



DIJET CARBIDE TOOLS

Drills

DIJET CARBIDE TOOLS

Meeting the Trust of Customers

The industrial world poses various difficult problems toward tooling. Dijet has been meeting the trust of customers with continuous development of new tools and materials using our experience of more than 50 years as a total carbide tool manufacturer.



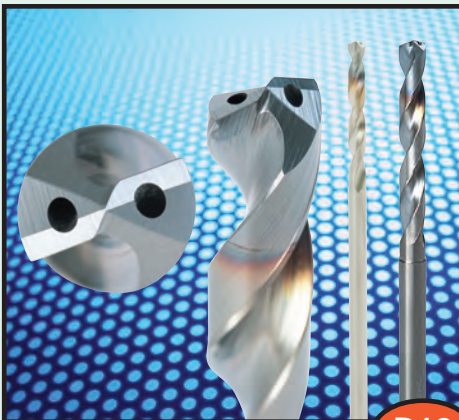
TEZD

D25



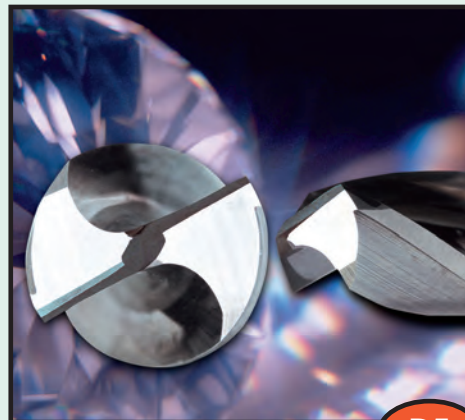
TLZD

D33



EZ Drill

D12



Beam Drill

D5



TLDM

D18



Sigma Drill Hard

D49

HOW TO USE THE CATALOG

Please note that products in this catalog are continuously under study and are improved.

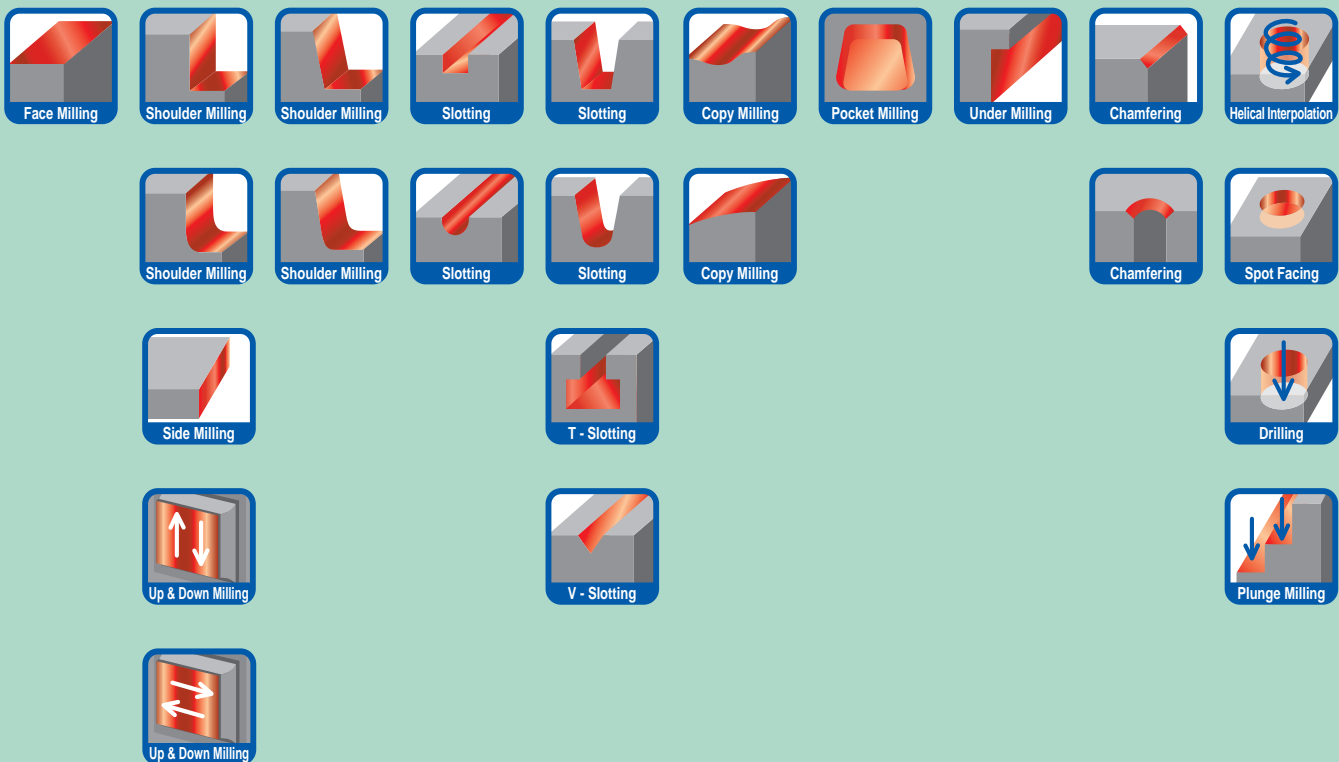
The products therefore may be changed in the future and thus become different from the catalog.

Stock status is mentioned for the products in this catalog. However, please note that the products here may be replaced by the new grades and products in the future.









Regarding stock status:

- Stock standard items (NOTE: Some items may be stocked in Japan - delivery approximately 2 weeks.)
- Non stock standard items (Production after order received)

CUTTING STYLES



Drills

Product Name	Beam Drill					EZ Drill		
Type	Solid Carbide with Mono-block Diamond					Solid Carbide		
								
Page	D-5	D-7	D-8	D-9	D-10	D-12	D-14	D-16
Catalog Number	VN-DRD	VN-DTD	VN-DTDL	VN-DFD	VN-DVT	EZDM	EZDL	EZSM
Diameters	0.4 ~ 3mm	1 ~ 12mm	1.2 ~ 4.9mm	2 ~ 12mm	M1 ~ M12mm	3 ~ 16mm	3 ~ 16mm	3 ~ 12mm
Depth of Cut	3XD	3XD	3XD	3XD	3XD	3XD	5XD	3XD
Coolant	External					Internal		
Coating	None					TiCN		Value Coating
Mild Steel						◎	◎	○
Carbon, Alloy Steel						◎	◎	○
Hardened Steel: ~50HRC						○	○	
~70HRC								
Heat-Resistant Alloy & Titanium Alloy						○	○	◎
Stainless Steel						◎	◎	○
Cast Iron						◎	◎	○
Aluminum	◎	◎	◎	◎	◎	○	○	○
Graphite, Carbon, Ceramics	◎	◎	◎	◎	◎			
Features	Mono-block diamond solid drill. Pivot type.	Mono-block diamond solid drill. Twist type.	Mono-block diamond solid drill. Twist type, long shank.	Mono-block diamond solid drill. Burnishing type.	Mono-block diamond solid drill. Twist type for rolled thread tap.	For high speed and high efficiency on steel, cast iron and stainless steel.	For high speed and high efficiency on steel, cast iron and stainless steel.	For heat resistant alloys and titanium.

◎ = First Choice ○ = Second Choice

Drills

TLDM	S-Cut	TA EZ			Sigma		
Solid Carbide	Brazed	Indexable			Solid Carbide		
							
D-18	D-22 D-23	D-25	D-31	D-33	D-37	D-39	D-41
TLDM	SCD-MS SCD-ML	TEZD-MS TEZD-ML TEZD-XL	TEZD-KMS	TLZD	DDS-S	DDS-M	DDS-L
1 ~ 14mm	10 ~ 38mm 10 ~ 30mm	13.6 ~ 32.1mm	24.5 ~ 26.7mm	14 ~ 32mm	3 ~ 20mm	3 ~ 20mm	6 ~ 20mm
3XD	3XD & 5XD	3XD, 5XD, 8XD	3XD	1.5XD	2XD	4XD	6XD
External	Internal			External			
TiAIN	TiN	Value Coating	JC7500		TiN		
◎	◎	◎	◎	◎	◎	◎	◎
◎	◎	◎	◎	◎	◎	◎	◎
◎ ~ 40 HRC		○	○	◎ ~ 40 HRC	◎	◎	○
					○	○	
◎	○	◎	○	◎			
◎	◎	◎	○	◎	○	○	○
○				○			
Spot face drill with 180° point. (Flat face)	Wider application areas. One piece brazed carbide tip with S-Cut geometry.	Wider application areas. One piece indexable carbide tip with EZ geometry.	One piece indexable carbide tip with EZ geometry for bridge construction plate.	One piece indexable carbide tip spot for facing drill.	For general steel and cast iron. Increased drill rigidity.	For general steel and cast iron. Increased drill rigidity.	For general steel and cast iron. Increased drill rigidity.

◎ = First Choice

○ = Second Choice






Drills

Drills

Product Name	Sigma		Sigma Hard		Solid Drill			
Type	Solid Carbide							
Page	D-43	D-45	D-49	D-52	D-54	D-62	D-63	D-66
Catalog Number	DX-H-DDSM DX-H-DDSL	FC-DDSM FC-DDSL	DZ-DHS DV-DHS	DZ-DHL	SDS	SDSL	RSD	DZSDS
Diameters	1/4" ~ 3/4"	3 ~ 20mm	2 ~ 16.1mm	3 ~ 5mm	.3 ~ 20mm	.4 ~ 13mm	.3 ~ 2mm	.3 ~ 6mm
Depth of Cut	4XD & 6XD	4XD & 6XD	3XD	5XD				
Coolant	Internal	External						
Coating	TICN	None	TiAIN		None			TiAIN
Mild Steel	⊙				○	○	○	○
Carbon, Alloy Steel	⊙							
Hardened Steel: ~50HRC	○			○				
~70HRC	○			⊙				
Heat-Resistant Alloy & Titanium Alloy								
Stainless Steel								
Cast Iron	○	⊙			⊙	⊙	⊙	⊙
Aluminum		○			○	○	○	○
Graphite, Carbon, Ceramics								
Features	For general steel and cast iron. Increased drill rigidity with coolant thru.	For general cast iron. Increased drill rigidity with coolant thru.	For high hardened steel.	For high hardened steel, long shank type.	Conventional twist drill.	Conventional twist drill.	Pivot type.	Coated conventional twist drill.

⊙ = First Choice ○ = Second Choice

Drills

Center Drill	V Point Drill	F1 Reamer	Finish Hard Reamer	Helical Cutting for Aluminum
Solid Carbide				
				
D-78	D-79	D-81	D-83	D-86
CDS / S-CDR CDL / S-CDL	VSD VSDL	DX-DHSR	DH-FHR	AL-OCHE
1 ~ 6mm 1 ~ 5mm	3 ~ 25mm	3 ~ 12mm	3 ~ 16mm	4 ~ 16mm
1XD			5XD	2 flute
External		Internal	External	
None	TIN	TiCN	DH Coating	DLC
○	○	◎		
○	○	◎		
	○	○	○	
		○	◎	
	○	○		
◎	◎			
○	○			◎
Standard and long type center drill.	Standard and long shank type center drill.	Reamer with right hand cut and left hand helix.	For high hardened steel. High accurate roundness achieved.	30° Helix angle, high efficient cutting with standard length of cut.

◎ = First Choice

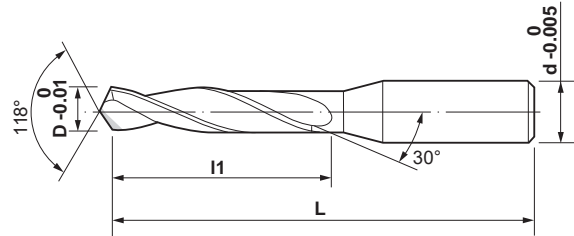
○ = Second Choice

Beam Drill - Pivot

METRIC

VN-DRD Type

- Solid Carbide with Mono-block diamond pivot drill
- 30° Helix



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DRD-004	•	0.40	6	40	3
VN-DRD-0041	□	0.41	6	40	3
VN-DRD-0042	□	0.42	6	40	3
VN-DRD-0043	□	0.43	6	40	3
VN-DRD-0044	□	0.44	6	40	3
VN-DRD-0045	□	0.45	6	40	3
VN-DRD-0046	□	0.46	6	40	3
VN-DRD-0047	□	0.47	6	40	3
VN-DRD-0048	□	0.48	6	40	3
VN-DRD-0049	□	0.49	6	40	3
VN-DRD-005	•	0.50	6	40	3
VN-DRD-0051	□	0.51	6	40	3
VN-DRD-0052	□	0.52	6	40	3
VN-DRD-0053	□	0.53	6	40	3
VN-DRD-0054	□	0.54	6	40	3
VN-DRD-0055	□	0.55	6	40	3
VN-DRD-0056	□	0.56	6	40	3
VN-DRD-0057	□	0.57	6	40	3
VN-DRD-0058	□	0.58	6	40	3
VN-DRD-0059	□	0.59	6	40	3
VN-DRD-006	•	0.60	7	40	3
VN-DRD-0061	□	0.61	7	40	3
VN-DRD-0062	□	0.62	7	40	3
VN-DRD-0063	□	0.63	7	40	3
VN-DRD-0064	□	0.64	7	40	3
VN-DRD-0065	□	0.65	7	40	3
VN-DRD-0066	□	0.66	7	40	3
VN-DRD-0067	□	0.67	7	40	3
VN-DRD-0068	□	0.68	7	40	3
VN-DRD-0069	□	0.69	7	40	3
VN-DRD-007	•	0.70	8	40	3
VN-DRD-0071	□	0.71	8	40	3
VN-DRD-0072	□	0.72	8	40	3
VN-DRD-0073	□	0.73	8	40	3
VN-DRD-0074	□	0.74	8	40	3
VN-DRD-0075	□	0.75	8	40	3
VN-DRD-0076	□	0.76	8	40	3
VN-DRD-0077	□	0.77	8	40	3
VN-DRD-0078	□	0.78	8	40	3
VN-DRD-0079	□	0.79	8	40	3
VN-DRD-008	•	0.80	8	40	3

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DRD-0081	□	0.81	8	40	3
VN-DRD-0082	□	0.82	8	40	3
VN-DRD-0083	□	0.83	8	40	3
VN-DRD-0084	□	0.84	8	40	3
VN-DRD-0085	□	0.85	8	40	3
VN-DRD-0086	□	0.86	8	40	3
VN-DRD-0087	□	0.87	8	40	3
VN-DRD-0088	□	0.88	8	40	3
VN-DRD-0089	□	0.89	8	40	3
VN-DRD-009	•	0.90	8	40	3
VN-DRD-0091	□	0.91	8	40	3
VN-DRD-0092	□	0.92	8	40	3
VN-DRD-0093	□	0.93	8	40	3
VN-DRD-0094	□	0.94	8	40	3
VN-DRD-0095	□	0.95	8	40	3
VN-DRD-0096	□	0.96	8	40	3
VN-DRD-0097	□	0.97	8	40	3
VN-DRD-0098	□	0.98	8	40	3
VN-DRD-0099	□	0.99	8	40	3
VN-DRD-010	•	1.0	10	40	3
VN-DRD-0101	□	1.01	10	40	3
VN-DRD-0102	□	1.02	10	40	3
VN-DRD-0103	□	1.03	10	40	3
VN-DRD-0104	□	1.04	10	40	3
VN-DRD-0105	□	1.05	10	40	3
VN-DRD-0106	□	1.06	10	40	3
VN-DRD-0107	□	1.07	10	40	3
VN-DRD-0108	□	1.08	10	40	3
VN-DRD-0109	□	1.09	10	40	3
VN-DRD-011	•	1.10	10	40	3
VN-DRD-0111	□	1.11	10	40	3
VN-DRD-0112	□	1.12	10	40	3
VN-DRD-0113	□	1.13	10	40	3
VN-DRD-0114	□	1.14	10	40	3
VN-DRD-0115	□	1.15	10	40	3
VN-DRD-0116	□	1.16	10	40	3
VN-DRD-0117	□	1.17	10	40	3
VN-DRD-0118	□	1.18	10	40	3
VN-DRD-0119	□	1.19	10	40	3
VN-DRD-012	•	1.20	10	40	3
VN-DRD-0121	□	1.21	10	40	3

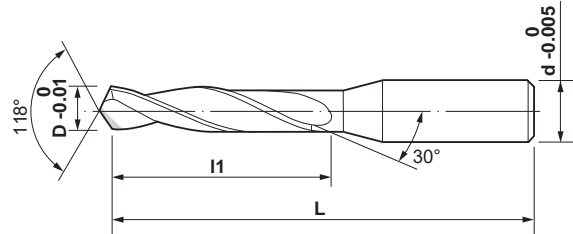
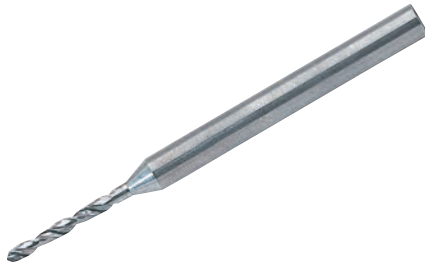


METRIC

Beam Drill - Pivot

VN-DRD Type

- Solid Carbide with Mono-block diamond pivot drill
- 30° Helix



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
VN-DRD-0122	□	1.22	10	40	3
VN-DRD-0123	□	1.23	10	40	3
VN-DRD-0124	□	1.24	10	40	3
VN-DRD-0125	□	1.25	10	40	3
VN-DRD-0126	□	1.26	10	40	3
VN-DRD-0127	□	1.27	10	40	3
VN-DRD-0128	□	1.28	10	40	3
VN-DRD-0129	□	1.29	10	40	3
VN-DRD-013	•	1.30	10	40	3
VN-DRD-0131	□	1.31	10	40	3
VN-DRD-0132	□	1.32	10	40	3
VN-DRD-0133	□	1.33	10	40	3
VN-DRD-0134	□	1.34	10	40	3
VN-DRD-0135	□	1.35	10	40	3
VN-DRD-0136	□	1.36	10	40	3
VN-DRD-0137	□	1.37	10	40	3
VN-DRD-0138	□	1.38	10	40	3
VN-DRD-0139	□	1.39	10	40	3
VN-DRD-014	•	1.40	10	40	3
VN-DRD-0141	□	1.41	10	40	3
VN-DRD-0142	□	1.42	10	40	3
VN-DRD-0143	□	1.43	10	40	3
VN-DRD-0144	□	1.44	10	40	3
VN-DRD-0145	□	1.45	10	40	3
VN-DRD-0146	□	1.46	10	40	3
VN-DRD-0147	□	1.47	10	40	3
VN-DRD-0148	□	1.48	10	40	3
VN-DRD-0149	□	1.49	10	40	3
VN-DRD-015	•	1.50	10	40	3
VN-DRD-0155	□	1.55	10	40	3
VN-DRD-016	•	1.60	22	45	3
VN-DRD-0165	□	1.65	22	45	3
VN-DRD-017	•	1.70	22	45	3
VN-DRD-0175	□	1.75	22	45	3
VN-DRD-018	•	1.80	22	45	3
VN-DRD-0185	□	1.85	22	45	3
VN-DRD-019	•	1.90	22	45	3
VN-DRD-0195	□	1.95	22	45	3
VN-DRD-020	•	2.00	22	45	3
VN-DRD-0205	□	2.05	22	45	3
VN-DRD-021	•	2.10	22	45	3

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
VN-DRD-0215	□	2.15	22	45	3
VN-DRD-022	•	2.20	22	45	3
VN-DRD-0225	□	2.25	22	45	3
VN-DRD-023	•	2.30	22	45	3
VN-DRD-0235	□	2.35	22	45	3
VN-DRD-024	•	2.40	22	45	3
VN-DRD-0245	□	2.45	22	45	3
VN-DRD-025	•	2.50	22	45	3
VN-DRD-0255	□	2.55	22	45	3
VN-DRD-026	•	2.60	22	45	3
VN-DRD-0265	□	2.65	25	50	3
VN-DRD-027	•	2.70	25	50	3
VN-DRD-0275	□	2.75	25	50	3
VN-DRD-028	•	2.80	25	50	3
VN-DRD-0285	□	2.85	25	50	3
VN-DRD-029	•	2.90	25	50	3
VN-DRD-0295	□	2.95	25	50	3
VN-DRD-030	•	3.00	25	50	3

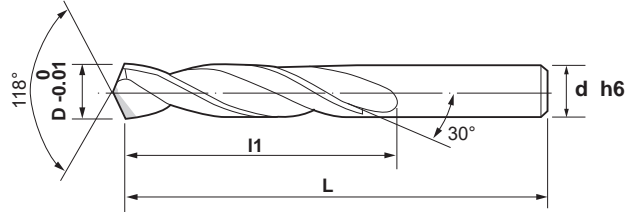
- Stocked standard
- Inquire regarding delivery

Beam Drill - Twist

METRIC

VN-DTD Type

- Solid Carbide with Mono-block diamond twist drill
- 30° Helix



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DTD-010	•	1.0	20	75	1.0
VN-DTD-011	•	1.1	20	75	1.1
VN-DTD-012	•	1.2	20	75	1.2
VN-DTD-013	•	1.3	20	75	1.3
VN-DTD-014	•	1.4	20	75	1.4
VN-DTD-015	•	1.5	20	75	1.5
VN-DTD-016	•	1.6	20	75	1.6
VN-DTD-017	•	1.7	20	75	1.7
VN-DTD-018	•	1.8	20	75	1.8
VN-DTD-019	•	1.9	20	75	1.9
VN-DTD-020	•	2.0	30	100	2.0
VN-DTD-021	•	2.1	30	100	2.1
VN-DTD-022	•	2.2	30	100	2.2
VN-DTD-023	•	2.3	30	100	2.3
VN-DTD-024	•	2.4	30	100	2.4
VN-DTD-025	•	2.5	30	100	2.5
VN-DTD-026	•	2.6	30	100	2.6
VN-DTD-027	•	2.7	30	100	2.7
VN-DTD-028	•	2.8	30	100	2.8
VN-DTD-029	•	2.9	30	100	2.9
VN-DTD-030	•	3.0	40	120	3.0
VN-DTD-031	•	3.1	40	120	3.1
VN-DTD-032	•	3.2	40	120	3.2
VN-DTD-033	•	3.3	40	120	3.3
VN-DTD-034	•	3.4	40	120	3.4
VN-DTD-035	•	3.5	40	120	3.5
VN-DTD-036	•	3.6	40	120	3.6
VN-DTD-037	•	3.7	40	120	3.7
VN-DTD-038	•	3.8	40	120	3.8
VN-DTD-039	•	3.9	40	120	3.9
VN-DTD-040	•	4.0	40	120	4.0
VN-DTD-041	•	4.1	40	120	4.1
VN-DTD-042	•	4.2	40	120	4.2
VN-DTD-043	•	4.3	40	120	4.3
VN-DTD-044	•	4.4	40	120	4.4
VN-DTD-045	•	4.5	40	120	4.5
VN-DTD-046	•	4.6	40	120	4.6
VN-DTD-047	•	4.7	40	120	4.7
VN-DTD-048	•	4.8	40	120	4.8
VN-DTD-049	•	4.9	40	120	4.9
VN-DTD-050	•	5.0	60	150	5.0

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DTD-051	•	5.1	60	150	5.1
VN-DTD-052	•	5.2	60	150	5.2
VN-DTD-053	•	5.3	60	150	5.3
VN-DTD-054	•	5.4	60	150	5.4
VN-DTD-055	•	5.5	60	150	5.5
VN-DTD-056	•	5.6	60	150	5.6
VN-DTD-057	•	5.7	60	150	5.7
VN-DTD-058	•	5.8	60	150	5.8
VN-DTD-059	•	5.9	60	150	5.9
VN-DTD-060	•	6.0	60	150	6.0
VN-DTD-061	□	6.1	60	150	6.1
VN-DTD-062	□	6.2	60	150	6.2
VN-DTD-063	□	6.3	60	150	6.3
VN-DTD-064	□	6.4	60	150	6.4
VN-DTD-065	•	6.5	60	150	6.5
VN-DTD-066	□	6.6	60	150	6.6
VN-DTD-067	□	6.7	60	150	6.7
VN-DTD-068	□	6.8	60	150	6.8
VN-DTD-069	□	6.9	60	150	6.9
VN-DTD-070	•	7.0	60	150	7.0
VN-DTD-071	□	7.1	60	150	7.1
VN-DTD-072	□	7.2	60	150	7.2
VN-DTD-073	□	7.3	60	150	7.3
VN-DTD-074	□	7.4	60	150	7.4
VN-DTD-075	•	7.5	60	150	7.5
VN-DTD-076	□	7.6	60	150	7.6
VN-DTD-077	□	7.7	60	150	7.7
VN-DTD-078	□	7.8	60	150	7.8
VN-DTD-079	□	7.9	60	150	7.9
VN-DTD-080	•	8.0	80	180	8.0
VN-DTD-081	□	8.1	80	180	8.1
VN-DTD-082	□	8.2	80	180	8.2
VN-DTD-083	□	8.3	80	180	8.3
VN-DTD-084	□	8.4	80	180	8.4
VN-DTD-085	•	8.5	80	180	8.5
VN-DTD-086	□	8.6	80	180	8.6
VN-DTD-087	□	8.7	80	180	8.7
VN-DTD-088	□	8.8	80	180	8.8
VN-DTD-089	□	8.9	80	180	8.9
VN-DTD-090	•	9.0	80	200	9.0
VN-DTD-091	□	9.1	80	200	9.1

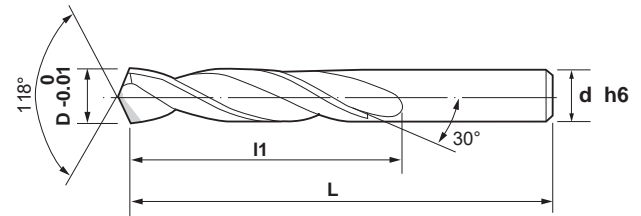


METRIC

Beam Drill - Twist

VN-DTD & VN-DTDL Type

- Solid Carbide with Mono-block diamond twist drill
- 30° Helix



VN-DTD

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
VN-DTD-092	<input type="checkbox"/>	9.2	80	200	9.2
VN-DTD-093	<input type="checkbox"/>	9.3	80	200	9.3
VN-DTD-094	<input type="checkbox"/>	9.4	80	200	9.4
VN-DTD-095	<input checked="" type="checkbox"/>	9.5	80	200	9.5
VN-DTD-096	<input type="checkbox"/>	9.6	80	200	9.6
VN-DTD-097	<input type="checkbox"/>	9.7	80	200	9.7
VN-DTD-098	<input type="checkbox"/>	9.8	80	200	9.8
VN-DTD-099	<input type="checkbox"/>	9.9	80	200	9.9
VN-DTD-100	<input checked="" type="checkbox"/>	10.0	80	200	10.0
VN-DTD-101	<input type="checkbox"/>	10.1	80	200	10.1
VN-DTD-102	<input type="checkbox"/>	10.2	80	200	10.2
VN-DTD-103	<input type="checkbox"/>	10.3	80	200	10.3
VN-DTD-104	<input type="checkbox"/>	10.4	80	200	10.4
VN-DTD-105	<input checked="" type="checkbox"/>	10.5	80	200	10.5
VN-DTD-106	<input type="checkbox"/>	10.6	80	200	10.6
VN-DTD-107	<input type="checkbox"/>	10.7	80	200	10.7
VN-DTD-108	<input type="checkbox"/>	10.8	80	200	10.8
VN-DTD-109	<input type="checkbox"/>	10.9	80	200	10.9
VN-DTD-110	<input checked="" type="checkbox"/>	11.0	120	250	11.0
VN-DTD-111	<input type="checkbox"/>	11.1	120	250	11.1
VN-DTD-112	<input type="checkbox"/>	11.2	120	250	11.2
VN-DTD-113	<input type="checkbox"/>	11.3	120	250	11.3
VN-DTD-114	<input type="checkbox"/>	11.4	120	250	11.4
VN-DTD-115	<input checked="" type="checkbox"/>	11.5	120	250	11.5
VN-DTD-116	<input type="checkbox"/>	11.6	120	250	11.6
VN-DTD-117	<input type="checkbox"/>	11.7	120	250	11.7
VN-DTD-118	<input type="checkbox"/>	11.8	120	250	11.8
VN-DTD-119	<input type="checkbox"/>	11.9	120	250	11.9
VN-DTD-120	<input checked="" type="checkbox"/>	12.0	120	250	12.0

VN-DTDL

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
VN-DTDL-012	<input type="checkbox"/>	1.2	20	150	1.2
VN-DTDL-015	<input type="checkbox"/>	1.5	20	150	1.5
VN-DTDL-018	<input type="checkbox"/>	1.8	20	150	1.8
VN-DTDL-020	<input type="checkbox"/>	2.0	30	150	2.0
VN-DTDL-022	<input type="checkbox"/>	2.2	30	150	2.2
VN-DTDL-025	<input type="checkbox"/>	2.5	30	150	2.5
VN-DTDL-031	<input type="checkbox"/>	3.1	40	150	3.1
VN-DTDL-037	<input type="checkbox"/>	3.7	40	150	3.7
VN-DTDL-043	<input type="checkbox"/>	4.3	40	150	4.3
VN-DTDL-049	<input type="checkbox"/>	4.9	40	150	4.9

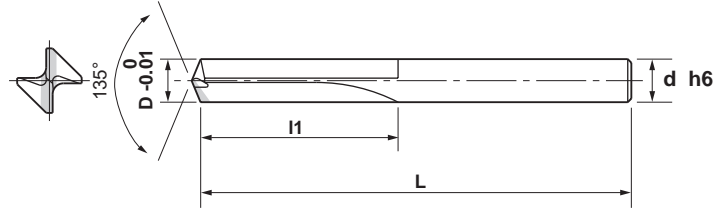
- Stocked standard
- Inquire regarding delivery

Beam Drill - Burnishing

METRIC

VN-DFD Type

- Solid Carbide with Mono-block diamond burnishing drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DFD-020	□	2.0	15	50	2.0
VN-DFD-021	□	2.1	15	50	2.1
VN-DFD-022	□	2.2	15	50	2.2
VN-DFD-023	□	2.3	15	50	2.3
VN-DFD-024	□	2.4	15	50	2.4
VN-DFD-025	□	2.5	20	60	2.5
VN-DFD-026	□	2.6	20	60	2.6
VN-DFD-027	□	2.7	20	60	2.7
VN-DFD-028	□	2.8	20	60	2.8
VN-DFD-029	□	2.9	20	60	2.9
VN-DFD-030	□	3.0	30	80	3.0
VN-DFD-031	□	3.1	30	80	3.1
VN-DFD-032	□	3.2	30	80	3.2
VN-DFD-033	□	3.3	30	80	3.3
VN-DFD-034	□	3.4	30	80	3.4
VN-DFD-035	□	3.5	30	80	3.5
VN-DFD-036	□	3.6	30	80	3.6
VN-DFD-037	□	3.7	30	80	3.7
VN-DFD-038	□	3.8	30	80	3.8
VN-DFD-039	□	3.9	30	80	3.9
VN-DFD-040	□	4.0	30	80	4.0
VN-DFD-041	□	4.1	30	80	4.1
VN-DFD-042	□	4.2	30	80	4.2
VN-DFD-043	□	4.3	30	80	4.3
VN-DFD-044	□	4.4	30	80	4.4
VN-DFD-045	□	4.5	30	80	4.5
VN-DFD-046	□	4.6	40	80	4.6
VN-DFD-047	□	4.7	40	80	4.7
VN-DFD-048	□	4.8	40	80	4.8
VN-DFD-049	□	4.9	40	80	4.9
VN-DFD-050	□	5.0	40	80	5.0
VN-DFD-051	□	5.1	40	80	5.1
VN-DFD-052	□	5.2	40	80	5.2
VN-DFD-053	□	5.3	40	80	5.3
VN-DFD-054	□	5.4	40	80	5.4
VN-DFD-055	□	5.5	40	80	5.5
VN-DFD-056	□	5.6	50	100	5.6
VN-DFD-057	□	5.7	50	100	5.7
VN-DFD-058	□	5.8	50	100	5.8
VN-DFD-059	□	5.9	50	100	5.9
VN-DFD-060	□	6.0	50	100	6.0

