



Leading Through Innovation



INSERTS & HOLDERS

SPADE DRILLS

BOHRMESSER

- For General Machines and Drilling Large Diameters, Longer Tool Life and High Productivity
- Für allgemeine Maschinen und zum Bohren großer Durchmesser, längere Werkzeugstandzeiten und höhere Produktivität

SELECTION GUIDE



Please visit globalyg1.com/mat for material search

INSERTS & HOLDERS SPADE DRILLS

For General Machines and Drilling Large Diameters Longer Tool Life and High Productivity

⊙ : Excellent ○ : Good

Recommended cutting conditions : p.A375

SURFACE TREATMENT

TiN / TiCN / TiAlN



Table with columns: ISO, VDI 3323, Material Description, Composition / Structure / Heat Treatment, HB, HRC, and suitability for various series (1~8, Y,Z,0,1~4, Y,Z,0,1,2).

Table showing holder types: TAPER SHANK, FLANGED SHANK, and STRAIGHT SHANK, with corresponding images and series numbers (A352, A362, A369).

Table with columns for series (Y,Z,0,1,2, Y,Z,0,1~3, 1~3, Y,Z,0,1~3, Y,Z,0,1,2, Y,Z,0,1,2, Y,Z,0,1~3, Y,Z,0,1~3, Y,Z,0,1,2) and corresponding tool materials (CARBIDE K10, K20, P40, HSS M4, SUPER HSS T15, PREMIUM HSS M48).

Table showing suitability for TiN / TiCN / TiAlN surface treatment across various series.

Large table showing suitability for various series (1-41) across different tool materials and surface treatments.

Table comparing Coating (TiN, TiCN, TiAlN, Hardslick) and Characteristics (wear resistance, temperature, friction coefficient, color).

YG SPADE DRILLS

SERIES 1, 2

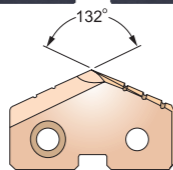
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL - HSS M4
- CUSPIDI SPADE DRILL - HSS M4

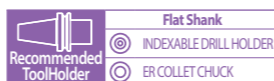


- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

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



Cutting conditions : p.A375



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	Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	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		
			19.45	.7656	S1405049	S1410049	S1415049		
			19.50	.7677	S1455195	S1460195	S1465195		
		4.0 (5/32)	Ø24.41 (.961) to Ø35.05 (1.380)	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
					22.00	.8661	S1405055	S1410055	S1415055
				7/8	22.23	.8750	S1455220	S1460220	S1465220
22.62	.8906				S1405056	S1410056	S1415056		
57/64	22.62			.8906	S1405057	S1410057	S1415057		
	23.00			.9055	S1455230	S1460230	S1465230		
4.8 (3/16)	Ø24.41 (.961) to Ø35.05 (1.380)	29/32	23.02	.9063	S1405058	S1410058	S1415058		
			23.42	.9219	S1405059	S1410059	S1415059		
		59/64	23.81	.9375	S1405060	S1410060	S1415060		
			24.00	.9449	S1455240	S1460240	S1465240		
		31/32	24.61	.9688	S1405062	S1410062	S1415062		
			25.00	.9843	S1455250	S1460250	S1465250		
6.4 (1/4)	Ø24.41 (.961) to Ø35.05 (1.380)	1	25.40	1.0000	S1405100	S1410100	S1415100		
			25.80	1.0156	S1405101	S1410101	S1415101		
		1-1/64	26.00	1.0236	S1455260	S1460260	S1465260		
			26.19	1.0313	S1405102	S1410102	S1415102		
		1-3/64	26.59	1.0469	S1405103	S1410103	S1415103		
			26.99	1.0625	S1405104	S1410104	S1415104		
27.00	1.0630	S1455270	S1460270	S1465270					

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎						◎															

YG SPADE DRILLS

SERIES 2, 3

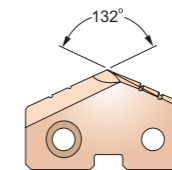
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
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- ▶ 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.A375



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	Ø24.41 (.961) to Ø35.05 (1.380)	1-3/32	27.78	1.0938	S1405106	S1410106	S1415106	
			28.00	1.1024	S1455280	S1460280	S1465280	
			1-7/64	28.18	1.1094	S1405107	S1410107	S1415107
		28.58		1.1250	S1405108	S1410108	S1415108	
		1-1/8	29.00	1.1417	S1455290	S1460290	S1465290	
			29.37	1.1563	S1405110	S1410110	S1415110	
			30.00	1.1811	S1455300	S1460300	S1465300	
		1-3/16	30.16	1.1875	S1405112	S1410112	S1415112	
			30.96	1.2188	S1405114	S1410114	S1415114	
		1-1/4	31.00	1.2205	S1455310	S1460310	S1465310	
			31.75	1.2500	S1405116	S1410116	S1415116	
		1-9/32	32.00	1.2598	S1455320	S1460320	S1465320	
			32.54	1.2813	S1405118	S1410118	S1415118	
		1-5/16	33.00	1.2992	S1455330	S1460330	S1465330	
			33.34	1.3125	S1405120	S1410120	S1415120	
		1-11/32	34.00	1.3386	S1455340	S1460340	S1465340	
			34.13	1.3438	S1405122	S1410122	S1415122	
		1-3/8	34.93	1.3750	S1405124	S1410124	S1415124	
35.00	1.3780		S1455350	S1460350	S1465350			
1-13/32	35.72	1.4063	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			
	38.89	1.5313	S1405134	S1410134	S1415134			
1-17/32	39.00	1.5354	S1455390	S1460390	S1465390			
	39.69	1.5625	S1405136	S1410136	S1415136			
1-9/16	40.00	1.5748	S1455400	S1460400	S1465400			
	40.48	1.5938	S1405138	S1410138	S1415138			
1-19/32	41.00	1.6142	S1455410	S1460410	S1465410			
	41.28	1.6250	S1405140	S1410140	S1415140			
1-5/8	42.00	1.6535	S1455420	S1460420	S1465420			

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎						◎															

YG SPADE DRILLS

SERIES 3, 4

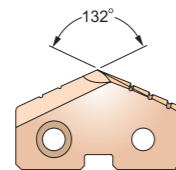
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4

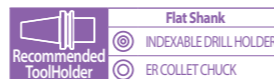


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Cutting conditions : p.A375



Series	Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.					
		Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4					
					TiN	TiCN	TiAlN				
3	Ø34.37 (1.353) to Ø47.80 (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	Ø46.99 (1.850) to Ø65.28 (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		S1455520	S1460520	S1465520			
		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	54.77	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

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

ISO	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎					◎														

YG SPADE DRILLS

SERIES 4, 5

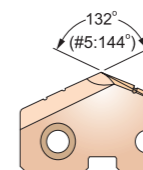
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



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Cutting conditions : p.A375



Series	Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.					
		Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4					
					TiN	TiCN	TiAlN				
4	Ø46.99 (1.850) to Ø65.28 (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			
5	Ø62.38 (2.456) to Ø76.20 (3.000)	2-15/32	62.71	2.4688	11.1 (7/16)	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			
		2-1/2	65.50	2.5700		S1405238	S1410238	S1415238			
			66.00	2.5984		S1455660	S1460660	S1465660			
		2-17/32	64.29	2.5313		S1405240	S1410240	S1415240			
		2-9/16	65.09	2.5625		S1405242	S1410242	S1415242			
		2-19/32	65.88	2.5938		S1405244	S1410244	S1415244			
	66.00	2.5984	S1455660	S1460660	S1465660						
2-5/8	66.68	2.6250	S1405246	S1410246	S1415246						
2-21/32	67.47	2.6563	S1405248	S1410248	S1415248						
	68.00	2.6772	S1455680	S1460680	S1465680						
2-11/16	68.26	2.6875	S1405250	S1410250	S1415250						
2-23/32	69.05	2.7188	S1405252	S1410252	S1415252						
2-3/4	69.85	2.7500	S1405254	S1410254	S1415254						
	70.00	2.7559	S1455700	S1460700	S1465700						
2-25/32	70.64	2.7813	S1405256	S1410256	S1415256						
2-13/16	71.44	2.8125	S1405258	S1410258	S1415258						

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

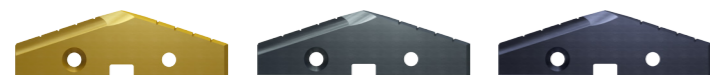
ISO	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎					◎														

YG SPADE DRILLS

SERIES 5, 6, 7

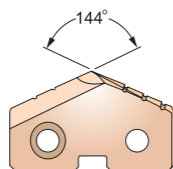
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4

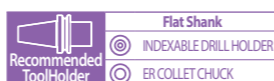


- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

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



Cutting conditions : p.A375



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	Ø62.38 (2.456) to Ø76.20 (3.000)	2-27/32	72.00	2.8346	11.1 (7/16)	S1455720	S1460720	S1465720
		2-7/8	72.23	2.8438		S1405254	S1410254	S1415254
		2-29/32	73.03	2.8750		S1405256	S1410256	S1415256
		74.00	2.9134	S1405258		S1410258	S1415258	
		2-15/16	74.61	2.9375		S1455740	S1460740	S1465740
		2-31/32	74.61	2.9375		S1405260	S1410260	S1415260
		75.41	2.9688	S1405262		S1410262	S1415262	
		76.00	2.9921	S1455760		S1460760	S1465760	
		3	76.20	3.0000		S1405300	S1410300	S1415300
		3-1/32	76.99	3.0313		S1405302	S1410302	S1415302
6	Ø76.23 (3.001) to Ø89.08 (3.507)	3-1/16	77.79	3.0625	11.1 (7/16)	S1405304	S1410304	S1415304
		78.00	3.0709	S1455780		S1460780	S1465780	
		3-3/32	78.58	3.0938		S1405306	S1410306	S1415306
		79.38	3.1250	S1405308		S1410308	S1415308	
		80.00	3.1496	S1455800		S1460800	S1465800	
		3-5/32	80.17	3.1563		S1405310	S1410310	S1415310
		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
7	Ø101.63 (4.001) to Ø114.48 (4.507)	3-9/32	83.34	3.2813	11.1 (7/16)	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
		85.73	3.3750	S1405324		S1410324	S1415324	
		86.00	3.3858	S1455860		S1460860	S1465860	
		3-13/32	86.52	3.4063		S1405326	S1410326	S1415326
		87.31	3.4375	S1405328		S1410328	S1415328	
		88.00	3.4646	S1455880		S1460880	S1465880	
		3-15/32	88.11	3.4688		S1405330	S1410330	S1415330
7	Ø101.63 (4.001) to Ø114.48 (4.507)	3-1/2	88.90	3.5000	11.1 (7/16)	S1405332	S1410332	S1415332
		3-17/32	89.69	3.5313		S1405334	S1410334	S1415334
		90.00	3.5433	S1455900		S1460900	S1465900	
3-9/16	90.49	3.5625	S1405336	S1410336	S1415336			

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

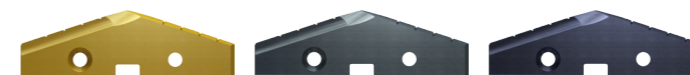
ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎						◎															

YG SPADE DRILLS

SERIES 7, 8

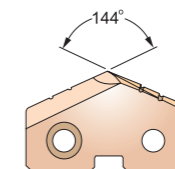
SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - 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.A375



Series	Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
		Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
7	Ø87.76 (3.455) to Ø101.60 (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
8	Ø101.63 (4.001) to Ø114.48 (4.507)	3-13/16	96.84	3.8125	11.1 (7/16)	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
		4-1/64	102.00	4.0157		S1455A20	S1460A20	S1465A20
8	Ø101.63 (4.001) to Ø114.48 (4.507)	4-1/16	103.19	4.0625	11.1 (7/16)	S1405404	S1410404	S1415404
		4-3/32	104.00	4.0945		S1455A40	S1460A40	S1465A40
		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
8	Ø101.63 (4.001) to Ø114.48 (4.507)	4-3/8	112.00	4.4094	11.1 (7/16)	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

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎						◎															

YG SPADE DRILLS

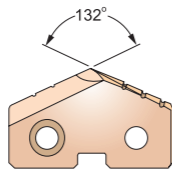
SERIES Y, Z, 0

SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - 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.A376



Series	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.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
		10.00	.3937		S1155100	S1160100	S1165100
		10.20	.4016		S1155102	S1160102	S1165102
		10.32	.4063		S1105026	S1110026	S1115026
		10.50	.4134		S1155105	S1160105	S1165105
		10.72	.4219		S1105027	S1110027	S1115027
		10.80	.4252		S1155108	S1160108	S1165108
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	2.4 (3/32)	S1105028	S1110028	S1115028
		11.50	.4528		S1155115	S1160115	S1165115
	29/64	11.51	.4531		S1105029	S1110029	S1115029
		11.91	.4688		S1105030	S1110030	S1115030
		12.00	.4724		S1155120	S1160120	S1165120
		12.30	.4844		S1105031	S1110031	S1115031
		12.50	.4921		S1155125	S1160125	S1165125
		12.70	.5000		S1105032	S1110032	S1115032
		13.00	.5118		S1155130	S1160130	S1165130
		13.10	.5156		S1105033	S1110033	S1115033
0 Ø12.98 (.511) to Ø17.65 (.695)	17/32	13.49	.5313	3.2 (1/8)	S1105034	S1110034	S1115034
		13.50	.5315		S1155135	S1160135	S1165135
	35/64	13.89	.5469		S1105035	S1110035	S1115035
		14.00	.5512		S1155140	S1160140	S1165140
		14.29	.5625		S1105036	S1110036	S1115036
		14.50	.5709		S1155145	S1160145	S1165145
		14.68	.5781		S1105037	S1110037	S1115037
		15.00	.5906		S1155150	S1160150	S1165150
		15.08	.5938		S1105038	S1110038	S1115038
		15.48	.6094		S1105039	S1110039	S1115039
5/8	15.50	.6102	S1155155	S1160155	S1165155		
	15.88	.6250	S1105040	S1110040	S1115040		
	16.00	.6299	S1155160	S1160160	S1165160		

◎ : Excellent ○ : Good

ISO	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRC	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	3	25	130	230	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRC	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

YG SPADE DRILLS

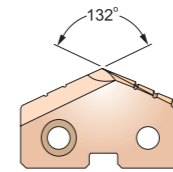
SERIES 0, 1

SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - 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.A376



Series	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 Ø12.98 (.511) to Ø17.65 (.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
		17.07	.6719		S1105043	S1110043	S1115043
		17.46	.6875		S1105044	S1110044	S1115044
		17.50	.6890		S1155175	S1160175	S1165175
		17.86	.7031		S1105045	S1110045	S1115045
		18.00	.7087		S1155180	S1160180	S1165180
		18.26	.7188		S1105046	S1110046	S1115046
1 Ø17.53 (.690) to Ø24.38 (.960)	47/64	18.50	.7283	4.0 (5/32)	S1155185	S1160185	S1165185
		18.65	.7344		S1105047	S1110047	S1115047
	3/4	19.00	.7480		S1155190	S1160190	S1165190
		19.05	.7500		S1105048	S1110048	S1115048
		19.45	.7656		S1105049	S1110049	S1115049
		19.50	.7677		S1155195	S1160195	S1165195
		20.00	.7874		S1105050	S1110050	S1115050
		20.24	.7969		S1155200	S1160200	S1165200
		20.50	.8071		S1105051	S1110051	S1115051
		20.50	.8071		S1155205	S1160205	S1165205
13/16	20.64	.8125	S1105052	S1110052	S1115052		
	21.00	.8268	S1155210	S1160210	S1165210		
	21.43	.8438	S1105054	S1110054	S1115054		
	21.83	.8594	S1105055	S1110055	S1115055		
	22.00	.8661	S1155220	S1160220	S1165220		
	22.23	.8750	S1105056	S1110056	S1115056		
	22.62	.8906	S1155230	S1160230	S1165230		
	23.00	.9055	S1105057	S1110057	S1115057		
	23.02	.9063	S1155230	S1160230	S1165230		
	23.42	.9219	S1105058	S1110058	S1115058		
15/16	23.81	.9375	S1105059	S1110059	S1115059		
	24.00	.9449	S1155240	S1160240	S1165240		

◎ : Excellent ○ : Good

ISO	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRC	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	3	25	130	230	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRC	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

YG SPADE DRILLS

SERIES 2, 3

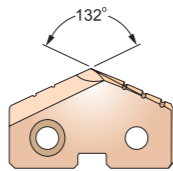
SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15

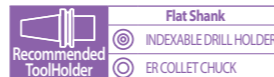


- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 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.A376



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 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	S1105062	S1110062	S1115062	
	63/64	25.00	.9843	S1155250	S1160250	S1165250	
	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		
	34.00	1.3386	S1155340	S1160340	S1165340		
1-11/32	34.13	1.3438	S1105122	S1110122	S1115122		
1-3/8	34.93	1.3750	S1105124	S1110124	S1115124		
	35.00	1.3780	S1155350	S1160350	S1165350		
1-13/32	35.72	1.4063	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		
Ø47.80(1.882)	38.00	1.4961	S1155380	S1160380	S1165380		

◎ : Excellent ○ : Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	3	25	130	230	160	250	130	230	210
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H									
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	40	55	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

