00	2.3622"		S1455600	S1460600	S1465600
	2-3/8"	60.33	2.3750"		S1405224	S1410224	S1415224
		61.00	2.4016"		S1455610	S1460610	S1465610
	2-13/32"	61.12	2.4063"		S1405226	S1410226	S1415226
	2-7/16"	61.91	2.4375"		S1405228	S1410228	S1415228
		62.00	2.4409"		S1455620	S1460620	S1465620
	2-15/32"	62.71	2.4688"		S1405230	S1410230	S1415230
		63.00	2.4803"		S1455630	S1460630	S1465630
2-1/2"	63.50	2.5000"	S1405232	S1410232	S1415232		
	64.00	2.5197"	S1455640	S1460640	S1465640		
2-17/32"	64.29	2.5313"	S1405234	S1410234	S1415234		
	65.00	2.5591"	S1455650	S1460650	S1465650		
2-9/16"	65.09	2.5625"	S1405236	S1410236	S1415236		
5 62.38 (2.456") to 76.20 (3.000")	2-1/2"	63.50	2.5000"	11.1 (7/16")	S14052D2	S14102D2	S14152D2
		64.00	2.5197"		S145564A	S146064A	S146564A
	2-17/32"	64.29	2.5313"		S14052D4	S14102D4	S14152D4
	2-9/16"	65.09	2.5625"		S14052D6	S14102D6	S14152D6
	2-19/32"	65.88	2.5938"		S1405238	S1410238	S1415238
		66.00	2.5984"		S1455660	S1460660	S1465660
	2-5/8"	66.68	2.6250"		S1405240	S1410240	S1415240
	2-21/32"	67.47	2.6563"		S1405242	S1410242	S1415242
		68.00	2.6772"		S1455680	S1460680	S1465680
	2-11/16"	68.26	2.6875"		S1405244	S1410244	S1415244
	2-23/32"	69.05	2.7188"		S1405246	S1410246	S1415246
		69.85	2.7500"		S1405248	S1410248	S1415248
	2-3/4"	70.00	2.7559"		S1455700	S1460700	S1465700
	2-25/32"	70.64	2.7813"		S1405250	S1410250	S1415250
2-13/16"	71.44	2.8125"	S1405252	S1410252	S1415252		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)
○	○	○	○		○		○	○			◎	◎	○	◎	◎

SPADE DRILL INSERTS - HSS M4
EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
5 62.38 (2.456") to 76.20 (3.000")		72.00	2.8346"	11.1 (7/16")	S1455720	S1460720	S1465720
	2-27/32"	72.23	2.8438"		S1405254	S1410254	S1415254
	2-7/8"	73.03	2.8750"		S1405256	S1410256	S1415256
	2-29/32"	73.82	2.9063"		S1405258	S1410258	S1415258
		74.00	2.9134"		S1455740	S1460740	S1465740
	2-15/16"	74.61	2.9375"		S1405260	S1410260	S1415260
	2-31/32"	75.41	2.9688"		S1405262	S1410262	S1415262
		76.00	2.9921"		S1455760	S1460760	S1465760
	3"	76.20	3.0000"		S1405300	S1410300	S1415300
	6 76.23 (3.001") to 89.08 (3.507")	3-1/32"	76.99		3.0313"	11.1 (7/16")	S1405302
3-1/16"		77.79	3.0625"	S1405304	S1410304		S1415304
		78.00	3.0709"	S1455780	S1460780		S1465780
3-3/32"		78.58	3.0938"	S1405306	S1410306		S1415306
3-1/8"		79.38	3.1250"	S1405308	S1410308		S1415308
		80.00	3.1496"	S1455800	S1460800		S1465800
3-5/32"		80.17	3.1563"	S1405310	S1410310		S1415310
3-3/16"		80.96	3.1875"	S1405312	S1410312		S1415312
3-7/32"		81.76	3.2188"	S1405314	S1410314		S1415314
		82.00	3.2283"	S1455820	S1460820		S1465820
3-1/4"		82.55	3.2500"	S1405316	S1410316		S1415316
3-9/32"		83.34	3.2813"	S1405318	S1410318		S1415318
		84.00	3.3071"	S1455840	S1460840		S1465840
3-5/16"		84.14	3.3125"	S1405320	S1410320		S1415320
3-11/32"		84.93	3.3438"	S1405322	S1410322		S1415322
3-3/8"		85.73	3.3750"	S1405324	S1410324		S1415324
		86.00	3.3858"	S1455860	S1460860		S1465860
3-13/32"		86.52	3.4063"	S1405326	S1410326		S1415326
3-7/16"	87.31	3.4375"	S1405328	S1410328	S1415328		
	88.00	3.4646"	S1455880	S1460880	S1465880		
3-15/32"	88.11	3.4688"	S1405330	S1410330	S1415330		
3-1/2"	88.90	3.5000"	S1405332	S1410332	S1415332		
7	3-17/32"	89.69	3.5313"	11.1 (7/16")	S1405334	S1410334	S1415334
		90.00	3.5433"		S1455900	S1460900	S1465900
	3-9/16"	90.49	3.5625"		S1405336	S1410336	S1415336

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)
○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	◎	◎

SPADE DRILL INSERTS - HSS M4 EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		HSS (M4)		
					TiN	TiCN	TiAlN
7 87.76 (3.455") to 101.60 (4.000")	3-19/32"	91.28	3.5938"	11.1 (7/16")	S1405338	S1410338	S1415338
		92.00	3.6221"		S1455920	S1460920	S1465920
	3-5/8"	92.08	3.6250"		S1405340	S1410340	S1415340
	3-21/32"	92.87	3.6563"		S1405342	S1410342	S1415342
	3-11/16"	93.66	3.6875"		S1405344	S1410344	S1415344
		94.00	3.7008"		S1455940	S1460940	S1465940
	3-23/32"	94.46	3.7188"		S1405346	S1410346	S1415346
	3-3/4"	95.25	3.7500"		S1405348	S1410348	S1415348
		96.00	3.7795"		S1455960	S1460960	S1465960
	3-25/32"	96.04	3.7813"		S1405350	S1410350	S1415350
	3-13/16"	96.84	3.8125"		S1405352	S1410352	S1415352
	3-27/32"	97.63	3.8438"		S1405354	S1410354	S1415354
		98.00	3.8583"		S1455980	S1460980	S1465980
	3-7/8"	98.43	3.8750"		S1405356	S1410356	S1415356
	3-29/32"	99.22	3.9063"		S1405358	S1410358	S1415358
	100.00	3.9370"	S1455A00	S1460A00	S1465A00		
3-15/16"	100.01	3.9375"	S1405360	S1410360	S1415360		
3-31/32"	100.81	3.9688"	S1405362	S1410362	S1415362		
4"	101.60	4.0000"	S1405400	S1410400	S1415400		
8 101.63 (4.001") to 114.48 (4.507")	4-1/64"	102.00	4.0157"	11.1 (7/16")	S1405401	S1410401	S1415401
	4-1/16"	103.19	4.0625"		S1405404	S1410404	S1415404
	4-3/32"	104.00	4.0945"		S1405406	S1410406	S1415406
	4-1/8"	104.78	4.1250"		S1405408	S1410408	S1415408
		106.00	4.1732"		S1455A60	S1460A60	S1465A60
	4-3/16"	106.36	4.1875"		S1405412	S1410412	S1415412
	4-1/4"	107.95	4.2500"		S1405416	S1410416	S1415416
		108.00	4.2520"		S1455A80	S1460A80	S1465A80
	4-5/16"	109.54	4.3125"		S1405420	S1410420	S1415420
		110.00	4.3307"		S1455B00	S1460B00	S1465B00
	4-3/8"	111.13	4.3750"		S1405424	S1410424	S1415424
		112.00	4.4094"		S1455B20	S1460B20	S1465B20
	4-7/16"	112.71	4.4375"		S1405428	S1410428	S1415428
		114.00	4.4882"		S1455B40	S1460B40	S1465B40
	4-1/2"	114.30	4.5000"		S1405432	S1410432	S1415432

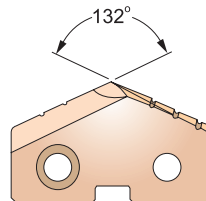
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)
○	○	○	○		○		○	○			◎	◎	○	◎	◎

SPADE DRILL INSERTS - SUPER HSS T15
EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)		
					TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	S1155095	S1160095	S1165095
		9.53	.3750"		S1105024	S1110024	S1115024
	25/64"	9.80	.3860"		S1155098	S1160098	S1165098
		9.92	.3906"		S1105025	S1110025	S1115025
	13/32"	10.00	.3937"		S1155100	S1160100	S1165100
		10.20	.4016"		S1155102	S1160102	S1165102
	27/64"	10.32	.4063"		S1105026	S1110026	S1115026
		10.50	.4134"		S1155105	S1160105	S1165105
	11.07 (.436")	10.80	.4252"		S1105027	S1110027	S1115027
			.4331"		S1155108	S1160108	S1165108
Z 11.11(.437") to 12.95(.510")	7/16"	11.11	.4375"	2.4 (3/32")	S1105028	S1110028	S1115028
	29/64"	11.50	.4528"		S1155115	S1160115	S1165115
		11.51	.4531"		S1105029	S1110029	S1115029
	15/32"	11.91	.4688"		S1105030	S1110030	S1115030
	31/64"	12.00	.4724"		S1155120	S1160120	S1165120
		12.30	.4844"		S1105031	S1110031	S1115031
	1/2"	12.50	.4921"		S1155125	S1160125	S1165125
0 12.98 (.511") to 17.65 (.695")	33/64"	12.70	.5000"	3.2 (1/8")	S1105032	S1110032	S1115032
		13.00	.5118"		S1155130	S1160130	S1165130
	17/32"	13.10	.5156"		S1105033	S1110033	S1115033
		13.49	.5313"		S1105034	S1110034	S1115034
	35/64"	13.50	.5315"		S1155135	S1160135	S1165135
		13.89	.5469"		S1105035	S1110035	S1115035
	9/16"	14.00	.5512"		S1155140	S1160140	S1165140
		14.29	.5625"		S1105036	S1110036	S1115036
	37/64"	14.50	.5709"		S1155145	S1160145	S1165145
		14.68	.5781"		S1105037	S1110037	S1115037
	19/32"	15.00	.5906"		S1155150	S1160150	S1165150
		15.08	.5938"		S1105038	S1110038	S1115038
	39/64"	15.48	.6094"		S1105039	S1110039	S1115039
15.50		.6102"	S1155155	S1160155	S1165155		
5/8"	15.88	.6250"	S1105040	S1110040	S1115040		
	16.00	.6299"	S1155160	S1160160	S1165160		

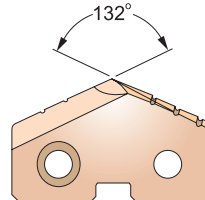
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)	HRc13~ (-HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220~)	-HRc8 (-HB180)	-HB110
	◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	◎	○	○

SPADE DRILL INSERTS - SUPER HSS T15 EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.				
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)				
					TiN	TiCN	TiAlN		
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	S1105041	S1110041	S1115041		
		16.50	.6496"		S1155165	S1160165	S1165165		
	21/32"	16.67	.6563"		S1105042	S1110042	S1115042		
		17.00	.6693"		S1155170	S1160170	S1165170		
	43/64"	17.07	.6719"		S1105043	S1110043	S1115043		
		17.46	.6875"		S1105044	S1110044	S1115044		
	11/16"	17.50	.6890"		S1155175	S1160175	S1165175		
		17.86	.7031"		S1105045	S1110045	S1115045		
	1 17.53 (.690") to 24.38 (.960")	45/64"	18.00		.7087"	4.0 (5/32")	S1155180	S1160180	S1165180
			18.26		.7188"		S1105046	S1110046	S1115046
23/32"		18.50	.7283"	S1155185	S1160185		S1165185		
		18.65	.7344"	S1105047	S1110047		S1115047		
47/64"		19.00	.7480"	S1155190	S1160190		S1165190		
		19.05	.7500"	S1105048	S1110048		S1115048		
3/4"		19.45	.7656"	S1105049	S1110049		S1115049		
		19.50	.7677"	S1155195	S1160195		S1165195		
49/64"		19.84	.7813"	S1105050	S1110050		S1115050		
		20.00	.7874"	S1155200	S1160200		S1165200		
25/32"		20.24	.7969"	S1105051	S1110051		S1115051		
		20.50	.8071"	S1155205	S1160205		S1165205		
51/64"		20.64	.8125"	S1105052	S1110052		S1115052		
		21.00	.8268"	S1155210	S1160210		S1165210		
13/16"		21.43	.8438"	S1105054	S1110054		S1115054		
		21.83	.8594"	S1105055	S1110055		S1115055		
27/32"		22.00	.8661"	S1155220	S1160220		S1165220		
		22.23	.8750"	S1105056	S1110056		S1115056		
55/64"		22.62	.8906"	S1105057	S1110057		S1115057		
		23.00	.9055"	S1155230	S1160230		S1165230		
7/8"	23.02	.9063"	S1105058	S1110058	S1115058				
	23.42	.9219"	S1105059	S1110059	S1115059				
57/64"	23.81	.9375"	S1105060	S1110060	S1115060				
	24.00	.9449"	S1155240	S1160240	S1165240				

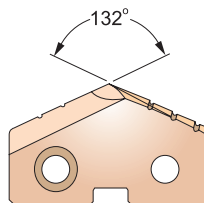
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)	HRc13~ (-HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	○	◎	○	○

SPADE DRILL INSERTS - SUPER HSS T15
EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. SUPER HSS (T15)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1105062	S1110062	S1115062
	63/64"	25.00	.9843"		S1105063	S1110063	S1115063
	1"	25.40	1.0000"		S1105100	S1110100	S1115100
	1-1/64"	25.80	1.0156"		S1105101	S1110101	S1115101
		26.00	1.0236"		S1155260	S1160260	S1165260
	1-1/32"	26.19	1.0313"		S1105102	S1110102	S1115102
	1-3/64"	26.59	1.0469"		S1105103	S1110103	S1115103
	1-1/16"	26.99	1.0625"		S1105104	S1110104	S1115104
		27.00	1.0630"		S1155270	S1160270	S1165270
	1-3/32"	27.78	1.0938"		S1105106	S1110106	S1115106
		28.00	1.1024"		S1155280	S1160280	S1165280
	1-7/64"	28.18	1.1094"		S1105107	S1110107	S1115107
	1-1/8"	28.58	1.1250"		S1105108	S1110108	S1115108
		29.00	1.1417"		S1155290	S1160290	S1165290
	1-5/32"	29.37	1.1563"		S1105110	S1110110	S1115110
		30.00	1.1811"		S1155300	S1160300	S1165300
	1-3/16"	30.16	1.1875"		S1105112	S1110112	S1115112
	1-7/32"	30.96	1.2188"		S1105114	S1110114	S1115114
		31.00	1.2205"		S1155310	S1160310	S1165310
	1-1/4"	31.75	1.2500"		S1105116	S1110116	S1115116
	32.00	1.2598"	S1155320	S1160320	S1165320		
1-9/32"	32.54	1.2813"	S1105118	S1110118	S1115118		
1-5/16"	33.00	1.2992"	S1155330	S1160330	S1165330		
	33.34	1.3125"	S1105120	S1110120	S1115120		
	1-	34.00	1.3386"	S1155340	S1160340	S1165340	
	11/32"	34.13	1.3438"	S1105122	S1110122	S1115122	
	1-3/8"	34.93	1.3750"	S1105124	S1110124	S1115124	
		35.00	1.3780"	S1155350	S1160350	S1165350	
3 34.37(1.353") to 47.80(1.882")	1-13/32"	35.72	1.4063"	6.4 (1/4")	S1105126	S1110126	S1115126
		36.00	1.4173"		S1155360	S1160360	S1165360
	1-7/16"	36.51	1.4375"		S1105128	S1110128	S1115128
		37.00	1.4567"		S1155370	S1160370	S1165370
	1-15/32"	37.31	1.4688"		S1105130	S1110130	S1115130
		38.00	1.4961"		S1155380	S1160380	S1165380

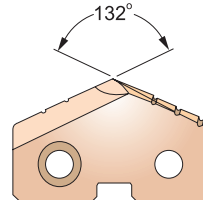
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)	HRc13~ (-HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220~)	-HRc8 (-HB180)
◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	◎	○	○

SPADE DRILL INSERTS - SUPER HSS T15 EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-1/2"	38.10	1.5000"	6.4 (1/4")	S1105132	S1110132	S1115132
	1-17/32"	38.89	1.5313"		S1105134	S1110134	S1115134
		39.00	1.5354"		S1155390	S1160390	S1165390
	1-9/16"	39.69	1.5625"		S1105136	S1110136	S1115136
		40.00	1.5748"		S1155400	S1160400	S1165400
	1-19/32"	40.48	1.5938"		S1105138	S1110138	S1115138
		41.00	1.6142"		S1155410	S1160410	S1165410
	1-5/8"	41.28	1.6250"		S1105140	S1110140	S1115140
		42.00	1.6535"		S1155420	S1160420	S1165420
	1-21/32"	42.07	1.6563"		S1105142	S1110142	S1115142
	1-11/16"	42.86	1.6875"		S1105144	S1110144	S1115144
		43.00	1.6929"		S1155430	S1160430	S1165430
	1-23/32"	43.66	1.7188"		S1105146	S1110146	S1115146
		44.00	1.7323"		S1155440	S1160440	S1165440
	1-3/4"	44.45	1.7500"		S1105148	S1110148	S1115148
		45.00	1.7717"		S1155450	S1160450	S1165450
	1-25/32"	45.24	1.7813"		S1105150	S1110150	S1115150
		46.00	1.8110"		S1155460	S1160460	S1165460
1-13/16"	46.04	1.8125"	S1105152	S1110152	S1115152		
1-27/32"	46.83	1.8438"	S1105154	S1110154	S1115154		
	47.00	1.8504"	S1155470	S1160470	S1165470		
1-7/8"	47.63	1.8750"	S1105156	S1110156	S1115156		
	48.00	1.8898"	S1155480	S1160480	S1165480		
4 46.99 (1.850") to 65.28 (2.570")	1-29/32"	48.42	1.9063"	7.9 (5/16")	S1105158	S1110158	S1115158
		49.00	1.9291"		S1155490	S1160490	S1165490
	1-15/16"	49.21	1.9375"		S1105160	S1110160	S1115160
		50.00	1.9685"		S1155500	S1160500	S1165500
	1-31/32"	50.01	1.9688"		S1105162	S1110162	S1115162
	2"	50.80	2.0000"		S1105200	S1110200	S1115200
		51.00	2.0079"		S1155510	S1160510	S1165510
	2-1/32"	51.59	2.0313"		S1105202	S1110202	S1115202
	2-3/64"	52.00	2.0472"		S1105203	S1110203	S1115203
	2-1/16"	52.39	2.0625"		S1105204	S1110204	S1115204
		53.00	2.0866"		S1155530	S1160530	S1165530

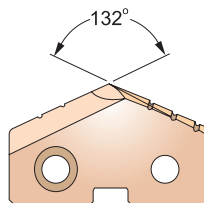
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (HB275~)	HRc28~ (-HB350)	HRc37 (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
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SPADE DRILL INSERTS - SUPER HSS T15
EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)		
					TiN	TiCN	TiAlN
4 46.99 (1.850") to 65.28 (2.570")	2-3/32"	53.18	2.0938"	7.9 (5/16")	S1105206	S1110206	S1115206
	2-1/8"	53.98	2.1250"		S1105208	S1110208	S1115208
		54.00	2.1260"		S1155540	S1160540	S1165540
	2-5/32"	54.79	2.1563"		S1105210	S1110210	S1115210
		55.00	2.1654"		S1155550	S1160550	S1165550
	2-3/16"	55.56	2.1875"		S1105212	S1110212	S1115212
		56.00	2.2047"		S1155560	S1160560	S1165560
	2-7/32"	56.36	2.2188"		S1105214	S1110214	S1115214
		57.00	2.2441"		S1155570	S1160570	S1165570
	2-1/4"	57.15	2.2500"		S1105216	S1110216	S1115216
	2-9/32"	57.94	2.2813"		S1105218	S1110218	S1115218
		58.00	2.2835"		S1155580	S1160580	S1165580
	2-5/16"	58.74	2.3125"		S1105220	S1110220	S1115220
		59.00	2.3228"		S1155590	S1160590	S1165590
	2-11/32"	59.53	2.3438"		S1105222	S1110222	S1115222
		60.00	2.3622"		S1155600	S1160600	S1165600
	2-3/8"	60.33	2.3750"		S1105224	S1110224	S1115224
		61.00	2.4016"		S1155610	S1160610	S1165610
	2-13/32"	61.12	2.4063"		S1105226	S1110226	S1115226
	2-7/16"	61.91	2.4375"		S1105228	S1110228	S1115228
	62.00	2.4409"	S1155620	S1160620	S1165620		
2-15/32"	62.71	2.4688"	S1105230	S1110230	S1115230		
	63.00	2.4803"	S1155630	S1160630	S1165630		
2-1/2"	63.50	2.5000"	S1105232	S1110232	S1115232		
	64.00	2.5197"	S1155640	S1160640	S1165640		
2-17/32"	64.29	2.5313"	S1105234	S1110234	S1115234		
	65.00	2.5591"	S1155650	S1160650	S1165650		
2-9/16"	65.09	2.5625"	S1105236	S1110236	S1115236		

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)
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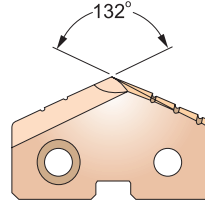
SPADE DRILLS