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DFD-061	□	6.1	50	100	6.1
VN-DFD-062	□	6.2	50	100	6.2
VN-DFD-063	□	6.3	50	100	6.3
VN-DFD-064	□	6.4	50	100	6.4
VN-DFD-065	□	6.5	50	100	6.5
VN-DFD-066	□	6.6	50	100	6.6
VN-DFD-067	□	6.7	50	100	6.7
VN-DFD-068	□	6.8	50	100	6.8
VN-DFD-069	□	6.9	50	100	6.9
VN-DFD-070	□	7.0	50	100	7.0
VN-DFD-071	□	7.1	50	100	7.1
VN-DFD-072	□	7.2	50	100	7.2
VN-DFD-073	□	7.3	50	100	7.3
VN-DFD-074	□	7.4	50	100	7.4
VN-DFD-075	□	7.5	50	100	7.5
VN-DFD-076	□	7.6	50	100	7.6
VN-DFD-077	□	7.7	50	100	7.7
VN-DFD-078	□	7.8	50	100	7.8
VN-DFD-079	□	7.9	50	100	7.9
VN-DFD-080	□	8.0	50	100	8.0
VN-DFD-081	□	8.1	50	100	8.1
VN-DFD-082	□	8.2	50	100	8.2
VN-DFD-083	□	8.3	50	100	8.3
VN-DFD-084	□	8.4	50	100	8.4
VN-DFD-085	□	8.5	50	100	8.5
VN-DFD-086	□	8.6	60	115	8.6
VN-DFD-087	□	8.7	60	115	8.7
VN-DFD-088	□	8.8	60	115	8.8
VN-DFD-089	□	8.9	60	115	8.9
VN-DFD-090	□	9.0	60	115	9.0
VN-DFD-091	□	9.1	60	115	9.1
VN-DFD-092	□	9.2	60	115	9.2
VN-DFD-093	□	9.3	60	115	9.3
VN-DFD-094	□	9.4	60	115	9.4
VN-DFD-095	□	9.5	60	115	9.5
VN-DFD-096	□	9.6	60	115	9.6
VN-DFD-097	□	9.7	60	115	9.7
VN-DFD-098	□	9.8	60	115	9.8
VN-DFD-099	□	9.9	60	115	9.9
VN-DFD-100	□	10.0	60	115	10.0
VN-DFD-101	□	10.1	70	115	10.1



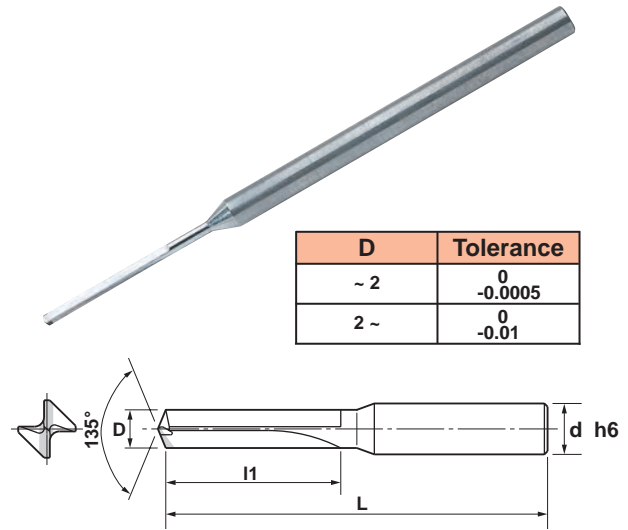
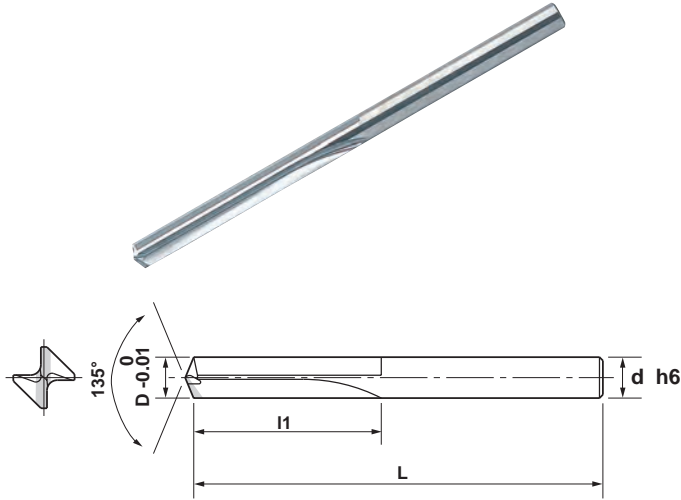
METRIC

Beam Drill - Burnishing

VN-DFD & VN-DVT Type

- VN-DFD - Solid Carbide with Mono-block diamond burnishing drill

- VN-DVT - Solid Carbide with Mono-block diamond burnishing drill for roll tapping



D	Tolerance
~ 2	$\begin{matrix} 0 \\ -0.0005 \end{matrix}$
2 ~	$\begin{matrix} 0 \\ -0.01 \end{matrix}$

VN-DFD

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
VN-DFD-102	<input type="checkbox"/>	10.2	70	115	10.2
VN-DFD-103	<input type="checkbox"/>	10.3	70	115	10.3
VN-DFD-104	<input type="checkbox"/>	10.4	70	115	10.4
VN-DFD-105	<input type="checkbox"/>	10.5	70	115	10.5
VN-DFD-106	<input type="checkbox"/>	10.6	70	115	10.6
VN-DFD-107	<input type="checkbox"/>	10.7	70	115	10.7
VN-DFD-108	<input type="checkbox"/>	10.8	70	115	10.8
VN-DFD-109	<input type="checkbox"/>	10.9	70	115	10.9
VN-DFD-110	<input type="checkbox"/>	11.0	70	115	11.0
VN-DFD-111	<input type="checkbox"/>	11.1	70	115	11.1
VN-DFD-112	<input type="checkbox"/>	11.2	70	115	11.2
VN-DFD-113	<input type="checkbox"/>	11.3	70	115	11.3
VN-DRD-114	<input type="checkbox"/>	11.4	70	115	11.4
VN-DFD-115	<input type="checkbox"/>	11.5	70	115	11.5
VN-DFD-116	<input type="checkbox"/>	11.6	80	140	11.6
VN-DFD-117	<input type="checkbox"/>	11.7	80	140	11.7
VN-DFD-118	<input type="checkbox"/>	11.8	80	140	11.8
VN-DFD-119	<input type="checkbox"/>	11.9	80	140	11.9
VN-DFD-120	<input type="checkbox"/>	12.0	80	140	12.0

- Stocked standard
- Inquire regarding delivery

VN-DVT

CATALOG NUMBER	STK	DIMENSIONS				
		D	l1	L	d	Tap Size
VN-DVT-M1	<input type="checkbox"/>	0.88	10	45	3	M1X0.25
VN-DVT-M1.2	<input type="checkbox"/>	1.08	12	45	3	M1.2X0.25
VN-DVT-M1.4	<input type="checkbox"/>	1.254	15	55	3	M1.4X0.30
VN-DVT-M1.6	<input type="checkbox"/>	1.42	18	55	3	M1.6X0.35
VN-DVT-M1.7	<input type="checkbox"/>	1.525	18	55	3	M1.7X0.35
VN-DVT-M2	<input type="checkbox"/>	1.8	20	55	3	M2X0.4
VN-DVT-M2.3	<input type="checkbox"/>	2.1	20	55	3	M2.3X0.4
VN-DVT-M2.5	<input type="checkbox"/>	2.27	22	55	3	M2.5X0.45
VN-DVT-M2.6	<input type="checkbox"/>	2.37	22	55	3	M2.6X0.45
VN-DVT-M3	<input type="checkbox"/>	2.76	22	55	3	M3X0.5
VN-DVT-M3.5	<input type="checkbox"/>	3.195	25	60	4	M3.5X0.6
VN-DVT-M4	<input type="checkbox"/>	3.65	25	60	4	M4X0.7
VN-DVT-M5	<input type="checkbox"/>	4.595	25	70	6	M5X0.8
VN-DVT-M6	<input type="checkbox"/>	5.48	30	80	6	M6X1.0
VN-DVT-M8	<input type="checkbox"/>	7.345	40	90	8	M8X1.25
VN-DVT-M10	<input type="checkbox"/>	9.19	50	110	10	M10X1.5
VN-DVT-M12	<input type="checkbox"/>	11.045	60	120	12	M12X1.75

- Stocked standard
- Inquire regarding delivery

Beam Drill - Cutting Data

METRIC

Recommended Cutting Data for VN-DRD, VN-DTD, VN-DTDL, VN-DFD, VN-DVT

Drill Dia.	Material									
	Aluminum Alloy (Less than 13% Si)		Aluminum Alloy (13%-30% Si)		MMC (Ceramic content up to 30%)		FPR		Copper Alloy, Plastic, Magnesium Alloy	
	min ⁻¹	mm/rev	min ⁻¹	mm/rev	min ⁻¹	mm/rev	min ⁻¹	mm/rev	min ⁻¹	mm/rev
0.5	20,000	0.005 ~ 0.01	12,000	0.005 ~ 0.01	10,000	0.005 ~ 0.01	10,000	0.005 ~ 0.01	10,000	0.005 ~ 0.01
1	15,000	0.01 ~ 0.03	10,000	0.01 ~ 0.03	10,000	0.01 ~ 0.03	10,000	0.01 ~ 0.03	10,000	0.01 ~ 0.03
1.5	14,000	0.03 ~ 0.06	9,000	0.03 ~ 0.06	10,000	0.02 ~ 0.05	10,000	0.02 ~ 0.05	10,000	0.02 ~ 0.05
2	13,000	0.05 ~ 0.15	8,000	0.05 ~ 0.15	8,500	0.02 ~ 0.08	9,000	0.03 ~ 0.06	9,000	0.03 ~ 0.06
3	12,000	0.08 ~ 0.2	8,000	0.08 ~ 0.2	8,000	0.03 ~ 0.1	8,000	0.04 ~ 0.08	8,000	0.04 ~ 0.08
4	12,000	0.1 ~ 0.25	8,000	0.1 ~ 0.25	7,500	0.04 ~ 0.12	7,500	0.06 ~ 0.12	7,500	0.06 ~ 0.12
5	12,000	0.15 ~ 0.3	7,700	0.15 ~ 0.3	6,500	0.5 ~ 0.14	6,500	0.08 ~ 0.15	6,500	0.08 ~ 0.15
6	12,000	0.15 ~ 0.3	6,500	0.15 ~ 0.3	5,300	0.06 ~ 0.15	5,500	0.1 ~ 0.18	5,500	0.1 ~ 0.18
7	12,000	0.15 ~ 0.3	5,500	0.15 ~ 0.3	4,500	0.07 ~ 0.16	5,000	0.12 ~ 0.2	5,000	0.12 ~ 0.2
8	12,000	0.15 ~ 0.3	5,000	0.15 ~ 0.3	4,000	0.08 ~ 0.18	4,500	0.12 ~ 0.2	4,500	0.12 ~ 0.2
9	12,000	0.15 ~ 0.3	4,200	0.15 ~ 0.3	3,500	0.09 ~ 0.19	4,000	0.12 ~ 0.2	4,000	0.12 ~ 0.2
10	10,000	0.15 ~ 0.3	3,800	0.15 ~ 0.3	3,200	0.1 ~ 0.2	3,500	0.12 ~ 0.2	3,500	0.12 ~ 0.2
11	9,000	0.15 ~ 0.3	3,500	0.15 ~ 0.3	3,000	0.11 ~ 0.2	3,000	0.12 ~ 0.2	3,000	0.12 ~ 0.2
12	8,000	0.15 ~ 0.3	3,300	0.15 ~ 0.3	2,800	0.12 ~ 0.2	2,800	0.12 ~ 0.2	2,800	0.12 ~ 0.2

Note: Use VN-DFD type for Aluminum Alloy only and reduce 30% feed speed.



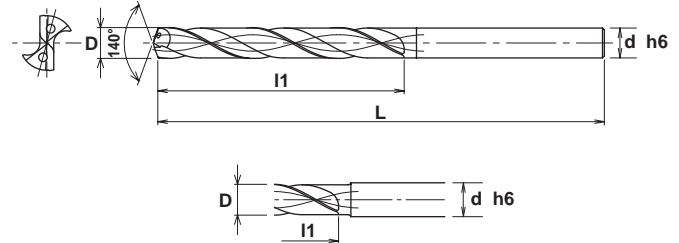
METRIC

EZ Drill

EZDM Type (3XD)-

- Energy conserving drill, can reduce cutting resistance and 30% power consumption when compared to conventional drill
- Highly efficient and capable of high speed drilling with easy to regrind point

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
EZDM030	•	3.0	15	68	3
EZDM031	•	3.1	18	71	4
EZDM032	•	3.2	18	71	4
EZDM033	•	3.3	18	71	4
EZDM034	•	3.4	18	71	4
EZDM035	•	3.5	18	71	4
EZDM036	•	3.6	20	73	4
EZDM037	•	3.7	20	73	4
EZDM038	•	3.8	20	73	4
EZDM039	•	3.9	20	73	4
EZDM040	•	4.0	20	73	4
EZDM041	•	4.1	23	78	5
EZDM042	•	4.2	23	78	5
EZDM043	•	4.3	23	78	5
EZDM044	•	4.4	23	78	5
EZDM045	•	4.5	23	78	5
EZDM046	•	4.6	25	80	5
EZDM047	•	4.7	25	80	5
EZDM048	•	4.8	25	80	5
EZDM049	•	4.9	25	80	5
EZDM050	•	5.0	25	80	5
EZDM051	•	5.1	28	82	6
EZDM052	•	5.2	28	82	6
EZDM053	•	5.3	28	82	6
EZDM054	•	5.4	28	82	6
EZDM055	•	5.5	28	82	6
EZDM056	•	5.6	30	82	6
EZDM057	•	5.7	30	82	6
EZDM058	•	5.8	30	82	6
EZDM059	•	5.9	30	82	6
EZDM060	•	6.0	30	82	6
EZDM061	•	6.1	33	86	7
EZDM062	•	6.2	33	86	7
EZDM063	•	6.3	33	86	7
EZDM064	•	6.4	33	86	7
EZDM065	•	6.5	33	86	7
EZDM066	•	6.6	35	88	7
EZDM067	•	6.7	35	88	7
EZDM068	•	6.8	35	88	7
EZDM069	•	6.9	35	88	7

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
EZDM070	•	7.0	35	88	7
EZDM071	•	7.1	38	92	8
EZDM072	•	7.2	38	92	8
EZDM073	•	7.3	38	92	8
EZDM074	•	7.4	38	92	8
EZDM075	•	7.5	38	92	8
EZDM076	•	7.6	40	94	8
EZDM077	•	7.7	40	94	8
EZDM078	•	7.8	40	94	8
EZDM079	•	7.9	40	94	8
EZDM080	•	8.0	40	94	8
EZDM081	•	8.1	43	100	9
EZDM082	•	8.2	43	100	9
EZDM083	•	8.3	43	100	9
EZDM084	•	8.4	43	100	9
EZDM085	•	8.5	43	100	9
EZDM086	•	8.6	45	100	9
EZDM087	•	8.7	45	100	9
EZDM088	•	8.8	45	100	9
EZDM089	•	8.9	45	100	9
EZDM090	•	9.0	45	100	9
EZDM091	•	9.1	48	106	10
EZDM092	•	9.2	48	106	10
EZDM093	•	9.3	48	106	10
EZDM094	•	9.4	48	106	10
EZDM095	•	9.5	48	106	10
EZDM096	•	9.6	50	106	10
EZDM097	•	9.7	50	106	10
EZDM098	•	9.8	50	106	10
EZDM099	•	9.9	50	106	10
EZDM100	•	10.0	50	106	10
EZDM101	•	10.1	53	116	11
EZDM102	•	10.2	53	116	11
EZDM103	•	10.3	53	116	11
EZDM104	•	10.4	53	116	11
EZDM105	•	10.5	53	116	11
EZDM106	•	10.6	55	116	11
EZDM107	•	10.7	55	116	11
EZDM108	•	10.8	55	116	11
EZDM109	•	10.9	55	116	11

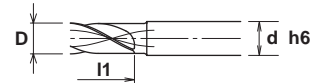
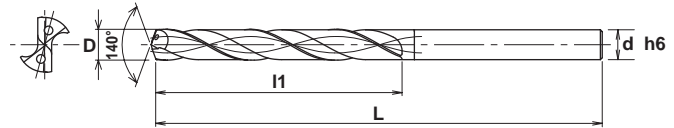
EZ Drill

METRIC

EZDM Type (3XD)-

- Energy conserving drill, can reduce cutting resistance and 30% power consumption when compared to conventional drill
- Highly efficient and capable of high speed drilling with easy to regrind point

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDM110	•	11.0	55	116	11
EZDM111	□	11.1	58	122	12
EZDM112	□	11.2	58	122	12
EZDM113	□	11.3	58	122	12
EZDM114	□	11.4	58	122	12
EZDM115	•	11.5	58	122	12
EZDM116	•	11.6	60	122	12
EZDM117	□	11.7	60	122	12
EZDM118	□	11.8	60	122	12
EZDM119	□	11.9	60	122	12
EZDM120	•	12.0	60	122	12
EZDM121	□	12.1	65	128	13
EZDM122	□	12.2	65	128	13
EZDM123	□	12.3	65	128	13
EZDM124	□	12.4	65	128	13
EZDM125	•	12.5	65	128	13
EZDM126	□	12.6	65	128	13
EZDM127	□	12.7	65	128	13
EZDM128	□	12.8	65	128	13
EZDM129	□	12.9	65	128	13
EZDM130	•	13.0	65	128	13
EZDM131	□	13.1	70	134	14
EZDM132	□	13.2	70	134	14
EZDM133	□	13.3	70	134	14
EZDM134	□	13.4	70	134	14

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDM135	•	13.5	70	134	14
EZDM136	□	13.6	70	134	14
EZDM137	□	13.7	70	134	14
EZDM138	□	13.8	70	134	14
EZDM139	□	13.9	70	134	14
EZDM140	•	14.0	70	134	14
EZDM141	□	14.1	75	140	15
EZDM142	□	14.2	75	140	15
EZDM143	□	14.3	75	140	15
EZDM144	□	14.4	75	140	15
EZDM145	•	14.5	75	140	15
EZDM146	□	14.6	75	140	15
EZDM147	□	14.7	75	140	15
EZDM148	□	14.8	75	140	15
EZDM149	□	14.9	75	140	15
EZDM150	•	15.0	75	140	15
EZDM151	□	15.1	80	146	16
EZDM152	□	15.2	80	146	16
EZDM153	□	15.3	80	146	16
EZDM154	□	15.4	80	146	16
EZDM155	•	15.5	80	146	16
EZDM156	□	15.6	80	146	16
EZDM157	□	15.7	80	146	16
EZDM158	□	15.8	80	146	16
EZDM159	□	15.9	80	146	16
EZDM160	•	16.0	80	146	16

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

Work Material	Hardness (HB)	Diameter							
		3 ~ 6		~ 10		~ 14		~ 16	
		Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
Mild Steel	~ 180	50-120	0.10-0.25	80-140	0.15-0.30	80-160	0.20-0.35	80-170	0.20-0.35
Carbon Steel	~ 280	50-100	0.10-0.25	80-140	0.10-0.25	80-140	0.15-0.35	80-150	0.20-0.35
Alloy Steel	280 ~ 350	30-80	0.10-0.20	35-90	0.10-0.25	50-100	0.15-0.35	60-110	0.20-0.35
Stainless Steel	~ 280	20-60	0.5-0.15	30-80	0.10-0.25	40-100	0.15-0.35	40-110	0.15-0.30
Gray Cast Iron	~ 250	70-120	0.15-0.30	80-140	0.15-0.35	110-160	0.25-0.40	120-170	0.25-0.35
Nodular Cast Iron	~ 300	30-80	0.10-0.25	35-90	0.10-0.25	50-110	0.15-0.35	60-110	0.20-0.35
Aluminum Alloys	-	60-130	0.05-0.15	70-160	0.10-0.30	80-150	0.15-0.35	80-180	0.20-0.40



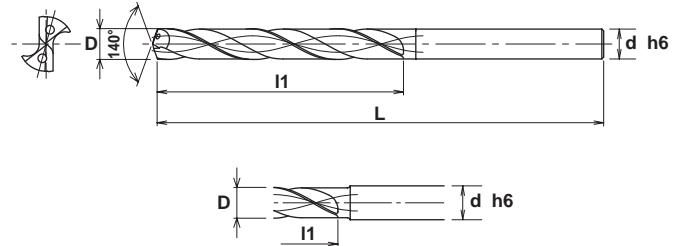
METRIC

EZ Drill

EZDL Type (5XD)-

- Energy conserving drill, can reduce cutting resistance and 30% power consumption when compared to conventional drill
- Highly efficient and capable of high speed drilling with easy to regrind point

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDL030	•	3.0	24	77	3
EZDL031	•	3.1	28	81	4
EZDL032	•	3.2	28	81	4
EZDL033	•	3.3	28	81	4
EZDL034	•	3.4	28	81	4
EZDL035	•	3.5	28	81	4
EZDL036	•	3.6	32	85	4
EZDL037	•	3.7	32	85	4
EZDL038	•	3.8	32	85	4
EZDL039	•	3.9	32	85	4
EZDL040	•	4.0	32	85	4
EZDL041	•	4.1	36	91	5
EZDL042	•	4.2	36	91	5
EZDL043	•	4.3	36	91	5
EZDL044	•	4.4	36	91	5
EZDL045	•	4.5	36	91	5
EZDL046	•	4.6	40	94	5
EZDL047	•	4.7	40	94	5
EZDL048	•	4.8	40	94	5
EZDL049	•	4.9	40	94	5
EZDL050	•	5.0	40	94	5
EZDL051	•	5.1	44	96	6
EZDL052	•	5.2	44	96	6
EZDL053	•	5.3	44	96	6
EZDL054	•	5.4	44	96	6
EZDL055	•	5.5	44	96	6
EZDL056	•	5.6	48	100	6
EZDL057	•	5.7	48	100	6
EZDL058	•	5.8	48	100	6
EZDL059	•	5.9	48	100	6
EZDL060	•	6.0	48	100	6
EZDL061	•	6.1	52	105	7
EZDL062	•	6.2	52	105	7
EZDL063	•	6.3	52	105	7
EZDL064	•	6.4	52	105	7
EZDL065	•	6.5	52	105	7
EZDL066	•	6.6	56	109	7
EZDL067	•	6.7	56	109	7
EZDL068	•	6.8	56	109	7
EZDL069	•	6.9	56	109	7

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDL070	•	7.0	56	109	7
EZDL071	•	7.1	60	114	8
EZDL072	•	7.2	60	114	8
EZDL073	•	7.3	60	114	8
EZDL074	•	7.4	60	114	8
EZDL075	•	7.5	60	114	8
EZDL076	•	7.6	64	118	8
EZDL077	•	7.7	64	118	8
EZDL078	•	7.8	64	118	8
EZDL079	•	7.9	64	118	8
EZDL080	•	8.0	64	118	8
EZDL081	•	8.1	68	127	9
EZDL082	•	8.2	68	127	9
EZDL083	•	8.3	68	127	9
EZDL084	•	8.4	68	127	9
EZDL085	•	8.5	68	127	9
EZDL086	•	8.6	72	127	9
EZDL087	•	8.7	72	127	9
EZDL088	•	8.8	72	127	9
EZDL089	•	8.9	72	127	9
EZDL090	•	9.0	72	127	9
EZDL091	•	9.1	76	136	10
EZDL092	•	9.2	76	136	10
EZDL093	•	9.3	76	136	10
EZDL094	•	9.4	76	136	10
EZDL095	•	9.5	76	136	10
EZDL096	•	9.6	80	136	10
EZDL097	•	9.7	80	136	10
EZDL098	•	9.8	80	136	10
EZDL099	•	9.9	80	136	10
EZDL100	•	10.0	80	136	10
EZDL101	•	10.1	84	149	11
EZDL102	•	10.2	84	149	11
EZDL103	•	10.3	84	149	11
EZDL104	•	10.4	84	149	11
EZDL105	•	10.5	84	149	11
EZDL106	•	10.6	88	149	11
EZDL107	•	10.7	88	149	11
EZDL108	•	10.8	88	149	11
EZDL109	•	10.9	88	149	11

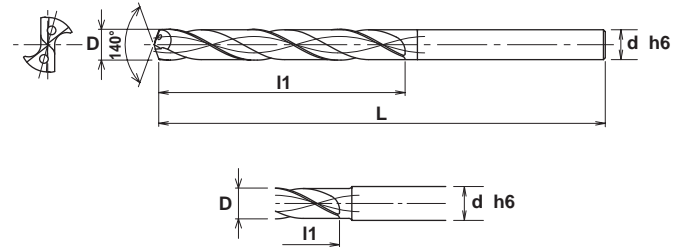
EZ Drill

METRIC

EZDL Type (5XD)-

- Energy conserving drill, can reduce cutting resistance and 30% power consumption when compared to conventional drill
- Highly efficient and capable of high speed drilling with easy to regrind point

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDL110	•	11.0	88	149	11
EZDL111	□	11.1	92	158	12
EZDL112	□	11.2	92	158	12
EZDL113	□	11.3	92	158	12
EZDL114	□	11.4	92	158	12
EZDL115	•	11.5	92	158	12
EZDL116	•	11.6	96	158	12
EZDL117	□	11.7	96	158	12
EZDL118	□	11.8	96	158	12
EZDL119	□	11.9	96	158	12
EZDL120	•	12.0	96	158	12
EZDL121	□	12.1	104	167	13
EZDL122	□	12.2	104	167	13
EZDL123	□	12.3	104	167	13
EZDL124	□	12.4	104	167	13
EZDL125	•	12.5	104	167	13
EZDL126	□	12.6	104	167	13
EZDL127	□	12.7	104	167	13
EZDL128	□	12.8	104	167	13
EZDL129	□	12.9	104	167	13
EZDL130	•	13.0	104	167	13
EZDL131	□	13.1	112	176	14
EZDL132	□	13.2	112	176	14
EZDL133	□	13.3	112	176	14
EZDL134	□	13.4	112	176	14

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZDL135	•	13.5	112	176	14
EZDL136	□	13.6	112	176	14
EZDL137	□	13.7	112	176	14
EZDL138	□	13.8	112	176	14
EZDL139	□	13.9	112	176	14
EZDL140	•	14.0	112	176	14
EZDL141	□	14.1	120	185	15
EZDL142	□	14.2	120	185	15
EZDL143	□	14.3	120	185	15
EZDL144	□	14.4	120	185	15
EZDL145	•	14.5	120	185	15
EZDL146	□	14.6	120	185	15
EZDL147	□	14.7	120	185	15
EZDL148	□	14.8	120	185	15
EZDL149	□	14.9	120	185	15
EZDL150	•	15.0	120	185	15
EZDL151	□	15.1	128	194	16
EZDL152	□	15.2	128	194	16
EZDL153	□	15.3	128	194	16
EZDL154	□	15.4	128	194	16
EZDL155	•	15.5	128	194	16
EZDL156	□	15.6	128	194	16
EZDL157	□	15.7	128	194	16
EZDL158	□	15.8	128	194	16
EZDL159	□	15.9	128	194	16
EZDL160	•	16.0	128	194	16

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

Work Material	Hardness (HB)	Diameter							
		3 ~ 6		~ 10		~ 14		~ 16	
		Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
Mild Steel	~ 180	50-120	0.10-0.25	80-140	0.15-0.30	80-160	0.20-0.35	80-170	0.20-0.35
Carbon Steel	~ 280	50-100	0.10-0.25	80-140	0.10-0.25	80-140	0.15-0.35	80-150	0.20-0.35
Alloy Steel	280 ~ 350	30-80	0.10-0.20	35-90	0.10-0.25	50-100	0.15-0.35	60-110	0.20-0.35
Stainless Steel	~ 280	20-60	0.5-0.15	30-80	0.10-0.25	40-100	0.15-0.35	40-110	0.15-0.30
Gray Cast Iron	~ 250	70-120	0.15-0.30	80-140	0.15-0.35	110-160	0.25-0.40	120-170	0.25-0.35
Nodular Cast Iron	~ 300	30-80	0.10-0.25	35-90	0.10-0.25	50-110	0.15-0.35	60-110	0.20-0.35
Aluminum Alloys	-	60-130	0.05-0.15	70-160	0.10-0.30	80-150	0.15-0.35	80-180	0.20-0.40



METRIC

EZ Drill

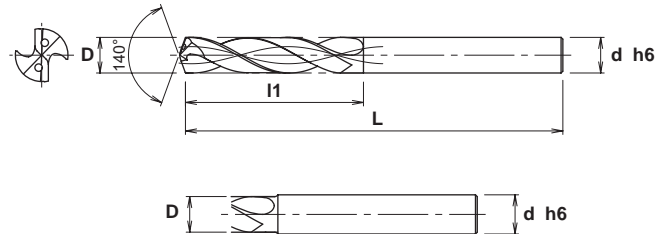
EZSM Type (3XD)-

- For heat-resistant alloy

- Helix angle: 30° with coolant hole



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZSM030	•	3	15	68	3
EZSM031	□	3.1	18	71	4
EZSM032	□	3.2	18	71	4
EZSM033	•	3.3	18	71	4
EZSM034	•	3.4	18	71	4
EZSM035	•	3.5	18	71	4
EZSM036	□	3.6	20	73	4
EZSM037	□	3.7	20	73	4
EZSM038	•	3.8	20	73	4
EZSM039	□	3.9	20	73	4
EZSM040	•	4	20	73	4
EZSM041	□	4.1	23	78	5
EZSM042	•	4.2	23	78	5
EZSM043	•	4.3	23	78	5
EZSM044	•	4.4	23	78	5
EZSM045	•	4.5	23	78	5
EZSM046	□	4.6	25	80	5
EZSM047	□	4.7	25	80	5
EZSM048	□	4.8	25	80	5
EZSM049	□	4.9	25	80	5
EZSM050	•	5	25	80	5
EZSM051	•	5.1	28	82	6
EZSM052	•	5.2	28	82	6
EZSM053	□	5.3	28	82	6
EZSM054	□	5.4	28	82	6
EZSM055	□	5.5	28	82	6
EZSM056	□	5.6	30	82	6
EZSM057	□	5.7	30	82	6
EZSM058	□	5.8	30	82	6
EZSM059	□	5.9	30	82	6
EZSM060	•	6.0	30	82	6
EZSM061	□	6.1	33	86	7
EZSM062	□	6.2	33	86	7
EZSM063	□	6.3	33	86	7
EZSM064	□	6.4	33	86	7
EZSM065	□	6.5	33	86	7
EZSM066	□	6.6	35	88	7
EZSM067	□	6.7	35	88	7

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZSM068	•	6.8	35	88	7
EZSM069	•	6.9	35	88	7
EZSM070	•	7	35	88	7
EZSM071	□	7.1	38	92	8
EZSM072	□	7.2	38	92	8
EZSM073	□	7.3	38	92	8
EZSM074	□	7.4	38	92	8
EZSM075	□	7.5	38	92	8
EZSM076	□	7.6	40	94	8
EZSM077	□	7.7	40	94	8
EZSM078	□	7.8	40	94	8
EZSM079	□	7.9	40	94	8
EZSM080	•	8	40	94	8
EZSM081	□	8.1	43	100	9
EZSM082	□	8.2	43	100	9
EZSM083	□	8.3	43	100	9
EZSM084	□	8.4	43	100	9
EZSM085	•	8.5	43	100	9
EZSM086	•	8.6	45	100	9
EZSM087	□	8.7	45	100	9
EZSM088	□	8.8	45	100	9
EZSM089	□	8.9	45	100	9
EZSM090	•	9	45	100	9
EZSM091	□	9.1	48	106	10
EZSM092	□	9.2	48	106	10
EZSM093	□	9.3	48	106	10
EZSM094	□	9.4	48	106	10
EZSM095	□	9.5	48	106	10
EZSM096	□	9.6	50	106	10
EZSM097	□	9.7	50	106	10
EZSM098	□	9.8	50	106	10
EZSM099	□	9.9	50	106	10
EZSM100	•	10	50	106	10
EZSM101	□	10.1	53	116	11
EZSM102	□	10.2	53	116	11
EZSM103	•	10.3	53	116	11
EZSM104	•	10.4	53	116	11

EZ Drill

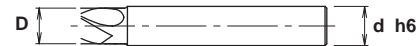
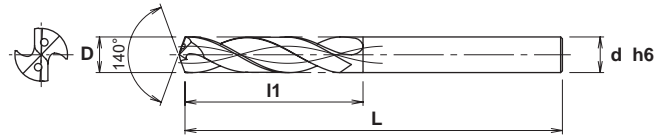
METRIC

EZSM Type (3XD)-

- For heat-resistant alloy
- Helix angle: 30° with coolant hole



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 16mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
EZSM105	□	10.5	53	116	11
EZSM106	□	10.6	55	116	11
EZSM107	□	10.7	55	116	11
EZSM108	□	10.8	55	116	11
EZSM109	□	10.9	55	116	11
EZSM110	•	11	55	116	11
EZSM111	□	11.1	58	122	12
EZSM112	□	11.2	58	122	12
EZSM113	□	11.3	58	122	12
EZSM114	□	11.4	58	122	12
EZSM115	□	11.5	58	122	12
EZSM116	□	11.6	60	122	12
EZSM117	□	11.7	60	122	12
EZSM118	□	11.8	60	122	12
EZSM119	□	11.9	60	122	12
EZSM120	•	12	60	122	12

Recommended Cutting Data

Work Material	30-42 HRC Ni-based heat-resistant alloy (Inco718, Waspaloy)		30-42 HRC Titanium alloy (Ti-6Al-4V)	
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
3.0 ~ 6.0	10 (10 ~ 25)	0.06 (0.06 ~ 0.10)	20 (20 ~ 60)	0.10 (0.06 ~ 0.14)
6.21 ~ 10.0	14 (10 ~ 25)	0.08 (0.06 ~ 0.10)	40 (20 ~ 60)	0.15 (0.10 ~ 0.20)
10.1 ~ 12.0	14 (10 ~ 25)	0.10 (0.08 ~ 0.12)	40 (20 ~ 60)	0.10 (0.14 ~ 0.26)

Note: Above figures should be adjusted according to machine rigidity or work piece rigidity.