SERIES 3, 4

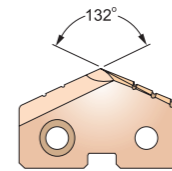
SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - 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.A376



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
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-1/2	38.10	1.5000	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		
1-29/32	48.42	1.9063	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	S1155520	S1160520	S1165520		
2-1/16	52.39	2.0625	S1105204	S1110204	S1115204		
	53.00	2.0866	S1155530	S1160530	S1165530		

4

Ø46.99 (1.850) to Ø65.28 (2.570)

6.4 (1/4)

7.9 (5/16)

◎ : Excellent ○ : Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	3	25	130	230	160	250	130	230	210
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H									
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	40	55	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

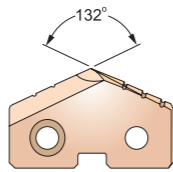
SERIES 0, 1

SPADE DRILL INSERTS - PREMIUM HSS M48

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - 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.A377



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 Ø12.98(.511) to Ø17.65(.695)	41/64 21/32 43/64 11/16	16.27 16.50 16.67 17.00 17.07 17.46 17.50		.6406 .6496 .6563 .6693 .6719 .6875 .6890	3.2 (1/8)	S1505041 S1555165 S1505042 S1555170 S1505043 S1505044 S1555175 S1505045 S1555180 S1505046 S1555185 S1505047 S1555190 S1505048 S1505049 S1555195 S1505050 S1555200 S1505051 S1555205 S1505052	S1510041 S1560165 S1510042 S1560170 S1510043 S1510044 S1560175 S1510045 S1560180 S1510046 S1560185 S1510047 S1560190 S1510048 S1510049 S1560195 S1510050 S1560200 S1510051 S1560205 S1510052
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64 23/32 47/64 3/4 49/64 25/32 51/64 13/16 27/32 55/64 7/8 57/64 29/32 59/64 15/16	17.86 18.00 18.26 18.50 18.50 19.00 19.05 19.45 19.50 19.84 20.00 20.24 20.50 20.64 21.00 21.43 21.83 22.00 22.23 22.62 23.00 23.02 23.42 23.81 24.00	.7031 .7087 .7188 .7283 .7344 .7480 .7500 .7656 .7677 .7813 .7874 .7969 .8071 .8125 .8268 .8438 .8594 .8661 .8750 .8906 .9055 .9063 .9219 .9375 .9449	4.0 (5/32)	S1505045 S1555180 S1505046 S1555185 S1505047 S1555190 S1505048 S1505049 S1555195 S1505050 S1555200 S1505051 S1555205 S1505052 S1555210 S1505054 S1505055 S1555220 S1505056 S1505057 S1555230 S1505058 S1505059 S1505060 S1555240		S1510045 S1560180 S1510046 S1560185 S1510047 S1560190 S1510048 S1510049 S1560195 S1510050 S1560200 S1510051 S1560205 S1510052 S1560210 S1510054 S1510055 S1560220 S1510056 S1510057 S1560230 S1510058 S1510059 S1510060 S1560240	S1515045 S1565180 S1515046 S1565185 S1515047 S1565190 S1515048 S1515049 S1565195 S1515050 S1565200 S1515051 S1565205 S1515052 S1565210 S1515054 S1515055 S1565220 S1515056 S1515057 S1565230 S1515058 S1515059 S1515060 S1565240

YG SPADE DRILLS

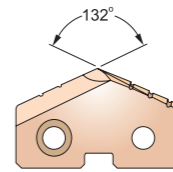
SERIES 2

SPADE DRILL INSERTS - PREMIUM HSS M48

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - 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.A377



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
	2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 1-7/64 1-1/8 1-5/32 1-3/16 1-7/32 1-1/4 1-9/32 1-5/16 1-11/32 1-3/8	24.61 25.00 25.40 25.80 26.00 26.19 26.59 26.99 27.00 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00		.9688 .9843 1.0000 1.0156 1.0236 1.0313 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1563 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2813 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	S1505062 S1555250 S1505100 S1505101 S1555260 S1505102 S1505103 S1505104 S1555270 S1505106 S1555280 S1505107 S1505108 S1555290 S1505110 S1555300 S1505112 S1505114 S1555310 S1505116 S1555320 S1505118 S1555330 S1505120 S1555340 S1505122 S1505124 S1555350

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○	◎	

ISO	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

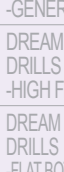
◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	◎	◎	◎	○	◎	

ISO	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SPADE DRILLS

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - PREMIUM HSS M48



Cutting conditions : p.A377



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
	2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 1-7/64 1-1/8 1-5/32 1-3/16 1-7/32 1-1/4 1-9/32 1-5/16 1-11/32 1-3/8	24.61 25.00 25.40 25.80 26.00 26.19 26.59 26.99 27.00 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00		.9688 .9843 1.0000 1.0156 1.0236 1.0313 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1563 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2813 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	S1505062 S1555250 S1505100 S1505101 S1555260 S1505102 S1505103 S1505104 S1555270 S1505106 S1555280 S1505107 S1505108 S1555290 S1505110 S1555300 S1505112 S1505114 S1555310 S1505116 S1555320 S1505118 S1555330 S1505120 S1555340 S1505122 S1505124 S1555350

YG SPADE DRILLS

SERIES Y, Z, 0

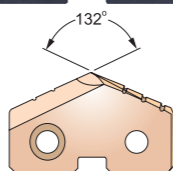
SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

- EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL pour la fonte - Carbure K10
- CUSPIDI SPADE DRILL - MD K10

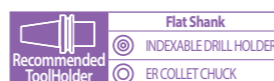


- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 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.A378



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	Ø9.50 (.374) to Ø11.07 (.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
			10.00	.3937		S1655100	S1660100	S1665100
			10.20	.4016		S1655102	S1660102	S1665102
			10.32	.4063		S1605026	S1610026	S1615026
			10.50	.4134		S1655105	S1660105	S1665105
			10.72	.4219		S1605027	S1610027	S1615027
			10.80	.4252		S1655108	S1660108	S1665108
Z	Ø11.11(.437) to Ø12.95(.510)	7/16	11.00	.4331	2.4 (3/32)	S1655110	S1660110	S1665110
			11.11	.4375		S1605028	S1610028	S1615028
		15/32	11.50	.4528		S1655115	S1660115	S1665115
			11.51	.4531		S1605029	S1610029	S1615029
			11.91	.4688		S1655120	S1660120	S1665120
			12.00	.4724		S1605030	S1610030	S1615030
			12.30	.4844		S1655125	S1660125	S1665125
			12.50	.4921		S1605031	S1610031	S1615031
			12.70	.5000		S1655130	S1660130	S1665130
			13.00	.5118		S1605032	S1610032	S1615032
0	Ø12.98 (.511) to Ø17.65 (.695)	33/64	13.10	.5156	3.2 (1/8)	S1655130	S1660130	S1665130
			13.10	.5156		S1605033	S1610033	S1615033
		17/32	13.49	.5313		S1655135	S1660135	S1665135
			13.50	.5315		S1605034	S1610034	S1615034
			13.89	.5469		S1655140	S1660140	S1665140
			14.00	.5512		S1605035	S1610035	S1615035
			14.29	.5625		S1655145	S1660145	S1665145
			14.50	.5709		S1605036	S1610036	S1615036
			14.68	.5781		S1655145	S1660145	S1665145
			15.00	.5906		S1605037	S1610037	S1615037
19/32	15.08	.5938	S1655150	S1660150	S1665150			
	15.08	.5938	S1605038	S1610038	S1615038			
	15.48	.6094	S1655155	S1660155	S1665155			
	15.48	.6094	S1605039	S1610039	S1615039			
	15.50	.6102	S1655155	S1660155	S1665155			
	15.88	.6250	S1605040	S1610040	S1615040			
	16.00	.6299	S1655160	S1660160	S1665160			
	16.00	.6299	S1605040	S1610040	S1615040			

◎ : Excellent ○ : Good

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130
Recommended															◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42
Recommended																								

YG SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

- EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL pour la fonte - Carbure K10
- CUSPIDI SPADE DRILL - MD 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.A378



Series	Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
		Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0	Ø12.98(.511) to Ø17.65(.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
			17.07	.6719		S1605043	S1610043	S1615043
			17.46	.6875		S1605044	S1610044	S1615044
			17.50	.6890		S1655175	S1660175	S1665175
			17.86	.7031		S1605045	S1610045	S1615045
			18.00	.7087		S1655180	S1660180	S1665180
			18.26	.7188		S1605046	S1610046	S1615046
1	Ø17.53 (.690) to Ø24.38 (.960)	47/64	18.50	.7283	4.0 (5/32)	S1655185	S1660185	S1665185
			18.65	.7344		S1605047	S1610047	S1615047
		3/4	19.00	.7480		S1655190	S1660190	S1665190
			19.05	.7500		S1605048	S1610048	S1615048
			19.45	.7656		S1655195	S1660195	S1665195
			19.50	.7677		S1605049	S1610049	S1615049
			19.84	.7813		S1655200	S1660200	S1665200
			20.00	.7874		S1605050	S1610050	S1615050
			20.24	.7969		S1655205	S1660205	S1665205
			20.50	.8071		S1605051	S1610051	S1615051
0	Ø17.53 (.690) to Ø24.38 (.960)	13/16	20.64	.8125	4.0 (5/32)	S1655205	S1660205	S1665205
			20.64	.8125		S1605052	S1610052	S1615052
		7/8	21.00	.8268		S1655210	S1660210	S1665210
			21.43	.8438		S1605054	S1610054	S1615054
			21.83	.8594		S1655220	S1660220	S1665220
			22.00	.8661		S1605055	S1610055	S1615055
			22.23	.8750		S1655220	S1660220	S1665220
			22.62	.8906		S1605056	S1610056	S1615056
			23.00	.9055		S1655230	S1660230	S1665230
			23.02	.9063		S1605058	S1610058	S1615058
15/16	23.42	.9219	S1655230	S1660230	S1665230			
	23.42	.9219	S1605059	S1610059	S1615059			
	23.81	.9375	S1655240	S1660240	S1665240			
	24.00	.9449	S1605060	S1610060	S1615060			
	24.00	.9449	S1655240	S1660240	S1665240			
	24.00	.9449	S1605060	S1610060	S1615060			
	24.00	.9449	S1655240	S1660240	S1665240			
	24.00	.9449	S1605060	S1610060	S1615060			

◎ : Excellent ○ : Good

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130
Recommended															◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42
Recommended																								

YG SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

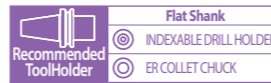
- EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL pour la fonte - Carbure K10
- CUSPIDI SPADE DRILL - MD K10



- ▶ 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.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	S1605062	S1610062	S1615062	
	63/64	25.00	.9843	S1655250	S1660250	S1665250	
	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	
	1-7/64	28.00	1.1024	S1655280	S1660280	S1665280	
		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	
		30.96	1.2188	S1605114	S1610114	S1615114	
	1-7/32	31.00	1.2205	S1655310	S1660310	S1665310	
		31.75	1.2500	S1605116	S1610116	S1615116	
1-1/4	32.00	1.2598	S1655320	S1660320	S1665320		
	32.54	1.2813	S1605118	S1610118	S1615118		
1-9/32	33.00	1.2992	S1655330	S1660330	S1665330		
	33.34	1.3125	S1605120	S1610120	S1615120		
1-5/16	34.00	1.3386	S1655340	S1660340	S1665340		
	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

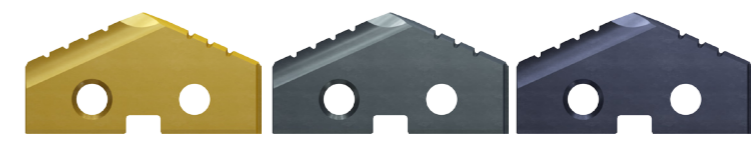
ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550	400Rm	1050Rm	550	630	400	550			
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SPADE DRILLS

SERIES Y, Z, O

SPADE DRILL INSERTS - CARBIDE K20

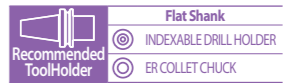
- EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL - Carbure K20
- CUSPIDI SPADE DRILL - MD K20



- ▶ 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.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	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	10.80	.4252	S1755108	S1760108	S1765108	
		11.00	.4331	S1755110	S1760110	S1765110	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	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	
	33/64	13.00	.5118	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	16.00	.6299	S1755160	S1760160	S1765160		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550	400Rm	1050Rm	550	630	400	550			
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SPADE DRILLS

SERIES 3

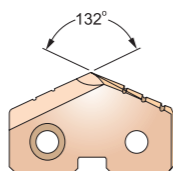
SPADE DRILL INSERTS - CARBIDE K20

- EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL - Carbure K20
- CUSPIDI SPADE DRILL - MD K20



- ▶ 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, kurzspanndem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	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	
		38.89	1.5313	S1705134	S1710134	S1715134	
	1-17/32	39.00	1.5354	S1755390	S1760390	S1765390	
		39.69	1.5625	S1705136	S1710136	S1715136	
	1-9/16	40.00	1.5748	S1755400	S1760400	S1765400	
		40.48	1.5938	S1705138	S1710138	S1715138	
	1-19/32	41.00	1.6142	S1755410	S1760410	S1765410	
		41.28	1.6250	S1705140	S1710140	S1715140	
	1-5/8	42.00	1.6535	S1755420	S1760420	S1765420	
		42.07	1.6563	S1705142	S1710142	S1715142	
	1-21/32	42.86	1.6875	S1705144	S1710144	S1715144	
		43.00	1.6929	S1755430	S1760430	S1765430	
	1-11/16	43.66	1.7188	S1705146	S1710146	S1715146	
		44.00	1.7323	S1755440	S1760440	S1765440	
1-23/32	44.45	1.7500	S1705148	S1710148	S1715148		
	45.00	1.7717	S1755450	S1760450	S1765450		
1-25/32	45.24	1.7813	S1705150	S1710150	S1715150		
	46.00	1.8110	S1755460	S1760460	S1765460		
1-13/16	46.04	1.8125	S1705152	S1710152	S1715152		
	46.83	1.8438	S1755470	S1760470	S1765470		
1-27/32	47.00	1.8504	S1705154	S1710154	S1715154		
	47.63	1.8750	S1755470	S1760470	S1765470		
1-7/8	47.63	1.8750	S1705156	S1710156	S1715156		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	360	250	130	230	125	190	250	270	300
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

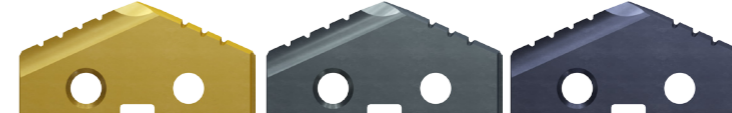
ISO Material Description	N					S										H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42	55	55
Recommended	◎	◎				◎					◎	◎	◎	◎	◎							◎				

YG SPADE DRILLS

SERIES Y, Z, 0

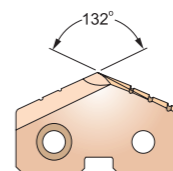
SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD 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.A380



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S1855095	S1860095	S1865095	
		9.53	.3750	S1805024	S1810024	S1815024	
	25/64	9.80	.3860	S1855098	S1860098	S1865098	
		9.92	.3906	S1805025	S1810025	S1815025	
	13/32	10.00	.3937	S1855100	S1860100	S1865100	
		10.20	.4016	S1855102	S1860102	S1865102	
	27/64	10.32	.4063	S1805026	S1810026	S1815026	
		10.50	.4134	S1855105	S1860105	S1865105	
	7/16	10.72	.4219	S1805027	S1810027	S1815027	
		10.80	.4252	S1855108	S1860108	S1865108	
Z Ø11.11(.437) to Ø12.95(.510)	1/2	11.00	.4331	S1855110	S1860110	S1865110	
		11.11	.4375	S1805028	S1810028	S1815028	
	29/64	11.50	.4528	S1855115	S1860115	S1865115	
		11.51	.4531	S1805029	S1810029	S1815029	
	15/32	11.91	.4688	S1855120	S1860120	S1865120	
		12.00	.4724	S1805031	S1810031	S1815031	
	31/64	12.30	.4844	S1855125	S1860125	S1865125	
		12.50	.4921	S1805032	S1810032	S1815032	
	1/2	13.00	.5118	S1855130	S1860130	S1865130	
		13.10	.5156	S1805033	S1810033	S1815033	
33/64	13.49	.5313	S1855135	S1860135	S1865135		
	13.50	.5315	S1805034	S1810034	S1815034		
35/64	13.89	.5469	S1855140	S1860140	S1865140		
	14.00	.5512	S1805035	S1810035	S1815035		
9/16	14.29	.5625	S1855145	S1860145	S1865145		
	14.50	.5709	S1805036	S1810036	S1815036		
37/64	14.68	.5781	S1855150	S1860150	S1865150		
	15.00	.5906	S1805037	S1810037	S1815037		
19/32	15.08	.5938	S1855155	S1860155	S1865155		
	15.48	.6094	S1805038	S1810038	S1815038		
39/64	15.50	.6102	S1855160	S1860160	S1865160		
	15.88	.6250	S1805039	S1810039	S1815039		
5/8	16.00	.6299	S1855155	S1860155	S1865155		
	16.00	.6299	S1805040	S1810040	S1815040		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	360	250	130	230	125	190	250	270	300
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S										H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42	55	55
Recommended	◎	◎				◎					◎	◎	◎	◎	◎							◎				