SERIES **Y,Z,0**

SPADE DRILL INSERTS - PREMIUM HSS M48 EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.			
	Inch (inch)	Metric (mm)	Decimal (inch)		PREMIUM HSS (M48)			
					TiN	TiCN	TiAlN	
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	S1555095	S1560095	S1565095	
		9.53	.3750"		S1505024	S1510024	S1515024	
	25/64"	9.80	.3860"		S1555098	S1560098	S1565098	
		9.92	.3906"		S1505025	S1510025	S1515025	
	13/32"	10.00	.3937"		S1555100	S1560100	S1565100	
		10.20	.4016"		S1555102	S1560102	S1565102	
		10.32	.4063"		S1505026	S1510026	S1515026	
		10.50	.4134"		S1555105	S1560105	S1565105	
		27/64"	10.72		.4219"	S1505027	S1510027	S1515027
		10.80	.4252"		S1555108	S1560108	S1565108	
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	S1555110	S1560110	S1565110	
		11.11	.4375"		S1505028	S1510028	S1515028	
	29/64"	11.50	.4528"		S1555115	S1560115	S1565115	
		11.51	.4531"		S1505029	S1510029	S1515029	
	15/32"	11.91	.4688"		S1505030	S1510030	S1515030	
		12.00	.4724"		S1555120	S1560120	S1565120	
		12.30	.4844"		S1505031	S1510031	S1515031	
31/64"	12.50	.4921"	S1555125	S1560125	S1565125			
	12.70	.5000"	S1505032	S1510032	S1515032			
0 12.98 (.511") to 17.65 (.695")	1/2"	13.00	.5118"	3.2 (1/8")	S1555130	S1560130	S1565130	
		33/64"	13.10		.5156"	S1505033	S1510033	S1515033
	17/32"	13.49	.5313"		S1505034	S1510034	S1515034	
		13.50	.5315"		S1555135	S1560135	S1565135	
	35/64"	13.89	.5469"		S1505035	S1510035	S1515035	
		14.00	.5512"		S1555140	S1560140	S1565140	
	9/16"	14.29	.5625"		S1505036	S1510036	S1515036	
		14.50	.5709"		S1555145	S1560145	S1565145	
	37/64"	14.68	.5781"		S1505037	S1510037	S1515037	
		15.00	.5906"		S1555150	S1560150	S1565150	
	19/32"	15.08	.5938"		S1505038	S1510038	S1515038	
		39/64"	15.48		.6094"	S1505039	S1510039	S1515039
	5/8"	15.50	.6102"		S1555155	S1560155	S1565155	
15.88		.6250"	S1505040	S1510040	S1515040			
16.00		.6299"	S1555160	S1560160	S1565160			

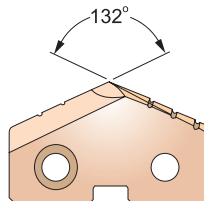
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)	HRc13~ (-HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220~)	-HRc8 (-HB180)
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	◎	○	○

SPADE DRILL INSERTS - PREMIUM HSS M48
EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. PREMIUM HSS (M48)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	S1505041	S1510041	S1515041
		16.50	.6496"		S1555165	S1560165	S1565165
	21/32"	16.67	.6563"		S1505042	S1510042	S1515042
		17.00	.6693"		S1555170	S1560170	S1565170
	43/64"	17.07	.6719"		S1505043	S1510043	S1515043
	11/16"	17.46	.6875"		S1505044	S1510044	S1515044
		17.50	.6890"		S1555175	S1560175	S1565175
	45/64"	17.86	.7031"		S1505045	S1510045	S1515045
		18.00	.7087"		S1555180	S1560180	S1565180
	23/32"	18.26	.7188"		S1505046	S1510046	S1515046
	18.50	.7283"	S1555185	S1560185	S1565185		
47/64"	18.65	.7344"	S1505047	S1510047	S1515047		
	19.00	.7480"	S1555190	S1560190	S1565190		
3/4"	19.05	.7500"	S1505048	S1510048	S1515048		
49/64"	19.45	.7656"	S1505049	S1510049	S1515049		
	19.50	.7677"	S1555195	S1560195	S1565195		
1 17.53 (.690") to 24.38 (.960")	25/32"	19.84	.7813"	4.0 (5/32")	S1505050	S1510050	S1515050
		20.00	.7874"		S1555200	S1560200	S1565200
	51/64"	20.24	.7969"		S1505051	S1510051	S1515051
		20.50	.8071"		S1555205	S1560205	S1565205
	13/16"	20.64	.8125"		S1505052	S1510052	S1515052
		21.00	.8268"		S1555210	S1560210	S1565210
	27/32"	21.43	.8438"		S1505054	S1510054	S1515054
	55/64"	21.83	.8594"		S1505055	S1510055	S1515055
		22.00	.8661"		S1555220	S1560220	S1565220
	7/8"	22.23	.8750"		S1505056	S1510056	S1515056
57/64"	22.62	.8906"	S1505057	S1510057	S1515057		
	23.00	.9055"	S1555230	S1560230	S1565230		
29/32"	23.02	.9063"	S1505058	S1510058	S1515058		
59/64"	23.42	.9219"	S1505059	S1510059	S1515059		
15/16"	23.81	.9375"	S1505060	S1510060	S1515060		
	24.00	.9449"	S1555240	S1560240	S1565240		

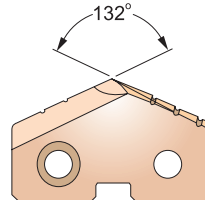
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	◎	○	○

SPADE DRILL INSERTS - PREMIUM HSS M48 EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		PREMIUM HSS (M48)		
					TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1505062	S1510062	S1515062
	63/64"	25.00	.9843"		S1505063	S1510063	S1515063
	1"	25.40	1.0000"		S1505100	S1510100	S1515100
	1-1/64"	25.80	1.0156"		S1505101	S1510101	S1515101
		26.00	1.0236"		S1555260	S1560260	S1565260
	1-1/32"	26.19	1.0313"		S1505102	S1510102	S1515102
	1-3/64"	26.59	1.0469"		S1505103	S1510103	S1515103
	1-1/16"	26.99	1.0625"		S1505104	S1510104	S1515104
		27.00	1.0630"		S1555270	S1560270	S1565270
	1-3/32"	27.78	1.0938"		S1505106	S1510106	S1515106
		28.00	1.1024"		S1555280	S1560280	S1565280
	1-7/64"	28.18	1.1094"		S1505107	S1510107	S1515107
	1-1/8"	28.58	1.1250"		S1505108	S1510108	S1515108
		29.00	1.1417"		S1555290	S1560290	S1565290
	1-5/32"	29.37	1.1563"		S1505110	S1510110	S1515110
		30.00	1.1811"		S1555300	S1560300	S1565300
	1-3/16"	30.16	1.1875"		S1505112	S1510112	S1515112
	1-7/32"	30.96	1.2188"		S1505114	S1510114	S1515114
		31.00	1.2205"		S1555310	S1560310	S1565310
	1-1/4"	31.75	1.2500"		S1505116	S1510116	S1515116
		32.00	1.2598"		S1555320	S1560320	S1565320
	1-9/32"	32.54	1.2813"		S1505118	S1510118	S1515118
		33.00	1.2992"		S1555330	S1560330	S1565330
	1-5/16"	33.34	1.3125"		S1505120	S1510120	S1515120
	34.00	1.3386"	S1555340	S1560340	S1565340		
1-11/32"	34.13	1.3438"	S1505122	S1510122	S1515122		
1-3/8"	34.93	1.3750"	S1505124	S1510124	S1515124		
	35.00	1.3780"	S1555350	S1560350	S1565350		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	◎	○	○

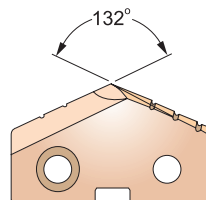
SPADE DRILLS

SERIES **Y,Z,0**

SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (K10)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	S1655095	S1660095	S1665095
		9.53	.3750"		S1605024	S1610024	S1615024
	25/64"	9.80	.3860"		S1655098	S1660098	S1665098
		9.92	.3906"		S1605025	S1610025	S1615025
	13/32"	10.00	.3937"		S1655100	S1660100	S1665100
		10.20	.4016"		S1655102	S1660102	S1665102
	27/64"	10.32	.4063"		S1605026	S1610026	S1615026
		10.50	.4134"		S1655105	S1660105	S1665105
	11.07	10.72	.4219"		S1605027	S1610027	S1615027
		10.80	.4252"		S1655108	S1660108	S1665108
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	S1655110	S1660110	S1665110
		11.11	.4375"		S1605028	S1610028	S1615028
	29/64"	11.50	.4528"		S1655115	S1660115	S1665115
		11.51	.4531"		S1605029	S1610029	S1615029
	15/32"	11.91	.4688"		S1605030	S1610030	S1615030
		12.00	.4724"		S1655120	S1660120	S1665120
	31/64"	12.30	.4844"		S1605031	S1610031	S1615031
		12.50	.4921"		S1655125	S1660125	S1665125
	1/2"	12.70	.5000"		S1605032	S1610032	S1615032
		13.00	.5118"		S1655130	S1660130	S1665130
0 12.98 (.511") to 17.65 (.695")	33/64"	13.10	.5156"	3.2 (1/8")	S1605033	S1610033	S1615033
		13.49	.5313"		S1605034	S1610034	S1615034
	17/32"	13.50	.5315"		S1655135	S1660135	S1665135
		13.89	.5469"		S1605035	S1610035	S1615035
	9/16"	14.00	.5512"		S1655140	S1660140	S1665140
		14.29	.5625"		S1605036	S1610036	S1615036
	37/64"	14.50	.5709"		S1655145	S1660145	S1665145
		14.68	.5781"		S1605037	S1610037	S1615037
	19/32"	15.00	.5906"		S1655150	S1660150	S1665150
		15.08	.5938"		S1605038	S1610038	S1615038
39/64"	15.48	.6094"	S1605039	S1610039	S1615039		
	15.50	.6102"	S1655155	S1660155	S1665155		
5/8"	15.88	.6250"	S1605040	S1610040	S1615040		
	16.00	.6299"	S1655160	S1660160	S1665160		

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc37 (~HB350)	HRc37~ (HB350~)	~HRc24 (~HB250)	HRc24~ (HB250~)	~HRc13 (~HB200)	HRc13~ (HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (HB220~)	~HRc8 (~HB180)
												◎	◎		



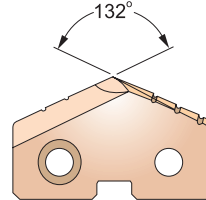
SPADE DRILLS

SERIES 0,1

SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K10)		
					TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	S1605041	S1610041	S1615041
		16.50	.6496"		S1655165	S1660165	S1665165
	21/32"	16.67	.6563"		S1605042	S1610042	S1615042
		17.00	.6693"		S1655170	S1660170	S1665170
	43/64"	17.07	.6719"		S1605043	S1610043	S1615043
	11/16"	17.46	.6875"		S1605044	S1610044	S1615044
1 17.53 (.690") to 24.38 (.960")		17.50	.6890"	4.0 (5/32")	S1655175	S1660175	S1665175
	45/64"	17.86	.7031"		S1605045	S1610045	S1615045
		18.00	.7087"		S1655180	S1660180	S1665180
	23/32	18.26	.7188"		S1605046	S1610046	S1615046
		18.50	.7283"		S1655185	S1660185	S1665185
	47/64"	18.65	.7344"		S1605047	S1610047	S1615047
		19.00	.7480"		S1655190	S1660190	S1665190
	3/4"	19.05	.7500"		S1605048	S1610048	S1615048
	49/64"	19.45	.7656"		S1605049	S1610049	S1615049
		19.50	.7677"		S1655195	S1660195	S1665195
	25/32"	19.84	.7813"		S1605050	S1610050	S1615050
		20.00	.7874"		S1655200	S1660200	S1665200
	51/64"	20.24	.7969"		S1605051	S1610051	S1615051
		20.50	.8071"		S1655205	S1660205	S1665205
	13/16"	20.64	.8125"		S1605052	S1610052	S1615052
		21.00	.8268"		S1655210	S1660210	S1665210
	27/32"	21.43	.8438"		S1605054	S1610054	S1615054
	55/64"	21.83	.8594"		S1605055	S1610055	S1615055
		22.00	.8661"		S1655220	S1660220	S1665220
	7/8"	22.23	.8750"		S1605056	S1610056	S1615056
57/64"	22.62	.8906"	S1605057	S1610057	S1615057		
	23.00	.9055"	S1655230	S1660230	S1665230		
29/32"	23.02	.9063"	S1605058	S1610058	S1615058		
59/64"	23.42	.9219"	S1605059	S1610059	S1615059		
15/16"	23.81	.9375"	S1605060	S1610060	S1615060		
	24.00	.9449"	S1655240	S1660240	S1665240		

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
												◎	◎		

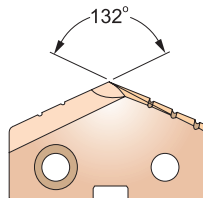
Y/G SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (K10)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1605062	S1610062	S1615062
	63/64"	25.00	.9843"		S1605063	S1610063	S1615063
	1"	25.40	1.0000"		S1605100	S1610100	S1615100
	1-1/64"	25.80	1.0156"		S1605101	S1610101	S1615101
		26.00	1.0236"		S1655260	S1660260	S1665260
	1-1/32"	26.19	1.0313"		S1605102	S1610102	S1615102
	1-3/64"	26.59	1.0469"		S1605103	S1610103	S1615103
	1-1/16"	26.99	1.0625"		S1605104	S1610104	S1615104
		27.00	1.0630"		S1655270	S1660270	S1665270
	1-3/32"	27.78	1.0938"		S1605106	S1610106	S1615106
		28.00	1.1024"		S1655280	S1660280	S1665280
	1-7/64"	28.18	1.1094"		S1605107	S1610107	S1615107
	1-1/8"	28.58	1.1250"		S1605108	S1610108	S1615108
		29.00	1.1417"		S1655290	S1660290	S1665290
	1-5/32"	29.37	1.1563"		S1605110	S1610110	S1615110
		30.00	1.1811"		S1655300	S1660300	S1665300
	1-3/16"	30.16	1.1875"		S1605112	S1610112	S1615112
	1-7/32"	30.96	1.2188"		S1605114	S1610114	S1615114
		31.00	1.2205"		S1655310	S1660310	S1665310
	1-1/4"	31.75	1.2500"		S1605116	S1610116	S1615116
		32.00	1.2598"		S1655320	S1660320	S1665320
	1-9/32"	32.54	1.2813"		S1605118	S1610118	S1615118
		33.00	1.2992"		S1655330	S1660330	S1665330
	1-5/16"	33.34	1.3125"		S1605120	S1610120	S1615120
	34.00	1.3386"	S1655340	S1660340	S1665340		
1-11/32"	34.13	1.3438"	S1605122	S1610122	S1615122		
1-3/8"	34.93	1.3750"	S1605124	S1610124	S1615124		
	35.00	1.3780"	S1655350	S1660350	S1665350		

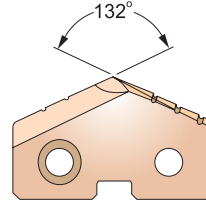
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)		HRc13~ (~HB200~)	~HRc28 (~HB275)		
												◎	◎		

SPADE DRILL INSERTS - CARBIDE(K20) EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	S1755095	S1760095	S1765095
		9.53	.3750"		S1705024	S1710024	S1715024
	25/64"	9.80	.3860"		S1755098	S1760098	S1765098
		9.92	.3906"		S1705025	S1710025	S1715025
	13/32"	10.00	.3937"		S1755100	S1760100	S1765100
		10.20	.4016"		S1755102	S1760102	S1765102
	27/64"	10.32	.4063"		S1705026	S1710026	S1715026
		10.50	.4134"		S1755105	S1760105	S1765105
	11.00	10.72	.4219"		S1755108	S1760108	S1765108
		10.80	.4252"		S1755110	S1760110	S1765110
Z 11.11(.437") to 12.95(.510")	7/16"	11.11	.4375"	2.4 (3/32")	S1705028	S1710028	S1715028
		11.50	.4528"		S1755115	S1760115	S1765115
	29/64"	11.51	.4531"		S1705029	S1710029	S1715029
		11.91	.4688"		S1705030	S1710030	S1715030
	31/64"	12.00	.4724"		S1755120	S1760120	S1765120
		12.30	.4844"		S1705031	S1710031	S1715031
1/2"	12.50	.4921"	S1755125	S1760125	S1765125		
	12.70	.5000"	S1705032	S1710032	S1715032		
0 12.98 (.511") to 17.65 (.695")	33/64"	13.00	.5118"	3.2 (1/8")	S1755130	S1760130	S1765130
		13.10	.5156"		S1705033	S1710033	S1715033
	17/32"	13.49	.5313"		S1705034	S1710034	S1715034
		13.50	.5315"		S1755135	S1760135	S1765135
	35/64"	13.89	.5469"		S1705035	S1710035	S1715035
		14.00	.5512"		S1755140	S1760140	S1765140
	9/16"	14.29	.5625"		S1705036	S1710036	S1715036
		14.50	.5709"		S1755145	S1760145	S1765145
	37/64"	14.68	.5781"		S1705037	S1710037	S1715037
		15.00	.5906"		S1755150	S1760150	S1765150
	19/32"	15.08	.5938"		S1705038	S1710038	S1715038
		15.48	.6094"		S1705039	S1710039	S1715039
5/8"	15.50	.6102"	S1755155	S1760155	S1765155		
	15.88	.6250"	S1705040	S1710040	S1715040		
	16.00	.6299"	S1755160	S1760160	S1765160		

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
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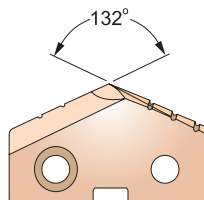
YG SPADE DRILLS

SERIES 0,1

SPADE DRILL INSERTS - CARBIDE(K20)
EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (K20)				
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN		
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	S1705041	S1710041	S1715041		
		16.50	.6496"		S1755165	S1760165	S1765165		
	21/32"	16.67	.6563"		S1705042	S1710042	S1715042		
		17.00	.6693"		S1755170	S1760170	S1765170		
	43/64"	17.07	.6719"		S1705043	S1710043	S1715043		
		17.46	.6875"		S1705044	S1710044	S1715044		
	11/16"	17.50	.6890"		S1755175	S1760175	S1765175		
		17.86	.7031"		S1705045	S1710045	S1715045		
	1 17.53 (.690") to 24.38 (.960")	45/64"	18.00		.7087"	4.0 (5/32")	S1755180	S1760180	S1765180
			18.26		.7188"		S1705046	S1710046	S1715046
23/32"		18.50	.7283"	S1755185	S1760185		S1765185		
		18.65	.7344"	S1705047	S1710047		S1715047		
47/64"		19.00	.7480"	S1755190	S1760190		S1765190		
		19.05	.7500"	S1705048	S1710048		S1715048		
3/4"		19.45	.7656"	S1705049	S1710049		S1715049		
		19.50	.7677"	S1755195	S1760195		S1765195		
25/32"		19.84	.7813"	S1705050	S1710050		S1715050		
		20.00	.7874"	S1755200	S1760200		S1765200		
51/64"		20.24	.7969"	S1705051	S1710051		S1715051		
		20.50	.8071"	S1755205	S1760205		S1765205		
13/16"		20.64	.8125"	S1705052	S1710052		S1715052		
		21.00	.8268"	S1755210	S1760210		S1765210		
27/32"		21.43	.8438"	S1705054	S1710054		S1715054		
		21.83	.8594"	S1705055	S1710055		S1715055		
55/64"		22.00	.8661"	S1755220	S1760220		S1765220		
		22.23	.8750"	S1705056	S1710056		S1715056		
7/8"		22.62	.8906"	S1705057	S1710057		S1715057		
		23.00	.9055"	S1755230	S1760230		S1765230		
29/32"	23.02	.9063"	S1705058	S1710058	S1715058				
	23.42	.9219"	S1705059	S1710059	S1715059				
59/64"	23.81	.9375"	S1705060	S1710060	S1715060				
	24.00	.9449"	S1755240	S1760240	S1765240				

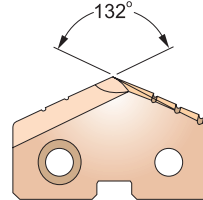
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)		HRc13~ (-HB200~)	-HRc28 (-HB275)		
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎

SPADE DRILL INSERTS - CARBIDE(K20) EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1705062	S1710062	S1715062
	63/64"	25.00	.9843"		S1705063	S1710063	S1715063
	1"	25.40	1.0000"		S1705100	S1710100	S1715100
	1-1/64"	25.80	1.0156"		S1705101	S1710101	S1715101
		26.00	1.0236"		S1755260	S1760260	S1765260
	1-1/32"	26.19	1.0313"		S1705102	S1710102	S1715102
	1-3/64"	26.59	1.0469"		S1705103	S1710103	S1715103
	1-1/16"	26.99	1.0625"		S1705104	S1710104	S1715104
		27.00	1.0630"		S1755270	S1760270	S1765270
	1-3/32"	27.78	1.0938"		S1705106	S1710106	S1715106
		28.00	1.1024"		S1755280	S1760280	S1765280
	1-7/64"	28.18	1.1094"		S1705107	S1710107	S1715107
	1-1/8"	28.58	1.1250"		S1705108	S1710108	S1715108
		29.00	1.1417"		S1755290	S1760290	S1765290
	1-5/32"	29.37	1.1563"		S1705110	S1710110	S1715110
		30.00	1.1811"		S1755300	S1760300	S1765300
	1-3/16"	30.16	1.1875"		S1705112	S1710112	S1715112
	1-7/32"	30.96	1.2188"		S1705114	S1710114	S1715114
		31.00	1.2205"		S1755310	S1760310	S1765310
	1-1/4"	31.75	1.2500"		S1705116	S1710116	S1715116
		32.00	1.2598"		S1755320	S1760320	S1765320
	1-9/32"	32.54	1.2813"		S1705118	S1710118	S1715118
		33.00	1.2992"		S1755330	S1760330	S1765330
	1-5/16"	33.34	1.3125"		S1705120	S1710120	S1715120
	34.00	1.3386"	S1755340	S1760340	S1765340		
1-11/32"	34.13	1.3438"	S1705122	S1710122	S1715122		
1-3/8"	34.93	1.3750"	S1705124	S1710124	S1715124		
	35.00	1.3780"	S1755350	S1760350	S1765350		

◎ : Excellent ○ : Good

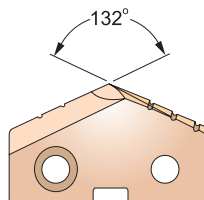
Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎