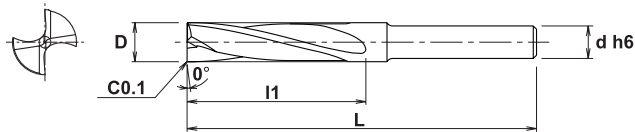
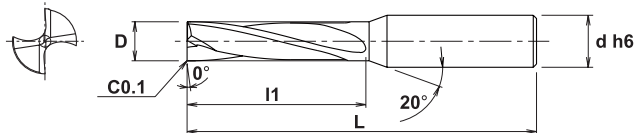
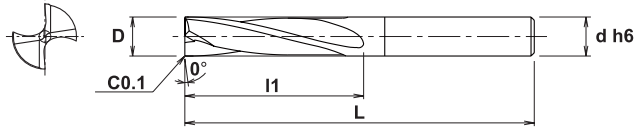


METRIC

TLDM Drill

TLDM Type (3XD)-

- Spot facing with 180° point & 30° helix angle



Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm - up to 6mm	+0 / -0.012
over 6mm - up to 10mm	+0 / -0.015
over 10mm - up to 16mm	+0 / -0.018

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
TLDM010	•	1.0	3.0	60	3
TLDM011	•	1.1	3.3	60	3
TLDM012	•	1.2	3.6	60	3
TLDM013	•	1.3	3.9	60	3
TLDM014	•	1.4	4.2	60	3
TLDM015	•	1.5	4.5	60	3
TLDM016	•	1.6	4.8	60	3
TLDM017	•	1.7	5.1	60	3
TLDM018	•	1.8	5.4	60	3
TLDM019	•	1.9	5.7	60	3
TLDM020	•	2.0	7.0	60	4
TLDM021	•	2.1	7.5	60	4
TLDM022	•	2.2	8.0	60	4
TLDM023	•	2.3	8.5	60	4
TLDM024	•	2.4	9.0	60	4
TLDM025	•	2.5	9.5	60	4
TLDM026	•	2.6	10	60	4
TLDM027	•	2.7	10.5	60	4
TLDM028	•	2.8	11	60	4
TLDM029	•	2.9	11.5	60	4
TLDM030	•	3.0	12	60	4
TLDM031	•	3.1	12	60	4
TLDM032	•	3.2	12	60	4
TLDM033	•	3.3	13	60	4
TLDM034	•	3.4	13	60	4
TLDM035	•	3.5	13	60	4
TLDM036	•	3.6	14	60	4
TLDM037	•	3.7	14	60	4
TLDM038	•	3.8	15	60	4

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
TLDM039	•	3.9	15	60	4
TLDM040	•	4.0	15	60	4
TLDM041	•	4.1	16	60	6
TLDM042	•	4.2	16	60	6
TLDM043	•	4.3	17	60	6
TLDM044	•	4.4	17	60	6
TLDM045	•	4.5	17	60	6
TLDM046	•	4.6	18	65	6
TLDM047	•	4.7	18	65	6
TLDM048	•	4.8	18	65	6
TLDM049	•	4.9	19	65	6
TLDM050	•	5.0	19	65	6
TLDM051	•	5.1	20	65	6
TLDM052	•	5.2	20	65	6
TLDM053	•	5.3	20	65	6
TLDM054	•	5.4	21	65	6
TLDM055	•	5.5	21	65	6
TLDM056	•	5.6	22	70	6
TLDM057	•	5.7	22	70	6
TLDM058	•	5.8	22	70	6
TLDM059	•	5.9	23	70	6
TLDM060	•	6.0	23	70	6
TLDM061	•	6.1	23	70	8
TLDM062	•	6.2	24	70	8
TLDM063	•	6.3	24	70	8
TLDM064	•	6.4	25	70	8
TLDM065	•	6.5	25	70	8
TLDM066	•	6.6	25	75	8
TLDM067	•	6.7	26	75	8

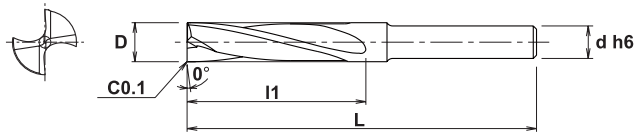
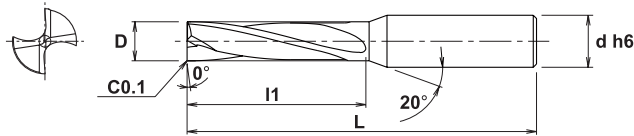
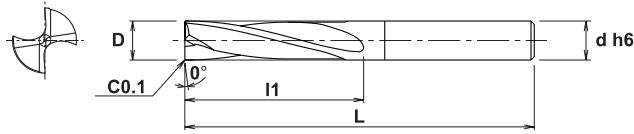


METRIC

TLDM Drill

TLDM Type (3XD)-

- Spot facing with 180° point & 30° helix angle



Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm - up to 6mm	+0 / -0.012
over 6mm - up to 10mm	+0 / -0.015
over 10mm - up to 16mm	+0 / -0.018

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
TLDM068	•	6.8	26	75	8
TLDM069	•	6.9	27	75	8
TLDM070	•	7.0	27	75	8
TLDM071	•	7.1	27	75	8
TLDM072	•	7.2	28	75	8
TLDM073	•	7.3	28	75	8
TLDM074	•	7.4	28	75	8
TLDM075	•	7.5	29	75	8
TLDM076	•	7.6	29	75	8
TLDM077	•	7.7	30	75	8
TLDM078	•	7.8	30	75	8
TLDM079	•	7.9	30	75	8
TLDM080	•	8.0	31	75	8
TLDM081	•	8.1	31	75	10
TLDM082	•	8.2	32	75	10
TLDM083	•	8.3	32	75	10
TLDM084	•	8.4	32	75	10
TLDM085	•	8.5	33	75	10
TLDM086	•	8.6	33	80	10
TLDM087	•	8.7	33	80	10
TLDM088	•	8.8	34	80	10
TLDM089	•	8.9	34	80	10
TLDM090	•	9.0	35	80	10
TLDM091	•	9.1	35	80	10
TLDM092	•	9.2	35	80	10
TLDM093	•	9.3	36	80	10
TLDM094	•	9.4	36	80	10
TLDM095	•	9.5	37	80	10
TLDM096	•	9.6	37	80	10

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
TLDM097	•	9.7	37	80	10
TLDM098	•	9.8	38	80	10
TLDM099	•	9.9	38	80	10
TLDM100	•	10.0	39	80	10
TLDM101	•	10.1	39	85	12
TLDM102	•	10.2	39	85	12
TLDM103	•	10.3	40	85	12
TLDM104	•	10.4	40	85	12
TLDM105	•	10.5	40	85	12
TLDM106	•	10.6	41	85	12
TLDM107	•	10.7	41	85	12
TLDM108	•	10.8	42	85	12
TLDM109	•	10.9	42	85	12
TLDM110	•	11.0	42	85	12
TLDM111	•	11.1	43	85	12
TLDM112	•	11.2	43	85	12
TLDM113	•	11.3	44	85	12
TLDM114	•	11.4	44	85	12
TLDM115	•	11.5	44	85	12
TLDM116	•	11.6	45	90	12
TLDM117	•	11.7	45	90	12
TLDM118	•	11.8	45	90	12
TLDM119	•	11.9	46	90	12
TLDM120	•	12.0	46	90	12
TLDM125	•	12.5	48	95	12
TLDM130	•	13.0	50	100	12
TLDM135	•	13.5	52	100	12
TLDM140	•	14.0	54	100	12



METRIC

TLDM

Recommended Cutting Data

Drill Dia.	Material											
	Mild Steel ◎ (SS400, S30C) ~180HB				Carbon Steel ◎ (S48C ~ S55C) ~280HB				Stainless Steel ◎ (SUS304)			
	Vc	n	f	Vf	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
1	50~100	19,100	0.01~0.04	380	50~100	19,100	0.01~0.04	380	10~40	9,500	0.005~0.02	100
2		11,100	0.01~0.05	380		11,100	0.01~0.05	380		4,800	0.005~0.03	100
3		8,500	0.06~0.14	510		8,500	0.06~0.14	510		3,175	0.06~0.15	320
4		6,375	0.08~0.16	510		6,375	0.08~0.16	510		2,375	0.07~0.16	240
5		5,100	0.10~0.18	510		5,100	0.10~0.18	510		1,900	0.07~0.16	200
6		4,250	0.10~0.20	510		4,250	0.10~0.20	510		1,600	0.08~0.17	170
7		3,650	0.10~0.20	510		3,650	0.10~0.20	510		1,375	0.08~0.17	150
8		3,175	0.10~0.20	510		3,175	0.10~0.20	510		1,200	0.09~0.18	140
9		2,825	0.12~0.22	510		2,825	0.12~0.22	510		1,050	0.09~0.18	120
10		2,550	0.14~0.24	510		2,550	0.14~0.24	510		950	0.10~0.20	110
11		2,325	0.16~0.26	510		2,325	0.16~0.26	510		875	0.10~0.20	110
12		2,125	0.18~0.28	510		2,125	0.18~0.28	510		800	0.10~0.20	100
13		1,950	0.20~0.30	510		1,950	0.20~0.30	510		725	0.10~0.20	90
14		1,825	0.22~0.32	510		1,825	0.22~0.32	510		675	0.10~0.20	90

Drill Dia.	Material											
	Cast Iron ◎ (FC / FCD)				Alloy Steel ◎ (SCM440) 280~350HB				Mold Steel ◎ (P21) 40 HRC			
	Vc	n	f	Vf	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
1	50~100	19,100	0.01~0.04	380	30~70	12,700	0.01~0.03	250	20~40	9,500	0.005~0.02	100
2		11,100	0.01~0.05	380		8,000	0.01~0.04	250		4,800	0.005~0.03	100
3		8,500	0.06~0.14	510		6,375	0.06~0.14	380		3,175	0.06~0.15	320
4		6,375	0.08~0.16	510		4,775	0.08~0.16	380		2,375	0.07~0.16	240
5		5,100	0.10~0.18	510		3,825	0.10~0.18	380		1,900	0.07~0.16	200
6		4,250	0.10~0.20	510		3,175	0.10~0.20	380		1,600	0.08~0.17	170
7		3,650	0.10~0.20	510		2,725	0.10~0.20	380		1,375	0.08~0.17	150
8		3,175	0.10~0.20	510		2,375	0.10~0.20	380		1,200	0.09~0.18	140
9		2,825	0.12~0.22	510		2,125	0.12~0.22	380		1,050	0.09~0.18	120
10		2,550	0.14~0.24	510		1,900	0.14~0.24	380		950	0.10~0.20	110
11		2,325	0.16~0.26	510		1,725	0.16~0.26	380		875	0.10~0.20	110
12		2,125	0.18~0.28	510		1,600	0.18~0.28	380		800	0.10~0.20	100
13		1,950	0.20~0.30	510		1,475	0.20~0.30	380		725	0.10~0.20	90
14		1,825	0.22~0.32	510		1,375	0.22~0.32	380		675	0.10~0.20	90

Suitability
◎ = Very Good
○ = Good

- Notes:**
- Above cutting conditions are for drilling flat surface.
In case of drilling slope, the figure should be adjusted:
For inclined angle under 30°, reduce Feed speed (Vf) to 40-80%.
 - Above cutting conditions are for drilling with water soluble coolant.
In case of dry cutting, use air to remove the chips.
 - Recommend drill depth under 2xd or less.
 - Horizontal milling is not advised.
 - In case of long chips, increase Feed speed or step feed.



TLDM

METRIC

Recommended Cutting Data

Drill Dia.	Material											
	Aluminum Alloy ○ (AC / ACD)				Hardened Steel ○ (SKD61)				Titanium ○ Ti-6Al-4V (30~42HRC)			
	Vc	n	f	Vf	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
1	50~100	25,500	0.01~0.06	800	15~30	6,400	0.005~0.02	50	20~40	9,500	0.005~0.02	100
2		15,900	0.01~0.08	800		3,200	0.005~0.03	50		4,800	0.005~0.03	100
3		12,725	0.06~0.14	770		2,125	0.03~0.07	100	20~50	3,175	0.06~0.15	320
4		9,550	0.08~0.16	770		1,600	0.03~0.07	80		2,375	0.07~0.16	240
5		7,650	0.10~0.18	770		1,275	0.04~0.08	70		1,900	0.07~0.16	200
6		6,375	0.10~0.20	770		1,050	0.04~0.08	60		1,600	0.08~0.17	170
7		5,450	0.10~0.20	770		900	0.04~0.09	60		1,375	0.08~0.17	150
8		4,775	0.10~0.20	770		800	0.04~0.09	50		1,200	0.09~0.18	140
9		4,250	0.12~0.22	770		700	0.04~0.10	50		1,050	0.09~0.18	120
10		3,825	0.14~0.24	770		625	0.04~0.10	50		950	0.10~0.20	110
11		3,475	0.16~0.26	770		575	0.04~0.11	50		875	0.10~0.20	110
12		3,175	0.18~0.28	770		525	0.04~0.11	40		800	0.10~0.20	100
13		2,950	0.20~0.30	770		500	0.04~0.12	40	725	0.10~0.20	90	
14		2,725	0.22~0.32	770		450	0.04~0.12	40	675	0.10~0.20	90	

Drill Dia.	Material			
	Inconel ○ Inco718 (30~42HRC)			
	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
1	10~20	3,800	0.005~0.02	38
2		1,900	0.005~0.03	19
3		1,275	0.01~0.04	26
4		950	0.01~0.04	19
5		775	0.01~0.04	16
6		625	0.01~0.04	13
7		550	0.01~0.04	11
8		475	0.01~0.04	10
9		425	0.01~0.04	9
10		375	0.01~0.04	8
11		350	0.01~0.04	7
12		325	0.01~0.04	7
13		300	0.01~0.04	6
14		275	0.01~0.04	6

Suitability
◎ = Very Good
○ = Good

- Notes:**
- Above cutting conditions are for drilling flat surface.
In case of drilling slope, the figure should be adjusted:
For inclined angle under 30°, reduce Feed speed (Vf) to 40-80%.
 - Above cutting conditions are for drilling with water soluble coolant.
In case of dry cutting, use air to remove the chips.
 - Recommend drill depth under 2xd or less.
 - Horizontal milling is not advised.
 - In case of long chips, increase Feed speed or step feed.



METRIC

S-Cut Drill

SCD-MS Type (3XD)-

- Enhanced chip evacuation with S-Cut point geometry provides longer and consistent tool life when drilling steel, cast iron or stainless steel

Diameter	Tolerance
10mm -up to 18mm	+0 / -0.018
over 18mm -up to 30mm	+0 / -0.021
over 30mm -up to 38mm	+0 / -0.025

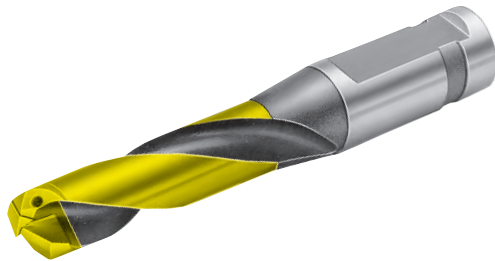


Fig. 1

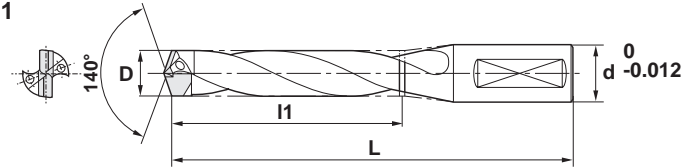
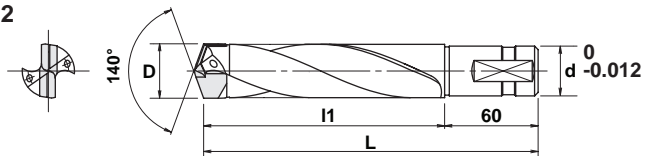


Fig. 2



CATALOG NUMBER	STK	FIG.	DIMENSIONS			
			D	l1	L	d
SCD-1000-MS	•	1	10.00	35	93	16
SCD-1025-MS	•	1	10.25	35	93	16
SCD-1050-MS	•	1	10.50	35	93	16
SCD-1075-MS	•	1	10.75	39	98	16
SCD-1100-MS	•	1	11.00	39	98	16
SCD-1125-MS	•	1	11.25	39	98	16
SCD-1150-MS	•	1	11.50	39	98	16
SCD-1175-MS	•	1	11.75	43	103	16
SCD-1200-MS	•	1	12.00	43	103	16
SCD-1225-MS	•	1	12.25	43	103	16
SCD-1250-MS	•	1	12.50	43	103	16
SCD-1275-MS	•	1	12.75	47	108	16
SCD-1300-MS	•	1	13.00	47	108	16
SCD-1325-MS	•	1	13.25	47	108	16
SCD-1350-MS	•	1	13.50	47	108	16
SCD-1375-MS	•	1	13.75	51	113	16
SCD-1400-MS	•	1	14.00	51	113	16
SCD-1420-MS	•	1	14.20	51	113	16
SCD-1425-MS	•	1	14.25	51	113	16
SCD-1450-MS	•	1	14.50	51	113	16
SCD-1475-MS	•	1	14.75	60	125	20
SCD-1500-MS	•	1	15.00	60	125	20
SCD-1525-MS	•	1	15.25	60	125	20
SCD-1550-MS	•	1	15.50	60	125	20
SCD-1575-MS	•	1	15.75	64	130	20
SCD-1600-MS	•	1	16.00	64	130	20
SCD-1625-MS	•	1	16.25	64	130	20
SCD-1630-MS	•	1	16.30	64	130	20
SCD-1650-MS	•	1	16.50	64	130	20
SCD-1675-MS	•	1	16.75	68	135	20
SCD-1700-MS	•	1	17.00	68	135	20
SCD-1725-MS	•	1	17.25	68	135	20
SCD-1750-MS	•	1	17.50	68	135	20
SCD-1775-MS	•	1	17.75	68	140	20
SCD-1800-MS	•	1	18.00	72	140	20
SCD-1825-MS	•	1	18.25	72	90	20
SCD-1850-MS	•	1	18.50	72	90	20

CATALOG NUMBER	STK	FIG.	DIMENSIONS			
			D	l1	L	d
SCD-1875-MS	•	1	18.75	76	151	25
SCD-1900-MS	•	1	19.00	76	151	25
SCD-1925-MS	•	1	19.25	76	151	25
SCD-1930-MS	•	1	19.30	76	151	25
SCD-1950-MS	•	1	19.50	76	151	25
SCD-1975-MS	•	1	19.75	80	156	25
SCD-2000-MS	•	1	20.00	80	156	25
SCD-2050-MS	•	1	20.50	80	156	25
SCD-2100-MS	•	1	21.00	84	161	25
SCD-2150-MS	•	1	21.50	84	161	25
SCD-2200-MS	•	1	22.00	88	166	25
SCD-2250-MS	•	1	22.50	88	166	25
SCD-2300-MS	•	1	23.00	92	171	25
SCD-2350-MS	•	1	23.50	92	171	25
SCD-2400-MS	•	1	24.00	96	180	32
SCD-2450-MS	•	1	24.50	96	180	32
SCD-2500-MS	•	1	25.00	100	185	32
SCD-2550-MS	•	1	25.50	100	185	32
SCD-2600-MS	•	1	26.00	104	190	32
SCD-2650-MS	•	1	26.50	104	190	32
SCD-2700-MS	•	1	27.00	108	195	32
SCD-2750-MS	•	1	27.50	108	195	32
SCD-2800-MS	•	1	28.00	112	200	32
SCD-2850-MS	•	1	28.50	112	200	32
SCD-2900-MS	•	1	29.00	116	205	32
SCD-2950-MS	•	1	29.50	116	205	32
SCD-3000-MS	•	1	30.00	120	210	32
SCD-3050-MS	•	1	30.50	120	210	32
SCD-3100-MS	•	2	31.00	143	203	32
SCD-3200-MS	•	2	32.00	147	207	32
SCD-3300-MS	•	2	33.00	152	212	32
SCD-3350-MS	•	2	33.50	152	212	32
SCD-3400-MS	•	2	34.00	156	216	32
SCD-3500-MS	•	2	35.00	161	221	32
SCD-3600-MS	•	2	36.00	166	226	32
SCD-3700-MS	•	2	37.00	171	231	32
SCD-3800-MS	•	2	38.00	175	235	32

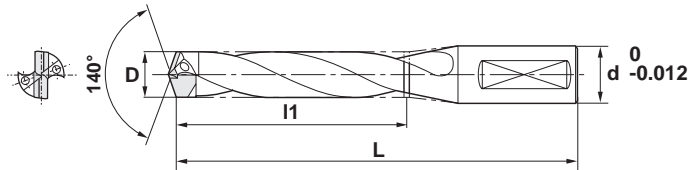
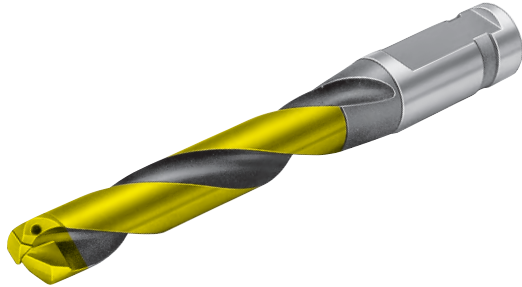
S-Cut Drill

METRIC

SCD-ML Type (5XD)-

- Enhanced chip evacuation with S-Cut point geometry provides longer and consistent tool life when drilling steel, cast iron or stainless steel.

Diameter	Tolerance
10mm -up to 18mm	+0 / -0.018
over 18mm -up to 30mm	+0 / -0.021



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SCD-1000-ML	•	10.00	55	113	16
SCD-1025-ML	•	10.25	55	113	16
SCD-1050-ML	•	10.50	55	113	16
SCD-1075-ML	•	10.75	64	123	16
SCD-1100-ML	•	11.00	64	123	16
SCD-1125-ML	•	11.25	64	123	16
SCD-1150-ML	•	11.50	68	123	16
SCD-1175-ML	•	11.75	68	128	16
SCD-1200-ML	•	12.00	68	128	16
SCD-1225-ML	•	12.25	68	128	16
SCD-1250-ML	•	12.50	68	128	16
SCD-1275-ML	•	12.75	72	133	16
SCD-1300-ML	•	13.00	72	133	16
SCD-1325-ML	•	13.25	72	133	16
SCD-1350-ML	•	13.50	72	133	16
SCD-1375-ML	•	13.75	81	143	16
SCD-1400-ML	•	14.00	81	143	16
SCD-1425-ML	•	14.25	81	143	16
SCD-1450-ML	•	14.50	81	143	16
SCD-1475-ML	•	14.75	90	155	20
SCD-1500-ML	•	15.00	90	155	20
SCD-1525-ML	•	15.25	90	155	20
SCD-1550-ML	•	15.50	90	155	20
SCD-1575-ML	•	15.75	94	160	20
SCD-1600-ML	•	16.00	110	160	20
SCD-1650-ML	•	16.50	110	160	20
SCD-1675-ML	•	16.75	103	170	20
SCD-1700-ML	•	17.00	103	170	20
SCD-1725-ML	•	17.25	103	170	20
SCD-1750-ML	•	17.50	103	170	20

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SCD-1775-ML	•	17.75	107	175	20
SCD-1800-ML	•	18.00	107	175	20
SCD-1850-ML	•	18.50	107	175	20
SCD-1875-ML	•	18.75	116	191	25
SCD-1900-ML	•	19.00	116	191	25
SCD-1925-ML	•	19.25	116	191	25
SCD-1950-ML	•	19.50	116	191	25
SCD-1975-ML	•	19.75	120	196	25
SCD-2000-ML	•	20.00	120	196	25
SCD-2050-ML	•	20.50	120	196	25
SCD-2100-ML	•	21.00	124	201	25
SCD-2150-ML	•	21.50	124	201	25
SCD-2200-ML	•	22.00	133	211	25
SCD-2250-ML	•	22.50	133	211	25
SCD-2300-ML	•	23.00	137	216	25
SCD-2350-ML	•	23.50	137	216	25
SCD-2400-ML	•	24.00	146	230	32
SCD-2450-ML	•	24.50	146	230	32
SCD-2500-ML	•	25.00	150	235	32
SCD-2550-ML	•	25.50	150	235	32
SCD-2600-ML	•	26.00	154	240	32
SCD-2650-ML	•	26.50	154	240	32
SCD-2700-ML	•	27.00	163	250	32
SCD-2750-ML	•	27.50	163	250	32
SCD-2800-ML	•	28.00	167	255	32
SCD-2850-ML	•	28.50	167	255	32
SCD-2900-ML	•	29.00	176	265	32
SCD-2950-ML	•	29.50	176	265	32
SCD-3000-ML	•	30.00	180	270	32



Drilling

METRIC

S-Cut Drill

Recommended Cutting Data

Materials	Carbon Steel (DIN C15) 200HB		Carbon Steel (DIN C50) 255HB		Alloy Steel (DIN 42CrMo4) 275HB	
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
10.0 ~ 14.5	90-70-60	0.15-0.20-0.30	90-70-60	0.15-0.25-0.30	90-60-50	0.15-0.20-0.30
14.5 ~ 24.5	90-75-60	0.15-0.25-0.40	90-70-60	0.15-0.30-0.40	90-70-50	0.15-0.25-0.35
24.5 ~ 30.0	80-75-60	0.20-0.30-0.40	80-70-60	0.20-0.30-0.40	80-60-60	0.20-0.30-0.35

Materials	Alloy Steel (DIN 42CrMo4) 360HB		Cast Iron (DIN GG25) 220HB		Nodular Cast Iron (DIN GGG40) 230HB	
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
10.0 ~ 14.5	40-30-20	0.15-0.18-0.20	100-70-60	0.20-0.30-0.40	90-65-50	0.20-0.30-0.40
14.5 ~ 24.5	40-30-20	0.15-0.20-0.25	100-80-90	0.20-0.35-0.50	90-70-50	0.20-0.35-0.50
24.5 ~ 30.0	40-30-20	0.15-0.20-0.25	100-80-60	0.20-0.40-0.50	90-70-50	0.20-0.35-0.50

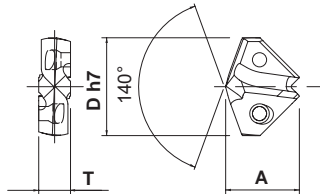
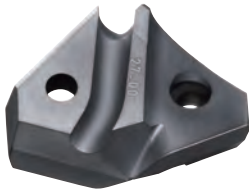
Materials	Stainless Steel (AISI 304) 255HB		Die Steel (1.2379) 255HB		Bearing Steel (1.2311) 275HB	
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
10.0 ~ 14.5	45-30-20	0.15-0.15-0.20	45-30-20	0.15-0.15-0.20	70-50-40	0.15-0.20-0.30
14.5 ~ 24.5	45-35-20	0.15-0.20-0.30	45-35-20	0.15-0.25-0.35	70-50-40	0.15-0.25-0.30
24.5 ~ 30.0	45-35-20	0.20-0.25-0.35	45-35-20	0.15-0.25-0.35	70-50-40	0.15-0.25-0.30

Indexable EZ Drill

METRIC

TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry



MS (3D)



ML (5D)



XL (8D)



DIA. (mm)	INSERT			DIMENSIONS (mm)	
	INSERT NUMBER	PVD COATED	JC8050		
		D			
13.6	TEZ1360	•	11.4	4.5	
13.8	TEZ1380	•			
14.0	TEZ1400	•			
14.1	TEZ1410	•			
14.2	TEZ1420	•			
14.3	TEZ1430	•			
14.4	TEZ1440	•			
14.5	TEZ1450	•			
14.6	TEZ1460	•	11.5	4.8	
14.7	TEZ1470	•			
14.8	TEZ1480	•			
14.9	TEZ1490	•			
15.0	TEZ1500	•			
15.1	TEZ1510	•			
15.2	TEZ1520	•			
15.3	TEZ1530	•			
15.4	TEZ1540	•			
15.5	TEZ1550	•			
15.6	TEZ1560	•	12.4	5.0	
15.7	TEZ1570	•			
15.8	TEZ1580	•			
15.9	TEZ1590	•			
16.0	TEZ1600	•			
16.1	TEZ1610	•			
16.2	TEZ1620	•			
16.3	TEZ1630	•			
16.4	TEZ1640	•			
16.5	TEZ1650	•			
16.6	TEZ1660	•	13.2	5.5	
16.7	TEZ1670	•			
16.8	TEZ1680	•			
16.9	TEZ1690	•			
17.0	TEZ1700	•			
17.1	TEZ1710	•			
17.2	TEZ1720	•			
17.3	TEZ1730	•			
17.4	TEZ1740	•			
17.5	TEZ1750	•			
17.6	TEZ1760	•	13.5	5.8	
17.7	TEZ1770	•			
17.8	TEZ1780	•			
17.9	TEZ1790	•			
18.0	TEZ1800	•			
18.1	TEZ1810	•			

DIAMETER RANGE		BODY						
		PART NUMBER	STK	MS (3D)				
				DIMENSIONS (mm)				
I	I2	Is	L	d				
13.6	14.5	TEZD1400S16-MS	•	51	65	48	113	16
14.6	15.5	TEZD1500S20-MS	•	54	69	50	119	20
15.6	16.5	TEZD1600S20-MS	•	58	74	50	124	20
16.6	17.5	TEZD1700S20-MS	•	61	78	50	128	20
17.6	18.5	TEZD1800S20-MS	•	65	83	50	133	20



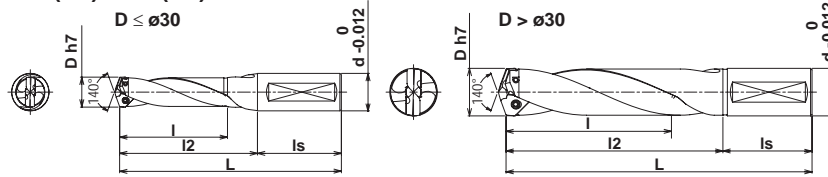
METRIC

Indexable EZ Drill

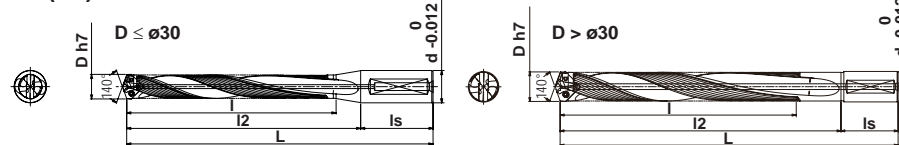
TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry

MS (3D) / ML (5D)



XL (8D)



BODY ML (5D)						BODY XL (8D)						PARTS			
PART NUMBER	STK	DIMENSIONS (mm)					PART NUMBER	STK	DIMENSIONS (mm)					SCREW	WRENCH
		l1	l2	ls	L	d			l1	l2	ls	L	d		
TEZD1400S16-ML	•	80	97	48	145	16	TEZD1400S16-XL	•	119	133	48	181	16	DSW-2045H	T-07
TEZD1500S20-ML	•	85	103	50	153	20	TEZD1500S20-XL	•	128	143	50	193	20	DSW-2045H	T-07
TEZD1600S20-ML	•	91	110	50	160	20	TEZD1600S20-XL	•	136	152	50	202	20	TSW-2556H	T-08
TEZD1700S20-ML	•	96	117	50	167	20	TEZD1700S20-XL	•	145	162	50	212	20	TSW-2556H	T-08
TEZD1800S20-ML	•	102	123	50	173	20	TEZD1800S20-XL	•	153	171	50	221	20	TSW-2556H	T-08

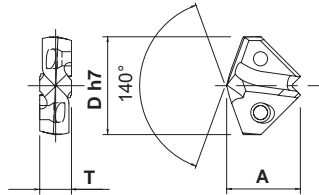
Note: All holders supplied without inserts.