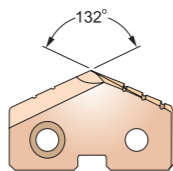
SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD 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.A380



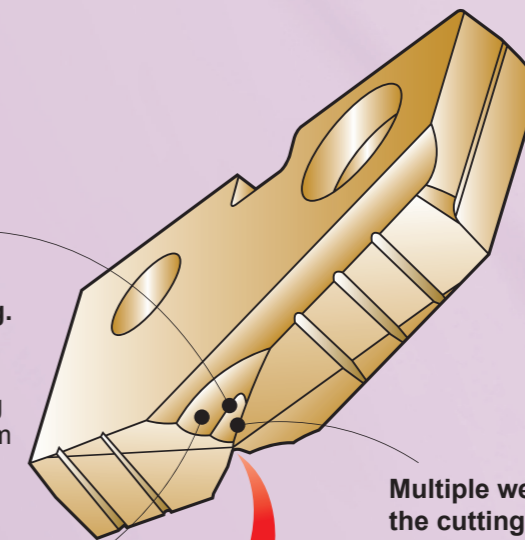
Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE P40		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	6.4 (1/4)	S1805126	S1810126	S1815126
		36.00	1.4173		S1855360	S1860360	S1865360
	1-7/16	36.51	1.4375		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
		38.89	1.5313		S1805134	S1810134	S1815134
	1-17/32	39.00	1.5354		S1855390	S1860390	S1865390
		39.69	1.5625		S1805136	S1810136	S1815136
	1-9/16	40.00	1.5748		S1855400	S1860400	S1865400
		40.48	1.5938		S1805138	S1810138	S1815138
	1-19/32	41.00	1.6142		S1855410	S1860410	S1865410
		41.28	1.6250		S1805140	S1810140	S1815140
	1-5/8	42.00	1.6535		S1855420	S1860420	S1865420
		42.07	1.6563		S1805142	S1810142	S1815142
	1-21/32	42.86	1.6875		S1855430	S1860430	S1865430
		43.00	1.6929		S1805144	S1810144	S1815144
	1-11/16	43.66	1.7188		S1855440	S1860440	S1865440
		44.00	1.7323		S1805146	S1810146	S1815146
	1-23/32	44.45	1.7500		S1855440	S1860440	S1865440
		44.45	1.7500		S1805148	S1810148	S1815148
	1-3/4	45.00	1.7717		S1855450	S1860450	S1865450
		45.24	1.7813		S1805150	S1810150	S1815150
1-25/32	46.00	1.8110	S1855460	S1860460	S1865460		
	46.04	1.8125	S1805152	S1810152	S1815152		
1-13/16	46.83	1.8438	S1855470	S1860470	S1865470		
	47.00	1.8504	S1805154	S1810154	S1815154		
1-27/32	47.63	1.8750	S1855470	S1860470	S1865470		
	47.63	1.8750	S1805156	S1810156	S1815156		

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.

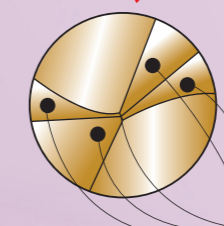
- ▶ The optimum thinning for the difference from the cutting speed, the cutting quantity and the cutting load according to the distance from the drill point to the cutting edge.



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

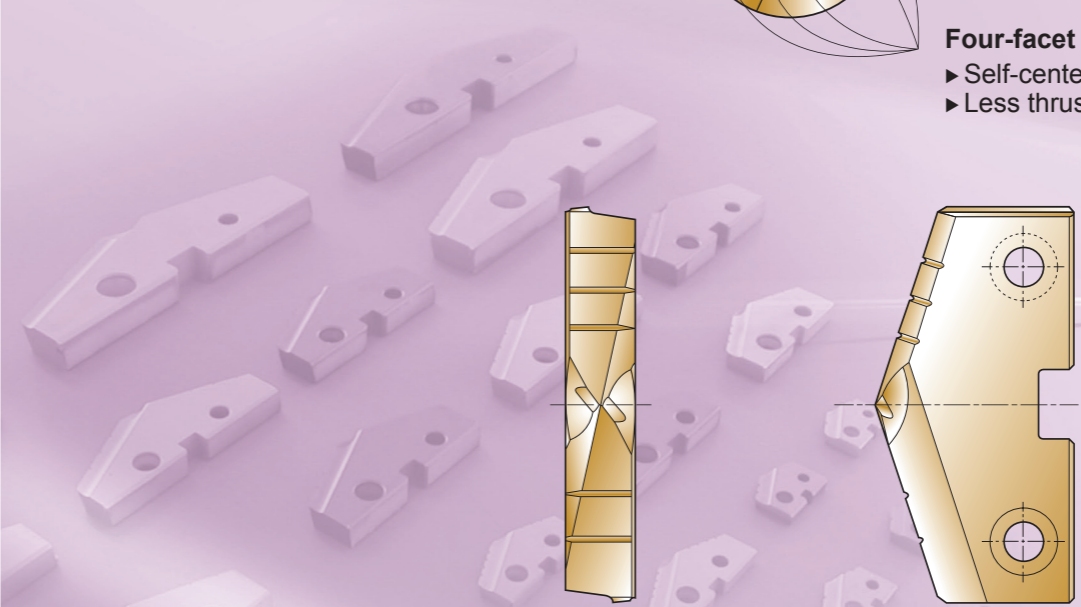
- ▶ Good self-centering
- ▶ Less tool lead off
- ▶ Reduction in bell mouching, thrust
- ▶ Increased stability

Radius back face
▶ Wide chip space



Four-facet point

- ▶ Self-centering
- ▶ Less thrust force



◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○									○	○	○	○	○			◎			

YG SPADE DRILLS

SERIES 1

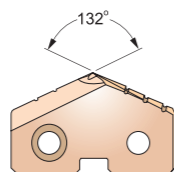
SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - HSS M4

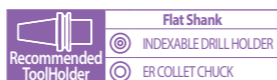


- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

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



cutting conditions : p.A375



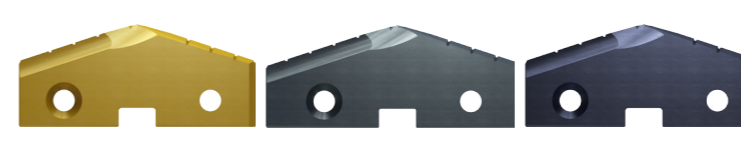
Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4		
					TiN	TiCN	TiAlN
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	SM405045	SM410045	SM415045	
		18.00	.7087	SM455180	SM460180	SM465180	
	23/32	18.26	.7188	SM405046	SM410046	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		

YG SPADE DRILLS

SERIES 2

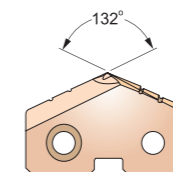
SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - 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 Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A375



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	SM405062	SM410062	SM415062	
	63/64	25.00	.9843	SM455250	SM460250	SM465250	
	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

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRC	125	13	25	28	32	35	38	42	45	48	50	55	60	65	68	70	75	80	85	90	95	100	105	110	115
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	130	230	130	230	210	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○	◎	○	◎	○	◎

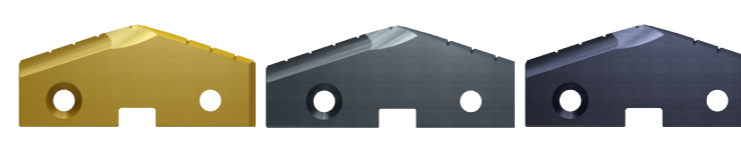
ISO	N							S							H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRC	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550	550
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550	550
Recommended	◎	◎				◎																		

YG SPADE DRILLS

SERIES 2

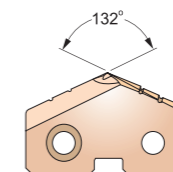
SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - 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 Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A375



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	SM405062	SM410062	SM415062	
	63/64	25.00	.9843	SM455250	SM460250	SM465250	
	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

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRC	125	13	25	28	32	35	38	42	45	48	50	55	60	65	68	70	75	80	85	90	95	100	105	110	115

YG SPADE DRILLS

SERIES 3

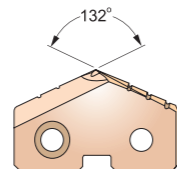
SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - HSS M4

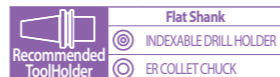


- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

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



cutting conditions : p.A375



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		HSS M4		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM405126	SM410126	SM415126	
		36.00	1.4173	SM455360	SM460360	SM465360	
		36.51	1.4375	SM405128	SM410128	SM415128	
	1-7/16	37.00	1.4567	SM455370	SM460370	SM465370	
		37.31	1.4688	SM405130	SM410130	SM415130	
		38.00	1.4961	SM455380	SM460380	SM465380	
	1-1/2	38.10	1.5000	SM405132	SM410132	SM415132	
		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	
		40.48	1.5938	SM405138	SM410138	SM415138	
	1-19/32	41.00	1.6142	SM455410	SM460410	SM465410	
		41.28	1.6250	SM405140	SM410140	SM415140	
		42.00	1.6535	SM455420	SM460420	SM465420	
	1-21/32	42.07	1.6562	SM405142	SM410142	SM415142	
		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	
		44.45	1.7500	SM405148	SM410148	SM415148	
	1-3/4	45.00	1.7717	SM455450	SM460450	SM465450	
		45.24	1.7812	SM405150	SM410150	SM415150	
		46.00	1.8110	SM455460	SM460460	SM465460	
1-13/16	46.04	1.8125	SM405152	SM410152	SM415152		
	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

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

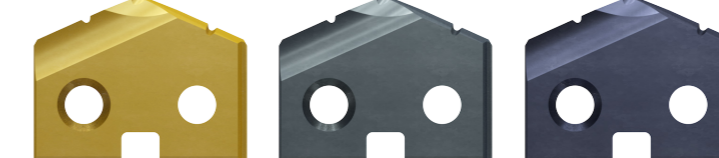
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

YG SPADE DRILLS

SERIES Y, Z, O

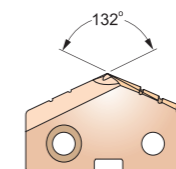
SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI, SM-POINT - 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 uerschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A376



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 Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM155095	SM160095	SM165095	
		9.53	.3750	SM105024	SM110024	SM115024	
		9.80	.3858	SM155098	SM160098	SM165098	
		9.92	.3906	SM105025	SM110025	SM115025	
		10.00	.3937	SM155100	SM160100	SM165100	
		10.20	.4016	SM155102	SM160102	SM165102	
	25/64	10.32	.4062	SM105026	SM110026	SM115026	
		10.50	.4134	SM155105	SM160105	SM165105	
		10.72	.4219	SM105027	SM110027	SM115027	
		10.80	.4252	SM155108	SM160108	SM165108	
		11.00	.4331	SM155110	SM160110	SM165110	
		11.11	.4375	SM105028	SM110028	SM115028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	SM155115	SM160115	SM165115	
		11.51	.4531	SM105029	SM110029	SM115029	
		11.91	.4688	SM105030	SM110030	SM115030	
		12.00	.4724	SM155120	SM160120	SM165120	
		12.30	.4844	SM105031	SM110031	SM115031	
		12.50	.4921	SM155125	SM160125	SM165125	
	1/2	12.70	.5000	SM105032	SM110032	SM115032	
		13.00	.5118	SM155130	SM160130	SM165130	
		13.10	.5156	SM105033	SM110033	SM115033	
		13.49	.5312	SM105034	SM110034	SM115034	
		13.50	.5315	SM155135	SM160135	SM165135	
		13.89	.5469	SM105035	SM110035	SM115035	
O Ø12.98 (.511) to Ø17.65 (.695)	9/16	14.00	.5512	SM155140	SM160140	SM165140	
		14.29	.5625	SM105036	SM110036	SM115036	
		14.50	.5709	SM155145	SM160145	SM165145	
		14.68	.5781	SM105037	SM110037	SM115037	
		15.00	.5906	SM155150	SM160150	SM165150	
		15.08	.5938	SM105038	SM110038	SM115038	
	39/64	15.48	.6094	SM105039	SM110039	SM115039	
		15.50	.6102	SM155155	SM160155	SM165155	
		15.88	.6250	SM105040	SM110040	SM115040	
		16.00	.6299	SM155160	SM160160	SM165160	

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

YG SPADE DRILLS

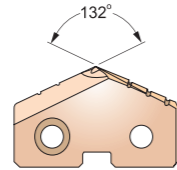
SERIES 0, 1

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - 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 Kataloges lieferbar



cutting conditions : p.A376



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15			
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15			
					TiN	TiCN	TiAlN	
0 Ø12.98(.511) to Ø17.65(.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	
		17.46	.6875		SM105044	SM110044	SM115044	
		17.50	.6890		SM155175	SM160175	SM165175	
	45/64	17.86	.7031		SM105045	SM110045	SM115045	
		18.00	.7087		SM155180	SM160180	SM165180	
		23/32	18.26		.7188	SM105046	SM110046	SM115046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	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	
		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

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	30	32	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	◎	○	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○					◎	○	○	○	○	○		○			

YG SPADE DRILLS

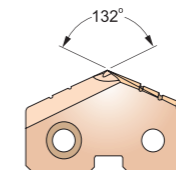
SERIES 2

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - 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 Kataloges lieferbar



cutting conditions : p.A376



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM105062	SM110062	SM115062
	63/64	25.00	.9843		SM155250	SM160250	SM165250
	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

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	30	32	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	◎	○	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○					◎	○	○	○	○	○		○			

YG SPADE DRILLS

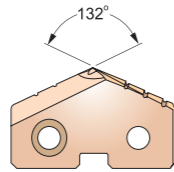
SERIES 3

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

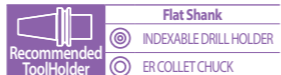
- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - SUPER HSS T15



- 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.A376



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 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM1105126	SM1110126	SM1115126	
		36.00	1.4173	SM1155360	SM1160360	SM1165360	
	1-7/16	36.51	1.4375	SM1105128	SM1110128	SM1115128	
		37.00	1.4567	SM1155370	SM1160370	SM1165370	
	1-15/32	37.31	1.4688	SM1105130	SM1110130	SM1115130	
		38.00	1.4961	SM1155380	SM1160380	SM1165380	
	1-1/2	38.10	1.5000	SM1105132	SM1110132	SM1115132	
		38.89	1.5312	SM1105134	SM1110134	SM1115134	
	1-17/32	39.00	1.5354	SM1155390	SM1160390	SM1165390	
		39.69	1.5625	SM1105136	SM1110136	SM1115136	
	1-9/16	40.00	1.5748	SM1155400	SM1160400	SM1165400	
		40.48	1.5938	SM1105138	SM1110138	SM1115138	
	1-19/32	41.00	1.6142	SM1155410	SM1160410	SM1165410	
		41.28	1.6250	SM1105140	SM1110140	SM1115140	
	1-5/8	42.00	1.6535	SM1155420	SM1160420	SM1165420	
		42.07	1.6562	SM1105142	SM1110142	SM1115142	
	1-21/32	42.86	1.6875	SM1105144	SM1110144	SM1115144	
		43.00	1.6929	SM1155430	SM1160430	SM1165430	
	1-23/32	43.66	1.7188	SM1105146	SM1110146	SM1115146	
		44.00	1.7323	SM1155440	SM1160440	SM1165440	
	1-3/4	44.45	1.7500	SM1105148	SM1110148	SM1115148	
		45.00	1.7717	SM1155450	SM1160450	SM1165450	
	1-25/32	45.24	1.7812	SM1105150	SM1110150	SM1115150	
		46.00	1.8110	SM1155460	SM1160460	SM1165460	
	1-13/16	46.04	1.8125	SM1105152	SM1110152	SM1115152	
		46.83	1.8438	SM1105154	SM1110154	SM1115154	
	1-27/32	47.00	1.8504	SM1155470	SM1160470	SM1165470	
		47.63	1.8750	SM1105156	SM1110156	SM1115156	

⊙ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○	⊙	⊙	⊙	○	⊙	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SPADE DRILLS

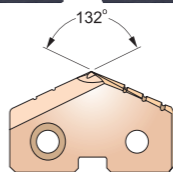
SERIES Y, Z, O

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - 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.A377