SPADE DRILL INSERTS - CARBIDE(K20)
EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4063"	6.4 (1/4")	S1705126	S1710126	S1715126
		36.00	1.4173"		S1755360	S1760360	S1765360
	1-7/16"	36.51	1.4375"		S1705128	S1710128	S1715128
		37.00	1.4567"		S1755370	S1760370	S1765370
	1-15/32"	37.31	1.4688"		S1705130	S1710130	S1715130
		38.00	1.4961"		S1755380	S1760380	S1765380
	1-1/2"	38.10	1.5000"		S1705132	S1710132	S1715132
	1-17/32"	38.89	1.5313"		S1705134	S1710134	S1715134
		39.00	1.5354"		S1755390	S1760390	S1765390
	1-9/16"	39.69	1.5625"		S1705136	S1710136	S1715136
		40.00	1.5748"		S1755400	S1760400	S1765400
	1-19/32"	40.48	1.5938"		S1705138	S1710138	S1715138
		41.00	1.6142"		S1755410	S1760410	S1765410
	1-5/8"	41.28	1.6250"		S1705140	S1710140	S1715140
		42.00	1.6535"		S1755420	S1760420	S1765420
	1-21/32"	42.07	1.6563"		S1705142	S1710142	S1715142
		42.86	1.6875"		S1705144	S1710144	S1715144
	1-11/16"	43.00	1.6929"		S1755430	S1760430	S1765430
		43.66	1.7188"		S1705146	S1710146	S1715146
		44.00	1.7323"		S1755440	S1760440	S1765440
44.45		1.7500"	S1705148	S1710148	S1715148		
1-3/4"	45.00	1.7717"	S1755450	S1760450	S1765450		
	45.24	1.7813"	S1705150	S1710150	S1715150		
1-25/32"	46.00	1.8110"	S1755460	S1760460	S1765460		
	46.04	1.8125"	S1705152	S1710152	S1715152		
1-13/16"	46.83	1.8438"	S1705154	S1710154	S1715154		
	47.00	1.8504"	S1755470	S1760470	S1765470		
1-7/8"	47.63	1.8750"	S1705156	S1710156	S1715156		

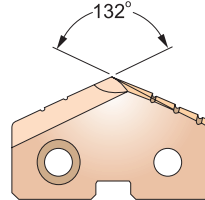
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎

SPADE DRILL INSERTS - CARBIDE(P40) EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (P40)		
					TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")		9.50	.3740"	2.4 (3/32")	S1855095	S1860095	S1865095
	3/8"	9.53	.3750"		S1805024	S1810024	S1815024
		9.80	.3860"		S1855098	S1860098	S1865098
	25/64"	9.92	.3906"		S1805025	S1810025	S1815025
		10.00	.3937"		S1855100	S1860100	S1865100
		10.20	.4016"		S1855102	S1860102	S1865102
	13/32"	10.32	.4063"		S1805026	S1810026	S1815026
		10.50	.4134"		S1855105	S1860105	S1865105
	27/64"	10.72	.4219"		S1805027	S1810027	S1815027
		10.80	.4252"		S1855108	S1860108	S1865108
Z 11.11(.437") to 12.95(.510")		11.00	.4331"	2.4 (3/32")	S1855110	S1860110	S1865110
	7/16"	11.11	.4375"		S1805028	S1810028	S1815028
		11.50	.4528"		S1855115	S1860115	S1865115
	29/64"	11.51	.4531"		S1805029	S1810029	S1815029
	15/32"	11.91	.4688"		S1805030	S1810030	S1815030
		12.00	.4724"		S1855120	S1860120	S1865120
	31/64"	12.30	.4844"		S1805031	S1810031	S1815031
		12.50	.4921"		S1855125	S1860125	S1865125
	1/2"	12.70	.5000"		S1805032	S1810032	S1815032
		13.00	.5118"		S1855130	S1860130	S1865130
0 12.98 (.511") to 17.65 (.695")		13.10	.5156"	3.2 (1/8")	S1805033	S1810033	S1815033
	33/64"	13.49	.5313"		S1805034	S1810034	S1815034
	17/32"	13.50	.5315"		S1855135	S1860135	S1865135
		13.89	.5469"		S1805035	S1810035	S1815035
	35/64"	14.00	.5512"		S1855140	S1860140	S1865140
		14.29	.5625"		S1805036	S1810036	S1815036
	9/16"	14.50	.5709"		S1855145	S1860145	S1865145
		14.68	.5781"		S1805037	S1810037	S1815037
	37/64"	15.00	.5906"		S1855150	S1860150	S1865150
		15.08	.5938"		S1805038	S1810038	S1815038
	19/32"	15.48	.6094"		S1805039	S1810039	S1815039
	39/64"	15.50	.6102"		S1855155	S1860155	S1865155
		15.88	.6250"		S1805040	S1810040	S1815040
	5/8"	16.00	.6299"		S1855160	S1860160	S1865160

◎ : Excellent ○ : Good

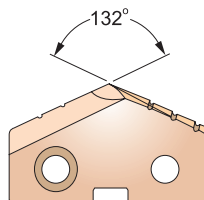
Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

YG SPADE DRILLS

SERIES 0,1

SPADE DRILL INSERTS - CARBIDE(P40) EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (P40)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	S1805041	S1810041	S1815041
		16.50	.6496"		S1855165	S1860165	S1865165
	21/32"	16.67	.6563"		S1805042	S1810042	S1815042
		17.00	.6693"		S1855170	S1860170	S1865170
	43/64"	17.07	.6719"		S1805043	S1810043	S1815043
	11/16"	17.46	.6875"		S1805044	S1810044	S1815044
		17.50	.6890"		S1855175	S1860175	S1865175
	45/64"	17.86	.7031"		S1805045	S1810045	S1815045
		18.00	.7087"		S1855180	S1860180	S1865180
	23/32"	18.26	.7188"		S1805046	S1810046	S1815046
1 17.53 (.690") to 24.38 (.960")		18.50	.7283"	4.0 (5/32")	S1855185	S1860185	S1865185
	47/64"	18.65	.7344"		S1805047	S1810047	S1815047
		19.00	.7480"		S1855190	S1860190	S1865190
	3/4"	19.05	.7500"		S1805048	S1810048	S1815048
	49/64"	19.45	.7656"		S1805049	S1810049	S1815049
		19.50	.7677"		S1855195	S1860195	S1865195
	25/32"	19.84	.7813"		S1805050	S1810050	S1815050
		20.00	.7874"		S1855200	S1860200	S1865200
	51/64"	20.24	.7969"		S1805051	S1810051	S1815051
		20.50	.8071"		S1855205	S1860205	S1865205
	13/16"	20.64	.8125"		S1805052	S1810052	S1815052
		21.00	.8268"		S1855210	S1860210	S1865210
	27/32"	21.43	.8438"		S1805054	S1810054	S1815054
	55/64"	21.83	.8594"		S1805055	S1810055	S1815055
		22.00	.8661"		S1855220	S1860220	S1865220
	7/8"	22.23	.8750"		S1805056	S1810056	S1815056
57/64"	22.62	.8906"	S1805057	S1810057	S1815057		
	23.00	.9055"	S1855230	S1860230	S1865230		
29/32"	23.02	.9063"	S1805058	S1810058	S1815058		
59/64"	23.42	.9219"	S1805059	S1810059	S1815059		
15/16"	23.81	.9375"	S1805060	S1810060	S1815060		
	24.00	.9449"	S1855240	S1860240	S1865240		

◎ : Excellent ○ : Good

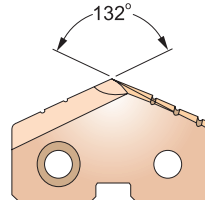
Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)	HRc13~ (-HB200)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (-HB220)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○



SPADE DRILL INSERTS - CARBIDE(P40) EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

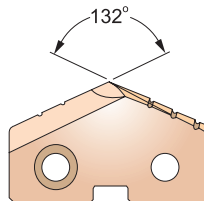
Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	S1805062	S1810062	S1815062
	63/64"	25.00	.9843"		S1805063	S1810063	S1815063
	1"	25.40	1.0000"		S1805100	S1810100	S1815100
	1-1/64"	25.80	1.0156"		S1805101	S1810101	S1815101
		26.00	1.0236"		S1855260	S1860260	S1865260
	1-1/32"	26.19	1.0313"		S1805102	S1810102	S1815102
	1-3/64"	26.59	1.0469"		S1805103	S1810103	S1815103
	1-1/16"	26.99	1.0625"		S1805104	S1810104	S1815104
		27.00	1.0630"		S1855270	S1860270	S1865270
	1-3/32"	27.78	1.0938"		S1805106	S1810106	S1815106
		28.00	1.1024"		S1855280	S1860280	S1865280
	1-7/64"	28.18	1.1094"		S1805107	S1810107	S1815107
	1-1/8"	28.58	1.1250"		S1805108	S1810108	S1815108
		29.00	1.1417"		S1855290	S1860290	S1865290
	1-5/32"	29.37	1.1563"		S1805110	S1810110	S1815110
		30.00	1.1811"		S1855300	S1860300	S1865300
	1-3/16"	30.16	1.1875"		S1805112	S1810112	S1815112
	1-7/32"	30.96	1.2188"		S1805114	S1810114	S1815114
		31.00	1.2205"		S1855310	S1860310	S1865310
	1-1/4"	31.75	1.2500"		S1805116	S1810116	S1815116
		32.00	1.2598"		S1855320	S1860320	S1865320
	1-9/32"	32.54	1.2813"		S1805118	S1810118	S1815118
		33.00	1.2992"		S1855330	S1860330	S1865330
	1-5/16"	33.34	1.3125"		S1805120	S1810120	S1815120
	34.00	1.3386"	S1855340	S1860340	S1865340		
1-11/32"	34.13	1.3438"	S1805122	S1810122	S1815122		
1-3/8"	34.93	1.3750"	S1805124	S1810124	S1815124		
	35.00	1.3780"	S1855350	S1860350	S1865350		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

SPADE DRILL INSERTS - CARBIDE(P40)
EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (P40)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4063"	6.4 (1/4")	S1805126	S1810126	S1815126
		36.00	1.4173"		S1855360	S1860360	S1865360
	1-7/16"	36.51	1.4375"		S1805128	S1810128	S1815128
		37.00	1.4567"		S1855370	S1860370	S1865370
	1-15/32"	37.31	1.4688"		S1805130	S1810130	S1815130
		38.00	1.4961"		S1855380	S1860380	S1865380
	1-1/2"	38.10	1.5000"		S1805132	S1810132	S1815132
	1-17/32"	38.89	1.5313"		S1805134	S1810134	S1815134
		39.00	1.5354"		S1855390	S1860390	S1865390
	1-9/16"	39.69	1.5625"		S1805136	S1810136	S1815136
		40.00	1.5748"		S1855400	S1860400	S1865400
	1-19/32"	40.48	1.5938"		S1805138	S1810138	S1815138
		41.00	1.6142"		S1855410	S1860410	S1865410
	1-5/8"	41.28	1.6250"		S1805140	S1810140	S1815140
		42.00	1.6535"		S1855420	S1860420	S1865420
	1-21/32"	42.07	1.6563"		S1805142	S1810142	S1815142
	1-11/16"	42.86	1.6875"		S1805144	S1810144	S1815144
		43.00	1.6929"		S1855430	S1860430	S1865430
	1-23/32"	43.66	1.7188"		S1805146	S1810146	S1815146
		44.00	1.7323"		S1855440	S1860440	S1865440
1-3/4"	44.45	1.7500"	S1805148	S1810148	S1815148		
	45.00	1.7717"	S1855450	S1860450	S1865450		
1-25/32"	45.24	1.7813"	S1805150	S1810150	S1815150		
	46.00	1.8110"	S1855460	S1860460	S1865460		
1-13/16"	46.04	1.8125"	S1805152	S1810152	S1815152		
1-27/32"	46.83	1.8438"	S1805154	S1810154	S1815154		
	47.00	1.8504"	S1855470	S1860470	S1865470		
1-7/8"	47.63	1.8750"	S1805156	S1810156	S1815156		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)	~HB110
	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○



Special features of SM-Point Spade Drill

This new “Hybrid Point” combines the strength of the standard point with additional “Web Thinning”.

This new point increases stability, reduces thrust, improves centering and allows increased speeds and feeds.

Multiple thinning form at the bottom of the large thinning.

- ▶ The optimum thinning for the difference from the cutting speed, the cutting quantity and the cutting load according to the distance from the drill point to the cutting edge.

Radius back face

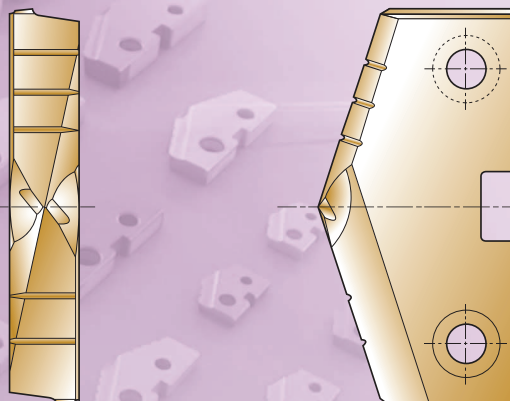
- ▶ Wide chip space

Multiple web thinning with the cutting edge of small web thinning.

- ▶ Good self-centering
- ▶ Less tool lead off
- ▶ Reduction in bell mouching, thrust
- ▶ Increased stability

Four-facet point

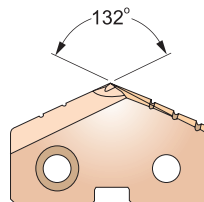
- ▶ Self-centering
- ▶ Less thrust force



SM-POINT SPADE DRILL INSERTS - HSS M4
SM-POINT EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
1 17.53 (.690") to 24.38 (.960")	45/64"	17.86	.7031"	4.0 (5/32")	SM405045	SM410045	SM415045
		18.00	.7087"		SM455180	SM460180	SM465180
	23/32"	18.26	.7188"		SM405046	SM410046	SM415046
		18.50	.7283"		SM455185	SM460185	SM465185
	47/64"	18.65	.7344"		SM405047	SM410047	SM415047
		19.00	.7480"		SM455190	SM460190	SM465190
	3/4"	19.05	.7500"		SM405048	SM410048	SM415048
	49/64"	19.45	.7656"		SM405049	SM410049	SM415049
		19.50	.7677"		SM455195	SM460195	SM465195
	25/32"	19.84	.7812"		SM405050	SM410050	SM415050
		20.00	.7874"		SM455200	SM460200	SM465200
	51/64"	20.24	.7969"		SM405051	SM410051	SM415051
		20.50	.8071"		SM455205	SM460205	SM465205
	13/16"	20.64	.8125"		SM405052	SM410052	SM415052
		21.00	.8268"		SM455210	SM460210	SM465210
	27/32"	21.43	.8438"		SM405054	SM410054	SM415054
	55/64"	21.83	.8594"		SM405055	SM410055	SM415055
		22.00	.8661"		SM455220	SM460220	SM465220
	7/8"	22.23	.8750"		SM405056	SM410056	SM415056
	57/64"	22.62	.8906"		SM405057	SM410057	SM415057
	23.00	.9055"	SM455230	SM460230	SM465230		
29/32"	23.02	.9062"	SM405058	SM410058	SM415058		
59/64"	23.42	.9219"	SM405059	SM410059	SM415059		
15/16"	23.81	.9375"	SM405060	SM410060	SM415060		
	24.00	.9449"	SM455240	SM460240	SM465240		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)
○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	◎	◎



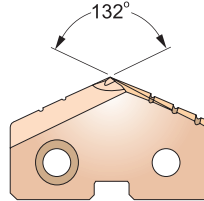
SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS - HSS M4 SM-POINT EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	SM405062	SM410062	SM415062
	63/64"	25.00	.9843"		SM405063	SM410063	SM415063
	1"	25.40	1.0000"		SM405100	SM410100	SM415100
	1-1/64"	25.80	1.0156"		SM405101	SM410101	SM415101
		26.00	1.0236"		SM455260	SM460260	SM465260
	1-1/32"	26.19	1.0312"		SM405102	SM410102	SM415102
	1-3/64"	26.59	1.0469"		SM405103	SM410103	SM415103
	1-1/16"	26.99	1.0625"		SM405104	SM410104	SM415104
		27.00	1.0630"		SM455270	SM460270	SM465270
	1-3/32"	27.78	1.0938"		SM405106	SM410106	SM415106
		28.00	1.1024"		SM455280	SM460280	SM465280
	1-7/64"	28.18	1.1094"		SM405107	SM410107	SM415107
	1-1/8"	28.58	1.1250"		SM405108	SM410108	SM415108
		29.00	1.1417"		SM455290	SM460290	SM465290
	1-5/32"	29.37	1.1562"		SM405110	SM410110	SM415110
		30.00	1.1811"		SM455300	SM460300	SM465300
	1-3/16"	30.16	1.1875"		SM405112	SM410112	SM415112
	1-7/32"	30.96	1.2188"		SM405114	SM410114	SM415114
		31.00	1.2205"		SM455310	SM460310	SM465310
	1-1/4"	31.75	1.2500"		SM405116	SM410116	SM415116
	32.00	1.2598"	SM455320	SM460320	SM465320		
1-9/32"	32.54	1.2812"	SM405118	SM410118	SM415118		
	33.00	1.2992"	SM455330	SM460330	SM465330		
1-5/16"	33.34	1.3125"	SM405120	SM410120	SM415120		
	34.00	1.3386"	SM455340	SM460340	SM465340		
1-11/32"	34.13	1.3438"	SM405122	SM410122	SM415122		
1-3/8"	34.93	1.3750"	SM405124	SM410124	SM415124		
	35.00	1.3780"	SM455350	SM460350	SM465350		

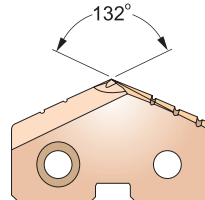
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
○	○	○	○		○		○	○			◎	◎	○	◎	◎

SM-POINT SPADE DRILL INSERTS - HSS M4
SM-POINT EINWEG BOHREINSATZ - HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. HSS (M4)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4062"	6.4 (1/4")	SM405126	SM410126	SM415126
		36.00	1.4173"		SM455360	SM460360	SM465360
	1-7/16"	36.51	1.4375"		SM405128	SM410128	SM415128
		37.00	1.4567"		SM455370	SM460370	SM465370
	1-15/32"	37.31	1.4688"		SM405130	SM410130	SM415130
		38.00	1.4961"		SM455380	SM460380	SM465380
	1-1/2"	38.10	1.5000"		SM405132	SM410132	SM415132
	1-17/32"	38.89	1.5312"		SM405134	SM410134	SM415134
		39.00	1.5354"		SM455390	SM460390	SM465390
	1-9/16"	39.69	1.5625"		SM405136	SM410136	SM415136
		40.00	1.5748"		SM455400	SM460400	SM465400
	1-19/32"	40.48	1.5938"		SM405138	SM410138	SM415138
		41.00	1.6142"		SM455410	SM460410	SM465410
	1-5/8"	41.28	1.6250"		SM405140	SM410140	SM415140
		42.00	1.6535"		SM455420	SM460420	SM465420
	1-21/32"	42.07	1.6562"		SM405142	SM410142	SM415142
	1-11/16"	42.86	1.6875"		SM405144	SM410144	SM415144
		43.00	1.6929"		SM455430	SM460430	SM465430
	1-23/32"	43.66	1.7188"		SM405146	SM410146	SM415146
		44.00	1.7323"		SM455440	SM460440	SM465440
1-3/4"	44.45	1.7500"	SM405148	SM410148	SM415148		
	45.00	1.7717"	SM455450	SM460450	SM465450		
1-25/32"	45.24	1.7812"	SM405150	SM410150	SM415150		
	46.00	1.8110"	SM455460	SM460460	SM465460		
1-13/16"	46.04	1.8125"	SM405152	SM410152	SM415152		
1-27/32"	46.83	1.8438"	SM405154	SM410154	SM415154		
	47.00	1.8504"	SM455470	SM460470	SM465470		
1-7/8"	47.63	1.8750"	SM405156	SM410156	SM415156		

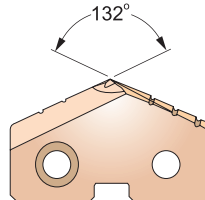
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)
○	○	○	○		○		○	○			◎	◎	○	◎	◎

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15 SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Katalogs lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.			
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)			
					TiN	TiCN	TiAlN	
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	SM155095	SM160095	SM165095	
		9.53	.3750"		SM105024	SM110024	SM115024	
	25/64"	9.80	.3858"		SM155098	SM160098	SM165098	
		9.92	.3906"		SM105025	SM110025	SM115025	
	13/32"	10.00	.3937"		SM155100	SM160100	SM165100	
		10.20	.4016"		SM155102	SM160102	SM165102	
		10.32	.4062"		SM105026	SM110026	SM115026	
		10.50	.4134"		SM155105	SM160105	SM165105	
		27/64"	10.72		.4219"	SM105027	SM110027	SM115027
		10.80	.4252"		SM155108	SM160108	SM165108	
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	SM155110	SM160110	SM165110	
		11.11	.4375"		SM105028	SM110028	SM115028	
	29/64"	11.50	.4528"		SM155115	SM160115	SM165115	
		11.51	.4531"		SM105029	SM110029	SM115029	
	15/32"	11.91	.4688"		SM105030	SM110030	SM115030	
		12.00	.4724"		SM155120	SM160120	SM165120	
	31/64"	12.30	.4844"		SM105031	SM110031	SM115031	
		12.50	.4921"		SM155125	SM160125	SM165125	
	1/2"	12.70	.5000"		SM105032	SM110032	SM115032	
	0 12.98 (.511") to 17.65 (.695")	33/64"	13.00		.5118"	3.2 (1/8")	SM155130	SM160130
13.10			.5156"	SM105033	SM110033		SM115033	
17/32"		13.49	.5312"	SM105034	SM110034		SM115034	
		13.50	.5315"	SM155135	SM160135		SM165135	
35/64"		13.89	.5469"	SM105035	SM110035		SM115035	
		14.00	.5512"	SM155140	SM160140		SM165140	
9/16"		14.29	.5625"	SM105036	SM110036		SM115036	
		14.50	.5709"	SM155145	SM160145		SM165145	
37/64"		14.68	.5781"	SM105037	SM110037		SM115037	
		15.00	.5906"	SM155150	SM160150		SM165150	
19/32"		15.08	.5938"	SM105038	SM110038		SM115038	
		15.48	.6094"	SM105039	SM110039		SM115039	
39/64"		15.50	.6102"	SM155155	SM160155		SM165155	
		15.88	.6250"	SM105040	SM110040		SM115040	
5/8"	15.88	.6250"	SM155160	SM160160	SM165160			
	16.00	.6299"						