Indexable EZ Drill

METRIC

TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry



MS (3D)



ML (5D)



XL (8D)



DIA. (mm)	INSERT			DIMENSIONS (mm)	
	INSERT NUMBER	PVD COATED	JC8050		
		D			A
18.2	TEZ1820	•		13.5	5.8
18.3	TEZ1830	•			
18.4	TEZ1840	•			
18.5	TEZ1850	•			
18.6	TEZ1860	•		14.2	6.0
18.7	TEZ1870	•			
18.8	TEZ1880	•			
18.9	TEZ1890	•			
19.0	TEZ1900	•			
19.1	TEZ1910	•			
19.2	TEZ1920	•			
19.3	TEZ1930	•			
19.4	TEZ1940	•			
19.5	TEZ1950	•			
19.6	TEZ1960	•		15.1	6.5
19.7	TEZ1970	•			
19.8	TEZ1980	•			
19.9	TEZ1990	•			
20.0	TEZ2000	•			
20.1	TEZ2010	•			
20.5	TEZ2050	•			
20.6	TEZ2060	•			
21.0	TEZ2100	•		15.7	6.7
21.1	TEZ2110	•			
21.2	TEZ2120	•			
21.5	TEZ2150	•			
21.6	TEZ2160	•			
21.9	TEZ2190	•			
22.0	TEZ2200	•		16.6	7.5
22.1	TEZ2210	•			
22.3	TEZ2230	•			
22.5	TEZ2250	•			
22.6	TEZ2260	•			
22.7	TEZ2270	•		17.4	7.5
23.0	TEZ2300	•			
23.1	TEZ2310	•			
23.5	TEZ2350	•			
23.6	TEZ2360	•			
24.0	TEZ2400	•		18.2	8.0
24.1	TEZ2410	•			
24.2	TEZ2420	•			
24.5	TEZ2450	•			

DIAMETER RANGE		BODY						
		MS (3D)					DIMENSIONS (mm)	
		PART NUMBER	STK	I	I2	Is		
17.6	18.5			TEZD1800S20-MS	•	65	83	50
18.6	19.5	TEZD1900S25-MS	•	68	87	56	143	25
19.6	20.5	TEZD2000S25-MS	•	72	92	56	148	25
20.6	21.5	TEZD2100S25-MS	•	75	96	56	152	25
21.6	22.5	TEZD2200S25-MS	•	79	101	56	157	25
22.6	23.5	TEZD2300S25-MS	•	82	105	56	161	25
23.6	24.5	TEZD2400S32-MS	•	86	110	60	170	32



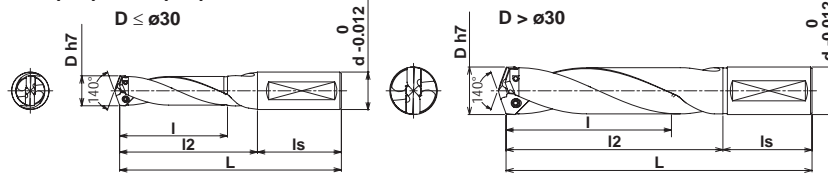
METRIC

Indexable EZ Drill

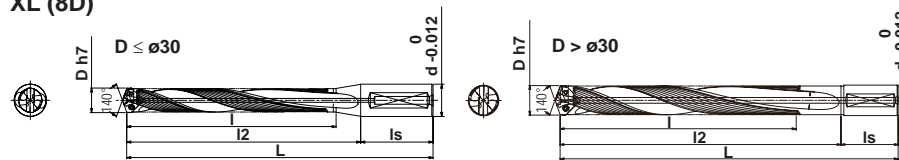
TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry

MS (3D) / ML (5D)



XL (8D)



BODY							BODY							PARTS	
ML (5D)							XL (8D)							SCREW	WRENCH
PART NUMBER	STK	DIMENSIONS (mm)					PART NUMBER	STK	DIMENSIONS (mm)						
		l	l2	ls	L	d			l	l2	ls	L	d		
TEZD1800S20-ML	•	102	123	50	173	20	TEZD1800S20-XL	•	153	171	50	221	20	TSW-2556H	T-08
TEZD1900S25-ML	•	107	130	56	186	25	TEZD1900S25-XL	•	162	181	56	237	25	TSW-2567H	T-08
TEZD2000S25-ML	•	113	137	56	193	25	TEZD2000S25-XL	•	170	190	56	246	25	TSW-2567H	T-08
TEZD2100S25-ML	•	118	143	56	199	25	TEZD2100S25-XL	•	179	200	56	256	25	TSW-2567H	T-08
TEZD2200S25-ML	•	124	150	56	206	25	TEZD2200S25-XL	•	187	209	56	265	25	DSW-307H	T-10
TEZD2300S25-ML	•	129	157	56	213	25	TEZD2300S25-XL	•	196	219	56	275	25	DSW-307H	T-10
TEZD2400S32-ML	•	135	164	60	224	32	TEZD2400S32-XL	•	204	228	60	288	32	DSW-307H	T-10

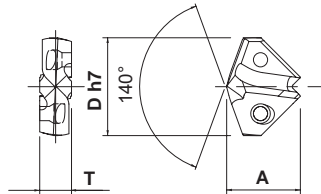
Note: All holders supplied without inserts.

Indexable EZ Drill

METRIC

TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry



MS (3D)



ML (5D)



XL (8D)



DIA. (mm)	INSERT			
	INSERT NUMBER	PVD COATED	DIMENSIONS (mm)	
			JC8050	A
25.0	TEZ2500	•	19.1	8.0
25.1	TEZ2510	•		
25.5	TEZ2550	•	19.7	8.5
25.6	TEZ2560	•		
25.7	TEZ2570	•		
26.0	TEZ2600	•		
26.1	TEZ2610	•		
26.5	TEZ2650	•		
26.6	TEZ2660	•		
26.7	TEZ2670	•		
27.0	TEZ2700	•	20.4	8.5
27.1	TEZ2710	•		
27.4	TEZ2740	•		
27.5	TEZ2750	•		
28.0	TEZ2800	•		
28.1	TEZ2810	•	21.2	9.0
28.5	TEZ2850	•		
28.6	TEZ2860	•	22.1	9.0
28.7	TEZ2870	•		
29.0	TEZ2900	•		
29.1	TEZ2910	•		
29.5	TEZ2950	•		
30.0	TEZ3000	•		
30.1	TEZ3010	•		
30.5	TEZ3050	•		
31.0	TEZ3100	•	23.4	10.0
31.5	TEZ3150	•		
32.0	TEZ3200	•	24.3	10.0
32.1	TEZ3210	•		

DIAMETER RANGE		BODY								
		PART NUMBER	STK	MS (3D)						
				DIMENSIONS (mm)						
25.0	25.5	TEZD2500S32-MS	•	89	114	60	174	32		
25.6	26.5	TEZD2600S32-MS	•	93	119	60	179	32		
26.6	27.5	TEZD2700S32-MS	•	96	123	60	183	32		
28.0	28.5	TEZD2800S32-MS	•	100	128	60	188	32		
28.6	29.5	TEZD2900S32-MS	•	103	132	60	192	32		
30.0	30.5	TEZD3000S32-MS	•	107	137	60	197	32		
31.0	31.5	TEZD3100S32-MS	•	110	141	60	201	32		
32.0	32.5	TEZD3200S32-MS	•	114	146	60	206	32		



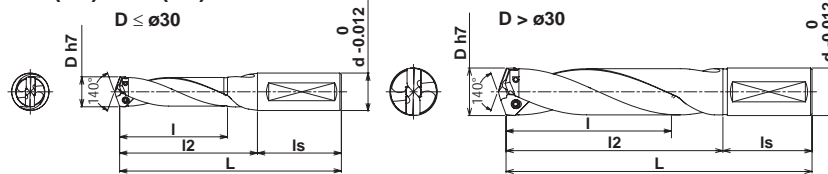
METRIC

Indexable EZ Drill

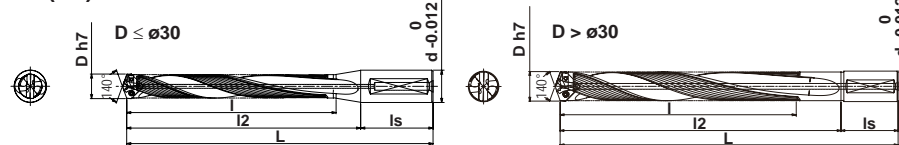
TEZD Type (3XD, 5XD, 8XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry

MS (3D) / ML (5D)



XL (8D)



BODY ML (5D)						BODY XL (8D)						PARTS			
PART NUMBER	STK	DIMENSIONS (mm)					PART NUMBER	STK	DIMENSIONS (mm)					SCREW	WRENCH
		l1	l2	ls	L	d			l1	l2	ls	L	d		
TEZD2500S32-ML	•	140	170	60	230	32	TEZD2500S32-XL	•	213	238	60	298	32	DSW-309H	T-10
TEZD2600S32-ML	•	146	177	60	237	32	TEZD2600S32-XL	•	221	247	60	307	32	DSW-309H	T-10
TEZD2700S32-ML	•	151	184	60	244	32	TEZD2700S32-XL	•	230	257	60	317	32	DSW-309H	T-10
TEZD2800S32-ML	•	157	190	60	250	32	TEZD2800S32-XL	•	238	266	60	326	32	TSW-3510H	T-15
TEZD2900S32-ML	•	162	197	60	257	32	TEZD2900S32-XL	•	247	276	60	336	32	TSW-3510H	T-15
TEZD3000S32-ML	•	168	204	60	264	32	TEZD3000S32-XL	•	255	285	60	345	32	TSW-3510H	T-15
TEZD3100S32-ML	•	173	210	60	270	32	TEZD3100S32-XL	•	248	295	60	355	32	TSW-3512H	T-15
TEZD3200S32-ML	•	179	217	60	277	32	TEZD3200S32-XL	•	256	304	60	364	32	TSW-3512H	T-15

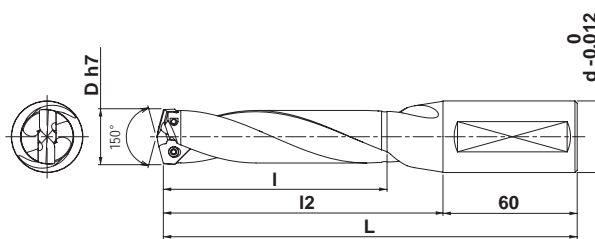
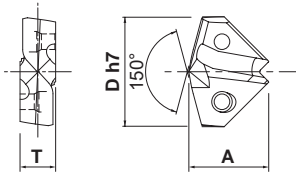
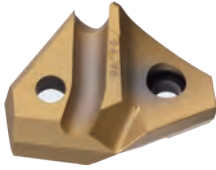
Note: All holders supplied without inserts.

Indexable EZ Drill

METRIC

TEZD-KMS (3XD)

- Indexable style drill with low cutting force and high cutting performance
- G-Body, unique cooling system and optimized flute geometry
- For bridge-building materials



DIA. (mm)	INSERT				BODY						PARTS	
	INSERT NUMBER	PVD COATED	DIMENSIONS (mm)		KMS (3D)				SCREW 	WRENCH 		
			A	T	PART NUMBER	STK	I	I2			L	d
D		JC7550										
24.5	TEZ2450K	•	17.4	8.0	TEZD2450S32-KMS	•	100	125	185	32	DSW-309H	T-10
24.7	TEZ2470K	•										
26.5	TEZ2650K	•	18.8	8.5	TEZD2650S32-KMS	•	108	135	195	32	DSW-309H	T-10
26.7	TEZ2670K	•										

All cutters supplied without insert.

Note: TEZ-K inserts only compatible with KMS holders.



METRIC

Indexable EZ Drill

Recommended Cutting Data for TEZD-MS/ML/XL Type

Work Material	Steel for Structure Carbon Steel (SS400, S50C)		Alloy Steel (280~350HB) (SCM440)		Stainless Steel (~250HB) (SUS304)		Gray Cast Iron (tensile strength~350MPa) (FC250)		Nodular Cast Iron (tensile strength~450MPa) (FCD400)	
	Tool Diameter	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)
14	1,700	510	1,600	350	1,000	250	1,900	570	1,500	450
15	1,600	480	1,500	350	950	240	1,900	570	1,400	420
16	1,500	450	1,400	340	890	220	1,900	570	1,350	400
17	1,400	450	1,300	330	840	210	1,800	570	1,250	400
18	1,300	450	1,250	310	790	200	1,700	570	1,000	350
19	1,250	440	1,200	300	750	190	1,600	560	1,000	350
20	1,200	420	1,100	280	710	180	1,600	560	1,000	350
21	1,200	420	1,100	280	680	170	1,550	540	1,000	350
22	1,200	420	1,050	260	650	160	1,500	530	1,000	350
23	1,200	420	1,050	260	620	155	1,450	510	1,000	350
24	1,200	420	1,050	260	600	150	1,400	490	1,000	350
25	1,150	400	1,050	260	570	140	1,350	470	1,000	350
26	1,110	390	1,050	260	550	140	1,300	460	1,000	350
27	1,070	370	1,000	250	530	135	1,250	460	950	330
28	1,030	360	1,000	250	510	130	1,200	460	950	330
29	990	350	950	240	495	125	1,150	460	950	330
30	960	340	950	240	480	120	1,150	460	950	330
31	930	330	900	225	460	115	1,100	440	850	300
32	900	315	900	225	445	110	1,100	440	850	300

- Notes:**
- Above cutting conditions are for general guidance.
 - Figures should be adjusted according to machining shape, purpose and rigidity of machine & set up.
 - When using TEZD-XL (8xd) style, reduce above figure by 20% both n & vf.
It is recommended to spot drill with (3xd) to a depth of 0.5D.

Recommended Cutting Data for TEZD-KMS type

Diameter	Rolled Steel (SS400, SM400)		Rolled Steel (SS490, SM490)		Rolled Steel (SM520, SM570)	
	(mm)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)	vf (mm/min)	n (min ⁻¹)
24.5, 24.7	800	280	780	250	700	210
26.5, 26.7	740	260	720	230	630	190

Note: All holders supplied without inserts.



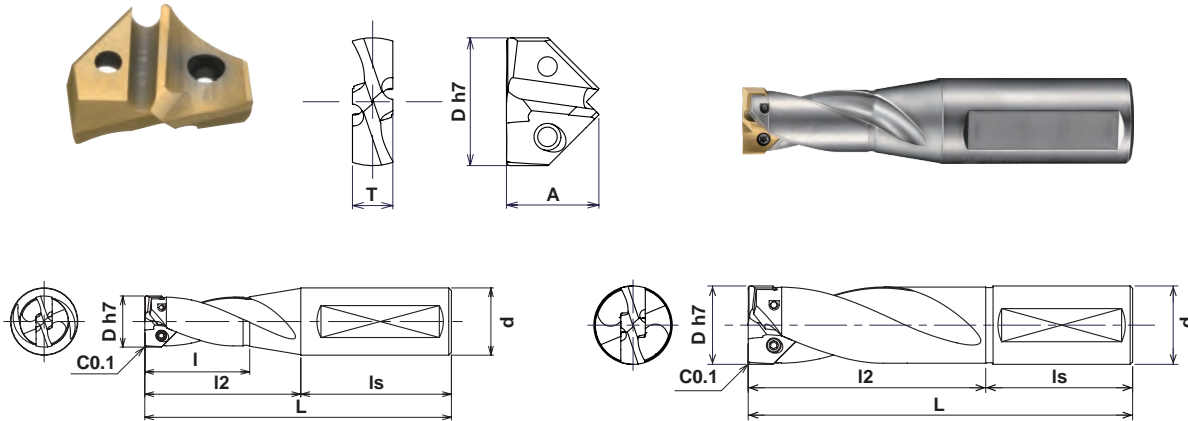
Indexable Spot Facing Drill

METRIC

TLZD-SS Type (1.5XD)

- Indexable spot face drill

- Able to drill without pilot hole (even on sloped surfaces & cross holes)



Drills

DIA. (mm)	INSERT			BODY						PARTS			
	INSERT NUMBER	PVD COATED	DIMENSIONS (mm)	DIAMETER RANGE	SS (1.5D)					SCREW	WRENCH		
					JC7550	A	T	PART NUMBER	STK			DIMENSIONS (mm)	
D							l	l2	ls	L	d		
14.0	TLZ1400	•	10.6	14.0~14.5	TLZD1400S16-SS	•	29	43	48	91	16	DSW-2045H	T-07
14.1	TLZ1410	•											
14.2	TLZ1420	•											
14.3	TLZ1430	•											
14.4	TLZ1440	•											
14.5	TLZ1450	•	11.3	14.6~15.5	TLZD1500S20-SS	•	31	46	50	96	20	DSW-2045H	T-07
14.6	TLZ1460	•											
14.7	TLZ1470	•											
14.8	TLZ1480	•											
14.9	TLZ1490	•											
15.0	TLZ1500	•											
15.1	TLZ1510	•											
15.2	TLZ1520	•											
15.3	TLZ1530	•											
15.4	TLZ1540	•											
15.5	TLZ1550	•	12.1	15.6~16.5	TLZD1600S20-SS	•	33	49	50	99	20	TSW-2556H	T-08
15.6	TLZ1560	•											
15.7	TLZ1570	•											
15.8	TLZ1580	•											
15.9	TLZ1590	•											
16.0	TLZ1600	•											
16.1	TLZ1610	•											
16.2	TLZ1620	•											
16.3	TLZ1630	•											
16.4	TLZ1640	•											
16.5	TLZ1650	•	12.6	16.6~17.5	TLZD1700S20-SS	•	35	52	50	102	20	TSW-2556H	T-08
16.6	TLZ1660	•											
16.7	TLZ1670	•											
16.8	TLZ1680	•											
16.9	TLZ1690	•											
17.0	TLZ1700	•											
17.1	TLZ1710	•											
17.2	TLZ1720	•											
17.3	TLZ1730	•											
17.4	TLZ1740	•											
17.5	TLZ1750	•											



METRIC

Indexable Spot Facing Drill

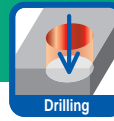
TLZD-SS Type (1.5XD)

- Indexable spot face drill

- Able to drill without pilot hole (even on sloped surfaces & cross holes)

DIA. (mm)	INSERT				BODY								PARTS	
	INSERT NUMBER	PVD COATED JC7550	DIMENSIONS (mm)		DIAMETER RANGE	SS (1.5D) PART NUMBER	STK	DIMENSIONS (mm)					SCREW 	WRENCH
			A	T				l	l2	ls	L	d		
D														
17.6	TLZ1760	•	13.2	5.8	17.6~18.5	TLZD1800S20-SS	•	37	55	50	105	20	TSW-2556H	T-08
17.7	TLZ1770	•												
17.8	TLZ1780	•												
17.9	TLZ1790	•												
18.0	TLZ1800	•												
18.1	TLZ1810	•												
18.2	TLZ1820	•												
18.3	TLZ1830	•												
18.4	TLZ1840	•												
18.5	TLZ1850	•												
18.6	TLZ1860	•	13.6	6.0	18.6~19.5	TLZD1900S25-SS	•	39	58	56	114	25	TSW-2567H	T-08
18.7	TLZ1870	•												
18.8	TLZ1880	•												
18.9	TLZ1890	•												
19.0	TLZ1900	•												
19.1	TLZ1910	•												
19.2	TLZ1920	•												
19.3	TLZ1930	•												
19.4	TLZ1940	•												
19.5	TLZ1950	•												
19.6	TLZ1960	•	14.6	6.5	19.6~20.5	TLZD2000S25-SS	•	41	61	56	117	25	TSW-2567H	T-08
19.7	TLZ1970	•												
19.8	TLZ1980	•												
19.9	TLZ1990	•												
20.0	TLZ2000	•												
20.5	TLZ2050	•												
21.0	TLZ2100	•	15.2	6.7	21.0~21.5	TLZD2100S25-SS	•	43	64	56	120	25	TSW-2567H	T-10
21.5	TLZ2150	•												
22.0	TLZ2200	•	15.9	7.5	22.0~22.5	TLZD2200S25-SS	•	45	67	56	123	25	DSW-307H	T-10
22.5	TLZ2250	•												
23.0	TLZ2300	•												
23.5	TLZ2350	•	16.7	7.5	23.0~23.5	TLZD2300S25-SS	•	47	70	56	126	25	DSW-307H	T-10
24.0	TLZ2400	•												
24.5	TLZ2450	•	17.4	8.0	24.0~24.5	TLZD2400S32-SS	•	49	73	60	133	32	DSW-307H	T-10
25.0	TLZ2500	•												
25.5	TLZ2550	•	18.3	8.0	25.0~25.5	TLZD2500S32-SS	•	51	76	60	136	32	DSW-309H	T-10
26.0	TLZ2600	•												
26.5	TLZ2650	•	18.8	8.5	26.0~26.5	TLZD2600S32-SS	•	53	79	60	139	32	DSW-309H	T-10
27.0	TLZ2700	•												
27.5	TLZ2750	•	19.5	8.5	27.0~27.5	TLZD2700S32-SS	•	55	82	60	142	32	DSW-309H	T-15
28.0	TLZ2800	•												
28.5	TLZ2850	•	20.3	9.0	28.0~28.5	TLZD2800S32-SS	•	57	85	60	145	32	TSW-3510H	T-15
29.0	TLZ2900	•												
29.5	TLZ2950	•	21.1	9.0	29.0~29.5	TLZD2900S32-SS	•	59	88	60	148	32	TSW-3510H	T-15
30.0	TLZ3000	•												
30.5	TLZ3050	•	21.5	9.5	30.0~30.5	TLZD3000S32-SS	•	61	91	60	151	32	TSW-3510H	T-15
31.0	TLZ3100	•												
31.5	TLZ 3150	•	22.3	10.0	31.0~31.5	TLZD3100S32-SS	•	-	94	60	154	32	TSW-3512H	T-15
32.0	TLZ3200	•												
		•	23.1	10.0	32.0~32.5	TLZD3200S32-SS	•	-	97	60	157	32	TSW-3512H	T-15

Drills



Indexable Spot Facing Drill

METRIC

Recommended Cutting Data for TLZD

Drill Dia.	Material							
	Mild Steel (~180HB) ◎ SS400				Carbon Steel (~280HB) ◎ C50, S50C			
	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
14	50~100	1,590	0.06~0.20	190	50~100	1,590	0.06~0.20	190
15		1,490	0.06~0.20	180		1,490	0.06~0.20	180
16		1,390	0.06~0.20	170		1,390	0.06~0.20	170
17		1,310	0.07~0.21	170		1,310	0.07~0.21	170
18		1,240	0.07~0.21	160		1,240	0.07~0.21	160
19		1,170	0.07~0.21	150		1,170	0.07~0.21	150
20		1,110	0.07~0.21	150		1,110	0.07~0.21	150
21		1,060	0.08~0.22	150		1,060	0.08~0.22	150
22		1,010	0.08~0.22	140		1,010	0.08~0.22	140
23		970	0.08~0.22	140		970	0.08~0.22	140
24		930	0.08~0.22	130		930	0.08~0.22	130
25		890	0.08~0.22	130		890	0.08~0.22	130
26		860	0.09~0.23	130		860	0.09~0.23	130
27		830	0.09~0.23	120		830	0.09~0.23	120
28		800	0.09~0.23	120		800	0.09~0.23	120
29		770	0.09~0.23	120		770	0.09~0.23	120
30		740	0.10~0.24	120		740	0.10~0.24	120
31		720	0.10~0.24	120		720	0.10~0.24	120
32		700	0.10~0.24	110		700	0.10~0.24	110

Drill Dia.	Material							
	Alloy Steel (280~350HB) ◎ 1.7223, SCM440				Mold Steel (40HRC) ◎ P20, NAK80			
	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
14	30~70	1,140	0.06~0.20	140	20~40	680	0.04~0.10	40
15		1,060	0.06~0.20	130		640	0.04~0.10	40
16		990	0.06~0.20	120		600	0.04~0.10	40
17		940	0.07~0.21	120		560	0.04~0.11	40
18		880	0.07~0.21	110		530	0.04~0.11	40
19		840	0.07~0.21	110		500	0.05~0.11	40
20		800	0.07~0.21	110		480	0.05~0.11	40
21		760	0.08~0.22	110		450	0.05~0.12	40
22		720	0.08~0.22	100		430	0.05~0.12	30
23		690	0.08~0.22	100		420	0.05~0.12	30
24		660	0.08~0.22	90		400	0.05~0.12	30
25		640	0.08~0.22	90		380	0.05~0.12	30
26		610	0.09~0.23	90		370	0.05~0.13	30
27		590	0.09~0.23	90		350	0.05~0.13	30
28		570	0.09~0.23	90		340	0.06~0.13	30
29		550	0.09~0.23	80		330	0.06~0.13	30
30		530	0.10~0.24	80		320	0.06~0.14	30
31		510	0.10~0.24	80		310	0.06~0.14	30
32		500	0.10~0.24	80		300	0.06~0.14	30



METRIC

Indexable Spot Facing Drill

Recommended Cutting Data for TLZD

Drill Dia.	Material							
	Stainless Steel ◎ SUS304				Cast Iron ◎ FC/FCD, GG/GGG			
	Vc	n	f	Vf	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
14	80~140	2,270	0.02~0.06	90	50~100	1,590	0.06~0.20	190
15		2,120	0.02~0.06	90		1,490	0.06~0.20	180
16		1,990	0.02~0.06	80		1,390	0.06~0.20	170
17		1,870	0.02~0.06	80		1,310	0.07~0.21	170
18		1,770	0.02~0.06	80		1,240	0.07~0.21	160
19		1,840	0.03~0.07	80		1,170	0.07~0.21	150
20		1,750	0.03~0.07	80		1,110	0.07~0.21	150
21		1,670	0.03~0.07	80		1,060	0.08~0.22	150
22		1,590	0.03~0.07	80		1,010	0.08~0.22	140
23		1,520	0.03~0.07	80		970	0.08~0.22	140
24		1,460	0.03~0.07	80		930	0.08~0.22	130
25		1,400	0.03~0.07	80		890	0.08~0.22	130
26		1,350	0.04~0.08	80		860	0.09~0.23	130
27		1,300	0.04~0.08	80		830	0.09~0.23	120
28		1,360	0.04~0.08	80		800	0.09~0.23	120
29		1,320	0.04~0.08	80		770	0.09~0.23	120
30		1,270	0.04~0.08	80		740	0.10~0.24	120
31		1,230	0.04~0.08	80		720	0.10~0.24	120
32		1,190	0.05~0.09	80		700	0.10~0.24	110

Drill Dia.	Material			
	Aluminum Alloy ○ AC / DC			
	Vc	n	f	Vf
	(m/min)	(min ⁻¹)	(mm/rev)	(mm/min)
14	50~100	2,270	0.06~0.20	270
15		2,120	0.06~0.20	250
16		1,990	0.06~0.20	240
17		1,870	0.07~0.21	240
18		1,770	0.07~0.21	240
19		1,840	0.07~0.21	240
20		1,750	0.07~0.21	230
21		1,670	0.08~0.22	230
22		1,590	0.08~0.22	220
23		1,520	0.08~0.22	210
24		1,460	0.08~0.22	200
25		1,400	0.08~0.22	200
26		1,350	0.09~0.23	200
27		1,300	0.09~0.23	200
28		1,360	0.09~0.23	200
29		1,320	0.09~0.23	200
30		1,270	0.10~0.24	200
31		1,230	0.10~0.24	200
32		1,190	0.10~0.24	190

Notes: 1. Above cutting conditions are for drilling flat surface. In case of drilling slope, the figure should be adjusted: For inclined angle under 30°, reduce Feed speed (Vf) 40-80%, and for inclined angle 30° or more, reduce Feed speed (Vf) 20-50%.

- Above cutting conditions are for drilling with water soluble coolant. In case of dry cutting, use air to remove the chips.
- Recommended drill depth under 1.5D or less. Drilling depth over 1.5D is not recommended.
- Horizontal milling is not advised.
- In case of long chips, adjust above conditions by increasing Feed speed (Vf) or using step feed for breaking chips.

If cutting stainless steel, not recommended to increase Feed speed for breaking chips. Increase cutting speed (Vc) and reduce Feed speed (Vf) so that bellows-shaped chips can occur.