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 Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM555095	SM560095	SM565095	
		9.53	.3750	SM555024	SM510024	SM515024	
		9.80	.3858	SM555098	SM560098	SM565098	
		25/64	9.92	.3906	SM555025	SM510025	SM515025
		10.00	.3937	SM555100	SM560100	SM565100	
		10.20	.4016	SM555102	SM560102	SM565102	
	13/32	10.32	.4062	SM555026	SM510026	SM515026	
		10.50	.4134	SM555105	SM560105	SM565105	
		27/64	10.72	.4219	SM555027	SM510027	SM515027
		10.80	.4252	SM555108	SM560108	SM565108	
		11.00	.4331	SM555110	SM560110	SM565110	
		11.11	.4375	SM555028	SM510028	SM515028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	SM555115	SM560115	SM565115	
		11.51	.4531	SM555029	SM510029	SM515029	
		11.91	.4688	SM555030	SM510030	SM515030	
		15/32	12.00	.4724	SM555120	SM560120	SM565120
		12.30	.4844	SM555031	SM510031	SM515031	
		12.50	.4921	SM555125	SM560125	SM565125	
	1/2	12.70	.5000	SM555032	SM510032	SM515032	
		13.00	.5118	SM555130	SM560130	SM565130	
		33/64	13.10	.5156	SM555033	SM510033	SM515033
		17/32	13.49	.5312	SM555034	SM510034	SM515034
		13.50	.5315	SM555135	SM560135	SM565135	
		35/64	13.89	.5469	SM555035	SM510035	SM515035
O Ø12.98 (.511) to Ø17.65 (.695)	9/16	14.00	.5512	SM555140	SM560140	SM565140	
		14.29	.5625	SM555036	SM510036	SM515036	
		14.50	.5709	SM555145	SM560145	SM565145	
		37/64	14.68	.5781	SM555037	SM510037	SM515037
		15.00	.5906	SM555150	SM560150	SM565150	
		19/32	15.08	.5938	SM555038	SM510038	SM515038
	39/64	15.48	.6094	SM555039	SM510039	SM515039	
		15.50	.6102	SM555155	SM560155	SM565155	
		5/8	15.88	.6250	SM555040	SM510040	SM515040
		16.00	.6299	SM555160	SM560160	SM565160	

⊙ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	○	○	○	⊙	⊙	⊙	○	⊙	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SPADE DRILLS

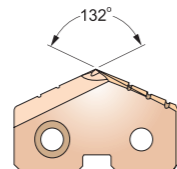
SERIES 0, 1

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

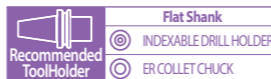
- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - PREMIUM HSS M48



- 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 Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A377



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 Ø12.98(.511) to Ø17.65(.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
		17.50	.6890		SM555175	SM560175	SM565175
	45/64	17.86	.7031		SM505045	SM510045	SM515045
		18.00	.7087		SM555180	SM560180	SM565180
		18.26	.7188		SM505046	SM510046	SM515046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	SM555185	SM560185	SM565185
	47/64	18.65	.7344		SM505047	SM510047	SM515047
		19.00	.7480		SM555190	SM560190	SM565190
	3/4	19.05	.7500		SM505048	SM510048	SM515048
		19.45	.7656		SM505049	SM510049	SM515049
		19.50	.7677		SM555195	SM560195	SM565195
	25/32	19.84	.7812		SM505050	SM510050	SM515050
		20.00	.7874		SM555200	SM560200	SM565200
	51/64	20.24	.7969		SM505051	SM510051	SM515051
		20.50	.8071		SM555205	SM560205	SM565205
		20.64	.8125		SM505052	SM510052	SM515052
		21.00	.8268		SM555210	SM560210	SM565210
		21.43	.8438		SM505054	SM510054	SM515054
		21.83	.8594		SM505055	SM510055	SM515055
		22.00	.8661		SM555220	SM560220	SM565220
		22.23	.8750		SM505056	SM510056	SM515056
		22.62	.8906		SM505057	SM510057	SM515057
		23.00	.9055		SM555230	SM560230	SM565230
	23.02	.9062	SM505058	SM510058	SM515058		
	23.42	.9219	SM505059	SM510059	SM515059		
	23.81	.9375	SM505060	SM510060	SM515060		
	24.00	.9449	SM555240	SM560240	SM565240		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	400	550	400	550	400	550	400	550	400	550					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

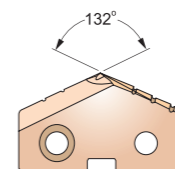
SERIES 2

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - 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 Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A377



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 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM505062	SM510062	SM515062
	63/64	25.00	.9843		SM555250	SM560250	SM565250
	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

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	160	250	130	230	180	260	160	250	130	230	400Rm	1050Rm	550	630	400	550					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	400	550	400	550	400	550	400	550	400	550					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

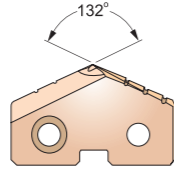
SERIES Y, Z, 0

SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

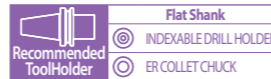
- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10



- 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.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE K10		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM655095	SM660095	SM665095	
		9.53	.3750	SM605024	SM610024	SM615024	
	25/64	9.80	.3858	SM655098	SM660098	SM665098	
		9.92	.3906	SM605025	SM610025	SM615025	
	2.4 (3/32)	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 Ø11.11(.437) to Ø12.95(.510)	7/16	11.00	.4331	SM655110	SM660110	SM665110	
		11.11	.4375	SM605028	SM610028	SM615028	
	29/64	11.50	.4528	SM655115	SM660115	SM665115	
		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	
		12.50	.4921	SM655125	SM660125	SM665125	
	1/2	12.70	.5000	SM605032	SM610032	SM615032	
		13.00	.5118	SM655130	SM660130	SM665130	
0 Ø12.98 (.511) to Ø17.65 (.695)	33/64	13.10	.5156	SM605033	SM610033	SM615033	
		13.49	.5312	SM605034	SM610034	SM615034	
	17/32	13.50	.5315	SM655135	SM660135	SM665135	
		13.89	.5469	SM605035	SM610035	SM615035	
	9/16	14.00	.5512	SM655140	SM660140	SM665140	
		14.29	.5625	SM605036	SM610036	SM615036	
	37/64	14.50	.5709	SM655145	SM660145	SM665145	
		14.68	.5781	SM605037	SM610037	SM615037	
	19/32	15.00	.5906	SM655150	SM660150	SM665150	
		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

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum- wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

YG SPADE DRILLS

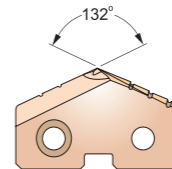
SERIES 0, 1

SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

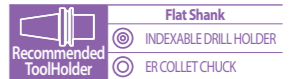
- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10



- 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.A378



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 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	SM605041	SM610041	SM615041	
		16.50	.6496	SM655165	SM660165	SM665165	
	21/32	16.67	.6562	SM605042	SM610042	SM615042	
		17.00	.6693	SM655170	SM660170	SM665170	
	3.2 (1/8)	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
1 Ø17.53 (.690) to Ø24.38 (.960)	47/64	18.50	.7283	SM655185	SM660185	SM665185	
		18.65	.7344	SM605047	SM610047	SM615047	
	3/4	19.00	.7480	SM655190	SM660190	SM665190	
		19.05	.7500	SM605048	SM610048	SM615048	
	49/64	19.45	.7656	SM605049	SM610049	SM615049	
		19.50	.7677	SM655195	SM660195	SM665195	
	25/32	19.84	.7812	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		
	21.83	.8594	SM605055	SM610055	SM615055		
55/64	22.00	.8661	SM655220	SM660220	SM665220		
	22.23	.8750	SM605056	SM610056	SM615056		
7/8	22.62	.8906	SM605057	SM610057	SM615057		
	23.00	.9055	SM655230	SM660230	SM665230		
29/32	23.02	.9062	SM605058	SM610058	SM615058		
	23.42	.9219	SM605059	SM610059	SM615059		
59/64	23.81	.9375	SM605060	SM610060	SM615060		
	24.00	.9449	SM655240	SM660240	SM665240		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum- wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

YG SPADE DRILLS

SERIES 2

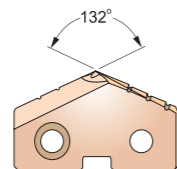
SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10

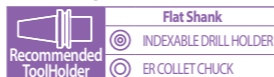


- High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 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.A378



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 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM605062	SM610062	SM615062
	63/64	25.00	.9843		SM655250	SM660250	SM665250
	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

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

SERIES Y, Z, O

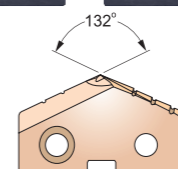
SM-POINT SPADE DRILL INSERTS - CARBIDE K20

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- 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.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	2.4 (3/32)	SM755095	SM760095	SM765095
		9.53	.3750		SM705024	SM710024	SM715024
		9.80	.3858		SM755098	SM760098	SM765098
		9.92	.3906		SM705025	SM710025	SM715025
		10.00	.3937		SM755100	SM760100	SM765100
		10.20	.4016		SM755102	SM760102	SM765102
	25/64	10.32	.4062		SM705026	SM710026	SM715026
		10.50	.4134		SM755105	SM760105	SM765105
		10.72	.4219		SM705027	SM710027	SM715027
		10.80	.4252		SM755108	SM760108	SM765108
		11.00	.4331		SM755110	SM760110	SM765110
		11.11	.4375		SM705028	SM710028	SM715028
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	2.4 (3/32)	SM755115	SM760115	SM765115
		11.51	.4531		SM705029	SM710029	SM715029
		11.91	.4688		SM705030	SM710030	SM715030
		12.00	.4724		SM755120	SM760120	SM765120
		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
		13.10	.5156		SM705033	SM710033	SM715033
		13.49	.5312		SM705034	SM710034	SM715034
		13.50	.5315		SM755135	SM760135	SM765135
		13.89	.5469		SM705035	SM710035	SM715035
O Ø12.98 (.511) to Ø17.65 (.695)	33/64	14.00	.5512	3.2 (1/8)	SM755140	SM760140	SM765140
		14.29	.5625		SM705036	SM710036	SM715036
		14.50	.5709		SM755145	SM760145	SM765145
		14.68	.5781		SM705037	SM710037	SM715037
		15.00	.5906		SM755150	SM760150	SM765150
		15.08	.5938		SM705038	SM710038	SM715038
	37/64	15.48	.6094		SM705039	SM710039	SM715039
		15.50	.6102		SM755155	SM760155	SM765155
		15.88	.6250		SM705040	SM710040	SM715040
		16.00	.6299		SM755160	SM760160	SM765160

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

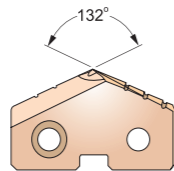
SERIES 0, 1

SM-POINT SPADE DRILL INSERTS - CARBIDE K20

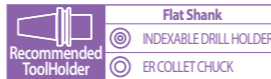
- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- 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 Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378



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 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27		.6406	3.2 (1/8)	SM705041
		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
		17.46	.6875	SM705044	SM710044		SM715044
		17.50	.6890	SM755175	SM760175		SM765175
45/64		17.86	.7031	SM705045	SM710045		SM715045
		18.00	.7087	SM755180	SM760180		SM765180
		18.26	.7188	SM705046	SM710046		SM715046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	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
		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
		20.64	.8125		SM705052	SM710052	SM715052
		21.00	.8268		SM755210	SM760210	SM765210
		21.43	.8438		SM705054	SM710054	SM715054
		21.83	.8594		SM705055	SM710055	SM715055
		22.00	.8661		SM755220	SM760220	SM765220
		22.23	.8750		SM705056	SM710056	SM715056
		22.62	.8906		SM705057	SM710057	SM715057
		23.00	.9055		SM755230	SM760230	SM765230
	23.02	.9062	SM705058	SM710058	SM715058		
	23.42	.9219	SM705059	SM710059	SM715059		
	23.81	.9375	SM705060	SM710060	SM715060		
	24.00	.9449	SM755240	SM760240	SM765240		

⊙ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

YG SPADE DRILLS

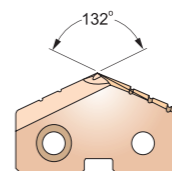
SERIES 2

SM-POINT SPADE DRILL INSERTS - CARBIDE K20

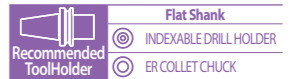
- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- 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 Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61		.9688	4.8 (3/16)	SM705062
63/64		25.00	.9843	SM755250	SM760250		SM765250
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

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙				⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

YG SPADE DRILLS

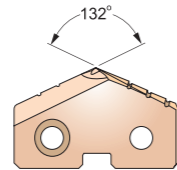
SERIES 3

SM-POINT SPADE DRILL INSERTS - CARBIDE K20

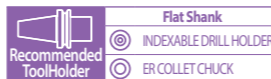
- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- 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 Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM705126	SM710126	SM715126	
		36.00	1.4173	SM755360	SM760360	SM765360	
		36.51	1.4375	SM705128	SM710128	SM715128	
	1-7/16	37.00	1.4567	SM755370	SM760370	SM765370	
		37.31	1.4688	SM705130	SM710130	SM715130	
		38.00	1.4961	SM755380	SM760380	SM765380	
	1-1/2	38.10	1.5000	SM705132	SM710132	SM715132	
		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	
		40.48	1.5938	SM705138	SM710138	SM715138	
	1-19/32	41.00	1.6142	SM755410	SM760410	SM765410	
		41.28	1.6250	SM705140	SM710140	SM715140	
		42.00	1.6535	SM755420	SM760420	SM765420	
	1-5/8	42.07	1.6562	SM705142	SM710142	SM715142	
		42.86	1.6875	SM705144	SM710144	SM715144	
		43.00	1.6929	SM755430	SM760430	SM765430	
	1-23/32	43.66	1.7188	SM705146	SM710146	SM715146	
		44.00	1.7323	SM755440	SM760440	SM765440	
		44.45	1.7500	SM705148	SM710148	SM715148	
	1-3/4	45.00	1.7717	SM755450	SM760450	SM765450	
		45.24	1.7812	SM705150	SM710150	SM715150	
		46.00	1.8110	SM755460	SM760460	SM765460	
1-13/16	46.04	1.8125	SM705152	SM710152	SM715152		
	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

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

YG SPADE DRILLS

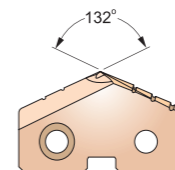
SERIES Y, Z, O

SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD 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 Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A380



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM855095	SM860095	SM865095	
		9.53	.3750	SM805024	SM810024	SM815024	
		9.80	.3858	SM855098	SM860098	SM865098	
		9.92	.3906	SM805025	SM810025	SM815025	
		10.00	.3937	SM855100	SM860100	SM865100	
		10.20	.4016	SM855102	SM860102	SM865102	
	13/32	10.32	.4062	SM805026	SM810026	SM815026	
		10.50	.4134	SM855105	SM860105	SM865105	
		10.72	.4219	SM805027	SM810027	SM815027	
		10.80	.4252	SM855108	SM860108	SM865108	
		11.00	.4331	SM855110	SM860110	SM865110	
		11.11	.4375	SM805028	SM810028	SM815028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	SM855115	SM860115	SM865115	
		11.91	.4688	SM805029	SM810029	SM815029	
		12.00	.4724	SM855120	SM860120	SM865120	
		12.30	.4844	SM805031	SM810031	SM815031	
		12.50	.4921	SM855125	SM860125	SM865125	
		12.70	.5000	SM805032	SM810032	SM815032	
	15/32	13.00	.5118	SM855130	SM860130	SM865130	
		13.10	.5156	SM805033	SM810033	SM815033	
		13.49	.5312	SM855135	SM860135	SM865135	
		13.50	.5315	SM805034	SM810034	SM815034	
		13.89	.5469	SM855135	SM860135	SM865135	
		14.00	.5512	SM805035	SM810035	SM815035	
O Ø12.98 (.511) to Ø17.65 (.695)	1/2	14.29	.5625	SM855140	SM860140	SM865140	
		14.50	.5709	SM805036	SM810036	SM815036	
		14.68	.5781	SM855145	SM860145	SM865145	
		15.00	.5906	SM805037	SM810037	SM815037	
		15.08	.5938	SM855150	SM860150	SM865150	
		15.08	.5938	SM805038	SM810038	SM815038	
	31/64	15.48	.6094	SM855150	SM860150	SM865150	
		15.48	.6094	SM805039	SM810039	SM815039	
		15.50	.6102	SM855155	SM860155	SM865155	
		15.88	.6250	SM805040	SM810040	SM815040	
		16.00	.6299	SM855160	SM860160	SM865160	
		16.00	.6299	SM805040	SM810040	SM815040	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

YG SPADE DRILLS

SERIES 0, 1

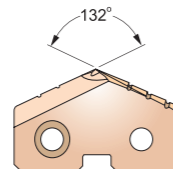
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD P40

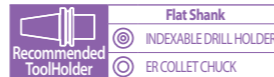


- For general use in carbon steels and alloys steels.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- 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.A380



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE P40		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.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
		17.46	.6875		SM805044	SM810044	SM815044
		17.50	.6890		SM855175	SM860175	SM865175
	45/64	17.86	.7031		SM805045	SM810045	SM815045
		18.00	.7087		SM855180	SM860180	SM865180
		18.26	.7188		SM805046	SM810046	SM815046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	SM855185	SM860185	SM865185
		18.65	.7344		SM805047	SM810047	SM815047
		19.00	.7480		SM855190	SM860190	SM865190
	3/4	19.05	.7500		SM805048	SM810048	SM815048
		19.45	.7656		SM805049	SM810049	SM815049
		19.50	.7677		SM855195	SM860195	SM865195
	25/32	19.84	.7812		SM805050	SM810050	SM815050
		20.00	.7874		SM855200	SM860200	SM865200
		20.24	.7969		SM805051	SM810051	SM815051
		20.50	.8071		SM855205	SM860205	SM865205
		20.64	.8125		SM805052	SM810052	SM815052
		21.00	.8268		SM855210	SM860210	SM865210
		21.43	.8438		SM805054	SM810054	SM815054
		21.83	.8594		SM805055	SM810055	SM815055
		22.00	.8661		SM855220	SM860220	SM865220
		22.23	.8750		SM805056	SM810056	SM815056
		22.62	.8906		SM805057	SM810057	SM815057
		23.00	.9055		SM855230	SM860230	SM865230
	23.02	.9062	SM805058	SM810058	SM815058		
	23.42	.9219	SM805059	SM810059	SM815059		
	23.81	.9375	SM805060	SM810060	SM815060		
	24.00	.9449	SM855240	SM860240	SM865240		