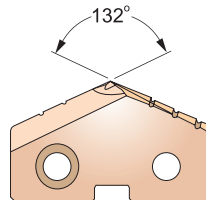
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	○	◎	○	○

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.				
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)				
					TiN	TiCN	TiAlN		
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	SM105041	SM110041	SM115041		
		16.50	.6496"		SM155165	SM160165	SM165165		
	21/32"	16.67	.6562"		SM105042	SM110042	SM115042		
		17.00	.6693"		SM155170	SM160170	SM165170		
	43/64"	17.07	.6719"		SM105043	SM110043	SM115043		
		11/16"	17.46		.6875"	SM105044	SM110044	SM115044	
			17.50		.6890"	SM155175	SM160175	SM165175	
	1 17.53 (.690") to 24.38 (.960")	45/64"	17.86		.7031"	4.0 (5/32")	SM105045	SM110045	SM115045
			18.00		.7087"		SM155180	SM160180	SM165180
		23/32"	18.26		.7188"		SM105046	SM110046	SM115046
18.50			.7283"	SM155185	SM160185		SM165185		
47/64"		18.65	.7344"	SM105047	SM110047		SM115047		
		19.00	.7480"	SM155190	SM160190		SM165190		
3/4"		19.05	.7500"	SM105048	SM110048		SM115048		
		49/64"	19.45	.7656"	SM105049		SM110049	SM115049	
			19.50	.7677"	SM155195		SM160195	SM165195	
25/32"		19.84	.7812"	SM105050	SM110050		SM115050		
		20.00	.7874"	SM155200	SM160200		SM165200		
51/64"		20.24	.7969"	SM105051	SM110051		SM115051		
		20.50	.8071"	SM155205	SM160205		SM165205		
13/16"		20.64	.8125"	SM105052	SM110052		SM115052		
		21.00	.8268"	SM155210	SM160210		SM165210		
27/32"		21.43	.8438"	SM105054	SM110054		SM115054		
		55/64"	21.83	.8594"	SM105055		SM110055	SM115055	
			22.00	.8661"	SM155220		SM160220	SM165220	
7/8"		22.23	.8750"	SM105056	SM110056		SM115056		
		57/64"	22.62	.8906"	SM105057		SM110057	SM115057	
	23.00		.9055"	SM155230	SM160230	SM165230			
29/32"	23.02	.9062"	SM105058	SM110058	SM115058				
	59/64"	23.42	.9219"	SM105059	SM110059	SM115059			
15/16"		23.81	.9375"	SM105060	SM110060	SM115060			
		24.00	.9449"	SM155240	SM160240	SM165240			

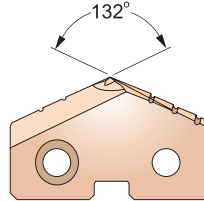
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)		HRc13~ (-HB200~)	-HRc28 (-HB275)		
◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	◎	○	○

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15 SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Katalogs lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)		
2 24.41 (.961") to 35.05 (1.380")				4.8 (3/16")	TiN	TiCN	TiAlN
	31/32"	24.61	.9688"		SM105062	SM110062	SM115062
	63/64"	25.00	.9843"		SM105063	SM110063	SM115063
	1"	25.40	1.0000"		SM105100	SM110100	SM115100
	1-1/64"	25.80	1.0156"		SM105101	SM110101	SM115101
		26.00	1.0236"		SM155260	SM160260	SM165260
	1-1/32"	26.19	1.0312"		SM105102	SM110102	SM115102
	1-3/64"	26.59	1.0469"		SM105103	SM110103	SM115103
	1-1/16"	26.99	1.0625"		SM105104	SM110104	SM115104
		27.00	1.0630"		SM155270	SM160270	SM165270
	1-3/32"	27.78	1.0938"		SM105106	SM110106	SM115106
		28.00	1.1024"		SM155280	SM160280	SM165280
	1-7/64"	28.18	1.1094"		SM105107	SM110107	SM115107
	1-1/8"	28.58	1.1250"		SM105108	SM110108	SM115108
		29.00	1.1417"		SM155290	SM160290	SM165290
	1-5/32"	29.37	1.1562"		SM105110	SM110110	SM115110
		30.00	1.1811"		SM155300	SM160300	SM165300
	1-3/16"	30.16	1.1875"		SM105112	SM110112	SM115112
	1-7/32"	30.96	1.2188"		SM105114	SM110114	SM115114
		31.00	1.2205"		SM155310	SM160310	SM165310
	1-1/4"	31.75	1.2500"		SM105116	SM110116	SM115116
		32.00	1.2598"		SM155320	SM160320	SM165320
	1-9/32"	32.54	1.2812"		SM105118	SM110118	SM115118
		33.00	1.2992"		SM155330	SM160330	SM165330
1-5/16"	33.34	1.3125"	SM105120	SM110120	SM115120		
	34.00	1.3386"	SM155340	SM160340	SM165340		
1-11/32"	34.13	1.3438"	SM105122	SM110122	SM115122		
1-3/8"	34.93	1.3750"	SM105124	SM110124	SM115124		
	35.00	1.3780"	SM155350	SM160350	SM165350		

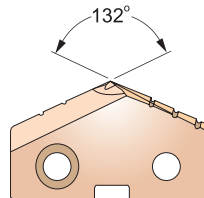
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	◎	○	○

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS (T15)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4062"	6.4 (1/4")	SM105126	SM110126	SM115126
		36.00	1.4173"		SM155360	SM160360	SM165360
	1-7/16"	36.51	1.4375"		SM105128	SM110128	SM115128
		37.00	1.4567"		SM155370	SM160370	SM165370
	1-15/32"	37.31	1.4688"		SM105130	SM110130	SM115130
		38.00	1.4961"		SM155380	SM160380	SM165380
	1-1/2"	38.10	1.5000"		SM105132	SM110132	SM115132
	1-17/32"	38.89	1.5312"		SM105134	SM110134	SM115134
		39.00	1.5354"		SM155390	SM160390	SM165390
	1-9/16"	39.69	1.5625"		SM105136	SM110136	SM115136
		40.00	1.5748"		SM155400	SM160400	SM165400
	1-19/32"	40.48	1.5938"		SM105138	SM110138	SM115138
		41.00	1.6142"		SM155410	SM160410	SM165410
	1-5/8"	41.28	1.6250"		SM105140	SM110140	SM115140
		42.00	1.6535"		SM155420	SM160420	SM165420
	1-21/32"	42.07	1.6562"		SM105142	SM110142	SM115142
		42.86	1.6875"		SM105144	SM110144	SM115144
	1-11/16"	43.00	1.6929"		SM155430	SM660430	SM165430
		43.66	1.7188"		SM105146	SM110146	SM115146
		44.00	1.7323"		SM155440	SM160440	SM165440
44.45		1.7500"	SM105148	SM110148	SM115148		
1-3/4"	45.00	1.7717"	SM155450	SM160450	SM165450		
	45.24	1.7812"	SM105150	SM110150	SM115150		
1-25/32"	46.00	1.8110"	SM155460	SM160460	SM165460		
	46.04	1.8125"	SM105152	SM110152	SM115152		
1-13/16"	46.83	1.8438"	SM105154	SM110154	SM115154		
	47.00	1.8504"	SM155470	SM160470	SM165470		
1-7/8"	47.00	1.8504"	SM105156	SM110156	SM115156		
	47.63	1.8750"					

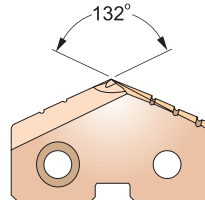
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)		HRc13~ (~HB200~)	~HRc28 (~HB275)		
	◎	◎	◎	◎	○	○	○	◎	◎	○	○	○	○	◎	○

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48 SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.			
	Inch (inch)	Metric (mm)	Decimal (inch)		PREMIUM HSS (M48)			
					TiN	TiCN	TiAlN	
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	SM555095	SM560095	SM565095	
		9.53	.3750"		SM505024	SM510024	SM515024	
	25/64"	9.80	.3858"		SM555098	SM560098	SM565098	
		9.92	.3906"		SM505025	SM510025	SM515025	
	13/32"	10.00	.3937"		SM555100	SM560100	SM565100	
		10.20	.4016"		SM555102	SM560102	SM565102	
		10.32	.4062"		SM505026	SM510026	SM515026	
		10.50	.4134"		SM555105	SM560105	SM565105	
		27/64"	10.72		.4219"	SM505027	SM510027	SM515027
		10.80	.4252"		SM555108	SM560108	SM565108	
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	SM555110	SM560110	SM565110	
		11.11	.4375"		SM505028	SM510028	SM515028	
	29/64"	11.50	.4528"		SM555115	SM560115	SM565115	
		11.51	.4531"		SM505029	SM510029	SM515029	
	15/32"	11.91	.4688"		SM505030	SM510030	SM515030	
		12.00	.4724"		SM555120	SM560120	SM565120	
	31/64"	12.30	.4844"		SM505031	SM510031	SM515031	
1/2"	12.50	.4921"	SM555125	SM560125	SM565125			
	12.70	.5000"	SM505032	SM510032	SM515032			
0 12.98 (.511") to 17.65 (.695")	33/64"	13.00	.5118"	3.2 (1/8")	SM555130	SM560130	SM565130	
		13.10	.5156"		SM505033	SM510033	SM515033	
	17/32"	13.49	.5312"		SM555135	SM560135	SM565135	
		13.50	.5315"		SM505034	SM510034	SM515034	
	35/64"	13.89	.5469"		SM555140	SM560140	SM565140	
		14.00	.5512"		SM505035	SM510035	SM515035	
	9/16"	14.29	.5625"		SM555145	SM560145	SM565145	
		14.50	.5709"		SM505036	SM510036	SM515036	
	37/64"	14.68	.5781"		SM555150	SM560150	SM565150	
		15.00	.5906"		SM505037	SM510037	SM515037	
	19/32"	15.08	.5938"		SM555155	SM560155	SM565155	
		15.48	.6094"		SM505038	SM510038	SM515038	
	39/64"	15.50	.6102"		SM555160	SM560160	SM565160	
15.88		.6250"	SM505039	SM510039	SM515039			
5/8"	15.50	.6102"	SM555155	SM560155	SM565155			
	15.88	.6250"	SM505040	SM510040	SM515040			
	16.00	.6299"	SM555160	SM560160	SM565160			

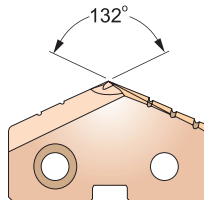
◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	◎	○	○

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48
SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		PREMIUM HSS (M48)		
					TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	SM505041	SM510041	SM515041
		16.50	.6496"		SM555165	SM560165	SM565165
	21/32"	16.67	.6562"		SM505042	SM510042	SM515042
		17.00	.6693"		SM555170	SM560170	SM565170
	43/64"	17.07	.6719"		SM505043	SM510043	SM515043
		17.46	.6875"		SM505044	SM510044	SM515044
	11/16"	17.50	.6890"		SM555175	SM560175	SM565175
		17.86	.7031"		SM505045	SM510045	SM515045
	45/64"	18.00	.7087"		SM555180	SM560180	SM565180
		18.26	.7188"		SM505046	SM510046	SM515046
23/32"	18.50	.7283"	SM555185	SM560185	SM565185		
	18.65	.7344"	SM505047	SM510047	SM515047		
47/64"	19.00	.7480"	SM555190	SM560190	SM565190		
	19.05	.7500"	SM505048	SM510048	SM515048		
3/4"	19.45	.7656"	SM505049	SM510049	SM515049		
	19.50	.7677"	SM555195	SM560195	SM565195		
1 17.53 (.690") to 24.38 (.960")	25/32"	19.84	.7812"	4.0 (5/32")	SM505050	SM510050	SM515050
		20.00	.7874"		SM555200	SM560200	SM565200
	51/64"	20.24	.7969"		SM505051	SM510051	SM515051
		20.50	.8071"		SM555205	SM560205	SM565205
	13/16"	20.64	.8125"		SM505052	SM510052	SM515052
		21.00	.8268"		SM555210	SM560210	SM565210
	27/32"	21.43	.8438"		SM505054	SM510054	SM515054
		21.83	.8594"		SM505055	SM510055	SM565055
	55/64"	22.00	.8661"		SM555220	SM560220	SM565220
		22.23	.8750"		SM505056	SM510056	SM515056
7/8"	22.62	.8906"	SM505057	SM510057	SM515057		
	23.00	.9055"	SM555230	SM560230	SM565230		
29/32"	23.02	.9062"	SM505058	SM510058	SM515058		
	23.42	.9219"	SM505059	SM510059	SM515059		
59/64"	23.81	.9375"	SM505060	SM510060	SM515060		
	24.00	.9449"	SM555240	SM560240	SM565240		

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)		HRc13~ (-HB200)	-HRc28 (-HB275)		
	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	◎	○	○



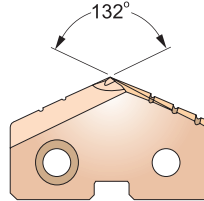
SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48 SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350 - 500 Brinell
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.283

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		PREMIUM HSS (M48)		
					TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	SM505062	SM510062	SM515062
	63/64"	25.00	.9843"		SM505063	SM510063	SM515063
	1"	25.40	1.0000"		SM505100	SM510100	SM515100
	1-1/64"	25.80	1.0156"		SM505101	SM510101	SM515101
		26.00	1.0236"		SM555260	SM560260	SM565260
	1-1/32"	26.19	1.0312"		SM505102	SM510102	SM515102
	1-3/64"	26.59	1.0469"		SM505103	SM510103	SM515103
	1-1/16"	26.99	1.0625"		SM505104	SM510104	SM515104
		27.00	1.0630"		SM555270	SM560270	SM565270
	1-3/32"	27.78	1.0938"		SM505106	SM510106	SM515106
		28.00	1.1024"		SM555280	SM560280	SM565280
	1-7/64"	28.18	1.1094"		SM505107	SM510107	SM515107
	1-1/8"	28.58	1.1250"		SM505108	SM510108	SM515108
		29.00	1.1417"		SM555290	SM560290	SM565290
	1-5/32"	29.37	1.1562"		SM505110	SM510110	SM515110
		30.00	1.1811"		SM555300	SM560300	SM565300
	1-3/16"	30.16	1.1875"		SM505112	SM510112	SM515112
	1-7/32"	30.96	1.2188"		SM505114	SM510114	SM515114
		31.00	1.2205"		SM555310	SM560310	SM565310
	1-1/4"	31.75	1.2500"		SM505116	SM510116	SM515116
		32.00	1.2598"		SM555320	SM560320	SM565320
	1-9/32"	32.54	1.2812"		SM505118	SM510118	SM515118
		33.00	1.2992"		SM555330	SM560330	SM565330
	1-5/16"	33.34	1.3125"		SM505120	SM510120	SM515120
	34.00	1.3386"	SM555340	SM560340	SM565340		
1-11/32"	34.13	1.3438"	SM505122	SM510122	SM515122		
1-3/8"	34.93	1.3750"	SM505124	SM510124	SM515124		
	35.00	1.3780"	SM555350	SM560350	SM565350		

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	◎	○	○

CARBIDE

HSS

i-DREAM
DRILLS

DREAM
DRILLS
-GENERAL

DREAM
DRILLS
-INOX

DREAM
DRILLS
-MQL TYPE

DREAM
DRILLS
for HARDENED
STEELS

GENERAL
CARBIDE
DRILLS

NC-SPOTTING
DRILLS

MULTI-1
DRILLS

HPD DRILLS

GOLD-P
DRILLS

WORM
PATTERN
DRILLS

STRAIGHT
SHANK
DRILLS

TAPER
SHANK
DRILLS

NC-SPOTTING
DRILLS

CENTER
DRILLS

SPADE
DRILLS

TECHNICAL
DATA

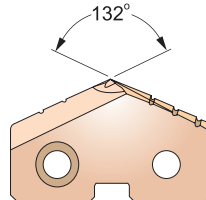
YG SPADE DRILLS

SERIES **Y,Z,0**

SM-POINT SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (K10)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	SM655095	SM660095	SM665095
		9.53	.3750"		SM605024	SM610024	SM615024
	25/64"	9.80	.3858"		SM655098	SM660098	SM665098
		9.92	.3906"		SM605025	SM610025	SM615025
	13/32"	10.00	.3937"		SM655100	SM660100	SM665100
		10.20	.4016"		SM655102	SM660102	SM665102
		10.32	.4062"		SM605026	SM610026	SM615026
		10.50	.4134"		SM655105	SM660105	SM665105
		10.72	.4219"		SM605027	SM610027	SM615027
		10.80	.4252"		SM655108	SM660108	SM665108
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	SM655110	SM660110	SM665110
		11.11	.4375"		SM605028	SM610028	SM615028
	11.50	.4528"	SM655115		SM660115	SM665115	
	29/64"	11.51	.4531"		SM605029	SM610029	SM615029
	15/32"	11.91	.4688"		SM605030	SM610030	SM615030
	12.00	.4724"	SM655120		SM660120	SM665120	
	31/64"	12.30	.4844"		SM605031	SM610031	SM615031
0 12.98 (.511") to 17.65 (.695")	1/2"	12.50	.4921"	3.2 (1/8")	SM655125	SM660125	SM665125
		12.70	.5000"		SM605032	SM610032	SM615032
	13.00	.5118"	SM655130		SM660130	SM665130	
	33/64"	13.10	.5156"		SM605033	SM610033	SM615033
	17/32"	13.49	.5312"		SM605034	SM610034	SM615034
	13.50	.5315"	SM655135		SM660135	SM665135	
	35/64"	13.89	.5469"		SM605035	SM610035	SM615035
	14.00	.5512"	SM655140		SM660140	SM665140	
	9/16"	14.29	.5625"		SM605036	SM610036	SM615036
	14.50	.5709"	SM655145		SM660145	SM665145	
37/64"	14.68	.5781"	SM605037	SM610037	SM615037		
	15.00	.5906"	SM655150	SM660150	SM665150		
	19/32"	15.08	.5938"	SM605038	SM610038	SM615038	
	39/64"	15.48	.6094"	SM605039	SM610039	SM615039	
	15.50	.6102"	SM655155	SM660155	SM665155		
	5/8"	15.88	.6250"	SM605040	SM610040	SM615040	
	16.00	.6299"	SM655160	SM660160	SM665160		

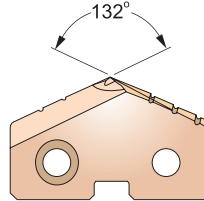
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)		HRc13~ (~HB200~)	~HRc28 (~HB275)		
												◎	◎		

SM-POINT SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K10)		
					TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	SM605041	SM610041	SM615041
		16.50	.6496"		SM655165	SM660165	SM665165
	21/32"	16.67	.6562"		SM605042	SM610042	SM615042
		17.00	.6693"		SM655170	SM660170	SM665170
	43/64"	17.07	.6719"		SM605043	SM610043	SM615043
	11/16"	17.46	.6875"		SM605044	SM610044	SM615044
		17.50	.6890"		SM655175	SM660175	SM665175
	45/64"	17.86	.7031"		SM605045	SM610045	SM615045
		18.00	.7087"		SM655180	SM660180	SM665180
	23/32"	18.26	.7188"		SM605046	SM610046	SM615046
	18.50	.7283"	SM655185	SM660185	SM665185		
47/64"	18.65	.7344"	SM605047	SM610047	SM615047		
	19.00	.7480"	SM655190	SM660190	SM665190		
3/4"	19.05	.7500"	SM605048	SM610048	SM615048		
49/64"	19.45	.7656"	SM605049	SM610049	SM615049		
	19.50	.7677"	SM655195	SM660195	SM665195		
1 17.53 (.690") to 24.38 (.960")	25/32"	19.84	.7812"	4.0 (5/32")	SM605050	SM610050	SM615050
		20.00	.7874"		SM655200	SM660200	SM665200
	51/64"	20.24	.7969"		SM605051	SM610051	SM615051
		20.50	.8071"		SM655205	SM660205	SM665205
	13/16"	20.64	.8125"		SM605052	SM610052	SM615052
		21.00	.8268"		SM655210	SM660210	SM665210
	27/32"	21.43	.8438"		SM605054	SM610054	SM615054
	55/64"	21.83	.8594"		SM605055	SM610055	SM615055
		22.00	.8661"		SM655220	SM660220	SM665220
	7/8"	22.23	.8750"		SM605056	SM610056	SM615056
	57/64"	22.62	.8906"		SM605057	SM610057	SM615057
		23.00	.9055"		SM655230	SM660230	SM665230
	29/32"	23.02	.9062"		SM605058	SM610058	SM615058
	59/64"	23.42	.9219"		SM605059	SM610059	SM615059
	15/16"	23.81	.9375"		SM605060	SM610060	SM615060
		24.00	.9449"		SM655240	SM660240	SM665240

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
												◎	◎		

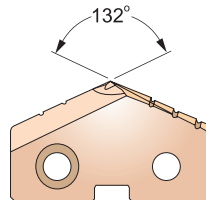
Y/G SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS FOR CAST IRON - CARBIDE(K10) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K10)