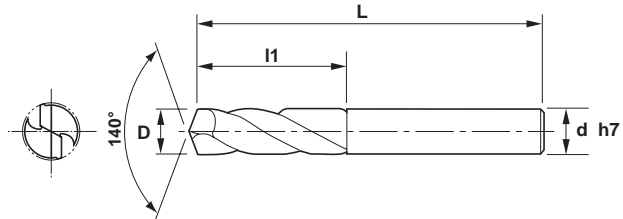
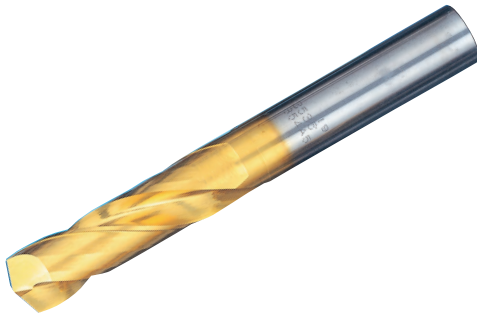
Suitability	
◎	= Very Good
○	= Good

Sigma Drill

METRIC

DDS-S Type (2XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding



Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9 -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021

Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-030S	•	3.0	13	45	3.0
DDS-031S	•	3.1	13	45	3.1
DDS-032S	•	3.2	13	45	3.2
DDS-033S	•	3.3	14	48	3.3
DDS-034S	•	3.4	14	48	3.4
DDS-035S	•	3.5	14	48	3.5
DDS-036S	•	3.6	15	49	3.6
DDS-037S	•	3.7	15	49	3.7
DDS-038S	•	3.8	15	49	3.8
DDS-039S	•	3.9	16	50	3.9
DDS-040S	•	4.0	16	50	4.0
DDS-041S	•	4.1	16	50	4.1
DDS-042S	•	4.2	18	52	4.2
DDS-043S	•	4.3	18	52	4.3
DDS-044S	•	4.4	18	52	4.4
DDS-045S	•	4.5	18	52	4.5
DDS-046S	•	4.6	19	55	4.6
DDS-047S	•	4.7	19	55	4.7
DDS-048S	•	4.8	19	55	4.8
DDS-049S	•	4.9	19	55	4.9
DDS-050S	•	5.0	19	55	5.0
DDS-051S	•	5.1	22	60	5.1
DDS-052S	•	5.2	22	60	5.2
DDS-053S	•	5.3	22	60	5.3
DDS-054S	•	5.4	22	60	5.4
DDS-055S	•	5.5	22	60	5.5
DDS-056S	•	5.6	25	65	5.6
DDS-057S	•	5.7	25	65	5.7
DDS-058S	•	5.8	25	65	5.8
DDS-059S	•	5.9	25	65	5.9
DDS-060S	•	6.0	25	65	6.0
DDS-061S	•	6.1	28	70	6.1
DDS-062S	•	6.2	28	70	6.2
DDS-063S	•	6.3	28	70	6.3
DDS-064S	•	6.4	28	70	6.4
DDS-065S	•	6.5	28	70	6.5
DDS-066S	•	6.6	30	75	6.6
DDS-067S	•	6.7	30	75	6.7

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-068S	•	6.8	30	75	6.8
DDS-069S	•	6.9	30	75	6.9
DDS-070S	•	7.0	30	75	7.0
DDS-071S	•	7.1	30	75	7.1
DDS-072S	•	7.2	30	75	7.2
DDS-073S	•	7.3	30	75	7.3
DDS-074S	•	7.4	30	75	7.4
DDS-075S	•	7.5	30	75	7.5
DDS-076S	•	7.6	32	77	7.6
DDS-077S	•	7.7	32	77	7.7
DDS-078S	•	7.8	32	77	7.8
DDS-079S	•	7.9	32	77	7.9
DDS-080S	•	8.0	32	77	8.0
DDS-081S	•	8.1	35	80	8.1
DDS-082S	•	8.2	35	80	8.2
DDS-083S	•	8.3	35	80	8.3
DDS-084S	•	8.4	35	80	8.4
DDS-085S	•	8.5	35	80	8.5
DDS-086S	•	8.6	35	80	8.6
DDS-087S	•	8.7	35	80	8.7
DDS-088S	•	8.8	35	80	8.8
DDS-089S	•	8.9	35	80	8.9
DDS-090S	•	9.0	35	80	9.0
DDS-091S	•	9.1	40	85	9.1
DDS-092S	•	9.2	40	85	9.2
DDS-093S	•	9.3	40	85	9.3
DDS-094S	•	9.4	40	85	9.4
DDS-095S	•	9.5	40	85	9.5
DDS-096S	•	9.6	40	85	9.6
DDS-097S	•	9.7	40	85	9.7
DDS-098S	•	9.8	40	85	9.8
DDS-099S	•	9.9	40	85	9.9
DDS-100S	•	10.0	40	85	10.0
DDS-101S	•	10.1	44	90	10.1
DDS-102S	•	10.2	44	90	10.2
DDS-103S	•	10.3	44	90	10.3
DDS-104S	•	10.4	44	90	10.4
DDS-105S	•	10.5	44	90	10.5



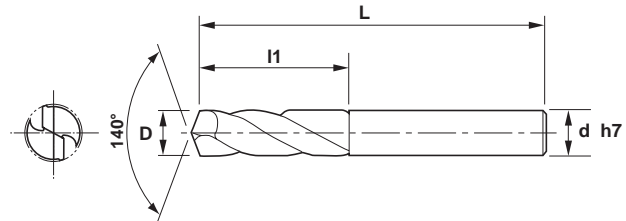
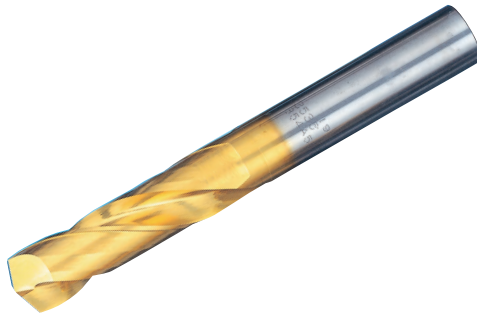
METRIC

Sigma Drill

DDS-S Type (2XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9 -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-106S	•	10.6	44	90	10.6
DDS-107S	•	10.7	44	90	10.7
DDS-108S	•	10.8	44	90	10.8
DDS-109S	•	10.9	44	90	10.9
DDS-110S	•	11.0	44	90	11.0
DDS-111S	•	11.1	48	95	11.1
DDS-112S	•	11.2	48	95	11.2
DDS-113S	•	11.3	48	95	11.3
DDS-114S	•	11.4	48	95	11.4
DDS-115S	•	11.5	48	95	11.5
DDS-116S	•	11.6	52	100	11.6
DDS-117S	•	11.7	52	100	11.7
DDS-118S	•	11.8	52	100	11.8
DDS-119S	•	11.9	52	100	11.9
DDS-120S	•	12.0	52	100	12.0
DDS-121S	•	12.1	54	105	12.1
DDS-122S	•	12.2	54	105	12.2
DDS-123S	•	12.3	54	105	12.3
DDS-124S	•	12.4	54	105	12.4
DDS-125S	•	12.5	54	105	12.5
DDS-126S	•	12.6	54	105	12.6
DDS-127S	•	12.7	54	105	12.7
DDS-128S	•	12.8	54	105	12.8
DDS-129S	•	12.9	54	105	12.9
DDS-130S	•	13.0	54	105	13.0
DDS-138S	•	13.8	57	110	13.8
DDS-140S	•	14.0	57	110	14.0
DDS-141S	•	14.1	59	115	14.1
DDS-143S	•	14.3	59	115	14.3
DDS-147S	•	14.7	64	120	14.7
DDS-150S	•	15.0	64	120	15.0
DDS-160S	•	16.0	65	125	16.0
DDS-170S	•	17.0	67	135	17.0
DDS-180S	•	18.0	72	140	18.0
DDS-190S	•	19.0	75	145	19.0
DDS-200S	•	20.0	80	150	20.0

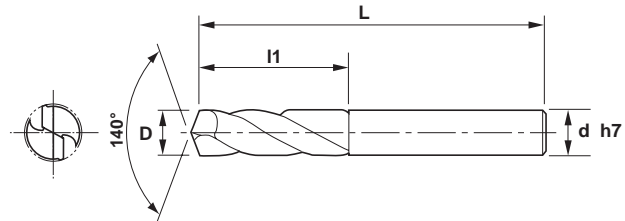
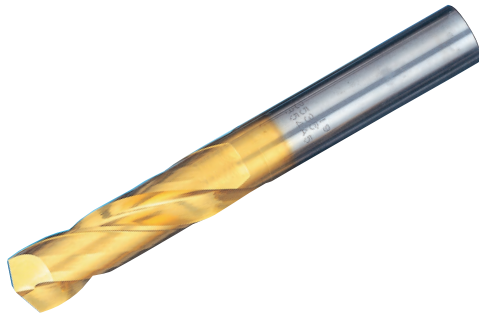
Sigma Drill

METRIC

DDS-M Type (4XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9 -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-030M	•	3.0	18	50	3.0
DDS-031M	•	3.1	19	53	3.1
DDS-032M	•	3.2	19	53	3.2
DDS-033M	•	3.3	19	53	3.3
DDS-034M	•	3.4	19	53	3.4
DDS-035M	•	3.5	21	55	3.5
DDS-036M	•	3.6	21	55	3.6
DDS-037M	•	3.7	21	55	3.7
DDS-038M	•	3.8	23	57	3.8
DDS-039M	•	3.9	23	57	3.9
DDS-040M	•	4.0	23	57	4.0
DDS-041M	•	4.1	26	60	4.1
DDS-042M	•	4.2	26	60	4.2
DDS-043M	•	4.3	26	60	4.3
DDS-044M	•	4.4	26	60	4.4
DDS-045M	•	4.5	26	60	4.5
DDS-046M	•	4.6	29	65	4.6
DDS-047M	•	4.7	29	65	4.7
DDS-048M	•	4.8	29	65	4.8
DDS-049M	•	4.9	29	65	4.9
DDS-050M	•	5.0	29	65	5.0
DDS-051M	•	5.1	32	70	5.1
DDS-052M	•	5.2	32	70	5.2
DDS-053M	•	5.3	32	70	5.3
DDS-054M	•	5.4	32	70	5.4
DDS-055M	•	5.5	32	70	5.5
DDS-056M	•	5.6	35	75	5.6
DDS-057M	•	5.7	35	75	5.7
DDS-058M	•	5.8	35	75	5.8
DDS-059M	•	5.9	35	75	5.9
DDS-060M	•	6.0	35	75	6.0
DDS-061M	•	6.1	38	80	6.1
DDS-062M	•	6.2	38	80	6.2
DDS-063M	•	6.3	38	80	6.3
DDS-064M	•	6.4	38	80	6.4
DDS-065M	•	6.5	38	80	6.5
DDS-066M	•	6.6	42	85	6.6
DDS-067M	•	6.7	42	85	6.7

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-068M	•	6.8	42	85	6.8
DDS-069M	•	6.9	42	85	6.9
DDS-070M	•	7.0	42	85	7.0
DDS-071M	•	7.1	45	90	7.1
DDS-072M	•	7.2	45	90	7.2
DDS-073M	•	7.3	45	90	7.3
DDS-074M	•	7.4	45	90	7.4
DDS-075M	•	7.5	45	90	7.5
DDS-076M	•	7.6	47	92	7.6
DDS-077M	•	7.7	47	92	7.7
DDS-078M	•	7.8	47	92	7.8
DDS-079M	•	7.9	47	92	7.9
DDS-080M	•	8.0	47	92	8.0
DDS-081M	•	8.1	50	95	8.1
DDS-082M	•	8.2	50	95	8.2
DDS-083M	•	8.3	50	95	8.3
DDS-084M	•	8.4	50	95	8.4
DDS-085M	•	8.5	50	95	8.5
DDS-086M	•	8.6	53	98	8.6
DDS-087M	•	8.7	53	98	8.7
DDS-088M	•	8.8	53	98	8.8
DDS-089M	•	8.9	53	98	8.9
DDS-090M	•	9.0	53	98	9.0
DDS-091M	•	9.1	55	100	9.1
DDS-092M	•	9.2	55	100	9.2
DDS-093M	•	9.3	55	100	9.3
DDS-094M	•	9.4	55	100	9.4
DDS-095M	•	9.5	55	100	9.5
DDS-096M	•	9.6	60	105	9.6
DDS-097M	•	9.7	60	105	9.7
DDS-098M	•	9.8	60	105	9.8
DDS-099M	•	9.9	60	105	9.9
DDS-100M	•	10.0	60	105	10.0
DDS-101M	•	10.1	64	110	10.1
DDS-102M	•	10.2	64	110	10.2
DDS-103M	•	10.3	64	110	10.3
DDS-104M	•	10.4	64	110	10.4
DDS-105M	•	10.5	64	110	10.5



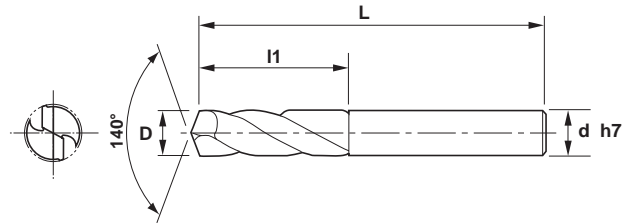
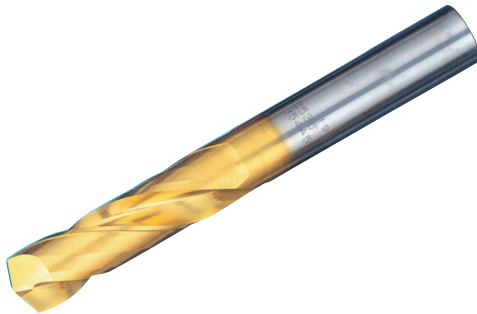
METRIC

Sigma Drill

DDS-M Type (4XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9 -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-106M	•	10.6	68	115	10.6
DDS-107M	•	10.7	68	115	10.7
DDS-108M	•	10.8	68	115	10.8
DDS-109M	•	10.9	68	115	10.9
DDS-110M	•	11.0	68	115	11.0
DDS-111M	•	11.1	68	115	11.1
DDS-112M	•	11.2	68	115	11.2
DDS-113M	•	11.3	68	115	11.3
DDS-114M	•	11.4	68	115	11.4
DDS-115M	•	11.5	68	115	11.5
DDS-116M	•	11.6	72	120	11.6
DDS-117M	•	11.7	72	120	11.7
DDS-118M	•	11.8	72	120	11.8
DDS-119M	•	11.9	72	120	11.9
DDS-120M	•	12.0	72	120	12.0
DDS-121M	•	12.1	74	125	12.1
DDS-122M	•	12.2	74	125	12.2
DDS-123M	•	12.3	74	125	12.3
DDS-124M	•	12.4	74	125	12.4
DDS-125M	•	12.5	74	125	12.5
DDS-126M	•	12.6	79	130	12.6
DDS-127M	•	12.7	79	130	12.7
DDS-128M	•	12.8	79	130	12.8
DDS-129M	•	12.9	79	130	12.9
DDS-130M	•	13.0	79	130	13.0
DDS-131M	•	13.1	82	135	13.1
DDS-132M	•	13.2	82	135	13.2
DDS-133M	•	13.3	82	135	13.3
DDS-134M	•	13.4	82	135	13.4
DDS-135M	•	13.5	82	135	13.5
DDS-136M	•	13.6	82	135	13.6
DDS-137M	•	13.7	82	135	13.7
DDS-138M	•	13.8	82	135	13.8
DDS-139M	•	13.9	82	135	13.9
DDS-140M	•	14.0	82	135	14.0
DDS-141M	•	14.1	84	140	14.1
DDS-142M	•	14.2	84	140	14.2
DDS-143M	•	14.3	84	140	14.3

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-144M	•	14.4	84	140	14.4
DDS-145M	•	14.5	84	140	14.5
DDS-146M	•	14.6	89	145	14.6
DDS-147M	•	14.7	89	145	14.7
DDS-148M	•	14.8	89	145	14.8
DDS-149M	•	14.9	89	145	14.9
DDS-150M	•	15.0	89	145	15.0
DDS-151M	•	15.1	90	150	15.1
DDS-152M	•	15.2	90	150	15.2
DDS-153M	•	15.3	90	150	15.3
DDS-154M	•	15.4	90	150	15.4
DDS-155M	•	15.5	90	150	15.5
DDS-156M	•	15.6	95	155	15.6
DDS-157M	•	15.7	95	155	15.7
DDS-158M	•	15.8	95	155	15.8
DDS-159M	•	15.9	95	155	15.9
DDS-160M	•	16.0	95	155	16.0
DDS-165M	•	16.5	102	170	16.5
DDS-170M	•	17.0	102	170	17.0
DDS-175M	•	17.5	107	175	17.5
DDS-180M	•	18.0	107	175	18.0
DDS-185M	•	18.5	115	185	18.5
DDS-190M	•	19.0	115	185	19.0
DDS-195M	•	19.5	120	190	19.5
DDS-200M	•	20.0	120	190	20.0

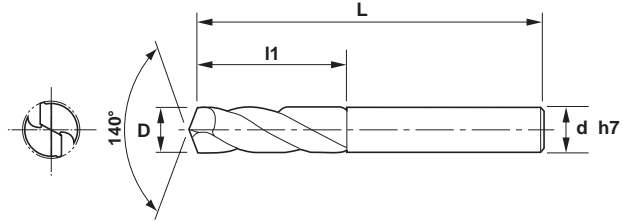
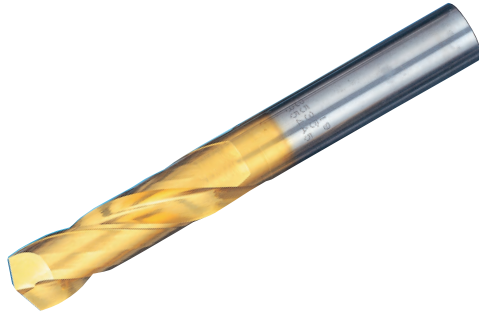
Sigma Drill

METRIC

DDS-L Type (6XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
over 5.9 -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-060L	•	6.0	47	85	6.0
DDS-061L	•	6.1	50	90	6.1
DDS-062L	•	6.2	50	90	6.2
DDS-063L	•	6.3	50	90	6.3
DDS-064L	•	6.4	50	90	6.4
DDS-065L	•	6.5	50	90	6.5
DDS-066L	•	6.6	55	95	6.6
DDS-067L	•	6.7	55	95	6.7
DDS-068L	•	6.8	55	95	6.8
DDS-069L	•	6.9	55	95	6.9
DDS-070L	•	7.0	55	95	7.0
DDS-071L	•	7.1	58	100	7.1
DDS-072L	•	7.2	58	100	7.2
DDS-073L	•	7.3	58	100	7.3
DDS-074L	•	7.4	58	100	7.4
DDS-075L	•	7.5	58	100	7.5
DDS-076L	•	7.6	63	105	7.6
DDS-077L	•	7.7	63	105	7.7
DDS-078L	•	7.8	63	105	7.8
DDS-079L	•	7.9	63	105	7.9
DDS-080L	•	8.0	63	105	8.0
DDS-081L	•	8.1	67	110	8.1
DDS-082L	•	8.2	67	110	8.2
DDS-083L	•	8.3	67	110	8.3
DDS-084L	•	8.4	67	110	8.4
DDS-085L	•	8.5	67	110	8.5
DDS-086L	•	8.6	72	115	8.6
DDS-087L	•	8.7	72	115	8.7
DDS-088L	•	8.8	72	115	8.8
DDS-089L	•	8.9	72	115	8.9
DDS-090L	•	9.0	72	115	9.0
DDS-091L	•	9.1	76	120	9.1
DDS-092L	•	9.2	76	120	9.2
DDS-093L	•	9.3	76	120	9.3
DDS-094L	•	9.4	76	120	9.4
DDS-095L	•	9.5	76	120	9.5
DDS-096L	•	9.6	80	125	9.6
DDS-097L	•	9.7	80	125	9.7
DDS-098L	•	9.8	80	125	9.8
DDS-099L	•	9.9	80	125	9.9
DDS-100L	•	10.0	80	125	10.0
DDS-101L	•	10.1	84	130	10.1
DDS-102L	•	10.2	84	130	10.2

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DDS-103L	•	10.3	84	130	10.3
DDS-104L	•	10.4	84	130	10.4
DDS-105L	•	10.5	84	130	10.5
DDS-106L	•	10.6	89	135	10.6
DDS-107L	•	10.7	89	135	10.7
DDS-108L	•	10.8	89	135	10.8
DDS-109L	•	10.9	89	135	10.9
DDS-110L	•	11.0	89	135	11.0
DDS-111L	•	11.1	93	140	11.1
DDS-112L	•	11.2	93	140	11.2
DDS-113L	•	11.3	93	140	11.3
DDS-114L	•	11.4	93	140	11.4
DDS-115L	•	11.5	93	140	11.5
DDS-116L	•	11.6	97	145	11.6
DDS-117L	•	11.7	97	145	11.7
DDS-118L	•	11.8	97	145	11.8
DDS-119L	•	11.9	97	145	11.9
DDS-120L	•	12.0	97	145	12.0
DDS-121L	•	12.1	99	150	12.1
DDS-122L	•	12.2	99	150	12.2
DDS-123L	•	12.3	99	150	12.3
DDS-124L	•	12.4	99	150	12.4
DDS-125L	•	12.5	99	150	12.5
DDS-126L	•	12.6	104	155	12.6
DDS-127L	•	12.7	104	155	12.7
DDS-128L	•	12.8	104	155	12.8
DDS-129L	•	12.9	104	155	12.9
DDS-130L	•	13.0	104	155	13.0
DDS-135L	•	13.5	107	160	13.5
DDS-140L	•	14.0	112	165	14.0
DDS-145L	•	14.5	115	170	14.5
DDS-150L	•	15.0	120	175	15.0
DDS-155L	•	15.5	123	180	15.5
DDS-160L	•	16.0	128	185	16.0
DDS-165L	•	16.5	131	190	16.5
DDS-170L	•	17.0	136	195	17.0
DDS-175L	•	17.5	139	200	17.5
DDS-180L	•	18.0	144	210	18.0
DDS-185L	•	18.5	147	215	18.5
DDS-190L	•	19.0	152	215	19.0
DDS-195L	•	19.5	155	220	19.5
DDS-200L	•	20.0	160	225	20.0



Drilling

METRIC

Sigma Drill

Recommended Cutting Data for DDS-S & DDS-M

Drill Diameter	Material							
	Low Carbon Steel (SS400)		Medium Carbon Steel (S50C)		Alloy Steel (SCM440)		Nodular Cast Iron (FCD400)	
	m/min	mm/rev	m/min	mm/rev	m/min	mm/rev	m/min	mm/rev
3.0 ~ 5.9	30-40-50	0.05-0.07-0.10	30-40-50	0.07-0.10-0.12	30-40-50	0.05-0.07-0.10	30-40-50	0.05-0.10-0.12
6.0 ~ 9.9	40-50-60	0.10-0.15-0.20	40-50-60	0.15-0.20-0.25	40-50-60	0.12-0.17-0.22	40-50-60	0.15-0.20-0.25
10.0 ~ 15.9	40-50-60	0.12-0.17-0.22	40-50-60	0.20-0.25-0.30	40-50-60	0.15-0.20-0.25	40-50-60	0.20-0.25-0.30
16.0 ~ 18.9	40-50-60	0.15-0.20-0.25	40-50-60	0.25-0.30-0.35	40-50-60	0.20-0.25-0.30	40-50-60	0.25-0.30-0.35
19.0 ~ 20.0	40-50-60	0.20-0.25-0.30	40-50-60	0.30-0.35-0.40	40-50-60	0.25-0.30-0.35	40-50-60	0.30-0.35-0.40

Recommended Cutting Data for DDS-L

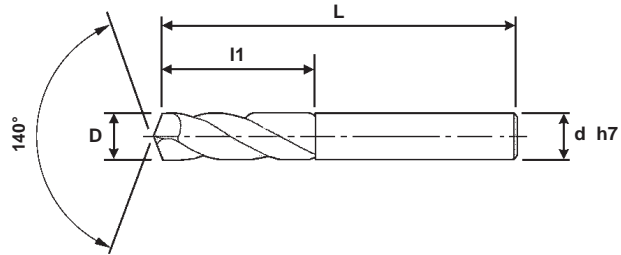
Drill Diameter	Material							
	Low Carbon Steel (SS400)		Medium Carbon Steel (S50C)		Alloy Steel (SCM440)		Nodular Cast Iron (FCD400)	
	m/min	mm/rev	m/min	mm/rev	m/min	mm/rev	m/min	mm/rev
6.0 ~ 9.9	40-45-50	0.10-0.15-0.20	40-45-50	0.15-0.20-0.25	40-45-50	0.12-0.17-0.22	40-45-50	0.15-0.20-0.25
10.0 ~ 15.9	40-45-50	0.12-0.17-0.22	40-45-50	0.20-0.25-0.30	40-45-50	0.15-0.20-0.25	40-45-50	0.20-0.25-0.30
16.0 ~ 18.9	40-45-50	0.15-0.20-0.25	40-45-50	0.25-0.30-0.35	40-45-50	0.20-0.25-0.30	40-45-50	0.25-0.30-0.35
19.0 ~ 20.0	40-45-50	0.20-0.25-0.30	40-45-50	0.30-0.35-0.40	40-45-50	0.25-0.30-0.35	40-45-50	0.30-0.35-0.40

Sigma Drill (with coolant)

INCH

DX-H-DDS Type

- Increased rigidity, smooth chip ejection, and easy regrinding



DX-H-DDSM (4XS)

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DX-H-DDSM2500	•	1/4	1.50	3.15	17/64
DX-H-DDSM2656	•	17/64	1.65	3.35	17/64
DX-H-DDSM2812	•	9/32	1.77	3.54	5/16
DX-H-DDSM2969	•	19/64	1.85	3.62	5/16
DX-H-DDSM3125	•	5/16	1.85	3.62	5/16
DX-H-DDSM3281	•	21/64	1.97	3.74	11/32
DX-H-DDSM3438	•	11/32	2.09	3.85	11/32
DX-H-DDSM3594	•	23/64	2.17	3.93	25/64
DX-H-DDSM3750	•	3/8	2.36	4.13	25/64
DX-H-DDSM3906	•	25/64	2.36	4.13	25/64
DX-H-DDSM4062	•	13/32	2.52	4.33	27/64
DX-H-DDSM4219	•	27/64	2.68	4.53	27/64
DX-H-DDSM4375	•	7/16	2.68	4.53	15/32
DX-H-DDSM4531	•	29/64	2.84	4.72	15/32
DX-H-DDSM4688	•	15/32	2.84	4.72	15/32
DX-H-DDSM4844	•	31/64	2.91	4.92	1/2
DX-H-DDSM5000	•	1/2	3.11	5.12	1/2
DX-H-DDSM5156	•	33/64	3.23	5.32	35/64
DX-H-DDSM5312	•	17/32	3.23	5.32	35/64
DX-H-DDSM5469	•	35/64	3.23	5.32	35/64
DX-H-DDSM5625	•	9/16	3.31	5.51	37/64
DX-H-DDSM5781	•	37/64	3.50	5.71	37/64
DX-H-DDSM5937	•	19/32	3.54	5.91	5/8
DX-H-DDSM6094	•	39/64	3.54	5.91	5/8
DX-H-DDSM6250	•	5/8	3.74	6.10	5/8
DX-H-DDSM6406	•	41/64	4.02	6.69	21/32
DX-H-DDSM6563	•	21/32	4.02	6.69	21/32
DX-H-DDSM6718	•	43/64	4.02	6.69	45/64
DX-H-DDSM6875	•	11/16	4.21	6.89	45/64
DX-H-DDSM7031	•	45/64	4.21	6.89	45/64
DX-H-DDSM7188	•	23/32	4.53	7.28	3/4
DX-H-DDSM7344	•	47/64	4.53	7.28	3/4
DX-H-DDSM7500	•	3/4	4.53	7.28	3/4

DX-H-DDSL (6XS)

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DX-H-DDSL2500	•	1/4	1.97	3.54	17/64
DX-H-DDSL2656	•	17/64	2.17	3.74	17/64
DX-H-DDSL2812	•	9/32	2.28	3.93	5/16
DX-H-DDSL2969	•	19/64	2.48	4.13	5/16
DX-H-DDSL3125	•	5/16	2.48	4.13	5/16
DX-H-DDSL3281	•	21/64	2.64	4.33	11/32
DX-H-DDSL3438	•	11/32	2.84	4.53	11/32
DX-H-DDSL3594	•	23/64	2.99	4.72	25/64
DX-H-DDSL3750	•	3/8	3.15	4.92	25/64
DX-H-DDSL3906	•	25/64	3.15	4.92	25/64
DX-H-DDSL4062	•	13/32	3.31	5.12	27/64
DX-H-DDSL4219	•	27/64	3.50	5.32	27/64
DX-H-DDSL4375	•	7/16	3.66	5.51	15/32
DX-H-DDSL4531	•	29/64	3.82	5.71	15/32
DX-H-DDSL4688	•	15/32	3.82	5.71	15/32
DX-H-DDSL4844	•	31/64	3.90	5.91	1/2
DX-H-DDSL5000	•	1/2	4.09	6.10	1/2
DX-H-DDSL5156	•	33/64	4.21	6.30	35/64
DX-H-DDSL5312	•	17/32	4.21	6.30	35/64
DX-H-DDSL5469	•	35/64	4.41	6.50	35/64
DX-H-DDSL5625	•	9/16	4.53	6.69	37/64
DX-H-DDSL5781	•	37/64	4.72	6.89	37/64
DX-H-DDSL5937	•	19/32	4.84	7.09	5/8
DX-H-DDSL6094	•	39/64	4.84	7.09	5/8
DX-H-DDSL6250	•	5/8	5.04	7.28	5/8
DX-H-DDSL6406	•	41/64	5.16	7.48	21/32
DX-H-DDSL6563	•	21/32	5.16	7.48	21/32
DX-H-DDSL6718	•	43/64	5.35	7.68	45/64
DX-H-DDSL6875	•	11/16	5.47	7.87	45/64
DX-H-DDSL7031	•	45/64	5.67	8.07	45/64
DX-H-DDSL7188	•	23/32	5.79	8.27	3/4
DX-H-DDSL7344	•	47/64	5.79	8.27	3/4
DX-H-DDSL7500	•	3/4	5.98	8.47	3/4



Drilling

INCH

Sigma Drill (with coolant)

Recommended Cutting Data

Work Material	Rate	Tool Diameter								
		.250	.312	.375	.437	.500	.562	.625	.687	.750
Low Carbon Steel AISI 1020 (S20C)	RPM	2,000	1,800	1,450	1,400	1,250	1,100	1,000	900	850
	IPM	20	19	15	15	13	11	10	9	9
Med. Carbon Steel AISI 1049 (S50C)	RPM	2,000	1,800	1,450	1,400	1,250	1,100	1,000	900	850
	IPM	30	28	24	22	19	17	15	14	13
Med. Carbon Steel AISI 1049 Heat Treated/HRC45	RPM	1,600	1,400	1,200	1,150	1,000	900	800	750	650
	IPM	17	14	12	12	10	9	8	7	7
Alloy Steel AISI 4145 (SCM445)	RPM	2,000	1,800	1,450	1,400	1,250	1,100	1,000	900	850
	IPM	26	23	19	18	16	14	13	12	11
Alloy Tool Steel AISI D2 (SKD11)	RPM	1,600	1,300	1,200	1,150	1,000	900	800	750	650
	IPM	20	19	15	15	13	11	10	9	9
Gray Cast Iron AISI 20 (FC200, FC250)	RPM	2,000	1,800	1,450	1,400	1,250	1,100	1,000	900	850
	IPM	30	28	24	22	19	17	15	14	13
Nodular Cast Iron (FCD)	RPM	2,000	1,600	1,350	1,300	1,150	1,000	900	800	750
	IPM	25	22	19	18	16	14	12	11	10

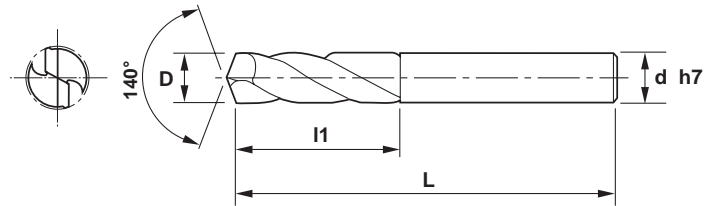
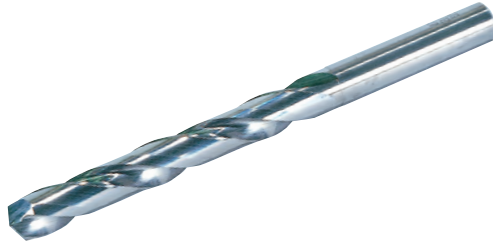
Sigma Drill Cast