◎ : Excellent ○ : Good

ISO	P										M				K																	
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
HRc	125	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	125	190	250	270	300	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	40	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

SERIES 2

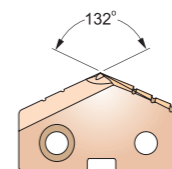
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD 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.A380



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE P40		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM805062	SM810062	SM815062
	63/64	25.00	.9843		SM855250	SM860250	SM865250
	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

ISO	P										M				K																	
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
HRc	125	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	125	190	250	270	300	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	40	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG SPADE DRILLS

SERIES 3

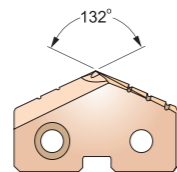
SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carburé P40
- CUSPIDI SM-POINT - MD 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.A380



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 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM805126	SM810126	SM815126	
		36.00	1.4173	SM855360	SM860360	SM865360	
		36.51	1.4375	SM805128	SM810128	SM815128	
	1-7/16	37.00	1.4567	SM855370	SM860370	SM865370	
		37.31	1.4688	SM805130	SM810130	SM815130	
		38.00	1.4961	SM855380	SM860380	SM865380	
	1-1/2	38.10	1.5000	SM805132	SM810132	SM815132	
		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	
		40.48	1.5938	SM805138	SM810138	SM815138	
	1-19/32	41.00	1.6142	SM855410	SM860410	SM865410	
		41.28	1.6250	SM805140	SM810140	SM815140	
		42.00	1.6535	SM855420	SM860420	SM865420	
	1-21/32	42.07	1.6562	SM805142	SM810142	SM815142	
		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	
		44.45	1.7500	SM805148	SM810148	SM815148	
	1-3/4	45.00	1.7717	SM855450	SM860450	SM865450	
		45.24	1.7812	SM805150	SM810150	SM815150	
		46.00	1.8110	SM855460	SM860460	SM865460	
1-13/16	46.04	1.8125	SM805152	SM810152	SM815152		
	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

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

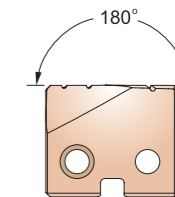
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○						○			○	○	○	○	○			◎			

YG SPADE DRILLS

SERIES Y, Z, O

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM

- SPADE DRILL BOHRER-EINSÄTZE - SUPER COBALT T15 (FLACH-NUT)
- Plaquettes SPADE DRILL à fond plat - Super Cobalt T15
- INSERTI SPADE DRILL - SUPER HSS T15 FONDO PIATTO



cutting conditions : p.A379



Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	HardSlick	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	2.4 (3/32)	S2155095	S2170095	S2165095
		9.53	.3750		S2105024	S2120024	S2115024
		9.80	.3858		S2155098	S2170098	S2165098
		9.92	.3906		S2105025	S2120025	S2115025
		10.00	.3937		S2155100	S2170100	S2165100
		10.20	.4016		S2155102	S2170102	S2165102
	13/32	10.32	.4062		S2105026	S2120026	S2115026
		10.50	.4134		S2155105	S2170105	S2165105
		10.72	.4219		S2105027	S2120027	S2115027
		10.80	.4252		S2155108	S2170108	S2165108
		11.00	.4331		S2155110	S2170110	S2165110
		7/16	11.11		.4375	S2105028	S2120028
Z Ø11.11(.437) to Ø12.95(.510)	29/64	11.50	.4528	2.4 (3/32)	S2155115	S2170115	S2165115
		11.51	.4531		S2105029	S2120029	S2115029
		11.91	.4688		S2105030	S2120030	S2115030
		12.00	.4724		S2155120	S2170120	S2165120
		12.30	.4844		S2105031	S2120031	S2115031
		12.50	.4921		S2155125	S2170125	S2165125
	1/2	12.70	.5000		S2105032	S2120032	S2115032
		13.00	.5118		S2155130	S2170130	S2165130
		13.10	.5156		S2105033	S2120033	S2115033
		13.49	.5312		S2105034	S2120034	S2115034
		13.50	.5315		S2155135	S2170135	S2165135
		13.89	.5469		S2105035	S2120035	S2115035
O Ø12.98 (.511) to Ø17.65 (.695)	35/64	14.00	.5512	3.2 (1/8)	S2155140	S2170140	S2165140
		14.29	.5625		S2105036	S2120036	S2115036
		14.50	.5709		S2155145	S2170145	S2165145
		14.68	.5781		S2105037	S2120037	S2115037
		15.00	.5906		S2155150	S2170150	S2165150
		15.08	.5938		S2105038	S2120038	S2115038
	39/64	15.48	.6094		S2105039	S2120039	S2115039
		15.50	.6102		S2155155	S2170155	S2165155
		15.88	.6250		S2105040	S2120040	S2115040
		16.00	.6299		S2155160	S2170160	S2165160

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

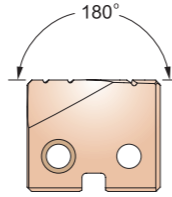
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○						○			○	○	○	○	○			◎			

YG SPADE DRILLS

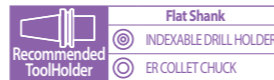
SERIES 0, 1

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM

- SPADE DRILL BOHRER-EINSÄTZE - SUPER COBALT T15 (FLACH-NUT)
- Plaquettes SPADE DRILL à fond plat - Super Cobalt T15
- INSERTI SPADE DRILL - SUPER HSS T15 FONDO PIATTO



Cutting conditions : p.A379



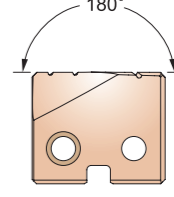
Series	Diameter			Thick	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	Hardslick	TiAlN
0	41/64 21/32 43/64 11/16	16.27	.6406	3.2 (1/8)	S2105041	S2120041	S2115041
		16.50	.6496		S2155165	S2170165	S2165165
		16.67	.6562		S2105042	S2120042	S2115042
		17.00	.6693		S2155170	S2170170	S2165170
		17.07	.6719		S2105043	S2120043	S2115043
		17.46	.6875		S2105044	S2120044	S2115044
1	Ø12.98(.511) to Ø17.65(.695)	17.50	.6890	4.0 (5/32)	S2155175	S2170175	S2165175
		17.86	.7031		S2105045	S2120045	S2115045
		18.00	.7087		S2155180	S2170180	S2165180
		18.26	.7188		S2105046	S2120046	S2115046
		18.50	.7283		S2155185	S2170185	S2165185
		18.65	.7344		S2105047	S2120047	S2115047
		19.00	.7480	S2155190	S2170190	S2165190	
		19.05	.7500	S2105048	S2120048	S2115048	
		19.45	.7656	S2105049	S2120049	S2115049	
		19.50	.7677	S2155195	S2170195	S2165195	
		19.84	.7812	S2105050	S2120050	S2115050	
		20.00	.7874	S2155200	S2170200	S2165200	
		20.24	.7969	S2105051	S2120051	S2115051	
		20.50	.8071	S2155205	S2170205	S2165205	
		20.64	.8125	S2105052	S2120052	S2115052	
		21.00	.8268	S2155210	S2170210	S2165210	
		21.43	.8438	S2105054	S2120054	S2115054	
		21.83	.8594	S2105055	S2120055	S2115055	
		22.00	.8661	S2155220	S2170220	S2165220	
		22.23	.8750	S2105056	S2120056	S2115056	
		22.62	.8906	S2105057	S2120057	S2115057	
		23.00	.9055	S2155230	S2170230	S2165230	
		23.02	.9062	S2105058	S2120058	S2115058	
		23.42	.9219	S2105059	S2120059	S2115059	
23.81	.9375	S2105060	S2120060	S2115060			
24.00	.9449	S2155240	S2170240	S2165240			

YG SPADE DRILLS

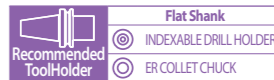
SERIES 2

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM

- SPADE DRILL BOHRER-EINSÄTZE - SUPER COBALT T15 (FLACH-NUT)
- Plaquettes SPADE DRILL à fond plat - Super Cobalt T15
- INSERTI SPADE DRILL - SUPER HSS T15 FONDO PIATTO



Cutting conditions : p.A379



Series	Diameter			Thick	EDP No. SUPER HSS T15			
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	Hardslick	TiAlN	
2	Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S2105062	S2120062	S2115062
		63/64	25.00	.9843		S2105063	S2120063	S2115063
		1	25.40	1.0000		S2105100	S2120100	S2115100
		1-1/64	25.80	1.0156		S2105101	S2120101	S2115101
		1-1/32	26.19	1.0312		S2155260	S2170260	S2165260
		1-3/64	26.59	1.0469		S2105102	S2120102	S2115102
		1-1/16	26.99	1.0625		S2105103	S2120103	S2115103
			27.00	1.0630		S2105104	S2120104	S2115104
		1-3/32	27.78	1.0938		S2155270	S2170270	S2165270
			28.00	1.1024		S2105106	S2120106	S2115106
		1-7/64	28.18	1.1094		S2155280	S2170280	S2165280
		1-1/8	28.58	1.1250		S2105107	S2120107	S2115107
			29.00	1.1417		S2105108	S2120108	S2115108
		1-5/32	29.37	1.1562		S2155290	S2170290	S2165290
			30.00	1.1811		S2105110	S2120110	S2115110
		1-3/16	30.16	1.1875		S2155300	S2170300	S2165300
		1-7/32	30.96	1.2188		S2105112	S2120112	S2115112
			31.00	1.2205		S2105114	S2120114	S2115114
		1-1/4	31.75	1.2500		S2155310	S2170310	S2165310
			32.00	1.2598		S2105116	S2120116	S2115116
		1-9/32	32.54	1.2812		S2155320	S2170320	S2165320
			33.00	1.2992		S2105118	S2120118	S2115118
		1-5/16	33.34	1.3125		S2155330	S2170330	S2165330
			34.00	1.3386		S2105120	S2120120	S2115120
1-11/32	34.13	1.3438	S2155340	S2170340	S2165340			
1-3/8	34.93	1.3750	S2105122	S2120122	S2115122			
	35.00	1.3780	S2105124	S2120124	S2115124			
			S2155350	S2170350	S2165350			

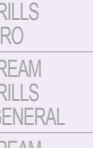
◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM

- SPADE DRILL BOHRER-EINSÄTZE - SUPER COBALT T15 (FLACH-NUT)
- Plaquettes SPADE DRILL à fond plat - Super Cobalt T15
- INSERTI SPADE DRILL - SUPER HSS T15 FONDO PIATTO



Cutting conditions : p.A379

Series	Diameter			Thick	EDP No. SUPER HSS T15			
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	Hardslick	TiAlN	
2	Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S2105062	S2120062	S2115062
		63/64	25.00	.9843		S2105063	S2120063	S2115063
		1	25.40	1.0000		S2105100	S2120100	S2115100
		1-1/64	25.80	1.0156		S2105101	S2120101	S2115101
		1-1/32	26.19	1.0312		S2155260	S2170260	S2165260
		1-3/64	26.59	1.0469		S2105102	S2120102	S2115102
		1-1/16	26.99	1.0625		S2105103	S2120103	S2115103
			27.00	1.0630		S2105104	S2120104	S2115104
		1-3/32	27.78	1.0938		S2155270	S2170270	S2165270
			28.00	1.1024		S2105106	S2120106	S2115106
		1-7/64	28.18	1.1094		S2155280	S2170280	S2165280
		1-1/8	28.58	1.1250		S2105107	S2120107	S2115107
			29.00	1.1417		S2105108	S2120108	S2115108
		1-5/32	29.37	1.1562		S2155290	S2170290	S2165290
			30.00	1.1811		S2105110	S2120110	S2115110
		1-3/16	30.16	1.1875		S2155300	S2170300	S2165300
		1-7/32	30.96	1.2188		S2105112	S2120112	S2115112
			31.00	1.2205		S2105114	S2120114	S2115114
		1-1/4	31.75	1.2500		S2155310	S2170310	S2165310
			32.00	1.2598		S2105116	S2120116	S2115116
		1-9/32	32.54	1.2812		S2155320	S2170320	S2165320
			33.00	1.2992		S2105118	S2120118	S2115118
		1-5/16	33.34	1.3125		S2155330	S2170330	S2165330
			34.00	1.3386		S2105120	S2120120	S2115120
1-11/32	34.13	1.3438	S2155340	S2170340	S2165340			
1-3/8	34.93	1.3750	S2105122	S2120122	S2115122			
	35.00	1.3780	S2105124	S2120124	S2115124			
			S2155350	S2170350	S2165350			

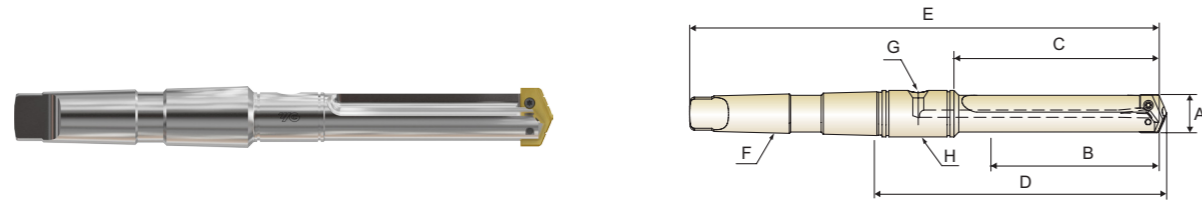
◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



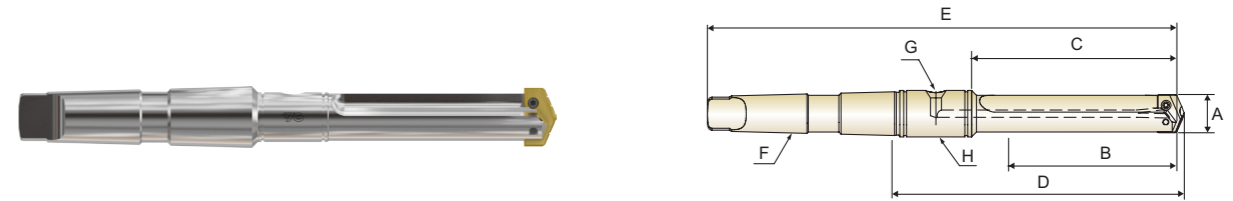
SHORT LENGTH - Straight Flute (Inch)

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	ZY0STSMT02I	3/8 ~ 27/64	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
Z	ZZ0STSMT02I	7/16 ~ 1/2	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
0	Z00STSMT02I	33/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
0.5	Z05STSMT02I	39/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
1	Z10STSMT03I	45/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z10STSMT04I	45/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
1.5	Z15STSMT03I	55/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z15STSMT04I	55/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
2	Z20STSMT03I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z20STSMT04I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-19/64	10-25/32	#4	1/8	PR110100
2.5	Z25STSMT03I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z25STSMT04I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-37/64	11-1/16	#4	1/4	PR110116
3	Z30STSMT04I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	12-9/16	#4	1/4	PR110116
	Z30STSMT05I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	13-13/16	#5	1/4	PR110148
4	Z40STSMT04I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	13-1/16	#4	1/4	PR110116
	Z40STSMT05I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	14-5/16	#5	1/4	PR110148
5	Z50STSMT05I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	11-5/16	16-15/16	#5	1/2	PR110216
	Z70STSMT05I	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 374)

TAPER SHANK HOLDERS

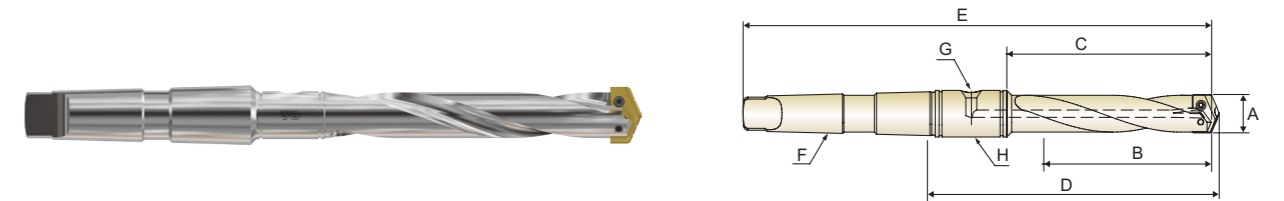
- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



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	Z10ITSMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITSMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITSMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITSMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116
3	Z30ITSMT04I	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 374)