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K10)		
					TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	SM605062	SM610062	SM615062
	63/64"	25.00	.9843"		SM605063	SM610063	SM615063
	1"	25.40	1.0000"		SM605100	SM610100	SM615100
	1-1/64"	25.80	1.0156"		SM605101	SM610101	SM615101
		26.00	1.0236"		SM655260	SM660260	SM665260
	1-1/32"	26.19	1.0312"		SM605102	SM610102	SM615102
	1-3/64"	26.59	1.0469"		SM605103	SM610103	SM615103
	1-1/16"	26.99	1.0625"		SM605104	SM610104	SM615104
		27.00	1.0630"		SM655270	SM660270	SM665270
	1-3/32"	27.78	1.0938"		SM605106	SM610106	SM615106
		28.00	1.1024"		SM655280	SM660280	SM665280
	1-7/64"	28.18	1.1094"		SM605107	SM610107	SM615107
	1-1/8"	28.58	1.1250"		SM605108	SM610108	SM615108
		29.00	1.1417"		SM655290	SM660290	SM665290
	1-5/32"	29.37	1.1562"		SM605110	SM610110	SM615110
		30.00	1.1811"		SM655300	SM660300	SM665300
	1-3/16"	30.16	1.1875"		SM605112	SM610112	SM615112
	1-7/32"	30.96	1.2188"		SM605114	SM610114	SM615114
		31.00	1.2205"		SM655310	SM660310	SM665310
	1-1/4"	31.75	1.2500"		SM605116	SM610116	SM615116
	32.00	1.2598"	SM655320	SM660320	SM665320		
1-9/32"	32.54	1.2812"	SM605118	SM610118	SM615118		
	33.00	1.2992"	SM655330	SM660330	SM665330		
1-5/16"	33.34	1.3125"	SM605120	SM610120	SM615120		
	34.00	1.3386"	SM655340	SM660340	SM665340		
1-11/32"	34.13	1.3438"	SM605122	SM610122	SM615122		
1-3/8"	34.93	1.3750"	SM605124	SM610124	SM615124		
	35.00	1.3780"	SM655350	SM660350	SM665350		

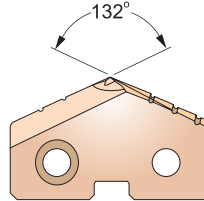
◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)		HRc13~ (~HB200~)	~HRc28 (~HB275)		
												◎	◎		

SM-POINT SPADE DRILL INSERTS - CARBIDE(K20) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
Y 9.50 (.374") to 11.07 (.436")		9.50	.3740"	2.4 (3/32")	SM755095	SM760095	SM765095
	3/8"	9.53	.3750"		SM705024	SM710024	SM715024
		9.80	.3858"		SM755098	SM760098	SM765098
	25/64"	9.92	.3906"		SM705025	SM710025	SM715025
		10.00	.3937"		SM755100	SM760100	SM765100
		10.20	.4016"		SM755102	SM760102	SM765102
	13/32"	10.32	.4062"		SM705026	SM710026	SM715026
		10.50	.4134"		SM755105	SM760105	SM765105
	27/64"	10.72	.4219"		SM705027	SM710027	SM715027
		10.80	.4252"		SM755108	SM760108	SM765108
Z 11.11(.437") to 12.95(.510")		11.00	.4331"	2.4 (3/32")	SM755110	SM760110	SM765110
	7/16"	11.11	.4375"		SM705028	SM710028	SM715028
		11.50	.4528"		SM755115	SM760115	SM765115
	29/64"	11.51	.4531"		SM705029	SM710029	SM715029
	15/32"	11.91	.4688"		SM705030	SM710030	SM715030
		12.00	.4724"		SM755120	SM760120	SM765120
	31/64"	12.30	.4844"		SM705031	SM710031	SM715031
		12.50	.4921"		SM755125	SM760125	SM765125
	1/2"	12.70	.5000"		SM705032	SM710032	SM715032
		13.00	.5118"		SM755130	SM760130	SM765130
0 12.98 (.511") to 17.65 (.695")		13.10	.5156"	3.2 (1/8")	SM705033	SM710033	SM715033
	33/64"	13.49	.5312"		SM705034	SM710034	SM715034
	17/32"	13.50	.5315"		SM755135	SM760135	SM765135
		14.00	.5512"		SM705035	SM710035	SM715035
	35/64"	13.89	.5469"		SM755140	SM760140	SM765140
		14.29	.5625"		SM705036	SM710036	SM715036
	9/16"	14.50	.5709"		SM755145	SM760145	SM765145
		14.68	.5781"		SM705037	SM710037	SM715037
	37/64"	15.00	.5906"		SM755150	SM760150	SM765150
		15.08	.5938"		SM705038	SM710038	SM715038
	19/32"	15.48	.6094"		SM705039	SM710039	SM715039
	39/64"	15.50	.6102"		SM755155	SM760155	SM765155
		15.88	.6250"		SM705040	SM710040	SM715040
	5/8"	16.00	.6299"		SM755160	SM760160	SM765160

◎ : Excellent ○ : Good

Non- alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎

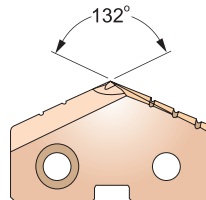
YTG SPADE DRILLS

SERIES 0,1

SM-POINT SPADE DRILL INSERTS - CARBIDE(K20)
SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (K20)				
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN		
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	SM705041	SM710041	SM715041		
		16.50	.6496"		SM755165	SM760165	SM765165		
	21/32"	16.67	.6562"		SM705042	SM710042	SM715042		
		17.00	.6693"		SM755170	SM760170	SM765170		
	43/64"	17.07	.6719"		SM705043	SM710043	SM715043		
		11/16"	17.46		.6875"	SM705044	SM710044	SM715044	
			17.50		.6890"	SM755175	SM760175	SM765175	
	1 17.53 (.690") to 24.38 (.960")	45/64"	17.86		.7031"	4.0 (5/32")	SM705045	SM710045	SM715045
			18.00		.7087"		SM755180	SM760180	SM765180
		23/32"	18.26		.7188"		SM705046	SM710046	SM715046
18.50			.7283"	SM755185	SM760185		SM765185		
47/64"		18.65	.7344"	SM705047	SM710047		SM715047		
		19.00	.7480"	SM755190	SM760190		SM765190		
3/4"		19.05	.7500"	SM705048	SM710048		SM715048		
		49/64"	19.45	.7656"	SM705049		SM710049	SM715049	
			19.50	.7677"	SM755195		SM760195	SM765195	
25/32"		19.84	.7812"	SM705050	SM710050		SM715050		
		20.00	.7874"	SM755200	SM760200		SM765200		
51/64"		20.24	.7969"	SM705051	SM710051		SM715051		
		20.50	.8071"	SM755205	SM760205		SM765205		
13/16"		20.64	.8125"	SM705052	SM710052		SM715052		
		21.00	.8268"	SM755210	SM760210		SM765210		
27/32"		21.43	.8438"	SM705054	SM710054		SM715054		
		55/64"	21.83	.8594"	SM705055		SM710055	SM715055	
			22.00	.8661"	SM755220		SM760220	SM765220	
7/8"	22.23	.8750"	SM705056	SM710056	SM715056				
	57/64"	22.62	.8906"	SM705057	SM710057	SM715057			
		23.00	.9055"	SM755230	SM760230	SM765230			
29/32"	23.02	.9062"	SM705058	SM710058	SM715058				
	59/64"	23.42	.9219"	SM705059	SM710059	SM715059			
15/16"		23.81	.9375"	SM705060	SM710060	SM715060			
		24.00	.9449"	SM755240	SM760240	SM765240			

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc28 (-HB275)	HRc28~ (-HB275~)	-HRc37 (-HB350)	HRc37~ (-HB350~)	-HRc24 (-HB250)	HRc24~ (-HB250~)	-HRc13 (-HB200)		HRc13~ (-HB200~)	-HRc28 (-HB275)		
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎



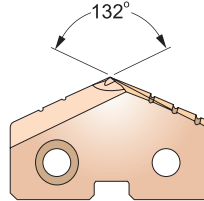
SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS - CARBIDE(K20) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	SM705062	SM710062	SM715062
	63/64"	25.00	.9843"		SM705063	SM710063	SM715063
	1"	25.40	1.0000"		SM705100	SM710100	SM715100
	1-1/64"	25.80	1.0156"		SM705101	SM710101	SM715101
		26.00	1.0236"		SM755260	SM760260	SM765260
	1-1/32"	26.19	1.0312"		SM705102	SM710102	SM715102
	1-3/64"	26.59	1.0469"		SM705103	SM710103	SM715103
	1-1/16"	26.99	1.0625"		SM705104	SM710104	SM715104
		27.00	1.0630"		SM755270	SM760270	SM765270
	1-3/32"	27.78	1.0938"		SM705106	SM710106	SM715106
		28.00	1.1024"		SM755280	SM760280	SM765280
	1-7/64"	28.18	1.1094"		SM705107	SM710107	SM715107
	1-1/8"	28.58	1.1250"		SM705108	SM710108	SM715108
		29.00	1.1417"		SM755290	SM760290	SM765290
	1-5/32"	29.37	1.1562"		SM705110	SM710110	SM715110
		30.00	1.1811"		SM755300	SM760300	SM765300
	1-3/16"	30.16	1.1875"		SM705112	SM710112	SM715112
	1-7/32"	30.96	1.2188"		SM705114	SM710114	SM715114
		31.00	1.2205"		SM755310	SM760310	SM765310
	1-1/4"	31.75	1.2500"		SM705116	SM710116	SM715116
		32.00	1.2598"		SM755320	SM760320	SM765320
	1-9/32"	32.54	1.2812"		SM705118	SM710118	SM715118
		33.00	1.2992"		SM755330	SM760330	SM765330
	1-5/16"	33.34	1.3125"		SM705120	SM710120	SM715120
	34.00	1.3386"	SM755340	SM760340	SM765340		
1-11/32"	34.13	1.3438"	SM705122	SM710122	SM715122		
1-3/8"	34.93	1.3750"	SM705124	SM710124	SM715124		
	35.00	1.3780"	SM755350	SM760350	SM765350		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)
○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎

CARBIDE

HSS

i-DREAM DRILLS

DREAM DRILLS -GENERAL

DREAM DRILLS -INOX

DREAM DRILLS -MQL TYPE

DREAM DRILLS for HARDENED STEELS

GENERAL CARBIDE DRILLS

NC-SPOTTING DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

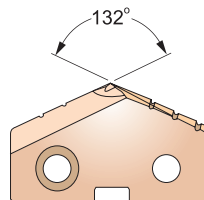
SPADE DRILLS

TECHNICAL DATA

SM-POINT SPADE DRILL INSERTS - CARBIDE(K20)
SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(K20)

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (K20)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4062"	6.4 (1/4")	SM705126	SM710126	SM715126
		36.00	1.4173"		SM755360	SM760360	SM765360
	1-7/16"	36.51	1.4375"		SM705128	SM710128	SM715128
		37.00	1.4567"		SM755370	SM760370	SM765370
	1-15/32"	37.31	1.4688"		SM705130	SM710130	SM715130
		38.00	1.4961"		SM755380	SM760380	SM765380
	1-1/2"	38.10	1.5000"		SM705132	SM710132	SM715132
	1-17/32"	38.89	1.5312"		SM705134	SM710134	SM715134
		39.00	1.5354"		SM755390	SM760390	SM765390
	1-9/16"	39.69	1.5625"		SM705136	SM710136	SM715136
		40.00	1.5748"		SM755400	SM760400	SM765400
	1-19/32"	40.48	1.5938"		SM705138	SM710138	SM715138
		41.00	1.6142"		SM755410	SM760410	SM765410
	1-5/8"	41.28	1.6250"		SM705140	SM710140	SM715140
		42.00	1.6535"		SM755420	SM760420	SM765420
	1-21/32"	42.07	1.6562"		SM705142	SM710142	SM715142
		42.86	1.6875"		SM705144	SM710144	SM715144
	1-11/16"	43.00	1.6929"		SM755430	SM760430	SM765430
		43.66	1.7188"		SM705146	SM710146	SM715146
	1-3/4"	44.00	1.7323"		SM755440	SM760440	SM765440
44.45		1.7500"	SM705148	SM710148	SM715148		
1-25/32"	45.00	1.7717"	SM755450	SM760450	SM765450		
	45.24	1.7812"	SM705150	SM710150	SM715150		
	46.00	1.8110"	SM755460	SM760460	SM765460		
	46.04	1.8125"	SM705152	SM710152	SM715152		
1-13/16"	46.83	1.8438"	SM705154	SM710154	SM715154		
	47.00	1.8504"	SM755470	SM760470	SM765470		
1-7/8"	47.63	1.8750"	SM705156	SM710156	SM715156		

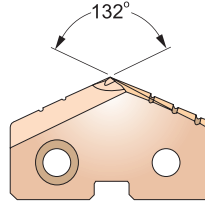
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc28 (~HB275)	HRc28~ (~HB275~)	~HRc37 (~HB350)	HRc37~ (~HB350~)	~HRc24 (~HB250)	HRc24~ (~HB250~)	~HRc13 (~HB200)	HRc13~ (~HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (~HB220~)	~HRc8 (~HB180)	~HB110
	○	○	○	○	○	◎	◎	○	○	○	○	◎	○	○	◎	◎

SM-POINT SPADE DRILL INSERTS - CARBIDE(P40) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.			
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (P40)			
					TiN	TiCN	TiAlN	
Y 9.50 (.374") to 11.07 (.436")	3/8"	9.50	.3740"	2.4 (3/32")	SM855095	SM860095	SM865095	
		9.53	.3750"		SM805024	SM810024	SM815024	
	25/64"	9.80	.3858"		SM855098	SM860098	SM865098	
		9.92	.3906"		SM805025	SM810025	SM815025	
	13/32"	10.00	.3937"		SM855100	SM860100	SM865100	
		10.20	.4016"		SM855102	SM860102	SM865102	
		10.32	.4062"		SM805026	SM810026	SM815026	
		10.50	.4134"		SM855105	SM860105	SM865105	
		27/64"	10.72		.4219"	SM805027	SM810027	SM815027
		10.80	.4252"		SM855108	SM860108	SM865108	
Z 11.11(.437") to 12.95(.510")	7/16"	11.00	.4331"	2.4 (3/32")	SM855110	SM860110	SM865110	
		11.11	.4375"		SM805028	SM810028	SM815028	
	29/64"	11.50	.4528"		SM855115	SM860115	SM865115	
		11.51	.4531"		SM805029	SM810029	SM815029	
	15/32"	11.91	.4688"		SM855030	SM810030	SM815030	
		12.00	.4724"		SM805031	SM810031	SM815031	
	31/64"	12.30	.4844"		SM855125	SM860125	SM865125	
		12.50	.4921"		SM805032	SM810032	SM815032	
	1/2"	12.70	.5000"		SM855130	SM860130	SM865130	
	0 12.98 (.511") to 17.65 (.695")	33/64"	13.00		.5118"	3.2 (1/8")	SM805033	SM810033
13.10			.5156"	SM855135	SM860135		SM865135	
17/32"		13.49	.5312"	SM805035	SM810035		SM815035	
		13.50	.5315"	SM855140	SM860140		SM865140	
35/64"		13.89	.5469"	SM805036	SM810036		SM815036	
		14.00	.5512"	SM855145	SM860145		SM865145	
9/16"		14.29	.5625"	SM805037	SM810037		SM815037	
		14.50	.5709"	SM855150	SM860150		SM865150	
37/64"		14.68	.5781"	SM805038	SM810038		SM815038	
		15.00	.5906"	SM855039	SM810039		SM815039	
19/32"		15.08	.5938"	SM855155	SM860155		SM865155	
		15.48	.6094"	SM805040	SM810040		SM815040	
39/64"		15.50	.6102"	SM855160	SM860160		SM865160	
	15.88	.6250"						
5/8"	16.00	.6299"						

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
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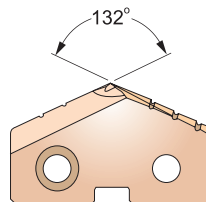
YG SPADE DRILLS

SERIES 0,1

SM-POINT SPADE DRILL INSERTS - CARBIDE(P40) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidegeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No. CARBIDE (P40)		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 12.98(.511") to 17.65(.695")	41/64"	16.27	.6406"	3.2 (1/8")	SM805041	SM810041	SM815041
		16.50	.6496"		SM855165	SM860165	SM865165
	21/32"	16.67	.6562"		SM805042	SM810042	SM815042
		17.00	.6693"		SM855170	SM860170	SM865170
	43/64"	17.07	.6719"		SM805043	SM810043	SM815043
	11/16"	17.46	.6875"		SM805044	SM810044	SM815044
		17.50	.6890"		SM855175	SM860175	SM815175
	45/64"	17.86	.7031"		SM805045	SM810045	SM815045
		18.00	.7087"		SM855180	SM860180	SM865180
	23/32"	18.26	.7188"		SM805046	SM810046	SM815046
	18.50	.7283"	SM855185	SM860185	SM865185		
47/64"	18.65	.7344"	SM805047	SM810047	SM815047		
	19.00	.7480"	SM855190	SM860190	SM865190		
3/4"	19.05	.7500"	SM805048	SM810048	SM815048		
49/64"	19.45	.7656"	SM805049	SM810049	SM815049		
	19.50	.7677"	SM855195	SM860195	SM865195		
1 17.53 (.690") to 24.38 (.960")	25/32"	19.84	.7812"	4.0 (5/32")	SM805050	SM810050	SM815050
		20.00	.7874"		SM855200	SM860200	SM865200
	51/64"	20.24	.7969"		SM805051	SM810051	SM815051
		20.50	.8071"		SM855205	SM860205	SM865205
	13/16"	20.64	.8125"		SM805052	SM810052	SM815052
		21.00	.8268"		SM855210	SM860210	SM865210
	27/32"	21.43	.8438"		SM805054	SM810054	SM815054
	55/64"	21.83	.8594"		SM805055	SM810055	SM815055
		22.00	.8661"		SM855220	SM860220	SM865220
	7/8"	22.23	.8750"		SM805056	SM810056	SM815056
	57/64"	22.62	.8906"		SM805057	SM810057	SM815057
		23.00	.9055"		SM855230	SM860230	SM865230
	29/32"	23.02	.9062"		SM805058	SM810058	SM815058
	59/64"	23.42	.9219"		SM805059	SM810059	SM815059
	15/16"	23.81	.9375"		SM805060	SM810060	SM815060
	24.00	.9449"	SM855240	SM860240	SM865240		

◎ : Excellent ○ : Good

Non-alloyed Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc28 (-HB275)	HRc28~ (-HB275)	-HRc37 (-HB350)	HRc37~ (-HB350)	-HRc24 (-HB250)	HRc24~ (-HB250)	-HRc13 (-HB200)		HRc13~ (-HB200)	-HRc28 (-HB275)		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○



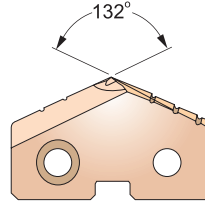
SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS - CARBIDE(P40) SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Katalogs lieferbar



cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 24.41 (.961") to 35.05 (1.380")	31/32"	24.61	.9688"	4.8 (3/16")	SM805062	SM810062	SM815062
	63/64"	25.00	.9843"		SM805063	SM810063	SM815063
	1"	25.40	1.0000"		SM805100	SM810100	SM815100
	1-1/64"	25.80	1.0156"		SM805101	SM810101	SM815101
		26.00	1.0236"		SM855260	SM860260	SM865260
	1-1/32"	26.19	1.0312"		SM805102	SM810102	SM815102
	1-3/64"	26.59	1.0469"		SM805103	SM810103	SM815103
	1-1/16"	26.99	1.0625"		SM805104	SM810104	SM815104
		27.00	1.0630"		SM855270	SM860270	SM865270
	1-3/32"	27.78	1.0938"		SM805106	SM810106	SM815106
		28.00	1.1024"		SM855280	SM860280	SM865280
	1-7/64"	28.18	1.1094"		SM805107	SM810107	SM815107
	1-1/8"	28.58	1.1250"		SM805108	SM810108	SM815108
		29.00	1.1417"		SM855290	SM860290	SM865290
	1-5/32"	29.37	1.1562"		SM805110	SM810110	SM815110
		30.00	1.1811"		SM855300	SM860300	SM865300
	1-3/16"	30.16	1.1875"		SM805112	SM810112	SM815112
	1-7/32"	30.96	1.2188"		SM805114	SM810114	SM815114
		31.00	1.2205"		SM855310	SM860310	SM865310
	1-1/4"	31.75	1.2500"		SM805116	SM810116	SM815116
	32.00	1.2598"	SM855320	SM860320	SM865320		
1-9/32"	32.54	1.2812"	SM805118	SM810118	SM815118		
	33.00	1.2992"	SM855330	SM860330	SM865330		
1-5/16"	33.34	1.3125"	SM805120	SM810120	SM815120		
	34.00	1.3386"	SM855340	SM860340	SM865340		
1-11/32"	34.13	1.3438"	SM805122	SM810122	SM815122		
1-3/8"	34.93	1.3750"	SM805124	SM810124	SM815124		
	35.00	1.3780"	SM855350	SM860350	SM865350		

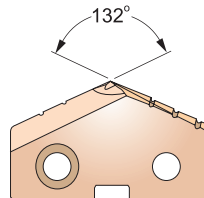
◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys	
	-HRc24 (-HB250)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc28 (-HB275)	HRc28~ (HB275~)	-HRc37 (-HB350)	HRc37~ (HB350~)	-HRc24 (-HB250)	HRc24~ (HB250~)	-HRc13 (-HB200)	HRc13~ (HB200~)	-HRc28 (-HB275)	-HRc19 (-HB220)	HRc19~ (HB220~)	-HRc8 (-HB180)	-HB110
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

SM-POINT SPADE DRILL INSERTS - CARBIDE(P40)
SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL(P40)

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- ▶ Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