METRIC

FC-DDSM Type (4XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
FC-DDSM030	•	3.0	18	50	3.0
FC-DDSM031	•	3.1	19	53	3.1
FC-DDSM032	•	3.2	19	53	3.2
FC-DDSM033	•	3.3	19	53	3.3
FC-DDSM034	•	3.4	19	53	3.4
FC-DDSM035	•	3.5	21	55	3.5
FC-DDSM036	•	3.6	21	55	3.6
FC-DDSM037	•	3.7	21	55	3.7
FC-DDSM038	•	3.8	23	57	3.8
FC-DDSM039	•	3.9	23	57	3.9
FC-DDSM040	•	4.0	23	57	4.0
FC-DDSM041	•	4.1	26	60	4.1
FC-DDSM042	•	4.2	26	60	4.2
FC-DDSM043	•	4.3	26	60	4.3
FC-DDSM044	•	4.4	26	60	4.4
FC-DDSM045	•	4.5	26	60	4.5
FC-DDSM046	•	4.6	29	65	4.6
FC-DDSM047	•	4.7	29	65	4.7
FC-DDSM048	•	4.8	29	65	4.8
FC-DDSM049	•	4.9	29	65	4.9
FC-DDSM050	•	5.0	29	65	5.0
FC-DDSM051	•	5.1	32	70	5.1
FC-DDSM052	•	5.2	32	70	5.2
FC-DDSM053	•	5.3	32	70	5.3
FC-DDSM054	•	5.4	32	70	5.4
FC-DDSM055	•	5.5	32	70	5.5
FC-DDSM056	•	5.6	35	75	5.6
FC-DDSM057	•	5.7	35	75	5.7
FC-DDSM058	•	5.8	35	75	5.8
FC-DDSM059	•	5.9	35	75	5.9
FC-DDSM060	•	6.0	35	75	6.0
FC-DDSM061	•	6.1	38	80	6.1
FC-DDSM062	•	6.2	38	80	6.2
FC-DDSM063	•	6.3	38	80	6.3
FC-DDSM064	•	6.4	38	80	6.4
FC-DDSM065	•	6.5	38	80	6.5
FC-DDSM066	•	6.6	42	85	6.6
FC-DDSM067	•	6.7	42	85	6.7

CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
FC-DDSM068	•	6.8	42	85	6.8
FC-DDSM069	•	6.9	42	85	6.9
FC-DDSM070	•	7.0	42	85	7.0
FC-DDSM071	•	7.1	45	90	7.1
FC-DDSM072	•	7.2	45	90	7.2
FC-DDSM073	•	7.3	45	90	7.3
FC-DDSM074	•	7.4	45	90	7.4
FC-DDSM075	•	7.5	45	90	7.5
FC-DDSM076	•	7.6	47	92	7.6
FC-DDSM077	•	7.7	47	92	7.7
FC-DDSM078	•	7.8	47	92	7.8
FC-DDSM079	•	7.9	47	92	7.9
FC-DDSM080	•	8.0	47	92	8.0
FC-DDSM081	•	8.1	50	95	8.1
FC-DDSM082	•	8.2	50	95	8.2
FC-DDSM083	•	8.3	50	95	8.3
FC-DDSM084	•	8.4	50	95	8.4
FC-DDSM085	•	8.5	50	95	8.5
FC-DDSM086	•	8.6	53	98	8.6
FC-DDSM087	•	8.7	53	98	8.7
FC-DDSM088	•	8.8	53	98	8.8
FC-DDSM089	•	8.9	53	98	8.9
FC-DDSM090	•	9.0	53	98	9.0
FC-DDSM091	•	9.1	55	100	9.1
FC-DDSM092	•	9.2	55	100	9.2
FC-DDSM093	•	9.3	55	100	9.3
FC-DDSM094	•	9.4	55	100	9.4
FC-DDSM095	•	9.5	55	100	9.5
FC-DDSM096	•	9.6	60	105	9.6
FC-DDSM097	•	9.7	60	105	9.7
FC-DDSM098	•	9.8	60	105	9.8
FC-DDSM099	•	9.9	60	105	9.9
FC-DDSM100	•	10.0	60	105	10.0
FC-DDSM101	•	10.1	64	110	10.1
FC-DDSM102	•	10.2	64	110	10.2
FC-DDSM103	•	10.3	64	110	10.3
FC-DDSM104	•	10.4	64	110	10.4
FC-DDSM105	•	10.5	64	110	10.5



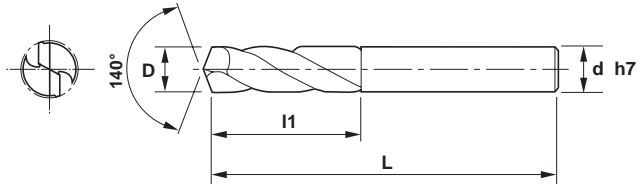
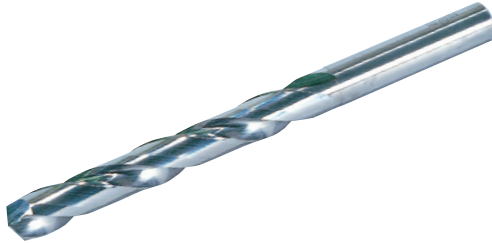
METRIC

Sigma Drill Cast

FC-DDSM Type (4XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018
over 18mm -up to 20mm	+0 / -0.021



CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
FC-DDSM106	•	10.6	68	115	10.6
FC-DDSM107	•	10.7	68	115	10.7
FC-DDSM108	•	10.8	68	115	10.8
FC-DDSM109	•	10.9	68	115	10.9
FC-DDSM110	•	11.0	68	115	11.0
FC-DDSM111	•	11.1	68	115	11.1
FC-DDSM112	•	11.2	68	115	11.2
FC-DDSM113	•	11.3	68	115	11.3
FC-DDSM114	•	11.4	68	115	11.4
FC-DDSM115	•	11.5	68	115	11.5
FC-DDSM116	•	11.6	72	120	11.6
FC-DDSM117	•	11.7	72	120	11.7
FC-DDSM118	•	11.8	72	120	11.8
FC-DDSM119	•	11.9	72	120	11.9
FC-DDSM120	•	12.0	72	120	12.0
FC-DDSM121	•	12.1	74	125	12.1
FC-DDSM122	•	12.2	74	125	12.2
FC-DDSM123	•	12.3	74	125	12.3
FC-DDSM124	•	12.4	74	125	12.4
FC-DDSM125	•	12.5	74	125	12.5
FC-DDSM126	•	12.6	79	130	12.6
FC-DDSM127	•	12.7	79	130	12.7
FC-DDSM128	•	12.8	79	130	12.8
FC-DDSM129	•	12.9	79	130	12.9
FC-DDSM130	•	13.0	79	130	13.0
FC-DDSM136	•	13.6	82	135	13.6
FC-DDSM140	•	14.0	82	135	14.0
FC-DDSM145	•	14.5	84	140	14.5
FC-DDSM150	•	15.0	89	145	15.0
FC-DDSM155	•	15.5	90	150	15.5
FC-DDSM160	•	16.0	95	155	16.0
FC-DDSM170	•	17.0	102	170	17.0
FC-DDSM175	•	17.5	107	175	17.5
FC-DDSM180	•	18.0	107	175	18.0
FC-DDSM185	•	18.5	115	185	18.5
FC-DDSM190	•	19.0	115	185	19.0
FC-DDSM200	•	20.0	120	190	20.0

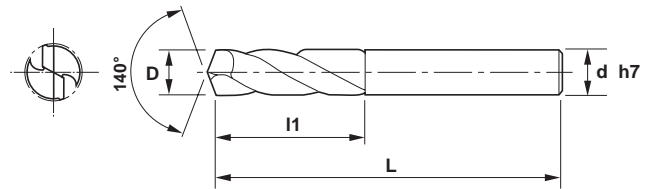
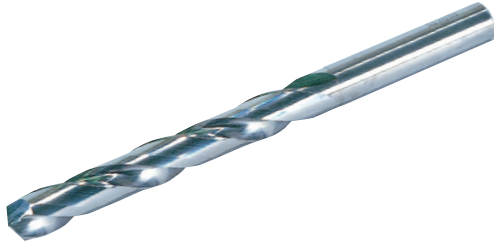
Sigma Drill Cast

METRIC

FC-DDSL Type (6XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
FC-DDSL030	•	3.0	24	55	3.0
FC-DDSL031	•	3.1	25	60	3.1
FC-DDSL032	•	3.2	25	60	3.2
FC-DDSL033	•	3.3	28	63	3.3
FC-DDSL034	•	3.4	28	63	3.4
FC-DDSL035	•	3.5	28	63	3.5
FC-DDSL036	•	3.6	28	63	3.6
FC-DDSL037	•	3.7	28	63	3.7
FC-DDSL038	•	3.8	30	65	3.8
FC-DDSL039	•	3.9	30	65	3.9
FC-DDSL040	•	4.0	30	65	4.0
FC-DDSL041	•	4.1	33	68	4.1
FC-DDSL042	•	4.2	33	68	4.2
FC-DDSL043	•	4.3	33	68	4.3
FC-DDSL044	•	4.4	33	68	4.4
FC-DDSL045	•	4.5	36	72	4.5
FC-DDSL046	•	4.6	36	72	4.6
FC-DDSL047	•	4.7	36	72	4.7
FC-DDSL048	•	4.8	36	72	4.8
FC-DDSL049	•	4.9	39	75	4.9
FC-DDSL050	•	5.0	39	75	5.0
FC-DDSL051	•	5.1	39	75	5.1
FC-DDSL052	•	5.2	39	75	5.2
FC-DDSL053	•	5.3	42	80	5.3
FC-DDSL054	•	5.4	42	80	5.4
FC-DDSL055	•	5.5	42	80	5.5
FC-DDSL056	•	5.6	42	80	5.6
FC-DDSL057	•	5.7	45	85	5.7
FC-DDSL058	•	5.8	45	85	5.8
FC-DDSL059	•	5.9	45	85	5.9
FC-DDSL060	•	6.0	50	90	6.0
FC-DDSL061	•	6.1	50	90	6.1
FC-DDSL062	•	6.2	50	90	6.2
FC-DDSL063	•	6.3	50	90	6.3
FC-DDSL064	•	6.4	50	90	6.4
FC-DDSL065	•	6.5	50	90	6.5
FC-DDSL066	•	6.6	55	95	6.6
FC-DDSL067	•	6.7	55	95	6.7

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
FC-DDSL068	•	6.8	55	95	6.8
FC-DDSL069	•	6.9	55	95	6.9
FC-DDSL070	•	7.0	55	95	7.0
FC-DDSL071	•	7.1	58	100	7.1
FC-DDSL072	•	7.2	58	100	7.2
FC-DDSL073	•	7.3	58	100	7.3
FC-DDSL074	•	7.4	58	100	7.4
FC-DDSL075	•	7.5	58	100	7.5
FC-DDSL076	•	7.6	63	105	7.6
FC-DDSL077	•	7.7	63	105	7.7
FC-DDSL078	•	7.8	63	105	7.8
FC-DDSL079	•	7.9	63	105	7.9
FC-DDSL080	•	8.0	63	105	8.0
FC-DDSL081	•	8.1	67	110	8.1
FC-DDSL082	•	8.2	67	110	8.2
FC-DDSL083	•	8.3	67	110	8.3
FC-DDSL084	•	8.4	67	110	8.4
FC-DDSL085	•	8.5	67	110	8.5
FC-DDSL086	•	8.6	72	115	8.6
FC-DDSL087	•	8.7	72	115	8.7
FC-DDSL088	•	8.8	72	115	8.8
FC-DDSL089	•	8.9	72	115	8.9
FC-DDSL090	•	9.0	72	115	9.0
FC-DDSL091	•	9.1	76	120	9.1
FC-DDSL092	•	9.2	76	120	9.2
FC-DDSL093	•	9.3	76	120	9.3
FC-DDSL094	•	9.4	76	120	9.4
FC-DDSL095	•	9.5	76	120	9.5
FC-DDSL096	•	9.6	80	125	9.6
FC-DDSL097	•	9.7	80	125	9.7
FC-DDSL098	•	9.8	80	125	9.8
FC-DDSL099	•	9.9	80	125	9.9
FC-DDSL100	•	10.0	80	125	10.0
FC-DDSL101	•	10.1	84	130	10.1
FC-DDSL102	•	10.2	84	130	10.2
FC-DDSL103	•	10.3	84	130	10.3
FC-DDSL104	•	10.4	84	130	10.4
FC-DDSL105	•	10.5	84	130	10.5



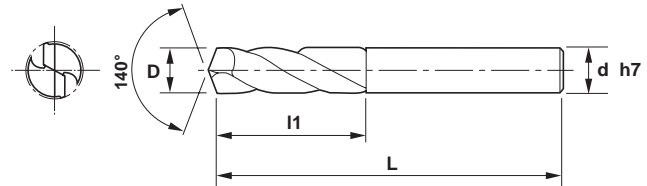
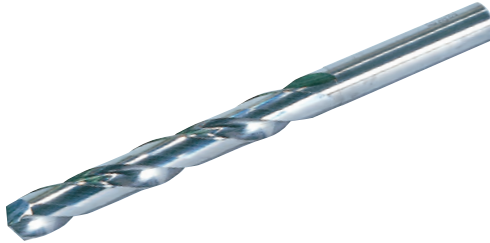
METRIC

Sigma Drill Cast

FC-DDSL Type (6XD)-

- Increased rigidity, smooth chip ejection, and easy regrinding

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 18mm	+0 / -0.018



CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
FC-DDSL106	•	10.6	89	135	10.6
FC-DDSL107	•	10.7	89	135	10.7
FC-DDSL108	•	10.8	89	135	10.8
FC-DDSL109	•	10.9	89	135	10.9
FC-DDSL110	•	11.0	89	135	11.0
FC-DDSL111	•	11.1	93	140	11.1
FC-DDSL112	•	11.2	93	140	11.2
FC-DDSL113	•	11.3	93	140	11.3
FC-DDSL114	•	11.4	93	140	11.4
FC-DDSL115	•	11.5	93	140	11.5
FC-DDSL116	•	11.6	97	145	11.6
FC-DDSL117	•	11.7	97	145	11.7
FC-DDSL118	•	11.8	97	145	11.8

CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
FC-DDSL119	•	11.9	97	145	11.9
FC-DDSL120	•	12.0	97	145	12.0
FC-DDSL121	•	12.1	99	150	12.1
FC-DDSL122	•	12.2	99	150	12.2
FC-DDSL123	•	12.3	99	150	12.3
FC-DDSL124	•	12.4	99	150	12.4
FC-DDSL125	•	12.5	99	150	12.5
FC-DDSL126	•	12.6	104	155	12.6
FC-DDSL127	•	12.7	104	155	12.7
FC-DDSL128	•	12.8	104	155	12.8
FC-DDSL129	•	12.9	104	155	12.9
FC-DDSL130	•	13.0	104	155	13.0

Recommended Cutting Data for FC-DDSM & FC-DDSL

Drill Diameter	Material					
	Nodular Cast Iron (FCD) 230HB			Cast Iron (FC) 220HB		
	m/min	min ⁻¹	mm/rev	m/min	min ⁻¹	mm/rev
3	35	3,710	0.07 ~ 0.15	40	4,240	0.1 ~ 0.2
4	40	3,180	0.1 ~ 0.2	45	3,580	0.15 ~ 0.25
5	40	2,550	0.1 ~ 0.2	45	2,860	0.15 ~ 0.25
6	45	2,390	0.15 ~ 0.25	50	2,650	0.2 ~ 0.3
8	45	1,790	0.15 ~ 0.25	50	1,990	0.2 ~ 0.3
10	50	1,590	0.2 ~ 0.3	55	1,750	0.25 ~ 0.35
12	50	1,330	0.2 ~ 0.3	55	1,460	0.25 ~ 0.35
13	55	1,350	0.2 ~ 0.3	60	1,470	0.25 ~ 0.35

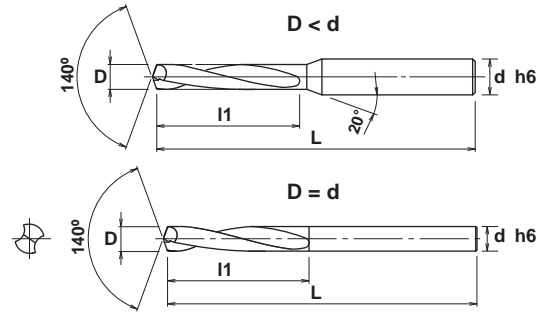
Sigma Drill Hard

METRIC

DZ-DHS Type (3XD)

- Excellent wear and breaking resistance allows for drilling hardened materials up to 70 HRc

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 15mm	+0 / -0.018



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0200-12	•	2.0	12	55	3
DZ-DHS0200	•	2.0	16	55	3
DZ-DHS0200-21	•	2.0	21	55	3
DZ-DHS0205	□	2.05	16	55	3
DZ-DHS0210	•	2.1	16	55	3
DZ-DHS0215	□	2.15	16	55	3
DZ-DHS0220	•	2.2	16	55	3
DZ-DHS0225	□	2.25	16	55	3
DZ-DHS0230	•	2.3	16	55	3
DZ-DHS0235	□	2.35	16	55	3
DZ-DHS0240	•	2.4	16	55	3
DZ-DHS0245	□	2.45	16	55	3
DZ-DHS0250	•	2.5	16	55	3
DZ-DHS0250-21	•	2.5	21	55	3
DZ-DHS0255	□	2.55	16	55	3
DZ-DHS0260	•	2.6	16	55	3
DZ-DHS0265	□	2.65	16	55	3
DZ-DHS0270	•	2.7	16	55	3
DZ-DHS0275	□	2.75	16	55	3
DZ-DHS0280	•	2.8	16	55	3
DZ-DHS0285	□	2.85	16	55	3
DZ-DHS0290	•	2.9	16	55	3
DZ-DHS0295	□	2.95	21	60	4
DZ-DHS0300	•	3.0	21	60	4
DZ-DHS0305	□	3.05	24	60	4
DZ-DHS0310	□	3.1	24	60	4
DZ-DHS0315	□	3.15	24	60	4
DZ-DHS0320	□	3.2	24	60	4
DZ-DHS0325	□	3.25	24	60	4
DZ-DHS0330	•	3.3	24	60	4
DZ-DHS0335	□	3.35	24	60	4
DZ-DHS0340	•	3.4	24	60	4
DZ-DHS0345	□	3.45	24	60	4
DZ-DHS0350	•	3.5	24	60	4
DZ-DHS0355	□	3.55	27	60	4
DZ-DHS0360	□	3.6	27	60	4

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0365	□	3.65	27	60	4
DZ-DHS0370	□	3.7	27	60	4
DZ-DHS0375	□	3.75	27	60	4
DZ-DHS0380	•	3.8	27	60	4
DZ-DHS0385	□	3.85	27	60	4
DZ-DHS0390	•	3.9	27	60	4
DZ-DHS0395	□	3.95	27	60	4
DZ-DHS0400	•	4.0	27	60	4
DZ-DHS0405	□	4.05	29	63	6
DZ-DHS0410	□	4.1	29	63	6
DZ-DHS0415	□	4.15	29	63	6
DZ-DHS0420	•	4.2	29	63	6
DZ-DHS0425	□	4.25	29	63	6
DZ-DHS0430	•	4.3	29	63	6
DZ-DHS0435	□	4.35	29	63	6
DZ-DHS0440	•	4.4	29	63	6
DZ-DHS0445	□	4.45	29	63	6
DZ-DHS0450	•	4.5	29	63	6
DZ-DHS0455	□	4.55	32	68	6
DZ-DHS0460	□	4.6	32	68	6
DZ-DHS0465	□	4.65	32	68	6
DZ-DHS0470	□	4.7	32	68	6
DZ-DHS0475	□	4.75	32	68	6
DZ-DHS0480	□	4.8	32	68	6
DZ-DHS0485	□	4.85	32	68	6
DZ-DHS0490	•	4.9	32	68	6
DZ-DHS0495	□	4.95	32	68	6
DZ-DHS0500	•	5.0	32	68	6
DZ-DHS0505	□	5.05	34	72	6
DZ-DHS0510	•	5.1	34	72	6
DZ-DHS0515	□	5.15	34	72	6
DZ-DHS0520	•	5.2	34	72	6
DZ-DHS0525	□	5.25	34	72	6
DZ-DHS0530	□	5.3	34	72	6
DZ-DHS0535	□	5.35	34	72	6
DZ-DHS0540	□	5.4	34	72	6



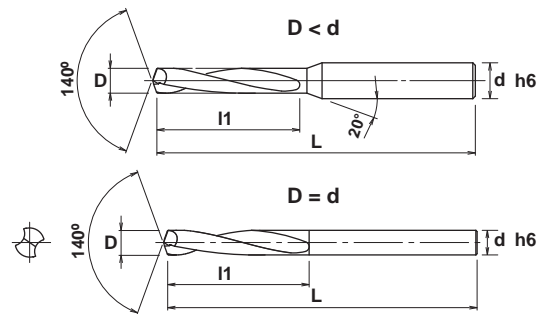
METRIC

Sigma Drill Hard

DZ-DHS Type (3XD)

- Excellent wear and breaking resistance allows for drilling hardened materials up to 70 HRC

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 15mm	+0 / -0.018



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0545	□	5.45	34	72	6
DZ-DHS0550	□	5.5	34	72	6
DZ-DHS0555	□	5.55	36	74	6
DZ-DHS0560	□	5.6	36	74	6
DZ-DHS0565	□	5.65	36	74	6
DZ-DHS0570	□	5.7	36	74	6
DZ-DHS0575	□	5.75	36	74	6
DZ-DHS0580	□	5.8	36	74	6
DZ-DHS0585	□	5.85	36	74	6
DZ-DHS0590	•	5.9	36	74	6
DZ-DHS0595	□	5.95	41	81	6
DZ-DHS0600	•	6.0	41	81	6
DZ-DHS0605	□	6.05	41	81	8
DZ-DHS0610	□	6.1	41	81	8
DZ-DHS0615	□	6.15	41	81	8
DZ-DHS0620	□	6.2	41	81	8
DZ-DHS0625	□	6.25	41	81	8
DZ-DHS0630	□	6.3	41	81	8
DZ-DHS0635	□	6.35	41	81	8
DZ-DHS0640	□	6.4	41	81	8
DZ-DHS0645	□	6.45	41	81	8
DZ-DHS0650	□	6.5	41	81	8
DZ-DHS0655	□	6.55	43	83	8
DZ-DHS0660	□	6.6	43	83	8
DZ-DHS0665	□	6.65	43	83	8
DZ-DHS0670	□	6.7	43	83	8
DZ-DHS0675	□	6.75	43	83	8
DZ-DHS0680	•	6.8	43	83	8

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0685	□	6.85	43	83	8
DZ-DHS0690	•	6.9	43	83	8
DZ-DHS0695	□	6.95	43	83	8
DZ-DHS0700	•	7.0	43	83	8
DZ-DHS0705	□	7.05	45	87	8
DZ-DHS0710	□	7.1	45	87	8
DZ-DHS0715	□	7.15	45	87	8
DZ-DHS0720	□	7.2	45	87	8
DZ-DHS0725	□	7.55	45	87	8
DZ-DHS0730	□	7.3	45	87	8
DZ-DHS0735	□	7.35	45	87	8
DZ-DHS0740	□	7.4	45	87	8
DZ-DHS0745	□	7.45	45	87	8
DZ-DHS0750	□	7.5	45	87	8
DZ-DHS0755	□	7.55	48	90	8
DZ-DHS0760	□	7.6	48	90	8
DZ-DHS0765	□	7.65	48	90	8
DZ-DHS0770	□	7.7	48	90	8
DZ-DHS0775	□	7.75	48	90	8
DZ-DHS0780	□	7.8	48	90	8
DZ-DHS0785	□	7.85	48	90	8
DZ-DHS0790	•	7.9	48	90	8
DZ-DHS0795	□	7.95	48	90	8
DZ-DHS0800	•	8.0	48	90	8
DZ-DHS0805	□	8.05	53	96	10
DZ-DHS0810	□	8.1	53	96	10
DZ-DHS0815	□	8.15	53	96	10
DZ-DHS0820	□	8.2	53	96	10

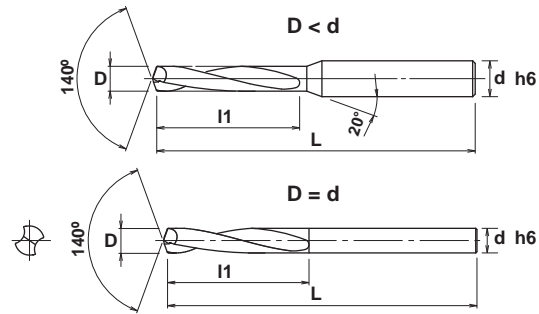
Sigma Drill Hard

METRIC

DZ-DHS Type (3XD)

- Excellent wear and breaking resistance allows for drilling hardened materials up to 70 HRc

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 15mm	+0 / -0.018



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0825	□	8.25	53	96	10
DZ-DHS0830	□	8.3	53	96	10
DZ-DHS0835	□	8.35	53	96	10
DZ-DHS0840	□	8.4	53	96	10
DZ-DHS0845	□	8.45	53	96	10
DZ-DHS0850	•	8.5	53	96	10
DZ-DHS0855	□	8.55	55	98	10
DZ-DHS0860	•	8.6	55	98	10
DZ-DHS0865	□	8.65	55	98	10
DZ-DHS0870	□	8.7	55	98	10
DZ-DHS0875	□	8.75	55	98	10
DZ-DHS0880	□	8.8	55	98	10
DZ-DHS0885	□	8.85	55	98	10
DZ-DHS0890	□	8.9	55	98	10
DZ-DHS0895	□	8.95	55	98	10
DZ-DHS0900	•	9.0	55	98	10
DZ-DHS0905	□	9.05	58	102	10
DZ-DHS0910	□	9.1	58	102	10
DZ-DHS0915	□	9.15	58	102	10
DZ-DHS0920	□	9.2	58	102	10
DZ-DHS0925	□	9.25	58	102	10
DZ-DHS0930	□	9.3	58	102	10
DZ-DHS0935	□	9.35	58	102	10
DZ-DHS0940	□	9.4	58	102	10
DZ-DHS0945	□	9.45	58	102	10
DZ-DHS0950	□	9.5	60	105	10
DZ-DHS0955	□	9.55	60	105	10
DZ-DHS0960	□	9.6	60	105	10

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS0965	□	9.65	60	105	10
DZ-DHS0970	□	9.7	60	105	10
DZ-DHS0975	□	9.75	60	105	10
DZ-DHS0980	□	9.8	60	105	10
DZ-DHS0985	□	9.85	60	105	10
DZ-DHS0990	•	9.9	60	105	10
DZ-DHS0995	□	9.95	60	105	10
DZ-DHS1000	•	10.0	60	105	10
DZ-DHS1005	□	10.05	66	112	12
DZ-DHS1010	□	10.1	66	112	12
DZ-DHS1015	□	10.15	66	112	12
DZ-DHS1020	□	10.2	66	112	12
DZ-DHS1025	□	10.25	66	112	12
DZ-DHS1030	•	10.3	66	112	12
DZ-DHS1035	□	10.35	66	112	12
DZ-DHS1040	•	10.4	66	112	12
DZ-DHS1045	□	10.45	66	112	12
DZ-DHS1050	□	10.5	66	112	12
DZ-DHS1055	□	10.55	68	114	12
DZ-DHS1060	□	10.6	68	114	12
DZ-DHS1065	□	10.65	68	114	12
DZ-DHS1070	□	10.7	68	114	12
DZ-DHS1075	□	10.75	68	114	12
DZ-DHS1080	□	10.8	68	114	12
DZ-DHS1085	□	10.85	68	114	12
DZ-DHS1090	□	10.9	68	114	12
DZ-DHS1095	□	10.95	68	114	12
DZ-DHS1100	•	11.0	68	114	12



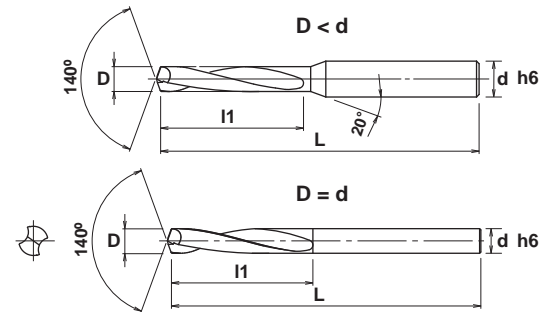
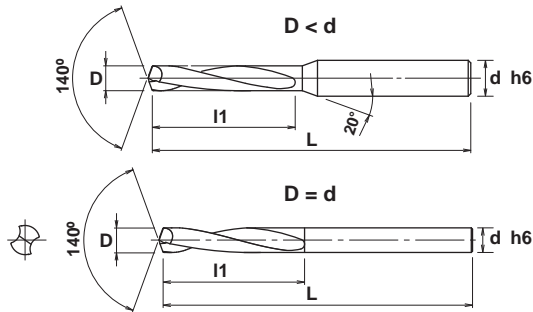
METRIC

Sigma Drill Hard

DZ-DHS (3XD) / DV-DHS (3XD) / DZ-DHL Type (5XD)

- Excellent wear and breaking resistance allows for drilling hardened materials up to 70 HRC

Diameter	Tolerance
up to 3mm	+0 / -0.010
over 3mm -up to 5.9mm	+0 / -0.012
over 5.9mm -up to 10mm	+0 / -0.015
over 10mm -up to 15mm	+0 / -0.018



DZ-DHS & DV-DHS (3XD)

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHS1105	<input type="checkbox"/>	11.05	71	118	12
DZ-DHS1110	<input type="checkbox"/>	11.1	71	118	12
DZ-DHS1120	<input type="checkbox"/>	11.2	71	118	12
DZ-DHS1130	<input type="checkbox"/>	11.3	71	118	12
DZ-DHS1140	<input type="checkbox"/>	11.4	71	118	12
DZ-DHS1150	<input type="checkbox"/>	11.5	71	118	12
DZ-DHS1160	<input type="checkbox"/>	11.6	73	121	12
DZ-DHS1170	<input type="checkbox"/>	11.7	73	121	12
DZ-DHS1180	<input type="checkbox"/>	11.8	73	121	12
DZ-DHS1190	<input checked="" type="checkbox"/>	11.9	73	121	12
DZ-DHS1200	<input checked="" type="checkbox"/>	12.0	73	121	12
DZ-DHS1210	<input type="checkbox"/>	12.1	74	125	14
DZ-DHS1220	<input type="checkbox"/>	12.2	74	125	14
DV-DHS1250	<input type="checkbox"/>	12.5	74	125	14
DV-DHS1300	<input type="checkbox"/>	13.0	74	130	14
DV-DHS1350	<input type="checkbox"/>	13.5	78	130	14
DV-DHS1400	<input type="checkbox"/>	14.0	80	135	14
DV-DHS1410	<input type="checkbox"/>	14.1	82	140	15
DV-DHS1450	<input type="checkbox"/>	14.5	82	140	15
DV-DHS1460	<input type="checkbox"/>	14.6	82	145	15
DV-DHS1500	<input type="checkbox"/>	15.0	85	145	15
DV-DHS1510	<input type="checkbox"/>	15.1	90	150	16
DV-DHS1550	<input type="checkbox"/>	15.5	90	150	16
DV-DHS1560	<input type="checkbox"/>	15.6	95	155	16
DV-DHS1580	<input type="checkbox"/>	15.8	95	155	16
DV-DHS1590	<input type="checkbox"/>	15.9	95	155	16
DV-DHS1600	<input type="checkbox"/>	16.0	95	155	16
DV-DHS1610	<input type="checkbox"/>	16.1	100	160	16

DZ-DHL (5XD)