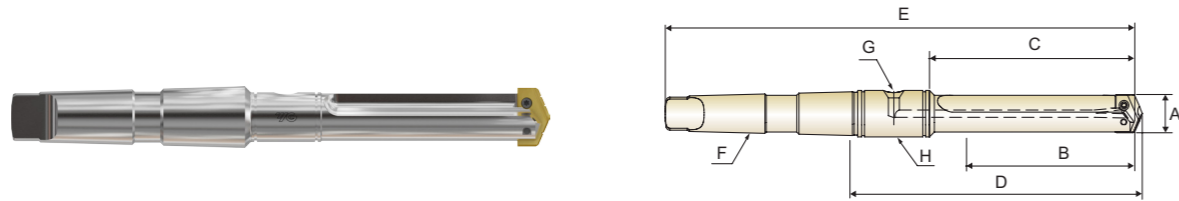
INTERMEDIATE LENGTH - Helical Flute (Inch)

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	Z10ITHMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITHMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITHMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITHMT04I	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 374)

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



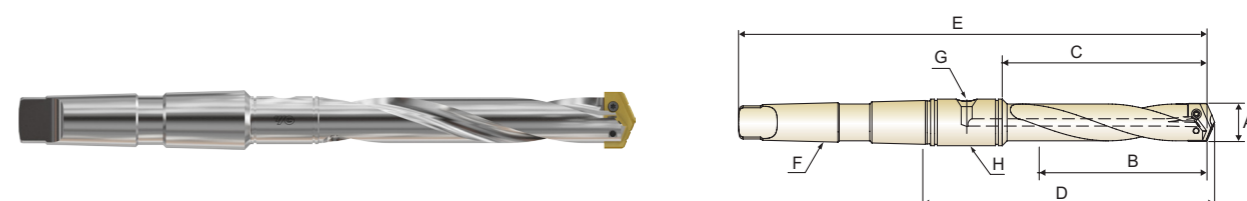
STANDARD LENGTH - Straight Flute (Inch)

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	ZY0SDSMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDSMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDSMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDSMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDSMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDSMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDSMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDSMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDSMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDSMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDSMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDSMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116
3	Z30SDSMT04I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	16-1/16	#4	1/4	PR110116
	Z30SDSMT05I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	17-5/16	#5	1/4	PR110148
4	Z40SDSMT04I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	17-1/16	#4	1/4	PR110116
	Z40SDSMT05I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	18-5/16	#5	1/4	PR110148
5~6	Z50SDSMT05I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	15-5/16	20-15/16	#5	1/2	PR110216
7~8	Z70SDSMT05I	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 374)

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



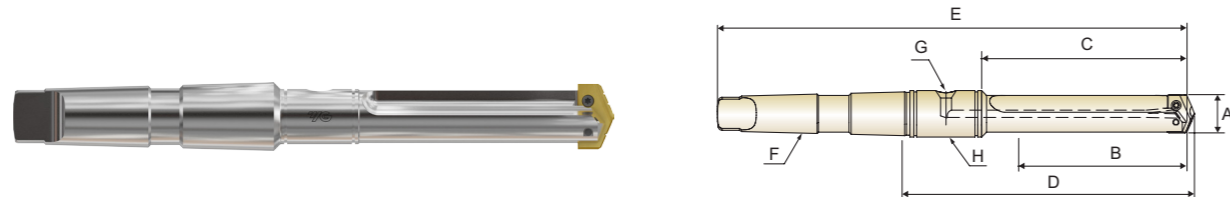
STANDARD LENGTH - Helical Flute (Inch)

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	ZY0SDHMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDHMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDHMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDHMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDHMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDHMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDHMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDHMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDHMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDHMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDHMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDHMT04I	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 374)

TAPER SHANK HOLDERS

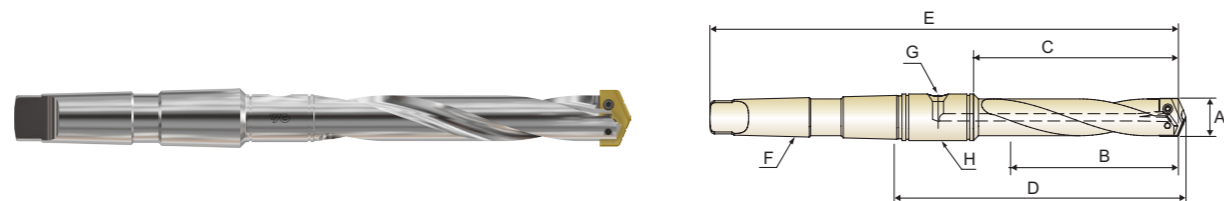
- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



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	ZY0EXSMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXSMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXSMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXSMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXSMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXSMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXSMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXSMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116
3	Z30EXSMT04I	1-13/32 ~ 1-7/8	13-3/4	15	17-1/8	21-9/16	#4	1/4	PR110116
4	Z40EXSMT05I	1-29/32 ~ 2-9/16	16-5/8	18	20-1/8	25-13/16	#5	1/4	PR110148
5~6	Z50EXSMT05I	2-1/2 ~ 3-1/2	18-1/4	20	22-13/16	28-7/16	#5	1/2	PR110216
7~8	Z70EXSMT05I	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 374)



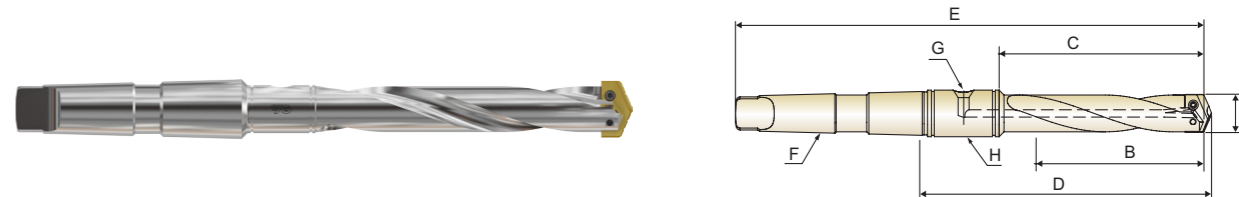
EXTENDED LENGTH - Helical Flute (Inch)

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	ZY0EXHMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXHMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXHMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXHMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXHMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXHMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXHMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXHMT04I	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 324)

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



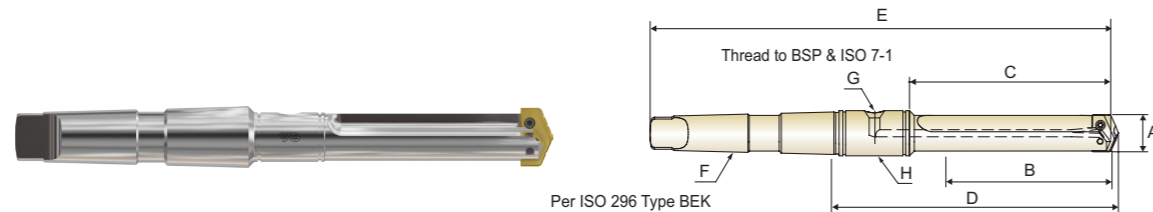
LONG LENGTH - Helical Flute (Inch)

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
0	Z00LGHMT02I	33/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048
0.5	Z05LGHMT02I	39/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 374)

TAPER SHANK HOLDERS

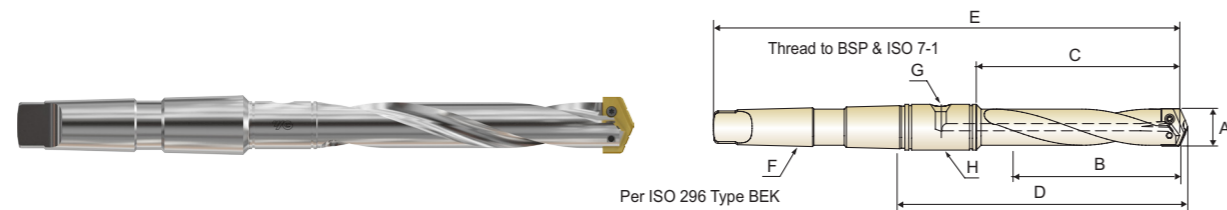
- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



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	ZY0STSMT02M	9.5 ~ 11.0	31.8	51.5	88.0	160.3	#2	1/16	PR120190
Z	ZZ0STSMT02M	11.5 ~ 12.5	31.8	51.5	88.0	160.3	#2	1/16	PR120190
0	Z00STSMT02M	13.0 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
0.5	Z05STSMT02M	15.5 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
1	Z10STSMT03M	18.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
1.5	Z15STSMT03M	22.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
2	Z20STSMT04M	25.0 ~ 35.0	85.7	114.3	160.4	273.8	#4	1/8	PR120254
2.5	Z25STSMT04M	30.0 ~ 35.0	85.7	114.3	167.6	281.0	#4	1/4	PR120317
3	Z30STSMT04M	36.0 ~ 47.0	120.6	152.4	206.4	319.1	#4	1/4	PR120317
4	Z40STSMT05M	48.0 ~ 65.0	130.1	165.1	219.1	363.5	#5	1/4	PR120444
5~6	Z50STSMT05M	64.0 ~ 88.0	171.5	215.9	287.3	430.2	#5	1/2	PR120571
7~8	Z70STSMT05M	90.0 ~ 114.0	171.5	225.4	296.8	439.7	#5	1/2	PR120571

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 374)



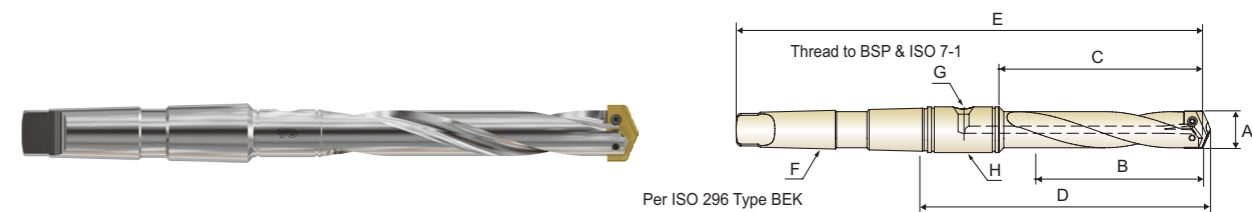
INTERMEDIATE LENGTH - Helical Flute (Metric)

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	Z10ITHMT03M	18.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
1.5	Z15ITHMT03M	22.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
2	Z20ITHMT04M	25.0 ~ 35.0	136.5	165.1	211.2	324.6	#4	1/8	PR120254
2.5	Z25ITHMT04M	30.0 ~ 35.0	136.5	165.1	218.4	331.8	#4	1/4	PR120317
3	Z30ITHMT04M	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 374)

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



STANDARD 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	ZY0SDHMT02M	9.5 ~ 11.0	60.3	80.2	116.7	188.9	#2	1/16	PR120190
Z	ZZ0SDHMT02M	11.5 ~ 12.5	60.3	80.2	116.7	188.9	#2	1/16	PR120190
0	Z00SDHMT02M	13.0 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
0.5	Z05SDHMT02M	15.5 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
1	Z10SDHMT03M	18.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
1.5	Z15SDHMT03M	22.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
2	Z20SDHMT04M	25.0 ~ 35.0	187.3	215.9	262.0	375.4	#4	1/8	PR120254
2.5	Z25SDHMT04M	30.0 ~ 35.0	187.3	215.9	269.2	382.6	#4	1/4	PR120317
3	Z30SDHMT04M	36.0 ~ 47.0	209.5	241.3	295.3	408.0	#4	1/4	PR120317
4	Z40SDHMT05M	48.0 ~ 65.0	231.8	266.7	320.7	465.1	#5	1/4	PR120444
5~6	Z50SDHMT05M	64.0 ~ 88.0	273.1	317.5	388.9	531.8	#5	1/2	PR120571
7~8	Z70SDHMT05M	90.0 ~ 114.0	273.1	327.0	398.5	541.3	#5	1/2	PR120571

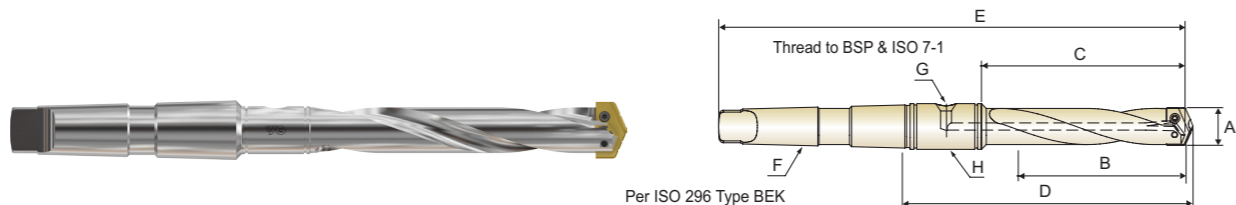
▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 374)



ZEXHMT** SERIES
ZEXSMT** SERIES

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM

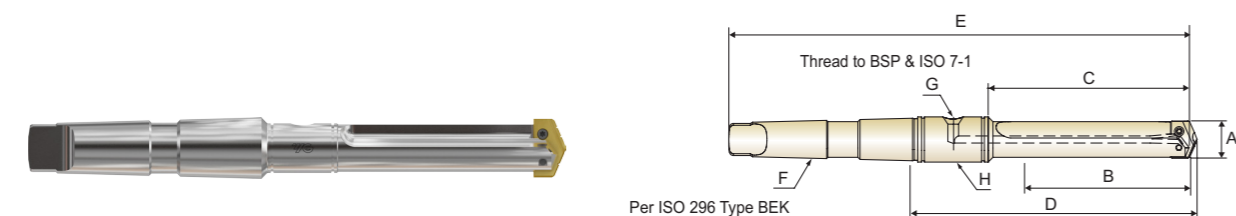


Per ISO 296 Type BEK

EXTENDED LENGTH - Helical 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	ZY0EXHMT02M	9.5 ~ 11.0	111.1	130.9	167.4	239.7	#2	1/16	PR120190
Z	ZZ0EXHMT02M	11.5 ~ 12.5	111.1	130.9	167.4	239.7	#2	1/16	PR120190
0	Z00EXHMT02M	13.0 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
0.5	Z05EXHMT02M	15.5 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
1	Z10EXHMT03M	18.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
1.5	Z15EXHMT03M	22.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
2	Z20EXHMT04M	25.0 ~ 35.0	289.0	317.5	363.6	477.0	#4	1/8	PR120254
2.5	Z25EXHMT04M	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 374)



Per ISO 296 Type BEK

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	Z30EXSMT04M	36.0 ~ 47.0	349.3	381.0	435.0	547.7	#4	1/4	PR120317
4	Z40EXSMT05M	48.0 ~ 65.0	422.3	457.2	511.2	655.6	#5	1/4	PR120444
5~6	Z50EXSMT05M	64.0 ~ 88.0	463.6	508.0	579.4	722.3	#5	1/2	PR120571
7~8	Z70EXSMT05M	90.0 ~ 114.0	555.6	609.6	681.1	823.9	#5	1/2	PR120571

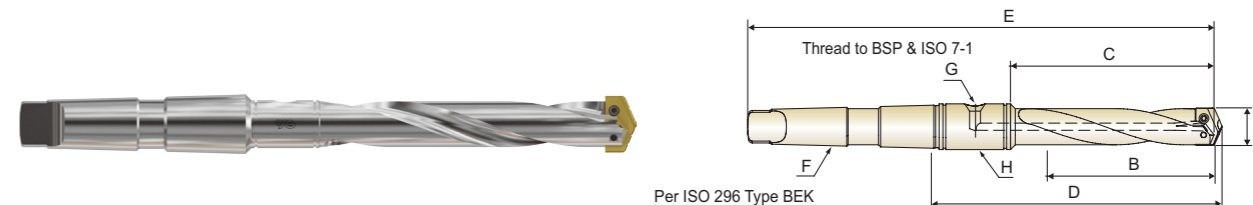
► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 374)



ZLGHMT** SERIES

TAPER SHANK HOLDERS

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



Per ISO 296 Type BEK

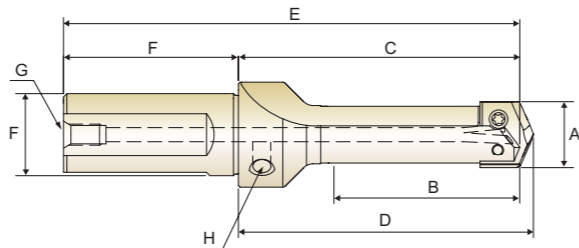
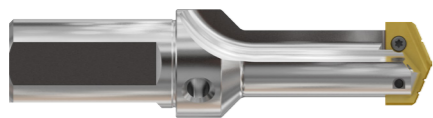
LONG LENGTH - Helical Flute (Metric)

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
0	Z00LGHMT02M	13.0 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190
0.5	Z05LGHMT02M	15.5 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 374)

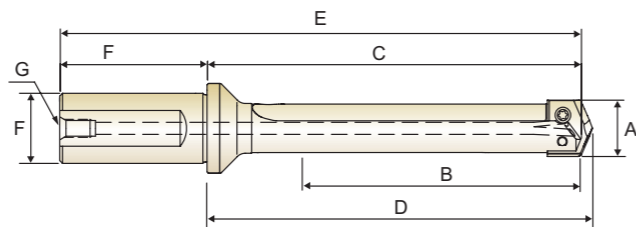
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