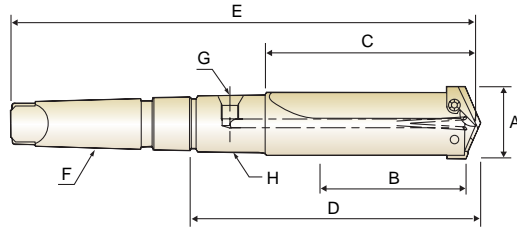
cutting conditions : p.284

Series Min. to Max. (mm/inch)	Diameter			Thick Metric (mm/inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE (P40)		
					TiN	TiCN	TiAlN
3 34.37 (1.353") to 47.80 (1.882")	1-13/32"	35.72	1.4062"	6.4 (1/4")	SM805126	SM810126	SM815126
		36.00	1.4173"		SM855360	SM860360	SM865360
	1-7/16"	36.51	1.4375"		SM805128	SM810128	SM815128
		37.00	1.4567"		SM855370	SM860370	SM865370
	1-15/32"	37.31	1.4688"		SM805130	SM810130	SM815130
		38.00	1.4961"		SM855380	SM860380	SM865380
	1-1/2"	38.10	1.5000"		SM805132	SM810132	SM815132
	1-17/32"	38.89	1.5312"		SM805134	SM810134	SM815134
		39.00	1.5354"		SM855390	SM860390	SM865390
	1-9/16"	39.69	1.5625"		SM805136	SM810136	SM815136
		40.00	1.5748"		SM855400	SM860400	SM865400
	1-19/32"	40.48	1.5938"		SM805138	SM810138	SM815138
		41.00	1.6142"		SM855410	SM860410	SM865410
	1-5/8"	41.28	1.6250"		SM805140	SM810140	SM815140
		42.00	1.6535"		SM855420	SM860420	SM865420
	1-21/32"	42.07	1.6562"		SM805142	SM810142	SM815142
	1-11/16"	42.86	1.6875"		SM805144	SM810144	SM815144
		43.00	1.6929"		SM855430	SM860430	SM865430
	1-23/32"	43.66	1.7188"		SM805146	SM810146	SM815146
		44.00	1.7323"		SM855440	SM860440	SM865440
1-3/4"	44.45	1.7500"	SM805148	SM810148	SM815148		
	45.00	1.7717"	SM855450	SM860450	SM865450		
1-25/32"	45.24	1.7812"	SM805150	SM810150	SM815150		
	46.00	1.8110"	SM855460	SM860460	SM865460		
1-13/16"	46.04	1.8125"	SM805152	SM810152	SM815152		
1-27/32"	46.83	1.8438"	SM805154	SM810154	SM815154		
	47.00	1.8504"	SM855470	SM860470	SM865470		
1-7/8"	47.63	1.8750"	SM805156	SM810156	SM815156		

◎ : Excellent ○ : Good

Non-alloy Steels, Free Machining Steels	Carbon Steels		Alloy Steels		High Alloyed steels		Structural Steels		Tool Steels		Stainless Steels	Cast Iron		Aluminum	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc37 (~HB350)	HRc37~ (HB350~)	~HRc24 (~HB250)	HRc24~ (HB250~)	~HRc13 (~HB200)		HRc13~ (HB200~)	~HRc28 (~HB275)		
	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○

TAPER SHANK HOLDERS HALTER MIT MORSEKEGEL

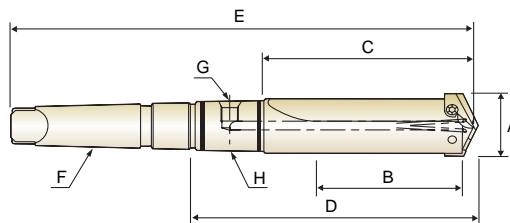
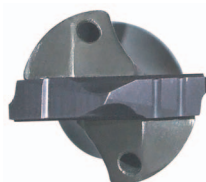


SHORT LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTBO24027620	3/8" ~ 27/64"	1-1/4"	2-1/32"	3-15/32"	6-5/16"	#2	1/16"	PR110048
Z	KTBO28032620	7/16" ~ 1/2"	1-1/4"	2-1/32"	3-15/32"	6-5/16"	#2	1/16"	PR110048
0	KTBO33044630	33/64" ~ 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	PR110048
0.5	KTBO39044630	39/64" ~ 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	PR110048
1	KTBO45060910	45/64" ~ 15/16"	2-3/4"	3-7/8"	5-39/64"	9-5/32"	#3	1/8"	PR110100
	KTBO45060A10	45/64" ~ 15/16"	2-3/4"	3-7/8"	5-43/64"	10-5/32"	#4	1/8"	PR110100
1.5	KTBO55060910	55/64" ~ 15/16"	2-3/4"	3-7/8"	5-39/64"	9-5/32"	#3	1/8"	PR110100
	KTBO55060A10	55/64" ~ 15/16"	2-3/4"	3-7/8"	5-43/64"	10-5/32"	#4	1/8"	PR110100
2	KTBO62124950	31/32" ~ 1-3/8"	3-3/8"	4-1/2"	6-15/64"	9-25/32"	#3	1/8"	PR110100
	KTBO62124A50	31/32" ~ 1-3/8"	3-3/8"	4-1/2"	6-19/64"	10-25/32"	#4	1/8"	PR110100
2.5	KTBO112124950	1-3/16" ~ 1-3/8"	3-3/8"	4-1/2"	6-15/64"	9-25/32"	#3	1/8"	PR110100
	KTBO112124B04	1-3/16" ~ 1-3/8"	3-3/8"	4-1/2"	6-37/64"	11-1/16"	#4	1/4"	PR110116
3	KTBO126156C36	1-13/32" ~ 1-7/8"	4-3/4"	6"	8-1/8"	12-9/16"	#4	1/4"	PR110116
	KTBO126156D52	1-13/32" ~ 1-7/8"	4-3/4"	6"	8-1/8"	13-13/16"	#5	1/4"	PR110148
4	KTBO158236D04	1-29/32" ~ 2-9/16"	5-1/8"	6-1/2"	8-5/8"	13-1/16"	#4	1/4"	PR110116
	KTBO158236E20	1-29/32" ~ 2-9/16"	5-1/8"	6-1/2"	8-5/8"	14-5/16"	#5	1/4"	PR110148
5	KTBO232332G60	2-1/2" ~ 3-1/2"	6-3/4"	8-1/2"	11-5/16"	16-15/16"	#5	1/2"	PR110216
7	KTBO334432H20	3-17/32" ~ 4-1/2"	6-3/4"	8-7/8"	11-11/16"	17-5/16"	#5	1/2"	PR110216

► You can also apply RCA (Rotary Coolant Adapter) for internal cooling. (See page 282)

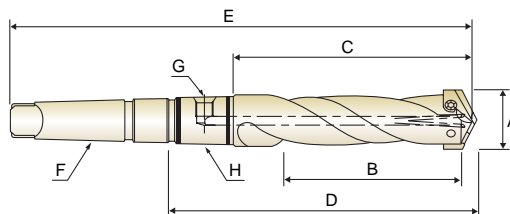
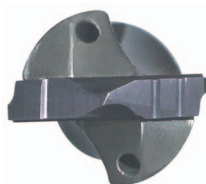
TAPER SHANK HOLDERS
HALTER MIT MORSEKEGEL



INTERMEDIATE LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	KTG045060B10	45/64" ~ 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	PR110100
1.5	KTG055060B10	55/64" ~ 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	PR110100
2	KTG062124C50	31/32" ~ 1-3/8"	5-3/8"	6-1/2"	8-19/64"	12-25/32"	#4	1/8"	PR110100
2.5	KTG112124D04	1-3/16" ~ 1-3/8"	5-3/8"	6-1/2"	8-37/64"	13-1/16"	#4	1/4"	PR110116
3	KTG126156E20	1-13/32" ~ 1-7/8"	6-1/2"	7-3/4"	9-7/8"	14-5/16"	#4	1/4"	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

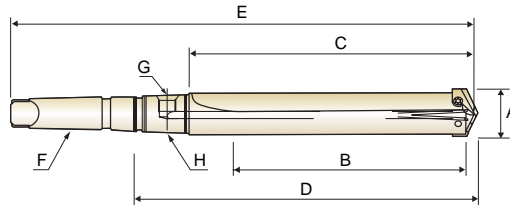


INTERMEDIATE LENGTH - Spiral Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	KTC045060B10	45/64" ~ 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	PR110100
1.5	KTC055060B10	55/64" ~ 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	PR110100
2	KTC062124C50	31/32" ~ 1-3/8"	5-3/8"	6-1/2"	8-19/64"	12-25/32"	#4	1/8"	PR110100
2.5	KTC112124D04	1-3/16" ~ 1-3/8"	5-3/8"	6-1/2"	8-37/64"	13-1/16"	#4	1/4"	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

TAPER SHANK HOLDERS HALTER MIT MORSEKEGEL

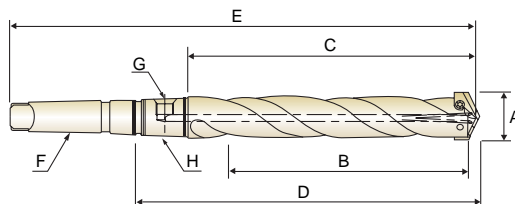
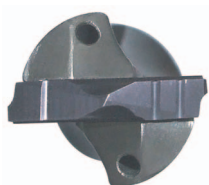


STANDARD LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTH024027728	3/8" ~ 27/64"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	PR110048
Z	KTH028032728	7/16" ~ 1/2"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	PR110048
0	KTH033044738	33/64" ~ 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	PR110048
0.5	KTH039044738	39/64" ~ 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	PR110048
1	KTH045060D10	45/64" ~ 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	PR110100
	KTH045060E10	45/64" ~ 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	PR110100
1.5	KTH055060D10	55/64" ~ 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	PR110100
	KTH055060E10	55/64" ~ 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	PR110100
2	KTH062124D50	31/32" ~ 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	PR110100
	KTH062124E50	31/32" ~ 1-3/8"	7-3/8"	8-1/2"	10-19/64"	14-25/32"	#4	1/8"	PR110100
2.5	KTH112124D50	1-3/16" ~ 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	PR110100
	KTH112124F04	1-3/16" ~ 1-3/8"	7-3/8"	8-1/2"	10-37/64"	15-1/16"	#4	1/4"	PR110116
3	KTH126156G04	1-13/32" ~ 1-7/8"	8-1/4"	9-1/2"	11-5/8"	16-1/16"	#4	1/4"	PR110116
	KTH126156H20	1-13/32" ~ 1-7/8"	8-1/4"	9-1/2"	11-5/8"	17-5/16"	#5	1/4"	PR110148
4	KTH158236H04	1-29/32" ~ 2-9/16"	9-1/8"	10-1/2"	12-5/8"	17-1/16"	#4	1/4"	PR110116
	KTH158236I20	1-29/32" ~ 2-9/16"	9-1/8"	10-1/2"	12-5/8"	18-5/16"	#5	1/4"	PR110148
5	KTH232332K60	2-1/2" ~ 3-1/2"	10-3/4"	12-1/2"	15-5/16"	20-15/16"	#5	1/2"	PR110216
7	KTH334432L20	3-17/32" ~ 4-1/2"	10-3/4"	12-7/8"	15-11/16"	21-5/16"	#5	1/2"	PR110216

► You can also apply RCA (Rotary Coolant Adapter) for internal cooling. (See page 282)

TAPER SHANK HOLDERS
HALTER MIT MORSEKEGEL



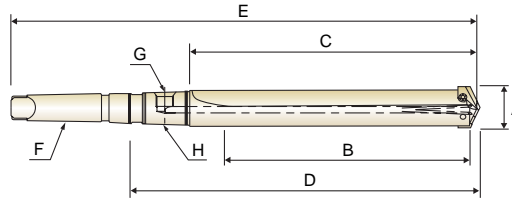
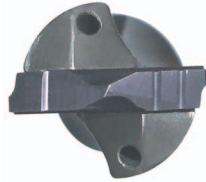
STANDARD LENGTH - Spiral Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTD024027728	3/8" ~27/64"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	PR110048
Z	KTD028032728	7/16" ~1/2"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	PR110048
0	KTD033044738	33/64" ~11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	PR110048
0.5	KTD039044738	39/64" ~11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	PR110048
1	KTD045060D10	45/64" ~15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	PR110100
	KTD045060E10	45/64" ~15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	PR110100
1.5	KTD055060D10	55/64" ~15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	PR110100
	KTD055060E10	55/64" ~15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	PR110100
2	KTD062124D50	31/32" ~1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	PR110100
	KTD062124E50	31/32" ~1-3/8"	7-3/8"	8-1/2"	10-19/64"	14-25/32"	#4	1/8"	PR110100
2.5	KTD112124D50	1-3/16" ~1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	PR110100
	KTD112124F04	1-3/16" ~1-3/8"	7-3/8"	8-1/2"	10-37/64"	15-1/16"	#4	1/4"	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

TAPER SHANK HOLDERS

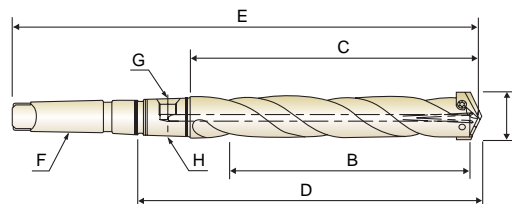
HALTER MIT MORSEKEGEL



EXTENDED LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTF024027928	3/8" ~ 27/64"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	PR110048
Z	KTF028032928	7/16" ~ 1/2"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	PR110048
0	KTF033044938	33/64" ~ 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	PR110048
0.5	KTF039044938	39/64" ~ 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	PR110048
1	KTF045060H10	45/64" ~ 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	PR110100
1.5	KTF055060H10	55/64" ~ 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	PR110100
2	KTF062124I50	31/32" ~ 1-3/8"	11-3/8"	12-1/2"	14-15/64"	18-25/32"	#4	1/8"	PR110100
2.5	KTF112124J04	1-3/16" ~ 1-3/8"	11-3/8"	12-1/2"	14-37/64"	19-1/16"	#4	1/4"	PR110116
3	KTF126156L36	1-13/32" ~ 1-7/8"	13-3/4"	15"	17-1/8"	21-9/16"	#4	1/4"	PR110116
4	KTF158236P52	1-29/32" ~ 2-9/16"	16-5/8"	18"	20-1/8"	25-13/16"	#5	1/4"	PR110148
5	KTF232332S28	2-1/2" ~ 3-1/2"	18-1/4"	20"	22-13/16"	28-7/16"	#5	1/2"	PR110216
7	KTF334432W28	3-17/32" ~ 4-1/2"	21-7/8"	24"	26-13/16"	32-7/16"	#5	1/2"	PR110216

► You can also apply RCA (Rotary Coolant Adapter) for internal cooling. (See page 282)

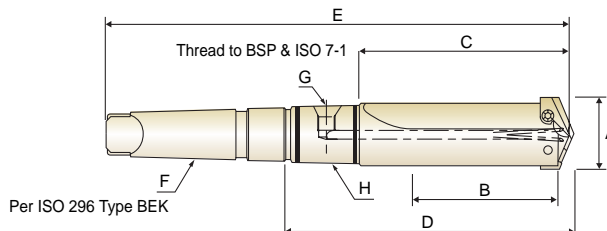


EXTENDED LENGTH - Spiral Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTE024027928	3/8" ~ 27/64"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	PR110048
Z	KTE028032928	7/16" ~ 1/2"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	PR110048
0	KTE033044938	33/64" ~ 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	PR110048
0.5	KTE039044938	39/64" ~ 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	PR110048
1	KTE045060H10	45/64" ~ 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	PR110100
1.5	KTE055060H10	55/64" ~ 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	PR110100
2	KTE062124I50	31/32" ~ 1-3/8"	11-3/8"	12-1/2"	14-15/64"	18-25/32"	#4	1/8"	PR110100
2.5	KTE112124J04	1-3/16" ~ 1-3/8"	11-3/8"	12-1/2"	14-37/64"	19-1/16"	#4	1/4"	PR110116

► You can also apply RCA (Rotary Coolant Adapter) for internal cooling. (See page 282)

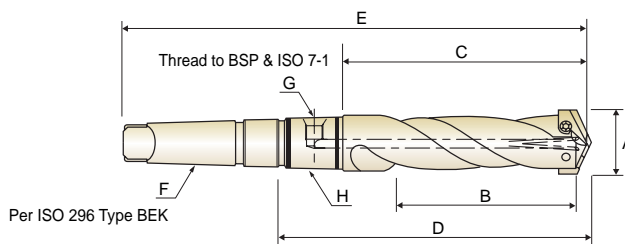
**TAPER SHANK HOLDERS
HALTER MIT MORSEKEGEL**



SHORT LENGTH - Straight Flute (Metric)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTA095110160	9.5 ~ 11.0	31.7	51.5	88.0	160.3	#2	1/16"	PR120190
Z	KTA115125160	11.5 ~ 12.5	31.7	51.5	88.0	160.3	#2	1/16"	PR120190
0	KTA130175164	13.0 ~ 17.5	34.9	55.5	92.4	164.3	#2	1/16"	PR120190
0.5	KTA155175164	15.5 ~ 17.5	34.9	55.5	92.4	164.3	#2	1/16"	PR120190
1	KTA180240232	18.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8"	PR120254
1.5	KTA220240232	22.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8"	PR120254
2	KTA250350273	25.0 ~ 35.0	85.7	114.3	160.4	273.8	#4	1/8"	PR120254
2.5	KTA300350281	30.0 ~ 35.0	85.7	114.3	167.6	281.0	#4	1/4"	PR120317
3	KTA360470319	36.0 ~ 47.0	120.6	152.4	206.4	319.1	#4	1/4"	PR120317
4	KTA480650363	48.0 ~ 65.0	130.1	165.1	219.1	363.5	#5	1/4"	PR120444
5	KTA640880430	64.0 ~ 88.0	171.1	215.9	287.3	430.2	#5	1/2"	PR120571
7	KTA900MAX439	90.0 ~ 114.0	171.1	225.4	296.8	439.7	#5	1/2"	PR120571

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)



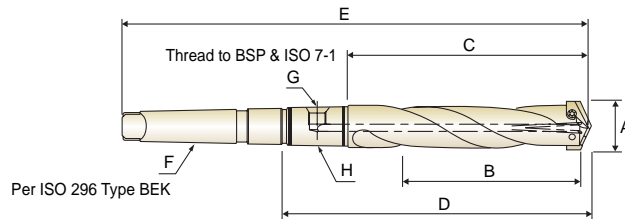
INTERMEDIATE LENGTH - Spiral Flute (Metric)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	KTB180240283	18.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8"	PR120254
1.5	KTB220240283	22.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8"	PR120254
2	KTB250350324	25.0 ~ 35.0	136.5	165.1	211.2	324.6	#4	1/8"	PR120254
2.5	KTB300350331	30.0 ~ 35.0	136.5	165.1	218.4	331.8	#4	1/4"	PR120317
3	KTB360470363	36.0 ~ 47.0	165.1	196.9	250.9	363.6	#4	1/4"	PR120317

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

TAPER SHANK HOLDERS

HALTER MIT MORSEKEGEL

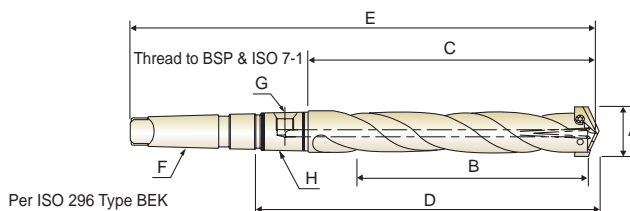


STANDARD LENGTH - Spiral Flute (Metric)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTC095110188	9.5 ~ 11.0	60.3	80.2	116.7	188.9	#2	1/16"	PR120190
Z	KTC115125188	11.5 ~ 12.5	60.3	80.2	116.7	188.9	#2	1/16"	PR120190
0	KTC130175192	13.0 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16"	PR120190
0.5	KTC155175192	15.5 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16"	PR120190
1	KTC180240334	18.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8"	PR120254
1.5	KTC220240334	22.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8"	PR120254
2	KTC250350375	25.0 ~ 35.0	187.3	215.9	262.0	375.4	#4	1/8"	PR120254
2.5	KTC300350382	30.0 ~ 35.0	187.3	215.9	269.2	382.6	#4	1/4"	PR120317
3	KTC360470408	36.0 ~ 47.0	209.5	241.3	295.3	408.0	#4	1/4"	PR120317
4	KTC480650465	48.0 ~ 65.0	231.8	266.7	320.7	465.1	#5	1/4"	PR120444
5	KTC640880531	64.0 ~ 88.0	273.1	317.5	388.9	531.8	#5	1/2"	PR120571
7	KTC900MAX541	90.0 ~ 114.0	273.1	327.0	398.5	541.3	#5	1/2"	PR120571

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

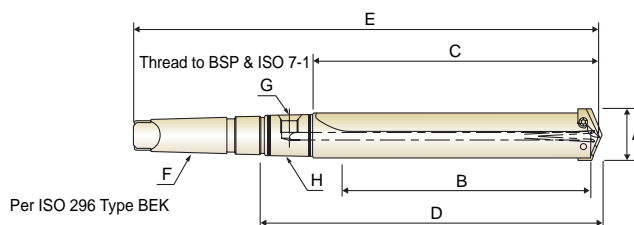
TAPER SHANK HOLDERS
HALTER MIT MORSEKEGEL



EXTENDED LENGTH - Spiral Flute (Metric)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	KTD095110239	9.5 ~ 11.0	111.1	130.9	167.4	239.7	#2	1/16"	PR120190
Z	KTD115125239	11.5 ~ 12.5	111.1	130.9	167.4	239.7	#2	1/16"	PR120190
O	KTD130175243	13.0 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16"	PR120190
0.5	KTD155175243	15.5 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16"	PR120190
1	KTD180240435	18.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8"	PR120254
1.5	KTD220240435	22.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8"	PR120254
2	KTD250350477	25.0 ~ 35.0	289.0	317.5	363.6	477.0	#4	1/8"	PR120254
2.5	KTD300350484	30.0 ~ 35.0	289.0	317.5	370.8	484.2	#4	1/4"	PR120317

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

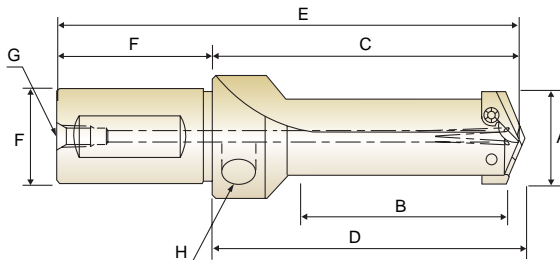


EXTENDED LENGTH - Straight Flute (Metric)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
3	KTE360470547	36.0 ~ 47.0	349.3	381.0	435.0	547.7	#4	1/4"	PR120317
4	KTE480650655	48.0 ~ 65.0	422.3	457.2	511.2	655.6	#5	1/4"	PR120444
5	KTE640880722	64.0 ~ 88.0	463.6	508.0	579.4	722.3	#5	1/2"	PR120571
7	KTE900MAX823	90.0 ~ 114.0	555.6	609.6	681.1	823.9	#5	1/2"	PR120571