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZ-DHL0300	<input checked="" type="checkbox"/>	3.0	25	70	4
DZ-DHL0310	<input type="checkbox"/>	3.1	25	70	4
DZ-DHL0320	<input type="checkbox"/>	3.2	25	70	4
DZ-DHL0330	<input checked="" type="checkbox"/>	3.3	25	70	4
DZ-DHL0340	<input type="checkbox"/>	3.4	25	80	4
DZ-DHL0350	<input type="checkbox"/>	3.5	25	80	4
DZ-DHL0360	<input type="checkbox"/>	3.6	30	80	4
DZ-DHL0370	<input type="checkbox"/>	3.7	30	80	4
DZ-DHL0380	<input checked="" type="checkbox"/>	3.8	30	80	4
DZ-DHL0390	<input type="checkbox"/>	3.9	30	80	4
DZ-DHL0400	<input checked="" type="checkbox"/>	4.0	30	80	4
DZ-DHL0410S5	<input type="checkbox"/>	4.1	30	80	5
DZ-DHL0420S5	<input checked="" type="checkbox"/>	4.2	30	85	5
DZ-DHL0430S5	<input type="checkbox"/>	4.3	30	85	5
DZ-DHL0440S5	<input type="checkbox"/>	4.4	30	85	5
DZ-DHL0450S5	<input type="checkbox"/>	4.5	30	85	5
DZ-DHL0460S5	<input type="checkbox"/>	4.6	35	85	5
DZ-DHL0470S5	<input type="checkbox"/>	4.7	35	85	5
DZ-DHL0480S5	<input type="checkbox"/>	4.8	35	85	5
DZ-DHL0490S5	<input type="checkbox"/>	4.9	35	85	5
DZ-DHL0500S5	<input checked="" type="checkbox"/>	5.0	35	85	5

- Stocked standard
- Inquire regarding delivery

Sigma Drill Hard

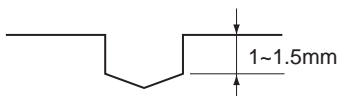
METRIC

Recommended Cutting Data for DZ-DHS, DV-DHS & DZ-DHL

Drill Diameter	Material					
	Tool Steel (SKT, SKD61) 48 - 56 HRC		Tool Steel (SKD11, SKH) 57 - 62 HRC		Tool Steel (SKD11, SKH) 63 - 70 HRC	
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)
2	2,860	115	2,070	83	1,270	38
	15 ~ 20	0.03 ~ 0.05	10 ~ 15	0.03 ~ 0.05	5 ~ 10	0.02 ~ 0.04
2.5	2,550	102	1,660	66	1,270	38
	15 ~ 25	0.03 ~ 0.05	10 ~ 15	0.03 ~ 0.05	7 ~ 12	0.02 ~ 0.04
3	2,100	84	1,380	55	1,060	31
	15 ~ 25	0.03 ~ 0.05	10 ~ 15	0.03 ~ 0.05	7 ~ 12	0.02 ~ 0.04
4	1,590	63	1,035	41	795	23
	15 ~ 25	0.03 ~ 0.05	10 ~ 15	0.03 ~ 0.05	7 ~ 12	0.02 ~ 0.04
5	1,270	62	830	41	635	25
	15 ~ 25	0.04 ~ 0.06	10 ~ 15	0.04 ~ 0.06	7 ~ 12	0.03 ~ 0.05
6	1,060	74	690	41	530	26
	15 ~ 25	0.06 ~ 0.08	10 ~ 15	0.05 ~ 0.07	7 ~ 12	0.04 ~ 0.06
7	910	63	590	35	455	22
	15 ~ 25	0.06 ~ 0.08	10 ~ 15	0.05 ~ 0.07	7 ~ 12	0.04 ~ 0.06
8	795	60	520	34	400	20
	15 ~ 25	0.06 ~ 0.09	10 ~ 15	0.05 ~ 0.08	7 ~ 12	0.04 ~ 0.06
9	710	53	460	30	355	18
	15 ~ 25	0.06 ~ 0.09	10 ~ 15	0.05 ~ 0.08	7 ~ 12	0.04 ~ 0.06
10	640	51	415	29	320	17
	15 ~ 25	0.06 ~ 0.10	10 ~ 15	0.05 ~ 0.09	7 ~ 12	0.04 ~ 0.07
11	580	46	375	26	290	15
	15 ~ 25	0.06 ~ 0.10	10 ~ 15	0.05 ~ 0.09	7 ~ 12	0.04 ~ 0.07
12	530	47	345	25	265	15
	15 ~ 25	0.06 ~ 0.12	10 ~ 15	0.05 ~ 0.10	7 ~ 12	0.04 ~ 0.08
13	370	30	250	20	200	13
	10 ~ 20	0.05 ~ 0.11	7 ~ 13	0.06 ~ 0.10	6 ~ 10	0.05 ~ 0.08
14	330	30	220	20	180	13
	10 ~ 20	0.06 ~ 0.12	7 ~ 13	0.07 ~ 0.11	6 ~ 10	0.05 ~ 0.09
15	320	30	210	20	170	13
	10 ~ 20	0.07 ~ 0.12	7 ~ 13	0.07 ~ 0.12	6 ~ 10	0.06 ~ 0.09
16	320	30	200	19	160	12
	10 ~ 20	0.07 ~ 0.12	7 ~ 13	0.07 ~ 0.12	6 ~ 10	0.06 ~ 0.09

Notes:

1. Use water soluble coolant.
2. Not recommended for use on non-heat treated material.
3. Recommended for material over 50 HRC to 70 HRC.
4. Use on rigid machine with a precision holder.
5. Above data recommended for cutting depth of 3XD.
6. Recommended for drilling blind hole, if drilling thru hole use back up material underneath.
7. If using DZ-DHL type drill reduce above data, and it is recommended to make center hole using DZ-DHS type drill as shown below.



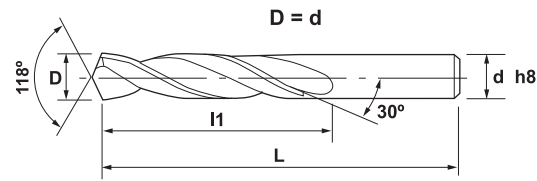
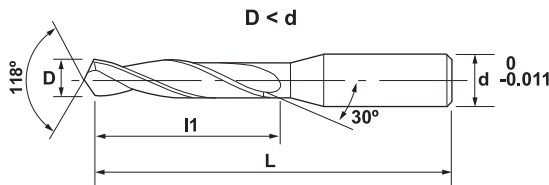


METRIC

Solid Carbide Drill

SDS Type
- Solid Carbide Drill

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
SDS-004	•	0.4	7	40	1
SDS-005	•	0.5	7	40	1
SDS-006	•	0.6	7	40	1
SDS-007	•	0.7	10	40	0.7
SDS-008	•	0.8	12	40	0.8
SDS-009	•	0.9	12	40	0.9
SDS-010	•	1.0	14	40	1.0
SDS-011	•	1.1	14	40	1.1
SDS-012	•	1.2	16	40	1.2
SDS-013	•	1.3	16	40	1.3
SDS-014	•	1.4	16	40	1.4
SDS-015	•	1.5	20	40	1.5
SDS-016	•	1.6	20	40	1.6
SDS-017	•	1.7	20	40	1.7
SDS-018	•	1.8	20	40	1.8
SDS-019	•	1.9	20	40	1.9
SDS-020	•	2.0	20	40	2.0
SDS-021	•	2.1	21	40	2.1
SDS-022	•	2.2	21	40	2.2
SDS-023	•	2.3	21	40	2.3
SDS-024	•	2.4	21	40	2.4
SDS-025	•	2.5	21	40	2.5
SDS-026	•	2.6	22	45	2.6
SDS-027	•	2.7	22	45	2.7
SDS-028	•	2.8	22	45	2.8
SDS-029	•	2.9	22	45	2.9
SDS-030	•	3.0	22	45	3.0
SDS-031	•	3.1	27	50	3.1
SDS-032	•	3.2	27	50	3.2
SDS-033	•	3.3	27	50	3.3
SDS-034	•	3.4	27	50	3.4
SDS-035	•	3.5	27	50	3.5
SDS-036	•	3.6	30	55	3.6
SDS-037	•	3.7	30	55	3.7
SDS-038	•	3.8	30	55	3.8
SDS-039	•	3.9	30	55	3.9
SDS-040	•	4.0	30	55	4.0
SDS-041	•	4.1	37	60	4.1

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
SDS-042	•	4.2	37	60	4.2
SDS-043	•	4.3	37	60	4.3
SDS-044	•	4.4	37	60	4.4
SDS-045	•	4.5	37	60	4.5
SDS-046	•	4.6	40	65	4.6
SDS-047	•	4.7	40	65	4.7
SDS-048	•	4.8	40	65	4.8
SDS-049	•	4.9	40	65	4.9
SDS-050	•	5.0	40	65	5.0
SDS-051	•	5.1	40	65	5.1
SDS-052	•	5.2	40	65	5.2
SDS-053	•	5.3	40	65	5.3
SDS-054	•	5.4	40	65	5.4
SDS-055	•	5.5	40	65	5.5
SDS-056	•	5.6	43	70	5.6
SDS-057	•	5.7	43	70	5.7
SDS-058	•	5.8	43	70	5.8
SDS-059	•	5.9	43	70	5.9
SDS-060	•	6.0	43	70	6.0
SDS-061	•	6.1	51	75	6.1
SDS-062	•	6.2	51	75	6.2
SDS-063	•	6.3	51	75	6.3
SDS-064	•	6.4	51	75	6.4
SDS-065	•	6.5	51	75	6.5
SDS-066	•	6.6	54	80	6.6
SDS-067	•	6.7	54	80	6.7
SDS-068	•	6.8	54	80	6.8
SDS-069	•	6.9	54	80	6.9
SDS-070	•	7.0	54	80	7.0
SDS-071	•	7.1	54	80	7.1
SDS-072	•	7.2	54	80	7.2
SDS-073	•	7.3	54	80	7.3
SDS-074	•	7.4	54	80	7.4
SDS-075	•	7.5	54	80	7.5
SDS-076	•	7.6	58	85	7.6
SDS-077	•	7.7	58	85	7.7
SDS-078	•	7.8	58	85	7.8
SDS-079	•	7.9	58	85	7.9

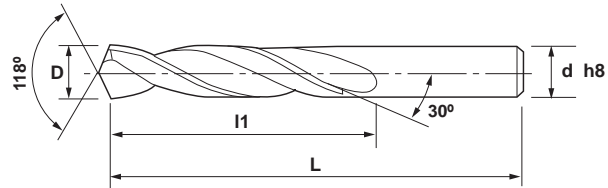
Solid Carbide Drill

METRIC

SDS Type

- Solid Carbide Drill

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
SDS-079	•	7.9	58	85	7.9
SDS-080	•	8.0	58	85	8.0
SDS-081	•	8.1	58	85	8.1
SDS-082	•	8.2	58	85	8.2
SDS-083	•	8.3	58	85	8.3
SDS-084	•	8.4	58	85	8.4
SDS-085	•	8.5	58	85	8.5
SDS-086	•	8.6	61	90	8.6
SDS-087	•	8.7	61	90	8.7
SDS-088	•	8.8	61	90	8.8
SDS-089	•	8.9	61	90	8.9
SDS-090	•	9.0	61	90	9.0
SDS-091	•	9.1	64	95	9.1
SDS-092	•	9.2	64	95	9.2
SDS-093	•	9.3	64	95	9.3
SDS-094	•	9.4	64	95	9.4
SDS-095	•	9.5	64	95	9.5
SDS-096	•	9.6	64	100	9.6
SDS-097	•	9.7	64	100	9.7
SDS-098	•	9.8	64	100	9.8
SDS-099	•	9.9	64	100	9.9
SDS-100	•	10.0	64	100	10.0
SDS-101	□	10.1	70	115	10.1
SDS-102	□	10.2	70	115	10.2
SDS-103	□	10.3	70	115	10.3
SDS-104	□	10.4	70	115	10.4
SDS-105	•	10.5	70	115	10.5
SDS-106	□	10.6	70	115	10.6
SDS-107	□	10.7	70	115	10.7
SDS-108	□	10.8	70	115	10.8
SDS-109	□	10.9	70	115	10.9
SDS-110	•	11.0	70	115	11.0
SDS-111	□	11.1	70	115	11.1
SDS-112	□	11.2	70	115	11.2
SDS-113	□	11.3	70	115	11.3
SDS-114	□	11.4	70	115	11.4
SDS-115	•	11.5	70	115	11.5
SDS-116	□	11.6	75	120	11.6

CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
SDS-117	□	11.7	75	120	11.7
SDS-118	□	11.8	75	120	11.8
SDS-119	□	11.9	75	120	11.9
SDS-120	•	12.0	75	120	12.0
SDS-121	□	12.1	75	120	12.1
SDS-122	□	12.2	75	120	12.2
SDS-123	□	12.3	75	120	12.3
SDS-124	□	12.4	75	120	12.4
SDS-125	□	12.5	75	120	12.5
SDS-126	□	12.6	75	120	12.6
SDS-127	□	12.7	75	120	12.7
SDS-128	□	12.8	75	120	12.8
SDS-129	□	12.9	75	120	12.9
SDS-130	□	13.0	75	120	13.0
SDS-135	□	13.5	80	160	13.5
SDS-140	□	14.0	80	160	14.0
SDS-145	□	14.5	80	160	14.5
SDS-150	□	15.0	80	160	15.0
SDS-155	□	15.5	80	160	15.5
SDS-160	□	16.0	80	160	16.0
SDS-165	□	16.5	100	180	16.5
SDS-170	□	17.0	100	180	17.0
SDS-175	□	17.5	100	180	17.5
SDS-180	□	18.0	100	180	18.0
SDS-185	□	18.5	120	200	18.5
SDS-190	□	19.0	120	200	19.0
SDS-195	□	19.5	120	200	19.5
SDS-200	□	20.0	120	200	20.0

- Stocked standard
- Inquire regarding delivery



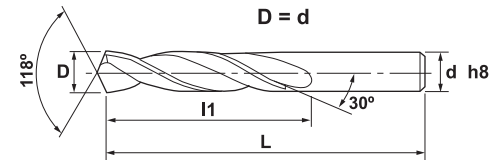
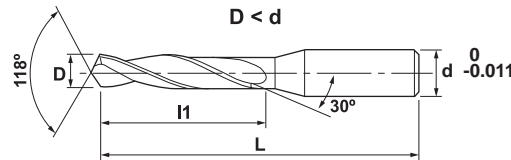
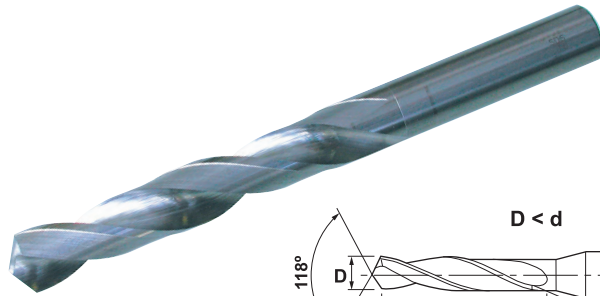
METRIC

Solid Carbide Drill

SDS Type

- Solid carbide drills in increments of 0.01mm

Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0030	□	0.30	7	40	1
SDS-0031	□	0.31	7	40	1
SDS-0032	□	0.32	7	40	1
SDS-0033	□	0.33	7	40	1
SDS-0034	□	0.34	7	40	1
SDS-0035	□	0.35	7	40	1
SDS-0036	□	0.36	7	40	1
SDS-0037	□	0.37	7	40	1
SDS-0038	□	0.38	7	40	1
SDS-0039	□	0.39	7	40	1
SDS-0041	□	0.41	7	40	1
SDS-0042	□	0.42	7	40	1
SDS-0043	□	0.43	7	40	1
SDS-0044	□	0.44	7	40	1
SDS-0045	□	0.45	7	40	1
SDS-0046	□	0.46	7	40	1
SDS-0047	□	0.47	7	40	1
SDS-0048	□	0.48	7	40	1
SDS-0049	□	0.49	7	40	1
SDS-0051	□	0.51	7	40	1
SDS-0052	□	0.52	7	40	1
SDS-0053	□	0.53	7	40	1
SDS-0054	□	0.54	7	40	1
SDS-0055	□	0.55	7	40	1
SDS-0056	□	0.56	7	40	1
SDS-0057	□	0.57	7	40	1
SDS-0058	□	0.58	7	40	1
SDS-0059	□	0.59	7	40	1
SDS-0061	□	0.61	10	40	0.61
SDS-0062	□	0.62	10	40	0.62
SDS-0063	□	0.63	10	40	0.63
SDS-0064	□	0.64	10	40	0.64
SDS-0065	□	0.65	10	40	0.65
SDS-0066	□	0.66	10	40	0.66
SDS-0067	□	0.67	10	40	0.67
SDS-0068	□	0.68	10	40	0.68
SDS-0069	□	0.69	10	40	0.69
SDS-0071	□	0.71	12	40	0.71

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0072	□	0.72	12	40	0.72
SDS-0073	□	0.73	12	40	0.73
SDS-0074	□	0.74	12	40	0.74
SDS-0075	□	0.75	12	40	0.75
SDS-0076	□	0.76	12	40	0.76
SDS-0077	□	0.77	12	40	0.77
SDS-0078	□	0.78	12	40	0.78
SDS-0079	□	0.79	12	40	0.79
SDS-0081	□	0.81	12	40	0.81
SDS-0082	□	0.82	12	40	0.82
SDS-0083	□	0.83	12	40	0.83
SDS-0084	□	0.84	12	40	0.84
SDS-0085	□	0.85	12	40	0.85
SDS-0086	□	0.86	12	40	0.86
SDS-0087	□	0.87	12	40	0.87
SDS-0088	□	0.88	12	40	0.88
SDS-0089	□	0.89	12	40	0.89
SDS-0091	□	0.91	14	40	0.91
SDS-0092	□	0.92	14	40	0.92
SDS-0093	□	0.93	14	40	0.93
SDS-0094	□	0.94	14	40	0.94
SDS-0095	□	0.95	14	40	0.95
SDS-0096	□	0.96	14	40	0.96
SDS-0097	□	0.97	14	40	0.97
SDS-0098	□	0.98	14	40	0.98
SDS-0099	□	0.99	14	40	0.99
SDS-0101	□	1.01	14	40	1.01
SDS-0102	□	1.02	14	40	1.02
SDS-0103	□	1.03	14	40	1.03
SDS-0104	□	1.04	14	40	1.04
SDS-0105	□	1.05	14	40	1.05
SDS-0106	□	1.06	14	40	1.06
SDS-0107	□	1.07	14	40	1.07
SDS-0108	□	1.08	14	40	1.08
SDS-0109	□	1.09	14	40	1.09
SDS-0111	□	1.11	16	40	1.11
SDS-0112	□	1.12	16	40	1.12
SDS-0113	□	1.13	16	40	1.13

Solid Carbide Drill

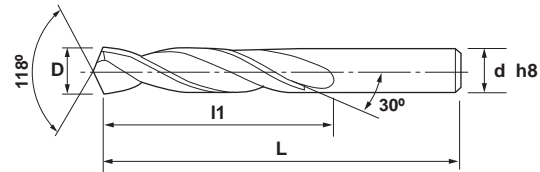
METRIC

SDS Type

- Solid carbide drills in increments of 0.01mm



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0201	□	2.01	21	40	2.01
SDS-0202	□	2.02	21	40	2.02
SDS-0203	□	2.03	21	40	2.03
SDS-0204	□	2.04	21	40	2.04
SDS-0205	□	2.05	21	40	2.05
SDS-0206	□	2.06	21	40	2.06
SDS-0207	□	2.07	21	40	2.07
SDS-0208	□	2.08	21	40	2.08
SDS-0209	□	2.09	21	40	2.09
SDS-0211	□	2.11	21	40	2.11
SDS-0212	□	2.12	21	40	2.12
SDS-0213	□	2.13	21	40	2.13
SDS-0214	□	2.14	21	40	2.14
SDS-0215	□	2.15	21	40	2.15
SDS-0216	□	2.16	21	40	2.16
SDS-0217	□	2.17	21	40	2.17
SDS-0218	□	2.18	21	40	2.18
SDS-0219	□	2.19	21	40	2.19
SDS-0221	□	2.21	21	40	2.21
SDS-0222	□	2.22	21	40	2.22
SDS-0223	□	2.23	21	40	2.23
SDS-0224	□	2.24	21	40	2.24
SDS-0225	□	2.25	21	40	2.25
SDS-0226	□	2.26	21	40	2.26
SDS-0227	□	2.27	21	40	2.27
SDS-0228	□	2.28	21	40	2.28
SDS-0229	□	2.29	21	40	2.29
SDS-0231	□	2.31	21	40	2.31
SDS-0232	□	2.32	21	40	2.32
SDS-0233	□	2.33	21	40	2.33
SDS-0234	□	2.34	21	40	2.34
SDS-0235	□	2.35	21	40	2.35
SDS-0236	□	2.36	21	40	2.36
SDS-0237	□	2.37	21	40	2.37
SDS-0238	□	2.38	21	40	2.38
SDS-0239	□	2.39	21	40	2.39
SDS-0241	□	2.41	21	40	2.41
SDS-0242	□	2.42	21	40	2.42
SDS-0243	□	2.43	21	40	2.43
SDS-0244	□	2.44	21	40	2.44

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0245	□	2.45	21	40	2.45
SDS-0246	□	2.46	21	40	2.46
SDS-0247	□	2.47	21	40	2.47
SDS-0248	□	2.48	21	40	2.48
SDS-0249	□	2.49	21	40	2.49
SDS-0251	□	2.51	22	45	2.51
SDS-0252	□	2.52	22	45	2.52
SDS-0253	□	2.53	22	45	2.53
SDS-0254	□	2.54	22	45	2.54
SDS-0255	□	2.55	22	45	2.55
SDS-0256	□	2.56	22	45	2.56
SDS-0257	□	2.57	22	45	2.57
SDS-0258	□	2.58	22	45	2.58
SDS-0259	□	2.59	22	45	2.59
SDS-0261	□	2.61	22	45	2.61
SDS-0262	□	2.62	22	45	2.62
SDS-0263	□	2.63	22	45	2.63
SDS-0264	□	2.64	22	45	2.64
SDS-0265	□	2.65	22	45	2.65
SDS-0266	□	2.66	22	45	2.66
SDS-0267	□	2.67	22	45	2.67
SDS-0268	□	2.68	22	45	2.68
SDS-0269	□	2.69	22	45	2.69
SDS-0271	□	2.71	22	45	2.71
SDS-0272	□	2.72	22	45	2.72
SDS-0273	□	2.73	22	45	2.73
SDS-0274	□	2.74	22	45	2.74
SDS-0275	□	2.75	22	45	2.75
SDS-0276	□	2.76	22	45	2.76
SDS-0277	□	2.77	22	45	2.77
SDS-0278	□	2.78	22	45	2.78
SDS-0279	□	2.79	22	45	2.79
SDS-0281	□	2.81	22	45	2.81
SDS-0282	□	2.82	22	45	2.82
SDS-0283	□	2.83	22	45	2.83
SDS-0284	□	2.84	22	45	2.84
SDS-0285	□	2.85	22	45	2.85
SDS-0286	□	2.86	22	45	2.86
SDS-0287	□	2.87	22	45	2.87
SDS-0288	□	2.88	22	45	2.88



METRIC

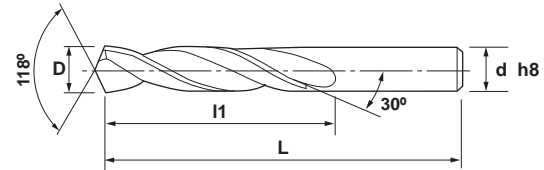
Solid Carbide Drill

SDS Type

- Solid carbide drills in increments of 0.01mm



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0289	□	2.89	22	45	2.89
SDS-0291	□	2.91	22	45	2.91
SDS-0292	□	2.92	22	45	2.92
SDS-0293	□	2.93	22	45	2.93
SDS-0294	□	2.94	22	45	2.94
SDS-0295	□	2.95	22	45	2.95
SDS-0296	□	2.96	22	45	2.96
SDS-0297	□	2.97	22	45	2.97
SDS-0298	□	2.98	22	45	2.98
SDS-0299	□	2.99	22	45	2.99
SDS-0301	□	3.01	27	50	3.01
SDS-0302	□	3.02	27	50	3.02
SDS-0303	□	3.03	27	50	3.03
SDS-0304	□	3.04	27	50	3.04
SDS-0305	□	3.05	27	50	3.05
SDS-0306	□	3.06	27	50	3.06
SDS-0307	□	3.07	27	50	3.07
SDS-0308	□	3.08	27	50	3.08
SDS-0309	□	3.09	27	50	3.09
SDS-0311	□	3.11	27	50	3.11
SDS-0312	□	3.12	27	50	3.12
SDS-0313	□	3.13	27	50	3.13
SDS-0314	□	3.14	27	50	3.14
SDS-0315	□	3.15	27	50	3.15
SDS-0316	□	3.16	27	50	3.16
SDS-0317	□	3.17	27	50	3.17
SDS-0318	□	3.18	27	50	3.18
SDS-0319	□	3.19	27	50	3.19
SDS-0321	□	3.21	27	50	3.21
SDS-0322	□	3.22	27	50	3.22
SDS-0323	□	3.23	27	50	3.23
SDS-0324	□	3.24	27	50	3.24
SDS-0325	□	3.25	27	50	3.25
SDS-0326	□	3.26	27	50	3.26
SDS-0327	□	3.27	27	50	3.27
SDS-0328	□	3.28	27	50	3.28
SDS-0329	□	3.29	27	50	3.29
SDS-0331	□	3.31	27	50	3.31
SDS-0332	□	3.32	27	50	3.32
SDS-0333	□	3.33	27	50	3.33

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0334	□	3.34	27	50	3.34
SDS-0335	□	3.35	27	50	3.35
SDS-0336	□	3.36	27	50	3.36
SDS-0337	□	3.37	27	50	3.37
SDS-0338	□	3.38	27	50	3.38
SDS-0339	□	3.39	27	50	3.39
SDS-0341	□	3.41	27	50	3.41
SDS-0342	□	3.42	27	50	3.42
SDS-0343	□	3.43	27	50	3.43
SDS-0344	□	3.44	27	50	3.44
SDS-0345	□	3.45	27	50	3.45
SDS-0346	□	3.46	27	50	3.46
SDS-0347	□	3.47	27	50	3.47
SDS-0348	□	3.48	27	50	3.48
SDS-0349	□	3.49	27	50	3.49
SDS-0351	□	3.51	30	55	3.51
SDS-0352	□	3.52	30	55	3.52
SDS-0353	□	3.53	30	55	3.53
SDS-0354	□	3.54	30	55	3.54
SDS-0355	□	3.55	30	55	3.55
SDS-0356	□	3.56	30	55	3.56
SDS-0357	□	3.57	30	55	3.57
SDS-0358	□	3.58	30	55	3.58
SDS-0359	□	3.59	30	55	3.59
SDS-0361	□	3.61	30	55	3.61
SDS-0362	□	3.62	30	55	3.62
SDS-0363	□	3.63	30	55	3.63
SDS-0364	□	3.64	30	55	3.64
SDS-0365	□	3.65	30	55	3.65
SDS-0366	□	3.66	30	55	3.66
SDS-0367	□	3.67	30	55	3.67
SDS-0368	□	3.68	30	55	3.68
SDS-0369	□	3.69	30	55	3.69
SDS-0371	□	3.71	30	55	3.71
SDS-0372	□	3.72	30	55	3.72
SDS-0373	□	3.73	30	55	3.73
SDS-0374	□	3.74	30	55	3.74
SDS-0375	□	3.75	30	55	3.75
SDS-0376	□	3.76	30	55	3.76
SDS-0377	□	3.77	30	55	3.77

Solid Carbide Drill

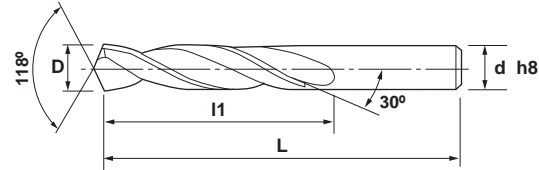
METRIC

SDS Type

- Solid carbide drills in increments of 0.01mm



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0378	□	3.78	30	55	3.78
SDS-0379	□	3.79	30	55	3.79
SDS-0381	□	3.81	30	55	3.81
SDS-0382	□	3.82	30	55	3.82
SDS-0383	□	3.83	30	55	3.83
SDS-0384	□	3.84	30	55	3.84
SDS-0385	□	3.85	30	55	3.85
SDS-0386	□	3.86	30	55	3.86
SDS-0387	□	3.87	30	55	3.87
SDS-0388	□	3.88	30	55	3.88
SDS-0389	□	3.89	30	55	3.89
SDS-0391	□	3.91	30	55	3.91
SDS-0392	□	3.92	30	55	3.92
SDS-0393	□	3.93	30	55	3.93
SDS-0394	□	3.94	30	55	3.94
SDS-0395	□	3.95	30	55	3.95
SDS-0396	□	3.96	30	55	3.96
SDS-0397	□	3.97	30	55	3.97
SDS-0398	□	3.98	30	55	3.98
SDS-0399	□	3.99	30	55	3.99
SDS-0401	□	4.01	37	60	4.01
SDS-0402	□	4.02	37	60	4.02
SDS-0403	□	4.03	37	60	4.03
SDS-0404	□	4.04	37	60	4.04
SDS-0405	□	4.05	37	60	4.05
SDS-0406	□	4.06	37	60	4.06
SDS-0407	□	4.07	37	60	4.07
SDS-0408	□	4.08	37	60	4.08
SDS-0409	□	4.09	37	60	4.09
SDS-0411	□	4.11	37	60	4.11
SDS-0412	□	4.12	37	60	4.12
SDS-0413	□	4.13	37	60	4.13
SDS-0414	□	4.14	37	60	4.14
SDS-0415	□	4.15	37	60	4.15
SDS-0416	□	4.16	37	60	4.16
SDS-0417	□	4.17	37	60	4.17
SDS-0418	□	4.18	37	60	4.18
SDS-0419	□	4.19	37	60	4.19
SDS-0421	□	4.21	37	60	4.21
SDS-0422	□	4.22	37	60	4.22
SDS-0423	□	4.23	37	60	4.23

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0424	□	4.24	37	60	4.24
SDS-0425	□	4.25	37	60	4.25
SDS-0426	□	4.26	37	60	4.26
SDS-0427	□	4.27	37	60	4.27
SDS-0428	□	4.28	37	60	4.28
SDS-0429	□	4.29	37	60	4.29
SDS-0431	□	4.31	37	60	4.31
SDS-0432	□	4.32	37	60	4.32
SDS-0433	□	4.33	37	60	4.33
SDS-0434	□	4.34	37	60	4.34
SDS-0435	□	4.35	37	60	4.35
SDS-0436	□	4.36	37	60	4.36
SDS-0437	□	4.37	37	60	4.37
SDS-0438	□	4.38	37	60	4.38
SDS-0439	□	4.39	37	60	4.39
SDS-0441	□	4.41	37	60	4.41
SDS-0442	□	4.42	37	60	4.42
SDS-0443	□	4.43	37	60	4.43
SDS-0444	□	4.44	37	60	4.44
SDS-0445	□	4.45	37	60	4.45
SDS-0446	□	4.46	37	60	4.46
SDS-0447	□	4.47	37	60	4.47
SDS-0448	□	4.48	37	60	4.48
SDS-0449	□	4.49	37	60	4.49
SDS-0451	□	4.51	40	65	4.51
SDS-0452	□	4.52	40	65	4.52
SDS-0453	□	4.53	40	65	4.53
SDS-0454	□	4.54	40	65	4.54
SDS-0455	□	4.55	40	65	4.55
SDS-0456	□	4.56	40	65	4.56
SDS-0457	□	4.57	40	65	4.57
SDS-0458	□	4.58	40	65	4.58
SDS-0459	□	4.59	40	65	4.59
SDS-0461	□	4.61	40	65	4.61
SDS-0462	□	4.62	40	65	4.62
SDS-0463	□	4.63	40	65	4.63
SDS-0464	□	4.64	40	65	4.64
SDS-0465	□	4.65	40	65	4.65
SDS-0466	□	4.66	40	65	4.66
SDS-0467	□	4.67	40	65	4.67
SDS-0468	□	4.68	40	65	4.68