STUB LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia.	Length	Rear	Side
		A	B	C	D	E	F	G	H	
Y	ZY0SBSF063I	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	ZZ0SBSF063I	7/16 ~ 1/2	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
0	Z00SBSF075I	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	Z05SBSF075I	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	Z10SBSF100I	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	Z15SBSF100I	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	Z20SBSF125I	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	Z25SBSF125I	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	Z30SBSF150I	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

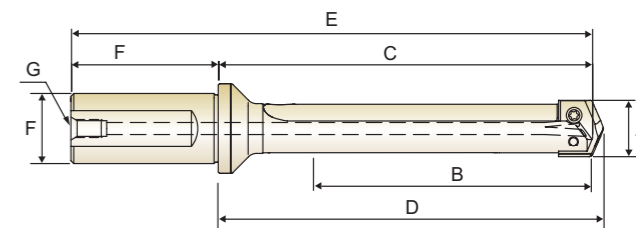


SHORT LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0STSF075I	3/8 ~ 27/64	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
Z	ZZ0STSF075I	7/16 ~ 1/2	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
0	Z00STSF075I	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	Z05STSF075I	39/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
1	Z10STSF100I	45/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
1.5	Z15STSF100I	55/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
2	Z20STSF125I	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	Z25STSF125I	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	Z30STSF150I	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	Z40STSF150I	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

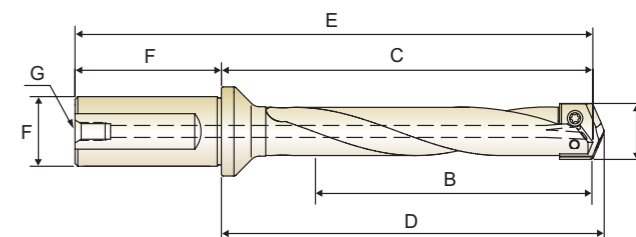
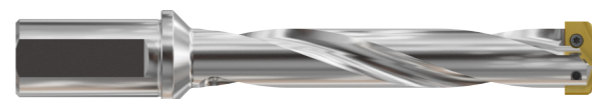
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



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	Z10ITSF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITSF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITSF125I	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	Z25ITSF125I	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	Z30ITSF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

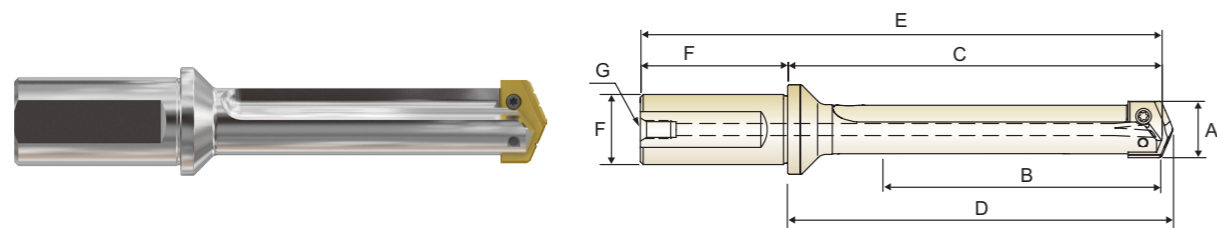


INTERMEDIATE LENGTH - Helical Flute (Inch)

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	Z10ITHF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITHF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITHF125I	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	Z25ITHF125I	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	Z30ITHF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

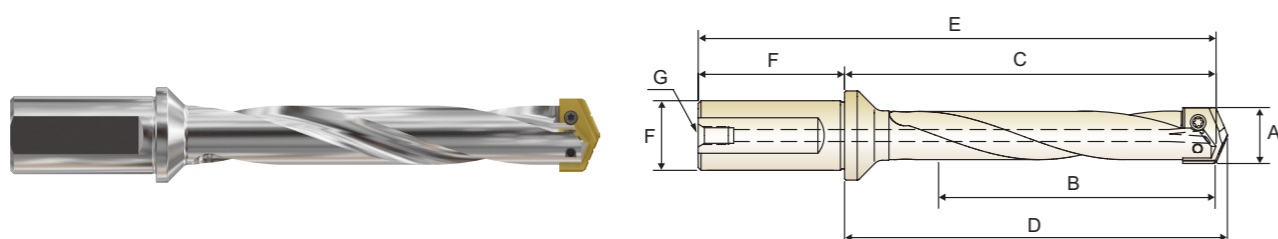
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



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. F	Length F	
Y	ZY0SDSF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDSF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDSF075I	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	Z05SDSF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDSF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDSF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDSF125I	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	Z25SDSF125I	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	Z30SDSF150I	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	Z40SDSF150I	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

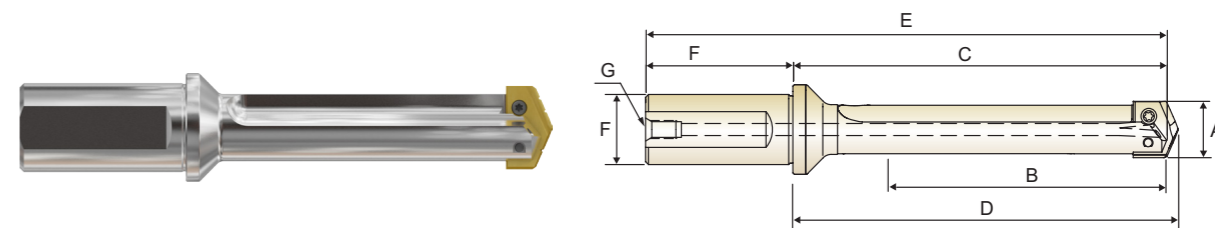


STANDARD LENGTH - Helical Flute (Inch)

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. F	Length F	
Y	ZY0SDHF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDHF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDHF075I	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	Z05SDHF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDHF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDHF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDHF125I	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	Z25SDHF125I	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	Z30SDHF150I	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	Z40SDHF150I	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

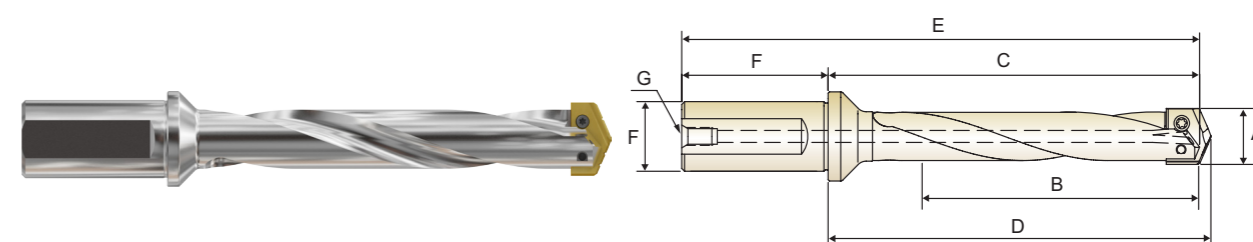
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



EXTENDED 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. F	Length F	
Y	ZY0EXSF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXSF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXSF075I	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	Z05EXSF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXSF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXSF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXSF125I	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	Z25EXSF125I	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

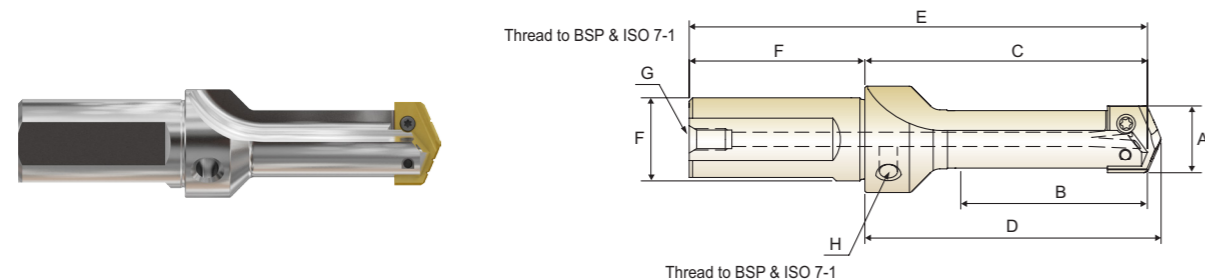


EXTENDED LENGTH - Helical Flute (Inch)

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. F	Length F	
Y	ZY0EXHF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXHF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXHF075I	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	Z05EXHF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXHF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXHF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXHF125I	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	Z25EXHF125I	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

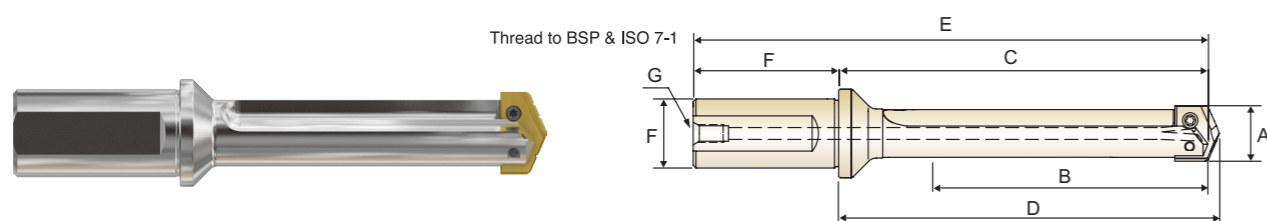
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



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 G	Rear H	Side
Y	ZY0SBSF016M	9.5 ~ 11.0	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
Z	ZZ0SBSF016M	11.5 ~ 12.5	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
0	Z00SBSF020M	13.0 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
0.5	Z05SBSF020M	15.5 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
1	Z10SBSF025M	18.0 ~ 24.0	47.6	75.8	79.4	131.8	25.0	56.0	1/8	1/8
1.5	Z15SBSF025M	22.0 ~ 24.0	57.2	88.5	92.1	144.5	25.0	56.0	1/8	1/8
2	Z20SBSF032M	25.0 ~ 35.0	57.2	88.5	92.1	148.5	32.0	60.0	1/4	1/8
2.5	Z25SBSF032M	30.0 ~ 35.0	92.1	123.4	127.0	183.4	32.0	60.0	1/4	1/8
3	Z30SBSF040M	36.0 ~ 47.0	76.2	125.0	129.8	195.0	40.0	70.0	1/4	1/4

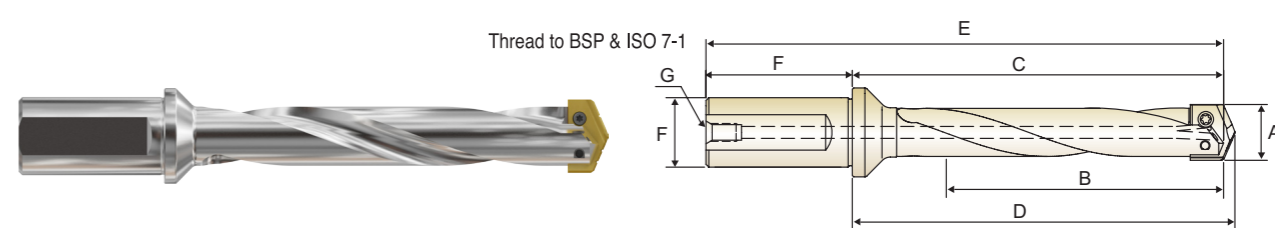


SHORT LENGTH - Straight Flute (Metric)

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length H	
Y	ZY0STSF020M	9.5 ~ 11.0	31.8	61.1	63.5	111.1	20.0	50.0	1/8
Z	ZZ0STSF020M	11.5 ~ 12.5	31.8	61.1	63.5	111.1	20.0	50.0	1/8
0	Z00STSF020M	13.0 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
0.5	Z05STSF020M	15.5 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
1	Z10STSF025M	18.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
1.5	Z15STSF025M	22.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
2	Z20STSF032M	25.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
2.5	Z25STSF032M	30.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
3	Z30STSF040M	36.0 ~ 47.0	120.7	173.0	177.8	243.0	40.0	70.0	1/4
4	Z40STSF040M	48.0 ~ 65.0	130.2	179.4	184.0	249.4	40.0	70.0	1/4

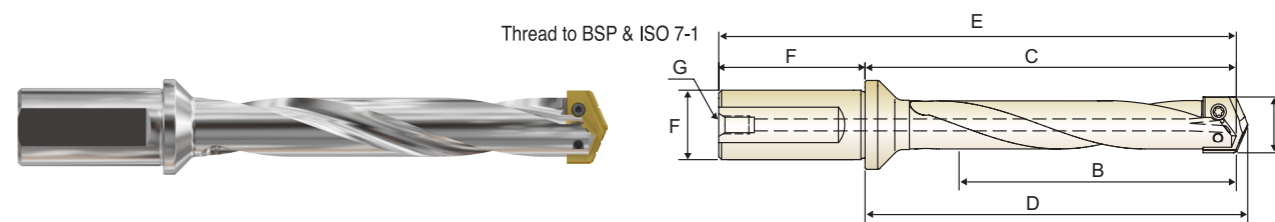
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



INTERMEDIATE LENGTH - Helical 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 H	
1	Z10ITHF025M	18.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
1.5	Z15ITHF025M	22.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
2	Z20ITHF032M	25.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
2.5	Z25ITHF032M	30.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
3	Z30ITHF040M	36.0 ~ 47.0	165.1	217.5	222.3	287.5	40.0	70.0	1/4

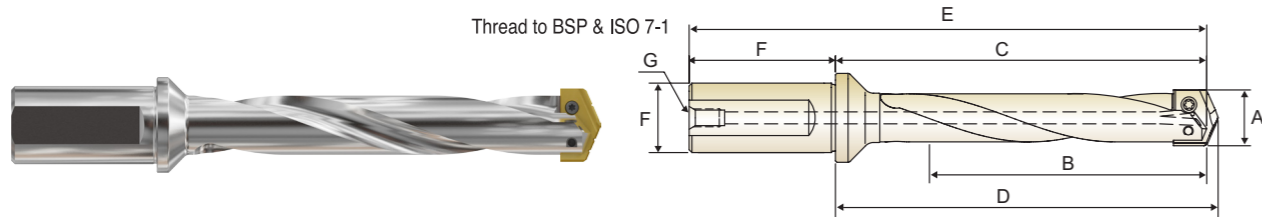


STANDARD LENGTH - Helical Flute (Metric)

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 H	
Y	ZY0SDHF020M	9.5 ~ 11.0	60.3	89.7	92.1	139.7	20.0	50.0	1/8
Z	ZZ0SDHF020M	11.5 ~ 12.5	60.3	89.7	92.1	139.7	20.0	50.0	1/8
0	Z00SDHF020M	13.0 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
0.5	Z05SDHF020M	15.5 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
1	Z10SDHF025M	18.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
1.5	Z15SDHF025M	22.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
2	Z20SDHF032M	25.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
2.5	Z25SDHF032M	30.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
3	Z30SDHF040M	36.0 ~ 47.0	209.6	261.9	266.7	331.9	40.0	70.0	1/4
4	Z40SDHF040M	48.0 ~ 65.0	231.8	281.0	285.8	351.0	40.0	70.0	1/4

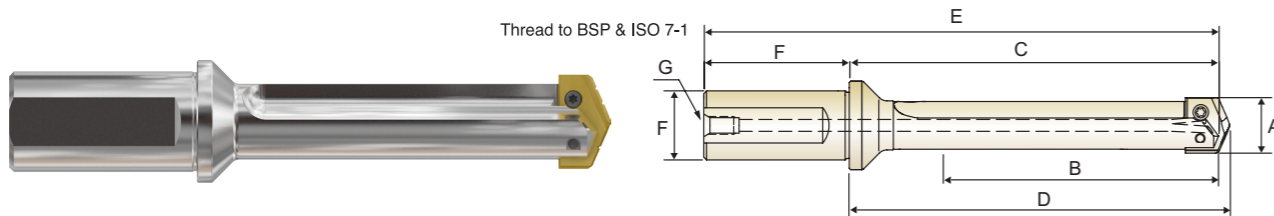
FLANGED STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



EXTENDED LENGTH - Helical 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	ZY0EXHF020M	9.5 ~ 11.0	111.1	140.5	142.9	190.5	20.0	50.0	1/8
Z	ZZ0EXHF020M	11.5 ~ 12.5	111.1	140.5	142.9	190.5	20.0	50.0	1/8
0	Z00EXHF020M	13.0 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
0.5	Z05EXHF020M	15.5 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
1	Z10EXHF025M	18.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
1.5	Z15EXHF025M	22.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
2	Z20EXHF032M	25.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4
2.5	Z25EXHF032M	30.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4

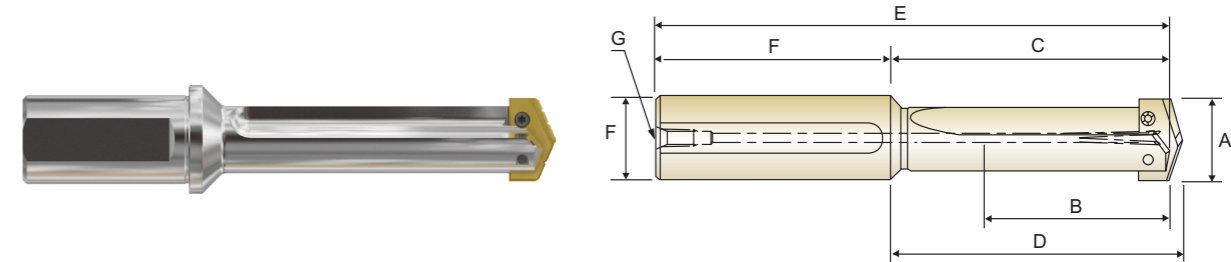


EXTENDED LENGTH - Straight Flute (Metric)