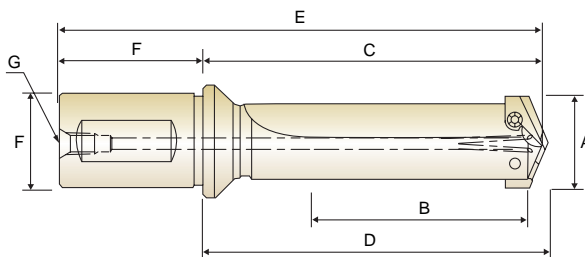
► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 282)

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



STUB LENGTH - Straight Flute (Inch)

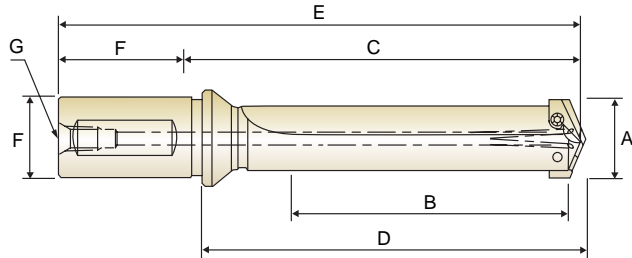
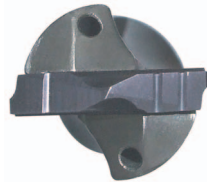
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap	
							Dia. F	Length F	Rear G	Side H
Y	KSA024027348	3/8" ~ 27/64"	3/4"	1-7/8"	1-31/32"	3-3/4"	5/8"	1-7/8"	1/16"	1/8"
Z	KSA028032343	7/16" ~ 1/2"	3/4"	1-51/64"	1-57/64"	3-43/64"	5/8"	1-7/8"	1/16"	1/8"
0	KSA033044358	33/64" ~ 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
0.5	KSA039044358	39/64" ~ 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
1	KSA045060517	45/64" ~ 15/16"	1-7/8"	2-63/64"	3-1/8"	5-17/64"	1"	2-9/32"	1/8"	1/8"
1.5	KSA055060549	55/64" ~ 15/16"	2-1/4"	3-31/64"	3-5/8"	5-49/64"	1"	2-9/32"	1/8"	1/8"
2	KSA062124549	31/32" ~ 1-3/8"	2-1/4"	3-31/64"	3-5/8"	5-49/64"	1-1/4"	2-9/32"	1/4"	1/8"
2.5	KSA112124709	1-3/16" ~ 1-3/8"	3-5/8"	4-55/64"	5"	7-9/64"	1-1/4"	2-9/32"	1/4"	1/8"
3	KSA126156739	1-13/32" ~ 1-7/8"	3"	4-59/64"	5-7/64"	7-39/64"	1-1/2"	2-11/16"	1/4"	1/4"



SHORT LENGTH - Straight Flute (Inch)

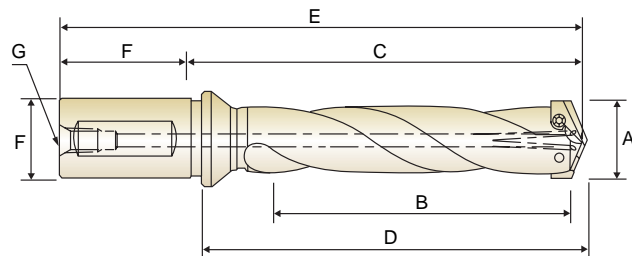
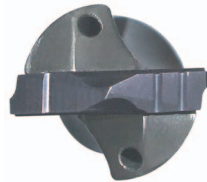
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap
							Dia. F	Length F	G
Y	KSB024027428	3/8" ~ 27/64"	1-1/4"	2-13/32"	2-1/2"	4-7/16"	3/4"	2-1/32"	1/8"
Z	KSB028032428	7/16" ~ 1/2"	1-1/4"	2-13/32"	2-1/2"	4-7/16"	3/4"	2-1/32"	1/8"
0	KSB033044434	33/64" ~ 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"
0.5	KSB039044434	39/64" ~ 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"
1	KSB045060632	45/64" ~ 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"
1.5	KSB055060632	55/64" ~ 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"
2	KSB062124722	31/32" ~ 1-3/8"	3-3/8"	5-1/16"	5-13/64"	7-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSB112124722	1-3/16" ~ 1-3/8"	3-3/8"	5-1/16"	5-13/64"	7-11/32"	1-1/4"	2-9/32"	1/4"
3	KSB126156932	1-13/32" ~ 1-7/8"	4-3/4"	6-13/16"	7"	9-1/2"	1-1/2"	2-11/16"	1/4"
4	KSB158236948	1-29/32" ~ 2-9/16"	5-1/8"	7-1/16"	7-1/4"	9-3/4"	1-1/2"	2-11/16"	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



INTERMEDIATE LENGTH - Straight Flute (Inch)

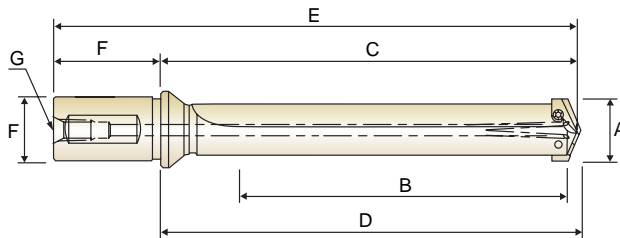
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	KSG045060824	45/64" ~ 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
1.5	KSG055060824	55/64" ~ 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
2	KSG062124922	31/32" ~ 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSG112124922	1-3/16" ~ 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"
3	KSG126156B16	1-13/32" ~ 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/32"	1/4"



INTERMEDIATE LENGTH - Spiral Flute (Inch)

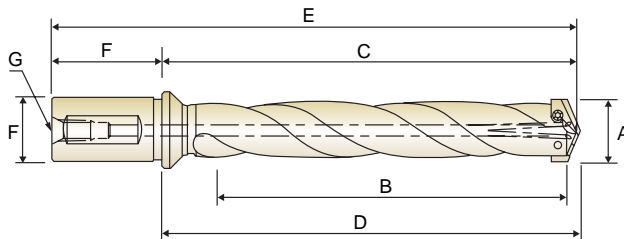
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	KSC045060824	45/64" ~ 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
1.5	KSC055060824	55/64" ~ 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
2	KSC062124922	31/32" ~ 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSC112124922	1-3/16" ~ 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"
3	KSC126156B16	1-13/32" ~ 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/32"	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



STANDARD LENGTH - Straight Flute (Inch)

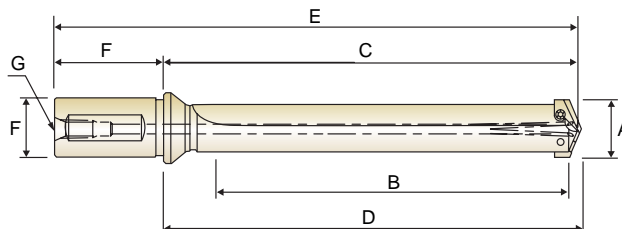
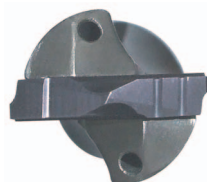
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
Y	KSH024027536	3/8" ~ 27/64"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
Z	KSH028032536	7/16" ~ 1/2"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
O	KSH033044542	33/64" ~ 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
0.5	KSH039044542	39/64" ~ 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
1	KSH045060A24	45/64" ~ 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
1.5	KSH055060A24	55/64" ~ 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
2	KSH062124B22	31/32" ~ 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSH112124B22	1-3/16" ~ 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"
3	KSH126156D00	1-13/32" ~ 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"
4	KSH158236D48	1-29/32" ~ 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"



STANDARD LENGTH - Spiral Flute (Inch)

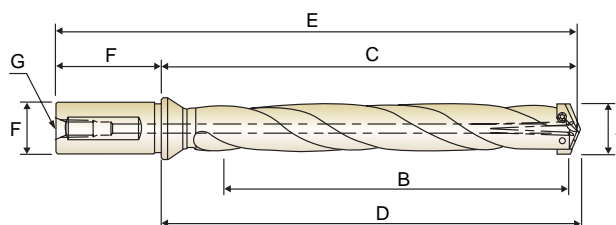
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
Y	KSD024027536	3/8" ~ 27/64"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
Z	KSD028032536	7/16" ~ 1/2"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
O	KSD033044542	33/64" ~ 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
0.5	KSD039044542	39/64" ~ 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
1	KSD045060A24	45/64" ~ 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
1.5	KSD055060A24	55/64" ~ 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
2	KSD062124B22	31/32" ~ 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSD112124B22	1-3/16" ~ 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"
3	KSD126156D00	1-13/32" ~ 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"
4	KSD158236D48	1-29/32" ~ 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



EXTENDED LENGTH - Straight Flute (Inch)

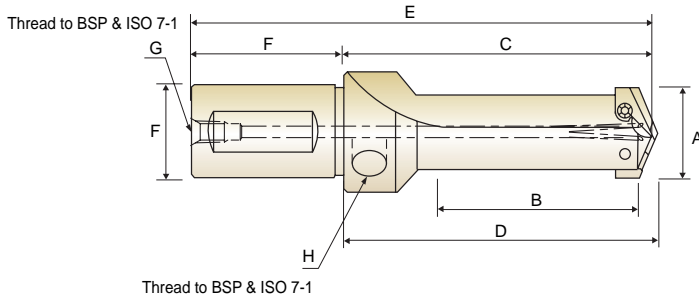
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	KSF024027736	3/8" ~ 27/64"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
Z	KSF028032736	7/16" ~ 1/2"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
O	KSF033044742	33/64" ~ 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
0.5	KSF039044742	39/64" ~ 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
1	KSF045060E24	45/64" ~ 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
1.5	KSF055060E24	55/64" ~ 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
2	KSF062124F22	31/32" ~ 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSF112124F22	1-3/16" ~ 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"



EXTENDED LENGTH - Spiral Flute (Inch)

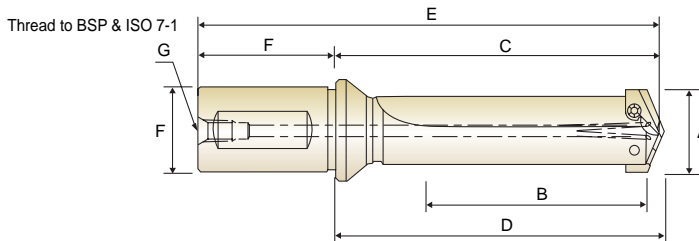
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	KSE024027736	3/8" ~ 27/64"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
Z	KSE028032736	7/16" ~ 1/2"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
O	KSE033044742	33/64" ~ 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
0.5	KSE039044742	39/64" ~ 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
1	KSE045060E24	45/64" ~ 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
1.5	KSE055060E24	55/64" ~ 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
2	KSE062124F22	31/32" ~ 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"
2.5	KSE112124F22	1-3/16" ~ 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



STUB LENGTH - Straight Flute (Metric)

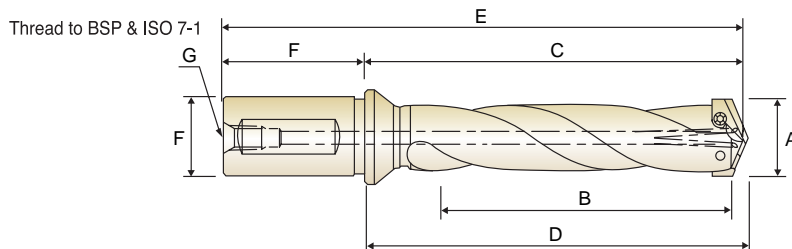
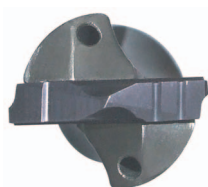
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap	
							Dia. F	Length F	Rear G	Side H
Y	KSA095110090	9.5 ~ 11.0	19.1	47.6	50.0	89.5	16.0	41.9	1/16"	1/8"
Z	KSA115125090	11.5 ~ 12.5	19.1	47.6	50.0	89.5	16.0	41.9	1/16"	1/8"
O	KSA130175090	13.0 ~ 17.5	22.2	47.6	50.4	89.5	20.0	41.9	1/8"	1/8"
0.5	KSA155175090	15.5 ~ 17.5	22.2	47.6	50.4	89.5	20.0	41.9	1/8"	1/8"
1	KSA180240129	18.0 ~ 24.0	47.6	75.8	79.4	128.9	25.0	53.1	1/8"	1/8"
1.5	KSA220240142	22.0 ~ 24.0	57.2	88.5	92.1	141.6	25.0	53.1	1/8"	1/8"
2	KSA250350146	25.0 ~ 35.0	57.2	88.5	92.1	146.4	32.0	57.9	1/4"	1/8"



SHORT LENGTH - Straight Flute (Metric)

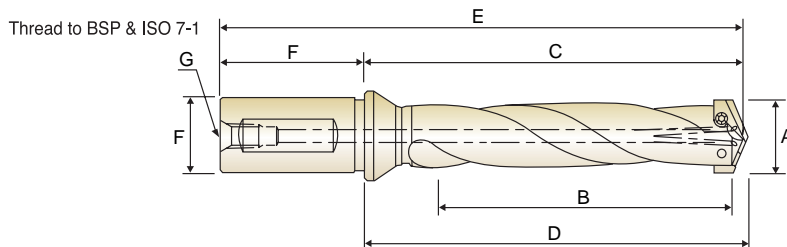
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap
							Dia. F	Length F	G
Y	KSB095110103	9.5 ~ 11.0	31.8	61.1	63.5	103.0	20.0	41.9	1/8"
Z	KSB115125103	11.5 ~ 12.5	31.8	61.1	63.5	103.0	20.0	41.9	1/8"
O	KSB130175105	13.0 ~ 17.5	34.9	63.5	66.3	105.4	20.0	41.9	1/8"
0.5	KSB155175105	15.5 ~ 17.5	34.9	63.5	66.3	105.4	20.0	41.9	1/8"
1	KSB180240160	18.0 ~ 24.0	66.7	107.2	110.7	160.2	25.0	53.1	1/8"
1.5	KSB220240160	22.0 ~ 24.0	66.7	107.2	110.7	160.2	25.0	53.1	1/8"
2	KSB250350187	25.0 ~ 35.0	85.7	128.6	132.2	186.5	32.0	57.9	1/4"
2.5	KSB300350187	30.0 ~ 35.0	85.7	128.6	132.2	186.5	32.0	57.9	1/4"
3	KSB360470243	36.0 ~ 47.0	120.7	173.0	177.8	243.1	40.0	70.1	1/4"
4	KSB480650250	48.0 ~ 65.0	130.2	179.4	184.2	249.5	40.0	70.1	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



INTERMEDIATE LENGTH - Spiral Flute (Metric)

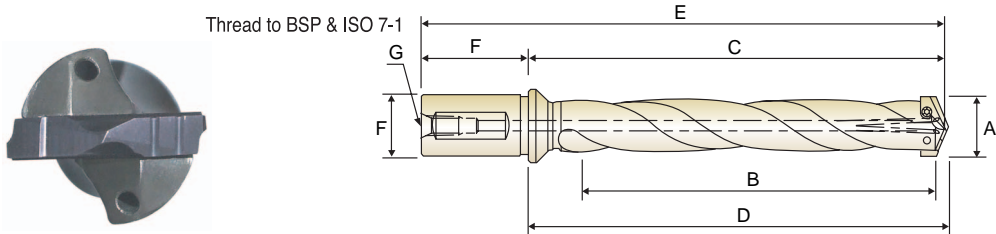
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length	
1	KSC180240208	18.0 ~ 24.0	117.5	154.8	158.4	207.9	25.0	53.1	1/8"
1.5	KSC220240208	22.0 ~ 24.0	117.5	154.8	158.4	207.9	25.0	53.1	1/8"
2	KSC250350237	25.0 ~ 35.0	136.5	179.4	183.0	237.3	32.0	57.9	1/4"
2.5	KSC300350237	30.0 ~ 35.0	136.5	179.4	183.0	237.3	32.0	57.9	1/4"
3	KSC360470288A	36.0 ~ 47.0	165.1	217.5	222.3	287.6	40.0	70.1	1/4"



STANDARD LENGTH - Spiral Flute (Metric)

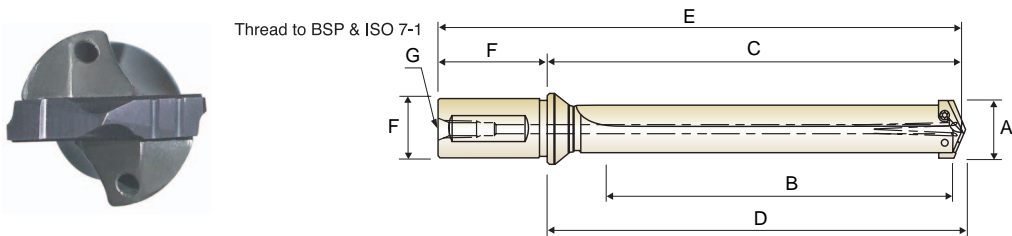
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length	
Y	KSD095110132	9.5 ~ 11.0	60.3	89.7	92.1	131.6	20.0	41.9	1/8"
Z	KSD115125132	11.5 ~ 12.5	60.3	89.7	92.1	131.6	20.0	41.9	1/8"
0	KSD130175134	13.0 ~ 17.5	63.5	92.1	94.9	134.0	20.0	41.9	1/8"
0.5	KSD155175134	15.5 ~ 17.5	63.5	92.1	94.9	134.0	20.0	41.9	1/8"
1	KSD180240259	18.0 ~ 24.0	168.3	205.6	209.2	258.7	25.0	53.1	1/8"
1.5	KSD220240259	22.0 ~ 24.0	168.3	205.6	209.2	258.7	25.0	53.1	1/8"
2	KSD250350288	25.0 ~ 35.0	187.3	230.2	233.8	288.1	32.0	57.9	1/4"
2.5	KSD300350288	30.0 ~ 35.0	187.3	230.2	233.8	288.1	32.0	57.9	1/4"
3	KSD360470332A	36.0 ~ 47.0	209.6	261.9	266.7	332.0	40.0	70.1	1/4"
4	KSD480650351A	48.0 ~ 65.0	231.8	281.0	285.8	351.1	40.0	70.1	1/4"

FLANGED STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE



EXTENDED LENGTH - Spiral Flute (Metric)

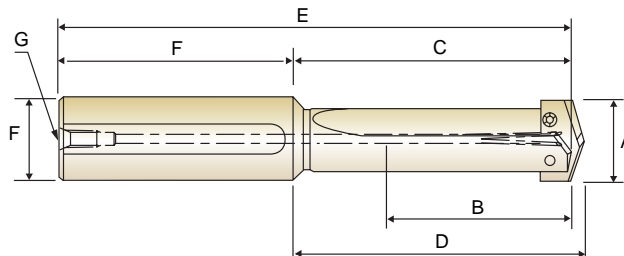
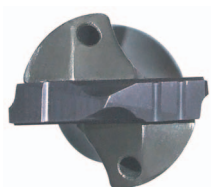
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
Y	KSE095110182	9.5 ~ 11.0	111.1	140.5	142.9	182.4	20.0	41.9	1/8"
Z	KSE115125182	11.5 ~ 12.5	111.1	140.5	142.9	182.4	20.0	41.9	1/8"
O	KSE130175185	13.0 ~ 17.5	114.3	142.9	145.7	184.8	20.0	41.9	1/8"
0.5	KSE155175185	15.5 ~ 17.5	114.3	142.9	145.7	184.8	20.0	41.9	1/8"
1	KSE180240360	18.0 ~ 24.0	269.9	307.2	310.8	360.3	25.0	53.1	1/8"
1.5	KSE220240360	22.0 ~ 24.0	269.9	307.2	310.8	360.3	25.0	53.1	1/8"
2	KSE250350390	25.0 ~ 35.0	288.9	331.8	335.4	389.7	32.0	57.9	1/4"
2.5	KSE300350390	30.0 ~ 35.0	288.9	331.8	335.4	389.7	32.0	57.9	1/4"



EXTENDED LENGTH - Straight Flute (Metric)

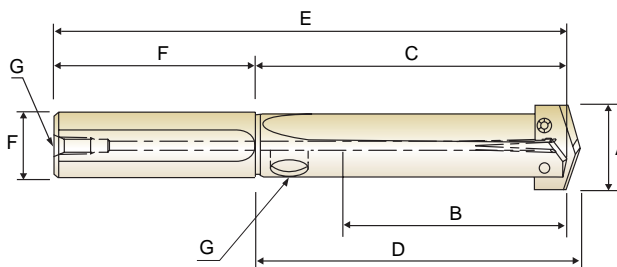
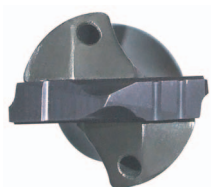
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
3	KSF360470471A	36.0 ~ 47.0	349.3	401.6	406.4	471.7	40.0	70.1	1/4"
4	KSF480650541A	48.0 ~ 65.0	422.3	471.5	476.3	541.6	40.0	70.1	1/4"

**STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT**



SHORT LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
Y	KSB024027426	3/8" ~ 27/64"	1-1/4"	2-1/32"	2-1/8"	4-13/32"	3/4"	2-3/8"	1/8"
Z	KSB028032426	7/16" ~ 1/2"	1-1/4"	2-1/32"	2-1/8"	4-13/32"	3/4"	2-3/8"	1/8"
O	KSB033044436	33/64" ~ 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"
O.5	KSB039044436	39/64" ~ 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"