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	Z30EXSF040M	36.0 ~ 47.0	349.3	401.6	406.4	471.6	40.0	70.0	1/4
4	Z40EXSF040M	48.0 ~ 65.0	422.3	471.5	476.3	541.5	40.0	70.0	1/4

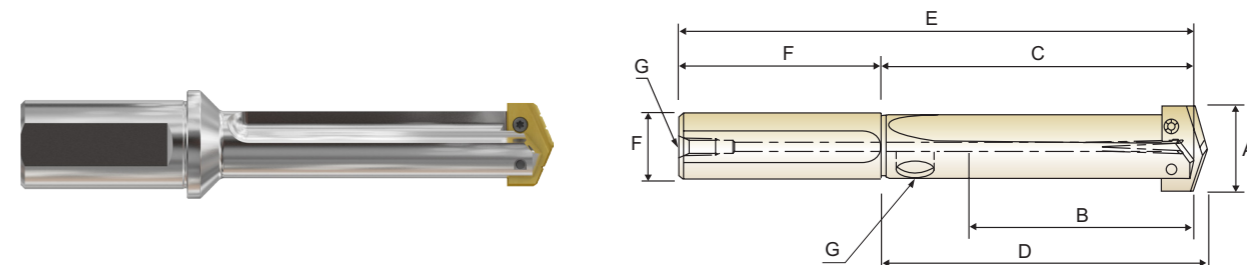
STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



SHORT 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	ZY0STSS075I	3/8 ~ 27/64	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
Z	ZZ0STSS075I	7/16 ~ 1/2	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
0	Z00STSS075I	33/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8
0.5	Z05STSS075I	39/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8



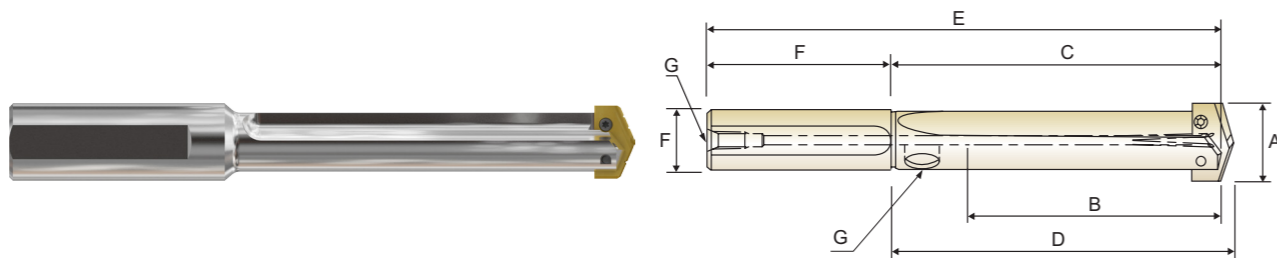
SHORT LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	* Z10STSS075I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z10STSS100I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
1.5	* Z15STSS075I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z15STSS100I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
2	Z20STSS100I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z20STSS125I	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	* Z25STSS100I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z25STSS125I	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	Z30STSS125I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/4	4	1/4
	Z30STSS150I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/2	4	1/4
4	Z40STSS150I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-1/2	4	1/4
	Z40STSS175I	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	Z50STSS200I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	8-3/4	12-1/2	2	4	1/2

▶ * Flanged type

STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO

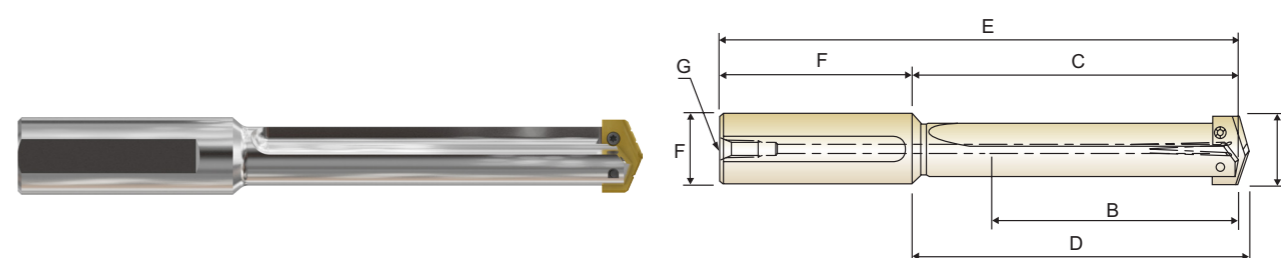


INTERMEDIATE LENGTH - Straight Flute (Inch)

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	Z10ITSS100I	45/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
1.5	Z15ITSS100I	55/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
2	Z20ITSS125I	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	Z25ITSS125I	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	Z30ITSS150I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	7-15/16	11-3/4	1-1/2	4	1/4

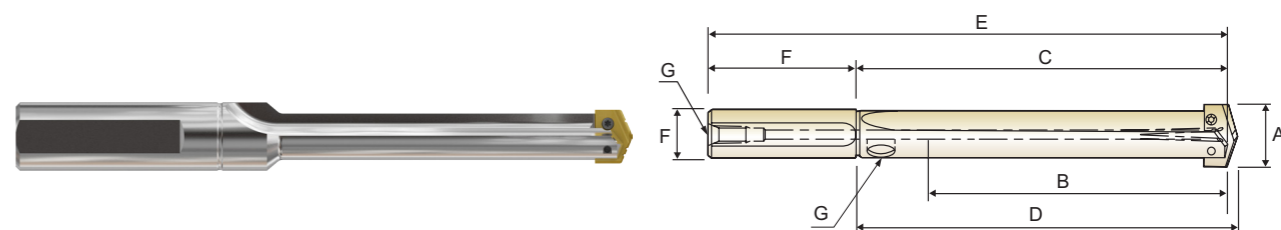
STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



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	ZY0SDSS075I	3/8 ~ 27/64	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
Z	ZZ0SDSS075I	7/16 ~ 1/2	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
o	Z00SDSS075I	33/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8
0.5	Z05SDSS075I	39/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8



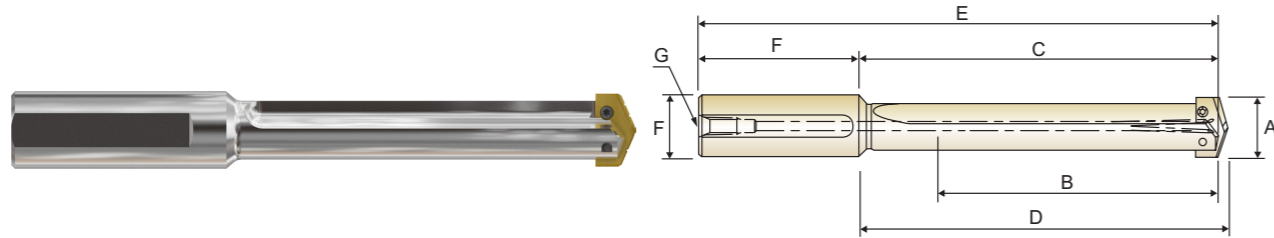
STANDARD LENGTH - Straight Flute (Inch)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	* Z10SDSS075I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z10SDSS100I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
1.5	* Z15SDSS075I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z15SDSS100I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
2	Z20SDSS100I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z20SDSS125I	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	* Z25SDSS100I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z25SDSS125I	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	Z30SDSS125I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/4	4	1/4
	Z30SDSS150I	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	Z40SDSS150I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-1/2	4	1/4
	Z40SDSS175I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-3/4	4	1/4
5~6	Z50SDSS200I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	12-3/4	16-1/2	2	4	1/2
7~8	Z70SDSS300I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	13-1/8	17-7/8	3	5	1/2

▶ * Flanged type

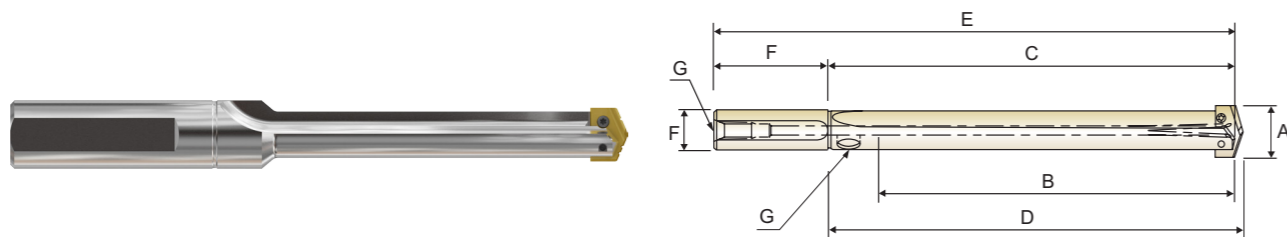
STRAIGHT SHANK HOLDERS

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



EXTENDED 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	ZY0EXSS075I	3/8 ~ 27/64	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
Z	ZZ0EXSS075I	7/16 ~ 1/2	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
0	Z00EXSS075I	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	Z05EXSS075I	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 A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia.	Length F	
1	Z10EXSS100I	45/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
1.5	Z15EXSS100I	55/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
2	Z20EXSS125I	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	Z25EXSS125I	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	Z30EXSS125I	1-13/32 ~ 1-7/8	13-3/4	15	15-3/16	19	1-1/4	4	1/4
4	Z40EXSS150I	1-29/32 ~ 2-9/16	16-5/8	18	18-3/16	22	1-1/2	4	1/4
5~6	Z50EXSS200I	2-1/2 ~ 3-1/2	18-1/4	20	20-1/4	24	2	4	1/2
7~8	Z70EXSS300I	3-17/32 ~ 4-1/2	21-7/8	24	24-1/4	29	3	5	1/2

STRAIGHT SHANK HOLDERS

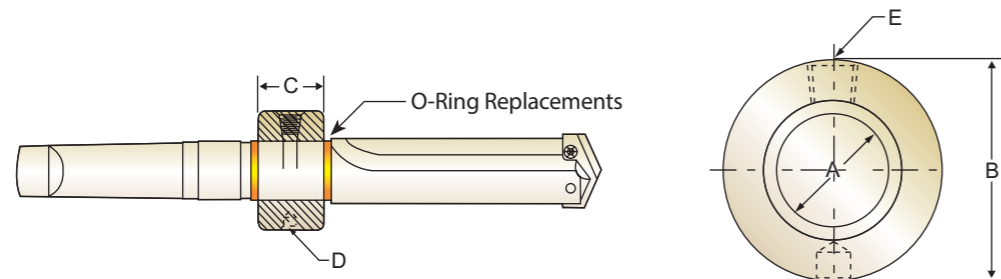
- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



LONG 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	
0	Z00LGSS075I	33/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8
0.5	Z05LGSS075I	39/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8

**HOLDER ACCESSORIES
ROTARY COOLANT ADAPTER (RCA) AND ACCESSORIES**



Inch

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap
	A	B			
PR110048	3/4	1-3/4	7/8	5/16-NC	1/8
PR110100	1	2-1/8	1-1/8	5/16-NC	1/8
PR110116	1-1/4	2-1/2	1-3/8	3/8-NC	1/4
PR110148	1-3/4	3	1-3/8	3/8-NC	1/4
PR110216	2-1/4	3-3/4	1-3/4	1/2-NC	1/2

Metric

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap
	A	B			
PR120190	19.05	44.45	22.23	M8 × 1.25	1/8
PR120254	25.40	53.97	28.57	M8 × 1.25	1/8
PR120317	31.75	63.50	34.92	M10 × 1.5	1/4
PR120444	44.45	76.20	34.92	M10 × 1.5	1/4
PR120571	57.15	95.27	44.45	M12 × 1.75	1/2

◆ 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

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

SPADE DRILL HSS M4

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	15		Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64
16	29	35		41	0.10	0.15	0.16	0.23	0.28	0.35	0.40	
K	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79

► 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.

SPADE DRILL HSS T15

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58	
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	M	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36
13		20		23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
14		24		29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► 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.

SPADE DRILL HSS M48

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58	
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	M	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36
13		20		23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
14		24		29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► 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.



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

SPADE DRILL CARBIDE K10

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed				
			TiN	TiCN	TiAlN	Ø9.5~12.5	Ø13~17.5	Ø18~24	Ø25~35	Ø36~47
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
			56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
			66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
			66	81	93	0.13	0.15	0.28	0.33	0.37

SPADE DRILL FLAT BOTTOM HSS T15

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc		Feed			
			TiN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35
P	1	Non-alloy steel	54	60	0.12	0.18	0.22	0.30
			46	55	0.10	0.15	0.19	0.27
			45	50	0.10	0.15	0.18	0.27
			42	46	0.08	0.14	0.17	0.22
	6	Low alloy steel	45	46	0.10	0.16	0.19	0.29
			40	45	0.10	0.13	0.18	0.28
			38	42	0.07	0.12	0.18	0.22
			34	37	0.06	0.12	0.17	0.22
	10	High alloyed steel, and tool steel	27	29	0.07	0.12	0.15	0.20
			22	23	0.07	0.12	0.15	0.20
			23	25	0.13	0.15	0.18	0.22
M	Stainless steel	23	25	0.13	0.15	0.18	0.22	
		26	29	0.17	0.18	0.20	0.23	
		51	60	0.12	0.21	0.29	0.40	
K	16	Grey cast iron	38	48	0.10	0.14	0.20	0.25
			51	60	0.12	0.21	0.29	0.40
	18	Nodular cast iron	38	48	0.10	0.14	0.20	0.25
			56	66	0.13	0.25	0.35	0.41
	20	Malleable cast iron	38	48	0.10	0.14	0.20	0.25
N	21	Aluminum-wrought alloy	208	213	0.17	0.28	0.36	0.43
			112	121	0.17	0.28	0.36	0.41
	27	Copper and Copper Alloys (Bronze / Brass)	48	70	0.15	0.26	0.37	0.45
S	31	Heat Resistant Super Alloys	20	10	0.06	0.14	0.16	0.19
			7	9	0.06	0.11	0.14	0.15
			7	9	0.06	0.11	0.14	0.15
			7	9	0.06	0.11	0.14	0.15
			7	9	0.06	0.11	0.14	0.15
H	38	Hardened steel	23	25	0.13	0.15	0.18	0.22

SPADE DRILL CARBIDE K20

Vc = m/min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
			76	82	96	0.15	0.22	0.29	0.36	0.40
			66	70	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
			66	73	81	0.15	0.21	0.28	0.37	0.41
			62	70	78	0.12	0.20	0.27	0.33	0.40
			53	58	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28	0.31
			37	46	50	0.09	0.18	0.22	0.28	0.31
	M	Stainless steel	38	43	47	0.10	0.18	0.20	0.24	0.30
			43	49	55	0.12	0.20	0.23	0.27	0.35
95			101	125	0.17	0.26	0.32	0.42	0.53	
K	16	Grey cast iron	56	70	79	0.13	0.18	0.23	0.28	0.33
			95	101	125	0.17	0.26	0.32	0.42	0.53
	18	Nodular cast iron	66	81	93	0.13	0.15	0.28	0.33	0.37
			98	125	137	0.18	0.30	0.37	0.46	0.56
	20	Malleable cast iron	66	81	93	0.13	0.15	0.28	0.33	0.37
			366	396	427	0.24	0.38	0.45	0.50	0.53
N	22	Aluminum-wrought alloy	244	290	291	0.22	0.33	0.40	0.45	0.48
			136	168	193	0.15	0.24	0.29	0.39	0.47
	27	Copper and Copper Alloys (Bronze / Brass)	50	55	62	0.19	0.19	0.21	0.24	0.30
S	32	Heat Resistant Super Alloys	38	44	46	0.15	0.17	0.20	0.21	0.25
			38	44	46	0.15	0.17	0.20	0.21	0.25
			38	44	46	0.15	0.17	0.20	0.21	0.25
			38	44	46	0.15	0.17	0.20	0.21	0.25
			38	44	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30

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SPADE DRILL CARBIDE P40

Vc = m/min,
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc			Feed				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
	2		76	82	96	0.15	0.22	0.29	0.36	0.40
	3		66	70	84	0.15	0.22	0.28	0.36	0.40
	4		66	70	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
	7		66	73	81	0.15	0.21	0.28	0.37	0.41
	8		62	70	78	0.12	0.20	0.27	0.33	0.40
	9		53	58	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28	0.31
	11		37	46	50	0.09	0.18	0.22	0.28	0.31
	M	12	Stainless steel	38	43	47	0.10	0.18	0.20	0.24
13		38		43	47	0.10	0.18	0.20	0.24	0.30
14		43		49	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19		Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46
20	66	81		93	0.13	0.15	0.28	0.33	0.37	
N	21	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53
	22		244	290	291	0.22	0.33	0.40	0.45	0.48
S	27	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47
S	31	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30
	32		38	44	46	0.15	0.17	0.20	0.21	0.25
	33		38	44	46	0.15	0.17	0.20	0.21	0.25
	34		38	44	46	0.15	0.17	0.20	0.21	0.25
	35		38	44	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30

► 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.