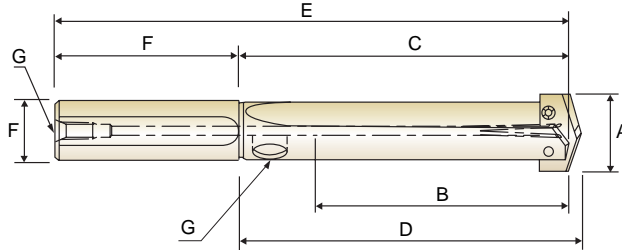


SHORT LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
1	KSB045060656	45/64" ~ 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
	KSB04506065A	45/64" ~ 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
1.5	KSB055060656	55/64" ~ 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
	KSB05506065A	55/64" ~ 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
2	KSB062124800	31/32" ~ 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1"	3-1/2"	1/8"
	KSB06212480A	31/32" ~ 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1-1/4"	3-1/2"	1/8"
2.5	KSB112124800	1-3/16" ~ 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1"	3-1/2"	1/8"
	KSB11212480A	1-3/16" ~ 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1-1/4"	3-1/2"	1/8"
3	KSB126156A00	1-13/32" ~ 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/4"	4"	1/4"
	KSB126156A0A	1-13/32" ~ 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/2"	4"	1/4"
4	KSB158236A32	1-29/32" ~ 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-1/2"	4"	1/4"
	KSB158236A3A	1-29/32" ~ 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-3/4"	4"	1/4"
5	KSB232332C32	2-1/2" ~ 3-1/2"	6-3/4"	8-1/2"	8-3/4"	12-1/2"	2"	4"	1/2"
7	KSB334432D56	3-17/32" ~ 4-1/2"	6-3/4"	8-7/8"	9-1/8"	13-7/8"	3"	5"	1/2"



STRAIGHT SHANK HOLDERS HALTER MIT ZYLINDERSCHAFT



INTERMEDIATE LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
1	KSG045060856	45/64" ~ 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
1.5	KSG055060856	55/64" ~ 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
2	KSG062124A00	31/32" ~ 1-3/8"	5-3/8"	6-1/2"	6-41/64"	10"	1-1/4"	3-1/2"	1/8"
2.5	KSG112124A00	1-3/16" ~ 1-3/8"	5-3/8"	6-1/2"	6-41/64"	10"	1-1/4"	3-1/2"	1/8"
3	KSG126156B48	1-13/32" ~ 1-7/8"	6-1/2"	7-3/4"	7-15/16"	11-3/4"	1-1/2"	4"	1/4"

CARBIDE

HSS

i-DREAM DRILLS

DREAM DRILLS -GENERAL

DREAM DRILLS -INOX

DREAM DRILLS -MQL TYPE

DREAM DRILLS for HARDENED STEELS

GENERAL CARBIDE DRILLS

NC-SPOTTING DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

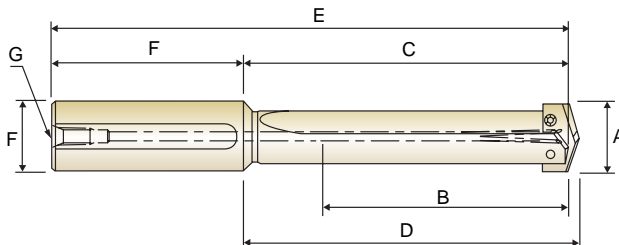
TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

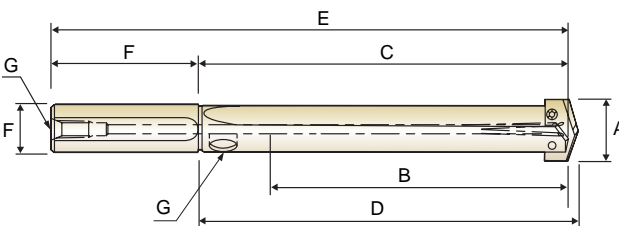
SPADE DRILLS

**STRAIGHT SHANK HOLDERS
HALTER MIT ZYLINDERSCHAFT**



STANDARD LENGTH - Straight Flute (Inch)

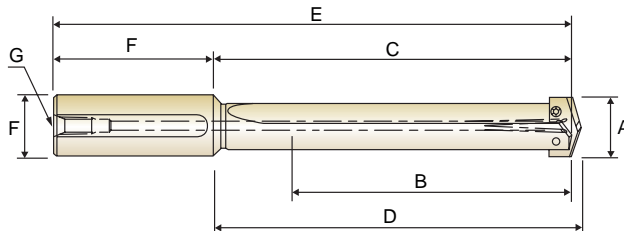
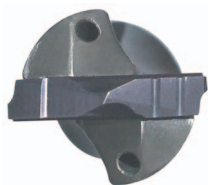
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
Y	KSH024027534	3/8" ~ 27/64"	2-3/8"	3-5/32"	3-1/4"	5-17/32"	3/4"	2-3/8"	1/8"
Z	KSH028032534	7/16" ~ 1/2"	2-3/8"	3-5/32"	3-1/4"	5-17/32"	3/4"	2-3/8"	1/8"
O	KSH033044544	33/64" ~ 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"
O.5	KSH039044544	39/64" ~ 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"



STANDARD LENGTH - Straight Flute (Inch)

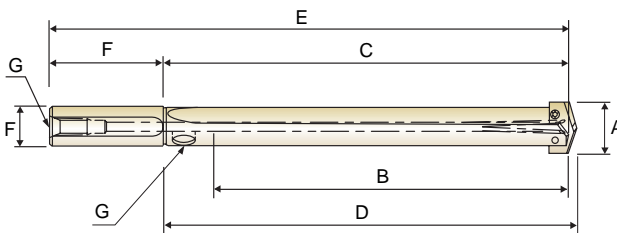
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
1	KSH045060A56	45/64" ~ 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
	KSH045060A5A	45/64" ~ 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
1.5	KSH055060A56	55/64" ~ 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
	KSH055060A5A	55/64" ~ 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
2	KSH062124C00	31/32" ~ 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1"	3-1/2"	1/8"
	KSH062124C0A	31/32" ~ 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1-1/4"	3-1/2"	1/8"
2.5	KSH112124C00	1-3/16" ~ 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1"	3-1/2"	1/8"
	KSH112124C0A	1-3/16" ~ 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1-1/4"	3-1/2"	1/8"
3	KSH126156D32	1-13/32" ~ 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/4"	4"	1/4"
	KSH126156D3A	1-13/32" ~ 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/2"	4"	1/4"
4	KSH158236E32	1-29/32" ~ 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-1/2"	4"	1/4"
	KSH158236E3A	1-29/32" ~ 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-3/4"	4"	1/4"
5	KSH232332G32	2-1/2" ~ 3-1/2"	10-3/4"	12-1/2"	12-3/4"	16-1/2"	2"	4"	1/2"
	KSH334432H56	3-17/32" ~ 4-1/2"	10-3/4"	12-7/8"	13-1/8"	17-7/8"	3"	5"	1/2"

STRAIGHT SHANK HOLDERS HALTER MIT ZYLINDERSCHAFT



EXTENDED LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
Y	KSF024027734	3/8" ~ 27/64"	4-3/8"	5-5/32"	5-1/4"	7-17/32"	3/4"	2-3/8"	1/8"
Z	KSF028032734	7/16" ~ 1/2"	4-3/8"	5-5/32"	5-1/4"	7-17/32"	3/4"	2-3/8"	1/8"
O	KSF033044744	33/64" ~ 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"
0.5	KSF039044744	39/64" ~ 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"



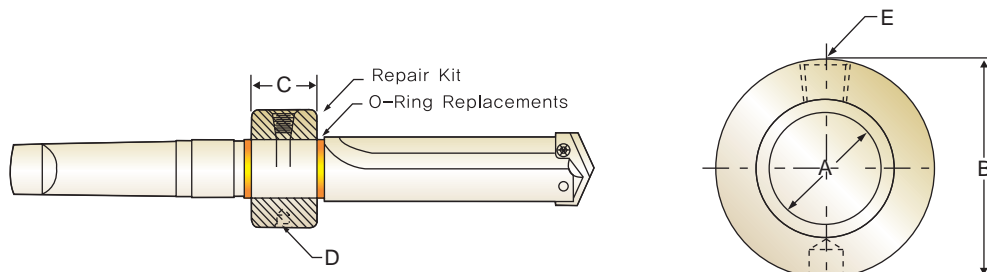
EXTENDED LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F		G
1	KSF045060E56	45/64" ~ 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
1.5	KSF055060E56	55/64" ~ 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
2	KSF062124G00	31/32" ~ 1-3/8"	11-3/8"	12-1/2"	12-41/64"	16"	1-1/4"	3-1/2"	1/8"
2.5	KSF112124G00	1-3/16" ~ 1-3/8"	11-3/8"	12-1/2"	12-41/64"	16"	1-1/4"	3-1/2"	1/8"
3	KSF126156J00	1-13/32" ~ 1-7/8"	13-3/4"	15"	15-3/16"	19"	1-1/4"	4"	1/4"
4	KSF158236M00	1-29/32" ~ 2-9/16"	16-5/8"	18"	18-3/16"	22"	1-1/2"	4"	1/4"
5	KSF232332O00	2-1/2" ~ 3-1/2"	18-1/4"	20"	20-1/4"	24"	2"	4"	1/2"
7	KSF334432T00	3-17/32" ~ 4-1/2"	21-7/8"	24"	24-1/4"	29"	3"	5"	1/2"



HOLDER ACCESSORIES

ROTARY COOLANT ADAPTER (RCA) AND ACCESSORIES



Inch

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
	A	B					
PR110048	3/4"	1-3/4"	7/8"	5/16"-NC	◆1/8"	PR210048	PR310048
PR110100	1"	2-1/8"	1-1/8"	5/16"-NC	◆1/8"	PR210100	PR310100
PR110116	1-1/4"	2-1/2"	1-3/8"	3/8"-NC	◆1/4"	PR210116	PR310116
PR110148	1-3/4"	3"	1-3/8"	3/8"-NC	◆1/4"	PR210148	PR310148
PR110216	2-1/4"	3-3/4"	1-3/4"	1/2"-NC	◆1/2"	PR210216	PR310216

Metric

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
	A	B					
PR120190	19.05	44.45	22.23	M8 × 1.25	◆1/8"	PR220190	PR320190
PR120254	25.40	53.97	28.57	M8 × 1.25	◆1/8"	PR220254	PR320254
PR120317	31.75	63.50	34.92	M10 × 1.5	◆1/4"	PR220317	PR320317
PR120444	44.45	76.20	34.92	M10 × 1.5	◆1/4"	PR220444	PR320444
PR120571	57.15	95.27	44.45	M12 × 1.75	◆1/2"	PR220571	PR320571

◆ Thread to BSP & ISO 7-1

TORX SCREWS

Holder Series	Item No.	TORX Hand Driver	Drill Range Used With	
			Inch	Metric
Y	J07Y0010	J05Y0070	3/8" ~ 27/64"	9.5 mm ~ 11.0 mm
Z	J07Z0110		7/16" ~ 1/2"	11.5 mm ~ 12.5 mm
0	J0800210	J0500080	33/64" ~ 11/16"	13.0 mm ~ 17.5 mm
0.5	J0805310		39/64" ~ 11/16"	15.5 mm ~ 17.5 mm
1	J0910410	J0510090	45/64" ~ 15/16"	18.0 mm ~ 24.0 mm
1.5	J0915510		55/64" ~ 15/16"	22.0 mm ~ 24.0 mm
2	J1520610	J0520150	31/32" ~ 1-3/8"	25.0 mm ~ 35.0 mm
2.5	J1525710		1-3/16" ~ 1-3/8"	30.0 mm ~ 35.0 mm
3,4	J2030810	J0530200	1-13/32" ~ 2-9/16"	36.0 mm ~ 65.0 mm
5 ~ 8	J2550910	J0550250	2-1/2" ~ 4-1/2"	64.0 mm ~ 114.0 mm

** Note : Replacement screws sold in packages(10 screws per package)

DRILL INSERT (METRIC) - HSS
BOHREINSATZ (METRISCH) - HSS

Material	Material Hardness		* HSS Grade	Speed (M/min)			Feed (mm/rev)						
	(Bhn)	(HRc)		TiN	TiCN	TiAlN	Ø9.5 ~12.5	Ø13 ~17.5	Ø18 ~24	Ø25 ~35	Ø36 ~47	Ø48 ~65	Ø66 ~114
Free machining Steels 9SMn36, 9SMnPb28 10SPb20 etc	100 - 150	0	HSS	63	79	84	0.16	0.23	0.31	0.40	0.48	0.55	0.67
	150 - 200	0 - 13	HSS	58	70	81	0.16	0.23	0.31	0.40	0.48	0.55	0.67
	200 - 250	13 - 24	HSS	51	66	72	0.14	0.23	0.31	0.38	0.48	0.57	0.69
Low Carbon Steels C10, C15, C22, C25 etc	85 - 125	0	HSS	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	125 - 175	0 - 7	HSS	51	63	72	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	175 - 225	7 - 20	HSS	49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
Medium Carbon Steels C35, C40, C45 etc	225 - 275	20 - 28	HSS	45	56	66	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	125 - 175	0 - 7	HSS	52	63	75	0.14	0.22	0.28	0.35	0.45	0.55	0.65
	175 - 225	7 - 20	HSS	48	59	69	0.13	0.19	0.23	0.34	0.43	0.50	0.58
Structural Steels St33, St37-2, St44-2 St52, St60 etc	225 - 275	20 - 28	HSS	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	275 - 325	28 - 34	SH, PH	42	52	58	0.10	0.17	0.21	0.28	0.38	0.45	0.55
	100 - 150	0	HSS	44	56	63	0.14	0.23	0.29	0.35	0.44	0.50	0.63
Cast Iron / S,G Iron GG10, 20, 25, 35, 40 GGG50, 70 GTW35, GTS70 etc	150 - 250	0 - 24	HSS	39	47	55	0.13	0.22	0.24	0.28	0.38	0.46	0.59
	250 - 350	24 - 37	SH, PH	32	41	45	0.10	0.20	0.22	0.24	0.34	0.40	0.48
	120 - 150	0	HSS	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
Alloy Steels 45CrMo4, 42CrMo4 16MnCr5, Ck75 35CrMo4, 16MnCr5 etc	150 - 200	0 - 13	HSS	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	200 - 220	13 - 19	HSS	42	53	58	0.14	0.23	0.30	0.41	0.46	0.52	0.60
	220 - 260	19 - 26	SH, PH	35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
Tool Steels 102Cr6, 105WCr6, C75W etc	260 - 320	26 - 34	SH, PH	29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	125 - 175	0 - 7	HSS	48	58	63	0.15	0.20	0.24	0.36	0.43	0.47	0.53
	175 - 225	7 - 20	HSS	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
High Temp. Alloy Hastelloy B, Inconel etc	225 - 275	20 - 28	HSS	41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	275 - 325	28 - 34	SH, PH	39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	325 - 375	34 - 40	SH, PH	36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
High Strength Alloy 36CrNiMo4, 34CrNiMo8 40NiCrMo73 etc	150 - 200	0 - 13	SH	25	34	36	0.09	0.15	0.19	0.25	0.28	0.36	0.41
	200 - 250	13 - 24	SH, PH	19	27	29	0.09	0.15	0.19	0.25	0.28	0.36	0.41
Aluminum AlCuSiMn, AlMgSi0.5, AlZnMgCu1.5 etc	140 - 220	0 - 19	SH, PH	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	220 - 310	19 - 33	PH	8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
Stainless Steels X7Cr13, X10CrA118, X5CrNi189, X5CrNiMo18 10 etc	225 - 300	0 - 32	SH, PH	25	34	35	0.13	0.18	0.23	0.24	0.36	0.43	0.50
	300 - 350	32 - 37	SH, PH	19	26	27	0.10	0.18	0.23	0.24	0.36	0.43	0.50
Aluminum AlCuSiMn, AlMgSi0.5, AlZnMgCu1.5 etc	350 - 400	37 - 43	PH	16	21	22	0.08	0.15	0.20	0.22	0.30	0.48	0.46
	30	0	HSS	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.62
Stainless Steels X7Cr13, X10CrA118, X5CrNi189, X5CrNiMo18 10 etc	180	0 - 8	HSS	92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.62
	135 - 185	0 - 9	HSS	24	29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
	185 - 275	9 - 28	HSS	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

RPM= revolution per minute (rev/min)

M/min= surface meter per minute(M/min)

DIA= diameter of drill (mm)

mm/rev = feed rate(mm/rev)

* Formulas :

$$M/min = \frac{(RPM) \cdot (\pi) \cdot (DIA.)}{1000}$$

$$mm/min = (RPM) \cdot (mm/rev)$$

$$RPM = \frac{(M/min) \cdot (1000)}{(\pi) \cdot (DIA.)}$$

* HSS Grade : HSS = HSS M4, SH = Super HSS T15, PH = Premium HSS M48

The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.



DRILL INSERT (METRIC) - CARBIDE BOHREINSATZ (METRISCH) - VOLLHARTMETALL

Material	Material Hardness		CARBIDE Grade	Speed (M/min)			Feed (mm/rev)				
	(Bhn)	(HRc)		TiN	TiCN	TiAlN	Ø 9.5 ~12.5	Ø 13 ~17.5	Ø 18 ~24	Ø 25 ~35	Ø 36 ~47
Free machining Steels 9SMn36, 9SMnPb28 10SPb20 etc	100 - 150	0	P40	101	113	125	0.18	0.28	0.36	0.44	0.50
	150 - 200	0 - 13	P40	88	99	110	0.16	0.26	0.33	0.39	0.45
	200 - 250	13 - 24	P40	82	88	101	0.14	0.23	0.31	0.41	0.42
Low Carbon Steels C10, C15, C22, C25 etc	85 - 125	0	P40	94	110	119	0.20	0.24	0.31	0.42	0.46
	125 - 175	0 - 7	P40	82	88	107	0.18	0.24	0.31	0.39	0.43
	175 - 225	7 - 20	P40	76	82	96	0.15	0.22	0.29	0.36	0.40
Medium Carbon Steels C35, C40, C45 etc	225 - 275	20 - 28	P40	62	73	84	0.13	0.22	0.29	0.36	0.40
	125 - 175	0 - 7	P40	82	88	102	0.17	0.24	0.31	0.37	0.42
	175 - 225	7 - 20	P40	75	84	93	0.15	0.22	0.28	0.36	0.40
Structural Steels St33, St37-2, St44-2 St52, St60 etc	225 - 275	20 - 28	P40	66	70	84	0.15	0.22	0.28	0.36	0.40
	275 - 325	28 - 34	P40	56	64	67	0.13	0.19	0.26	0.33	0.37
	100 - 150	0	P40	75	82	91	0.19	0.26	0.34	0.39	0.43
Cast Iron / S,G Iron GG10, 20, 25, 35, 40 GGG50, 70 GTW35, GTS70 etc	150 - 250	0 - 24	P40	62	70	75	0.15	0.24	0.29	0.33	0.37
	250 - 350	24 - 37	P40	55	64	73	0.13	0.23	0.27	0.29	0.33
	120 - 150	0	K20,K10	98	125	137	0.18	0.30	0.37	0.46	0.56
	150 - 200	0 - 13	K20,K10	95	101	125	0.17	0.26	0.32	0.42	0.53
Alloy Steels 45CrNiMo4, 42CrNiMo4 16MnCr5, Ck75 35CrNiMo4, 16MnCr5 etc	200 - 220	13 - 19	K20,K10	75	91	111	0.14	0.23	0.30	0.38	0.45
	220 - 260	19 - 26	K20,K10	66	81	93	0.13	0.15	0.28	0.33	0.37
	260 - 320	26 - 34	K20,K10	56	70	79	0.13	0.18	0.23	0.28	0.33
	125 - 175	0 - 7	P40	79	85	98	0.18	0.25	0.32	0.40	0.45
Tool Steels T02Cr6, T05WCr6, C75W etc	175 - 225	7 - 20	P40	73	81	88	0.15	0.23	0.29	0.38	0.42
	225 - 275	20 - 28	P40	66	73	81	0.15	0.21	0.28	0.37	0.41
	275 - 325	28 - 34	P40	62	70	78	0.12	0.20	0.27	0.33	0.40
High Temp. Alloy Hastelloy B, Inconel etc	325 - 375	34 - 40	P40	53	58	64	0.10	0.18	0.23	0.30	0.38
	150 - 200	0 - 13	P40	50	56	67	0.09	0.18	0.22	0.28	0.31
High Strength Alloy 36CrNiMo4, 34CrNiMo8 40NiCrMo73 etc	200 - 250	13 - 24	P40	37	46	50	0.09	0.18	0.22	0.28	0.31
	140 - 220	0 - 19	K20	26	27	30	0.10	0.17	0.23	0.27	0.33
Aluminum AlCuSiMn, AlMgSi0.5, AlZnMgCu1.5 etc	220 - 310	19 - 33	K20	20	23	24	0.10	0.14	0.20	0.24	0.30
	225 - 300	0 - 32	P40	49	55	62	0.15	0.23	0.25	0.29	0.38
	300 - 350	32 - 37	P40	43	49	55	0.12	0.20	0.23	0.27	0.35
Stainless Steels X7Cr13, X10CrAl18, X5CrNi189, X5CrNiMo18 10 etc	350 - 400	37 - 43	P40	38	43	47	0.10	0.18	0.20	0.24	0.30
	30	0	K20	366	396	427	0.24	0.38	0.45	0.50	0.53
Aluminum AlCuSiMn, AlMgSi0.5, AlZnMgCu1.5 etc	180	0 - 8	K20	244	290	291	0.22	0.33	0.40	0.45	0.48
	135 - 185	0 - 9	K20	50	55	62	0.19	0.19	0.21	0.24	0.30
Stainless Steels X7Cr13, X10CrAl18, X5CrNi189, X5CrNiMo18 10 etc	185 - 275	9 - 28	K20	38	44	46	0.15	0.17	0.20	0.21	0.25

RPM= revolution per minute (rev/min)

M/min= surface meter per minute(M/min)

DIA= diameter of drill (mm)

mm/rev = feed rate(mm/rev)

* Formulas :

$$M/min = \frac{(RPM) \cdot (\pi) \cdot (DIA.)}{1000}$$

$$mm/min = (RPM) \cdot (mm/rev)$$

$$RPM = \frac{(M/min) \cdot (1000)}{(\pi) \cdot (DIA.)}$$

The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.