METRIC

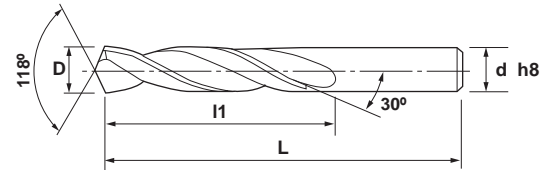
Solid Carbide Drill

SDS Type

- Solid carbide drills in increments of 0.01mm



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0469	□	4.69	40	65	4.69
SDS-0471	□	4.71	40	65	4.71
SDS-0472	□	4.72	40	65	4.72
SDS-0473	□	4.73	40	65	4.73
SDS-0474	□	4.74	40	65	4.74
SDS-0475	□	4.75	40	65	4.75
SDS-0476	□	4.76	40	65	4.76
SDS-0477	□	4.77	40	65	4.77
SDS-0478	□	4.78	40	65	4.78
SDS-0479	□	4.79	40	65	4.79
SDS-0481	□	4.81	40	65	4.81
SDS-0482	□	4.82	40	65	4.82
SDS-0483	□	4.83	40	65	4.83
SDS-0484	□	4.84	40	65	4.84
SDS-0485	□	4.85	40	65	4.85
SDS-0486	□	4.86	40	65	4.86
SDS-0487	□	4.87	40	65	4.87
SDS-0488	□	4.88	40	65	4.88
SDS-0489	□	4.89	40	65	4.89
SDS-0491	□	4.91	40	65	4.91
SDS-0492	□	4.92	40	65	4.92
SDS-0493	□	4.93	40	65	4.93
SDS-0494	□	4.94	40	65	4.94
SDS-0495	□	4.95	40	65	4.95
SDS-0496	□	4.96	40	65	4.96
SDS-0497	□	4.97	40	65	4.97
SDS-0498	□	4.98	40	65	4.98
SDS-0499	□	4.99	40	65	4.99
SDS-0501	□	5.01	40	65	5.01
SDS-0502	□	5.02	40	65	5.02
SDS-0503	□	5.03	40	65	5.03
SDS-0504	□	5.04	40	65	5.04
SDS-0505	□	5.05	40	65	5.05
SDS-0506	□	5.06	40	65	5.06
SDS-0507	□	5.07	40	65	5.07
SDS-0508	□	5.08	40	65	5.08
SDS-0509	□	5.09	40	65	5.09
SDS-0511	□	5.11	40	65	5.11
SDS-0512	□	5.12	40	65	5.12
SDS-0513	□	5.13	40	65	5.13
SDS-0514	□	5.14	40	65	5.14

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0515	□	5.15	40	65	5.15
SDS-0516	□	5.16	40	65	5.16
SDS-0517	□	5.17	40	65	5.17
SDS-0518	□	5.18	40	65	5.18
SDS-0519	□	5.19	40	65	5.19
SDS-0521	□	5.21	40	65	5.21
SDS-0522	□	5.22	40	65	5.22
SDS-0523	□	5.23	40	65	5.23
SDS-0524	□	5.24	40	65	5.24
SDS-0525	□	5.25	40	65	5.25
SDS-0526	□	5.26	40	65	5.26
SDS-0527	□	5.27	40	65	5.27
SDS-0528	□	5.28	40	65	5.28
SDS-0529	□	5.29	40	65	5.29
SDS-0531	□	5.31	40	65	5.31
SDS-0532	□	5.32	40	65	5.32
SDS-0533	□	5.33	40	65	5.33
SDS-0534	□	5.34	40	65	5.34
SDS-0535	□	5.35	40	65	5.35
SDS-0536	□	5.36	40	65	5.36
SDS-0537	□	5.37	40	65	5.37
SDS-0538	□	5.38	40	65	5.38
SDS-0539	□	5.39	40	65	5.39
SDS-0541	□	5.41	40	65	5.41
SDS-0542	□	5.42	40	65	5.42
SDS-0543	□	5.43	40	65	5.43
SDS-0544	□	5.44	40	65	5.44
SDS-0545	□	5.45	40	65	5.45
SDS-0546	□	5.46	40	65	5.46
SDS-0547	□	5.47	40	65	5.47
SDS-0548	□	5.48	40	65	5.48
SDS-0549	□	5.49	40	65	5.49
SDS-0551	□	5.51	43	70	5.51
SDS-0552	□	5.52	43	70	5.52
SDS-0553	□	5.53	43	70	5.53
SDS-0554	□	5.54	43	70	5.54
SDS-0555	□	5.55	43	70	5.55
SDS-0556	□	5.56	43	70	5.56
SDS-0557	□	5.57	43	70	5.57
SDS-0558	□	5.58	43	70	5.58
SDS-0559	□	5.59	43	70	5.59

Solid Carbide Drill

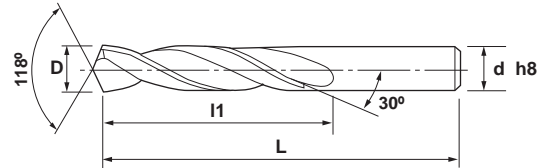
METRIC

SDS Type

- Solid carbide drills in increments of 0.01mm



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm - up to 6mm	+0 / -0.018
over 6mm - up to 10mm	+0 / -0.022
over 10mm - up to 18mm	+0 / -0.027
over 18mm	+0 / -0.033



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0561	<input type="checkbox"/>	5.61	43	70	5.61
SDS-0562	<input type="checkbox"/>	5.62	43	70	5.62
SDS-0563	<input type="checkbox"/>	5.63	43	70	5.63
SDS-0564	<input type="checkbox"/>	5.64	43	70	5.64
SDS-0565	<input type="checkbox"/>	5.65	43	70	5.65
SDS-0566	<input type="checkbox"/>	5.66	43	70	5.66
SDS-0567	<input type="checkbox"/>	5.67	43	70	5.67
SDS-0568	<input type="checkbox"/>	5.68	43	70	5.68
SDS-0569	<input type="checkbox"/>	5.69	43	70	5.69
SDS-0571	<input type="checkbox"/>	5.71	43	70	5.71
SDS-0572	<input type="checkbox"/>	5.72	43	70	5.72
SDS-0573	<input type="checkbox"/>	5.73	43	70	5.73
SDS-0574	<input type="checkbox"/>	5.74	43	70	5.74
SDS-0575	<input type="checkbox"/>	5.75	43	70	5.75
SDS-0576	<input type="checkbox"/>	5.76	43	70	5.76
SDS-0577	<input type="checkbox"/>	5.77	43	70	5.77
SDS-0578	<input type="checkbox"/>	5.78	43	70	5.78
SDS-0579	<input type="checkbox"/>	5.79	43	70	5.79
SDS-0581	<input type="checkbox"/>	5.81	43	70	5.81
SDS-0582	<input type="checkbox"/>	5.82	43	70	5.82
SDS-0583	<input type="checkbox"/>	5.83	43	70	5.83
SDS-0584	<input type="checkbox"/>	5.84	43	70	5.84
SDS-0585	<input type="checkbox"/>	5.85	43	70	5.85

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
SDS-0586	<input type="checkbox"/>	5.86	43	70	5.86
SDS-0587	<input type="checkbox"/>	5.87	43	70	5.87
SDS-0588	<input type="checkbox"/>	5.88	43	70	5.88
SDS-0589	<input type="checkbox"/>	5.89	43	70	5.89
SDS-0591	<input type="checkbox"/>	5.91	43	70	5.91
SDS-0592	<input type="checkbox"/>	5.92	43	70	5.92
SDS-0593	<input type="checkbox"/>	5.93	43	70	5.93
SDS-0594	<input type="checkbox"/>	5.94	43	70	5.94
SDS-0595	<input type="checkbox"/>	5.95	43	70	5.95
SDS-0596	<input type="checkbox"/>	5.96	43	70	5.96
SDS-0597	<input type="checkbox"/>	5.97	43	70	5.97
SDS-0598	<input type="checkbox"/>	5.98	43	70	5.98
SDS-0599	<input type="checkbox"/>	5.99	43	70	5.99
SDS-0601	<input type="checkbox"/>	6.01	51	75	6.01
SDS-0602	<input type="checkbox"/>	6.02	51	75	6.02
SDS-0603	<input type="checkbox"/>	6.03	51	75	6.03
SDS-0604	<input type="checkbox"/>	6.04	51	75	6.04
SDS-0605	<input type="checkbox"/>	6.05	51	75	6.05
SDS-0606	<input type="checkbox"/>	6.06	51	75	6.06
SDS-0607	<input type="checkbox"/>	6.07	51	75	6.07
SDS-0608	<input type="checkbox"/>	6.08	51	75	6.08
SDS-0609	<input type="checkbox"/>	6.09	51	75	6.09

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

Material	Tensile Strength or Hardness	Cutting Speed (m/min)	Feed Rate (mm/rev)
Hardened Steel	48 HRC	6 ~ 12	0.01 ~ 0.02
Cast Iron	200 HB	30 ~ 60	0.04 ~ 0.15
Heat Resistant Steel		5 ~ 15	0.01 ~ 0.04
Cast Steel	500 ~ 600 N/mm ²	25 ~ 35	0.03 ~ 0.10
Chilled Cast Iron	65 ~ 85 HS	2 ~ 8	0.01 ~ 0.03
Aluminum Alloy		80 ~ 230	0.05 ~ 0.10
Brass		80 ~ 100	0.06 ~ 0.10
Thermoplastic Resin		60 ~ 120	0.04 ~ 0.08



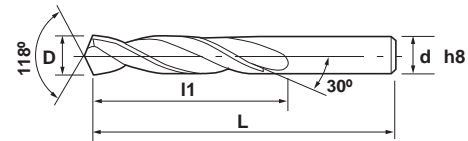
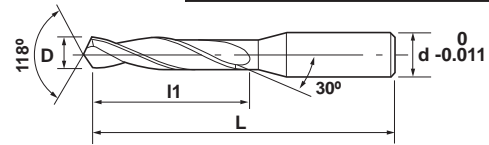
METRIC

Solid Carbide Drill

SDSL Type - Solid carbide drills



Diameter	Tolerance
up to 3mm	+0 / -0.014
over 3mm -up to 6mm	+0 / -0.018
over 6mm -up to 10mm	+0 / -0.022
over 10mm -up to 18mm	+0 / -0.027



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
SDSL-004	<input type="checkbox"/>	0.4	15	60	1
SDSL-005	<input type="checkbox"/>	0.5	15	60	1
SDSL-006	<input type="checkbox"/>	0.6	20	65	1
SDSL-007	<input type="checkbox"/>	0.7	20	65	0.7
SDSL-008	<input type="checkbox"/>	0.8	25	75	0.8
SDSL-009	<input type="checkbox"/>	0.9	25	75	0.9
SDSL-010	<input type="checkbox"/>	1.0	35	75	1.0
SDSL-011	<input type="checkbox"/>	1.1	35	75	1.1
SDSL-012	<input type="checkbox"/>	1.2	35	75	1.2
SDSL-013	<input type="checkbox"/>	1.3	35	75	1.3
SDSL-014	<input type="checkbox"/>	1.4	35	75	1.4
SDSL-015	<input type="checkbox"/>	1.5	35	75	1.5
SDSL-016	<input type="checkbox"/>	1.6	35	75	1.6
SDSL-017	<input type="checkbox"/>	1.7	35	75	1.7
SDSL-018	<input type="checkbox"/>	1.8	35	75	1.8
SDSL-019	<input type="checkbox"/>	1.9	35	75	1.9
SDSL-020	<input type="checkbox"/>	2.0	35	75	2.0
SDSL-021	<input type="checkbox"/>	2.1	35	75	2.1
SDSL-022	<input type="checkbox"/>	2.2	35	75	2.2
SDSL-023	<input type="checkbox"/>	2.3	35	75	2.3
SDSL-024	<input type="checkbox"/>	2.4	50	100	2.4
SDSL-025	<input type="checkbox"/>	2.5	50	100	2.5
SDSL-026	<input type="checkbox"/>	2.6	50	100	2.6
SDSL-027	<input type="checkbox"/>	2.7	50	100	2.7
SDSL-028	<input type="checkbox"/>	2.8	50	100	2.8
SDSL-029	<input type="checkbox"/>	2.9	50	100	2.9
SDSL-030	<input type="checkbox"/>	3.0	50	100	3.0
SDSL-031	<input type="checkbox"/>	3.1	50	100	3.1
SDSL-032	<input type="checkbox"/>	3.2	50	100	3.2
SDSL-033	<input type="checkbox"/>	3.3	50	100	3.3
SDSL-034	<input type="checkbox"/>	3.4	50	100	3.4
SDSL-035	<input type="checkbox"/>	3.5	50	100	3.5
SDSL-036	<input type="checkbox"/>	3.6	50	100	3.6
SDSL-037	<input type="checkbox"/>	3.7	50	100	3.7
SDSL-038	<input type="checkbox"/>	3.8	50	100	3.8
SDSL-039	<input type="checkbox"/>	3.9	50	100	3.9
SDSL-040	<input type="checkbox"/>	4.0	50	100	4.0
SDSL-041	<input type="checkbox"/>	4.1	50	100	4.1
SDSL-042	<input type="checkbox"/>	4.2	50	100	4.2
SDSL-043	<input type="checkbox"/>	4.3	50	100	4.3
SDSL-044	<input type="checkbox"/>	4.4	50	100	4.4

CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
SDSL-045	<input type="checkbox"/>	4.5	50	100	4.5
SDSL-046	<input type="checkbox"/>	4.6	50	100	4.6
SDSL-047	<input type="checkbox"/>	4.7	50	100	4.7
SDSL-048	<input type="checkbox"/>	4.8	50	100	4.8
SDSL-049	<input type="checkbox"/>	4.9	50	100	4.9
SDSL-050	<input type="checkbox"/>	5.0	75	150	5.0
SDSL-051	<input type="checkbox"/>	5.1	75	150	5.1
SDSL-052	<input type="checkbox"/>	5.2	75	150	5.2
SDSL-053	<input type="checkbox"/>	5.3	75	150	5.3
SDSL-054	<input type="checkbox"/>	5.4	75	150	5.4
SDSL-055	<input type="checkbox"/>	5.5	75	150	5.5
SDSL-056	<input type="checkbox"/>	5.6	75	150	5.6
SDSL-057	<input type="checkbox"/>	5.7	75	150	5.7
SDSL-058	<input type="checkbox"/>	5.8	75	150	5.8
SDSL-059	<input type="checkbox"/>	5.9	75	150	5.9
SDSL-060	<input type="checkbox"/>	6.0	75	150	6.0
SDSL-065	<input type="checkbox"/>	6.5	75	150	6.5
SDSL-068	<input type="checkbox"/>	6.8	75	150	6.8
SDSL-070	<input type="checkbox"/>	7.0	75	150	7.0
SDSL-075	<input type="checkbox"/>	7.5	75	150	7.5
SDSL-078	<input type="checkbox"/>	7.8	75	150	7.8
SDSL-080	<input type="checkbox"/>	8.0	75	150	8.0
SDSL-085	<input type="checkbox"/>	8.5	100	200	8.5
SDSL-090	<input type="checkbox"/>	9.0	100	200	9.0
SDSL-095	<input type="checkbox"/>	9.5	100	200	9.5
SDSL-100	<input type="checkbox"/>	10.0	100	200	10.0
SDSL-103	<input type="checkbox"/>	10.3	145	250	10.3
SDSL-105	<input type="checkbox"/>	10.5	145	250	10.5
SDSL-110	<input type="checkbox"/>	11.0	145	250	11.0
SDSL-115	<input type="checkbox"/>	11.5	145	250	11.5
SDSL-120	<input type="checkbox"/>	12.0	145	250	12.0
SDSL-125	<input type="checkbox"/>	12.5	145	250	12.5
SDSL-130	<input type="checkbox"/>	13.0	145	250	13.0

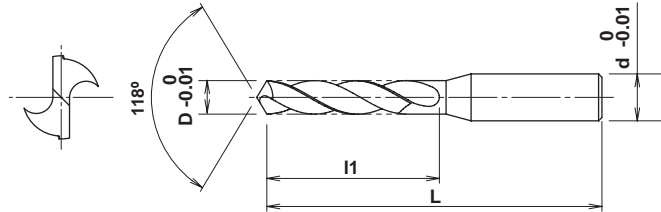
- Stocked standard
- Inquire regarding delivery

Solid Carbide Drill

METRIC

RSD Type

- Solid carbide drills in increments of 0.01mm



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
RSD-0030	□	0.30	5	38	3
RSD-0031	□	0.31	5	38	3
RSD-0032	□	0.32	5	38	3
RSD-0033	□	0.33	5	38	3
RSD-0034	□	0.34	5	38	3
RSD-0035	□	0.35	5	38	3
RSD-0036	□	0.36	5	38	3
RSD-0037	□	0.37	5	38	3
RSD-0038	□	0.38	5	38	3
RSD-0039	□	0.39	5	38	3
RSD-0040	□	0.40	6	38	3
RSD-0041	□	0.41	6	38	3
RSD-0042	□	0.42	6	38	3
RSD-0043	□	0.43	6	38	3
RSD-0044	□	0.44	6	38	3
RSD-0045	□	0.45	6	38	3
RSD-0046	□	0.46	6	38	3
RSD-0047	□	0.47	6	38	3
RSD-0048	□	0.48	6	38	3
RSD-0049	□	0.49	6	38	3
RSD-0050	□	0.50	6	38	3
RSD-0051	□	0.51	6	38	3
RSD-0052	□	0.52	6	38	3
RSD-0053	□	0.53	6	38	3
RSD-0054	□	0.54	6	38	3
RSD-0055	□	0.55	6	38	3
RSD-0056	□	0.56	6	38	3
RSD-0057	□	0.57	6	38	3
RSD-0058	□	0.58	6	38	3
RSD-0059	□	0.59	6	38	3
RSD-0060	□	0.60	7	38	3
RSD-0061	□	0.61	7	38	3
RSD-0062	□	0.62	7	38	3
RSD-0063	□	0.63	7	38	3
RSD-0064	□	0.64	7	38	3
RSD-0065	□	0.65	7	38	3
RSD-0066	□	0.66	7	38	3
RSD-0067	□	0.67	7	38	3

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
RSD-0068	□	0.68	7	38	3
RSD-0069	□	0.69	7	38	3
RSD-0070	□	0.70	8	38	3
RSD-0071	□	0.71	8	38	3
RSD-0072	□	0.72	8	38	3
RSD-0073	□	0.73	8	38	3
RSD-0074	□	0.74	8	38	3
RSD-0075	□	0.75	8	38	3
RSD-0076	□	0.76	8	38	3
RSD-0077	□	0.77	8	38	3
RSD-0078	□	0.78	8	38	3
RSD-0079	□	0.79	8	38	3
RSD-0080	□	0.80	8	38	3
RSD-0081	□	0.81	8	38	3
RSD-0082	□	0.82	8	38	3
RSD-0083	□	0.83	8	38	3
RSD-0084	□	0.84	8	38	3
RSD-0085	□	0.85	8	38	3
RSD-0086	□	0.86	8	38	3
RSD-0087	□	0.87	8	38	3
RSD-0088	□	0.88	8	38	3
RSD-0089	□	0.89	8	38	3
RSD-0090	□	0.90	8	38	3
RSD-0091	□	0.91	8	38	3
RSD-0092	□	0.92	8	38	3
RSD-0093	□	0.93	8	38	3
RSD-0094	□	0.94	8	38	3
RSD-0095	□	0.95	8	38	3
RSD-0096	□	0.96	8	38	3
RSD-0097	□	0.97	8	38	3
RSD-0098	□	0.98	8	38	3
RSD-0099	□	0.99	8	38	3
RSD-0100	□	1.00	10	38	3
RSD-0101	□	1.01	10	38	3
RSD-0102	□	1.02	10	38	3
RSD-0103	□	1.03	10	38	3
RSD-0104	□	1.04	10	38	3
RSD-0105	□	1.05	10	38	3

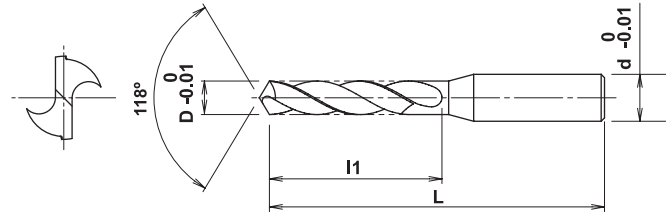


METRIC

Solid Carbide Drill

RSD Type

- Solid carbide drills in increments of 0.01mm



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
RSD-0106	□	1.06	10	38	3
RSD-0107	□	1.07	10	38	3
RSD-0108	□	1.08	10	38	3
RSD-0109	□	1.09	10	38	3
RSD-0110	□	1.10	10	38	3
RSD-0111	□	1.11	10	38	3
RSD-0112	□	1.12	10	38	3
RSD-0113	□	1.13	10	38	3
RSD-0114	□	1.14	10	38	3
RSD-0115	□	1.15	10	38	3
RSD-0116	□	1.16	10	38	3
RSD-0117	□	1.17	10	38	3
RSD-0118	□	1.18	10	38	3
RSD-0119	□	1.19	10	38	3
RSD-0120	□	1.20	10	38	3
RSD-0121	□	1.21	10	38	3
RSD-0122	□	1.22	10	38	3
RSD-0123	□	1.23	10	38	3
RSD-0124	□	1.24	10	38	3
RSD-0125	□	1.25	10	38	3
RSD-0126	□	1.26	10	38	3
RSD-0127	□	1.27	10	38	3
RSD-0128	□	1.28	10	38	3
RSD-0129	□	1.29	10	38	3
RSD-0130	□	1.30	10	38	3
RSD-0131	□	1.31	10	38	3
RSD-0132	□	1.32	10	38	3
RSD-0133	□	1.33	10	38	3
RSD-0134	□	1.34	10	38	3
RSD-0135	□	1.35	10	38	3
RSD-0136	□	1.36	10	38	3
RSD-0137	□	1.37	10	38	3
RSD-0138	□	1.38	10	38	3
RSD-0139	□	1.39	10	38	3
RSD-0140	□	1.40	10	38	3
RSD-0141	□	1.41	10	38	3
RSD-0142	□	1.42	10	38	3
RSD-0143	□	1.43	10	38	3
RSD-0144	□	1.44	10	38	3
RSD-0145	□	1.45	10	38	3

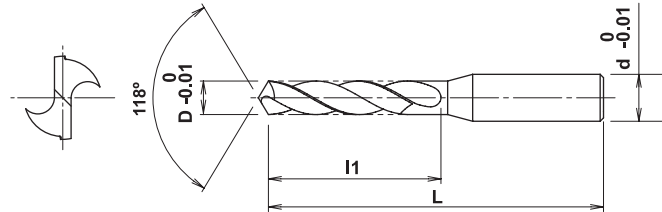
CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
RSD-0146	□	1.46	10	38	3
RSD-0147	□	1.47	10	38	3
RSD-0148	□	1.48	10	38	3
RSD-0149	□	1.49	10	38	3
RSD-0150	□	1.50	10	38	3
RSD-0151	□	1.51	10	38	3
RSD-0152	□	1.52	10	38	3
RSD-0153	□	1.53	10	38	3
RSD-0154	□	1.54	10	38	3
RSD-0155	□	1.55	10	38	3
RSD-0156	□	1.56	10	38	3
RSD-0157	□	1.57	10	38	3
RSD-0158	□	1.58	10	38	3
RSD-0159	□	1.59	10	38	3
RSD-0160	□	1.60	22	45	3
RSD-0161	□	1.61	22	45	3
RSD-0162	□	1.62	22	45	3
RSD-0163	□	1.63	22	45	3
RSD-0164	□	1.64	22	45	3
RSD-0165	□	1.65	22	45	3
RSD-0166	□	1.66	22	45	3
RSD-0167	□	1.67	22	45	3
RSD-0168	□	1.68	22	45	3
RSD-0169	□	1.69	22	45	3
RSD-0170	□	1.70	22	45	3
RSD-0171	□	1.71	22	45	3
RSD-0172	□	1.72	22	45	3
RSD-0173	□	1.73	22	45	3
RSD-0174	□	1.74	22	45	3
RSD-0175	□	1.75	22	45	3
RSD-0176	□	1.76	22	45	3
RSD-0177	□	1.77	22	45	3
RSD-0178	□	1.78	22	45	3
RSD-0179	□	1.79	22	45	3
RSD-0180	□	1.80	22	45	3
RSD-0181	□	1.81	22	45	3
RSD-0182	□	1.82	22	45	3
RSD-0183	□	1.83	22	45	3
RSD-0184	□	1.84	22	45	3
RSD-0185	□	1.85	22	45	3

Solid Carbide Drill

METRIC

RSD Type

- Solid carbide drills in increments of 0.01mm



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
RSD-0186	<input type="checkbox"/>	1.86	22	45	3
RSD-0187	<input type="checkbox"/>	1.87	22	45	3
RSD-0188	<input type="checkbox"/>	1.88	22	45	3
RSD-0189	<input type="checkbox"/>	1.89	22	45	3
RSD-0190	<input type="checkbox"/>	1.90	22	45	3
RSD-0191	<input type="checkbox"/>	1.91	22	45	3
RSD-0192	<input type="checkbox"/>	1.92	22	45	3
RSD-0193	<input type="checkbox"/>	1.93	22	45	3
RSD-0194	<input type="checkbox"/>	1.94	22	45	3
RSD-0195	<input type="checkbox"/>	1.95	22	45	3
RSD-0196	<input type="checkbox"/>	1.96	22	45	3
RSD-0197	<input type="checkbox"/>	1.97	22	45	3
RSD-0198	<input type="checkbox"/>	1.98	22	45	3
RSD-0199	<input type="checkbox"/>	1.99	22	45	3
RSD-0200	<input type="checkbox"/>	2.00	22	45	3

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

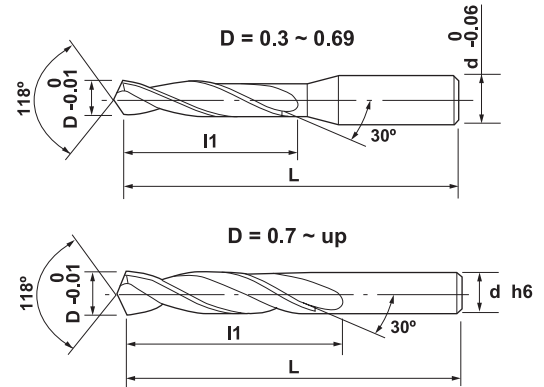
Drill Diameter D	Work Material					
	Carbon Steel		Alloy Steel		Cast Iron	
	mm/min	mm/rev	mm/min	mm/rev	mm/min	mm/rev
0.3mm up to 1.5mm	25 ~ 45	0.006 ~ 0.03	25 ~ 45	0.006 ~ 0.03	30 ~ 50	0.01 ~ 0.05
1.5mm up to 3.0mm	25 ~ 45	0.03 ~ 0.06	25 ~ 45	0.03 ~ 0.06	30 ~ 50	0.05 ~ 0.1



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0030-040-007	□	0.30	7	40	1
DZSDS-0030-075-010	□	0.30	10	75	1
DZSDS-0031-040-007	□	0.31	7	40	1
DZSDS-0031-075-010	□	0.31	10	75	1
DZSDS-0032-040-007	□	0.32	7	40	1
DZSDS-0032-075-010	□	0.32	10	75	1
DZSDS-0033-040-007	□	0.33	7	40	1
DZSDS-0033-075-010	□	0.33	10	75	1
DZSDS-0034-040-007	□	0.34	7	40	1
DZSDS-0034-075-010	□	0.34	10	75	1
DZSDS-0035-040-007	□	0.35	7	40	1
DZSDS-0035-075-010	□	0.35	10	75	1
DZSDS-0036-040-007	□	0.36	7	40	1
DZSDS-0036-075-010	□	0.36	10	75	1
DZSDS-0037-040-007	□	0.37	7	40	1
DZSDS-0037-075-010	□	0.37	10	75	1
DZSDS-0038-040-007	□	0.38	7	40	1
DZSDS-0038-075-010	□	0.38	10	75	1
DZSDS-0039-040-007	□	0.39	7	40	1
DZSDS-0039-075-010	□	0.39	10	75	1
DZSDS-0040-040-007	□	0.40	7	40	1
DZSDS-0040-060-015	□	0.40	15	60	1
DZSDS-0040-075-010	□	0.40	10	75	1
DZSDS-0041-040-007	□	0.41	7	40	1
DZSDS-0041-075-010	□	0.41	10	75	1
DZSDS-0042-040-007	□	0.42	7	40	1
DZSDS-0042-075-010	□	0.42	10	75	1
DZSDS-0043-040-007	□	0.43	7	40	1
DZSDS-0043-075-010	□	0.43	10	75	1
DZSDS-0044-040-007	□	0.44	7	40	1
DZSDS-0044-075-010	□	0.44	10	75	1
DZSDS-0045-040-007	□	0.45	7	40	1
DZSDS-0045-075-010	□	0.45	10	75	1
DZSDS-0046-040-007	□	0.46	7	40	1
DZSDS-0046-075-010	□	0.46	10	75	1
DZSDS-0047-040-007	□	0.47	7	40	1
DZSDS-0047-075-010	□	0.47	10	75	1
DZSDS-0048-040-007	□	0.48	7	40	1
DZSDS-0048-075-010	□	0.48	10	75	1
DZSDS-0049-040-007	□	0.49	7	40	1
DZSDS-0049-075-010	□	0.49	10	75	1

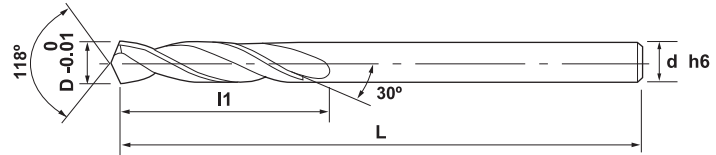
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0050-030-005	□	0.50	5	30	1
DZSDS-0050-040-015	□	0.50	15	40	1
DZSDS-0050-060-015	□	0.50	15	60	1
DZSDS-0050-075-015	□	0.50	15	75	1
DZSDS-0050-100-020	□	0.50	20	100	1
DZSDS-0051-040-007	□	0.51	7	40	1
DZSDS-0052-040-007	□	0.52	7	40	1
DZSDS-0053-040-007	□	0.53	7	40	1
DZSDS-0054-040-007	□	0.54	7	40	1
DZSDS-0055-030-005	□	0.55	5	30	1
DZSDS-0055-040-007	□	0.55	7	40	1
DZSDS-0055-075-015	□	0.55	15	75	1
DZSDS-0055-100-020	□	0.55	20	100	1
DZSDS-0056-040-007	□	0.56	7	40	1
DZSDS-0057-040-007	□	0.57	7	40	1
DZSDS-0058-040-007	□	0.58	7	40	1
DZSDS-0059-040-007	□	0.59	7	40	1
DZSDS-0060-030-005	□	0.60	5	30	1
DZSDS-0060-040-007	□	0.60	7	40	1
DZSDS-0060-040-015	□	0.60	15	40	1
DZSDS-0060-065-020	□	0.60	20	65	1
DZSDS-0060-075-020	□	0.60	20	75	1
DZSDS-0060-100-020	□	0.60	20	100	1
DZSDS-0061-040-007	□	0.61	7	40	1
DZSDS-0062-040-007	□	0.62	7	40	1
DZSDS-0063-040-007	□	0.63	7	40	1
DZSDS-0064-040-007	□	0.64	7	40	1
DZSDS-0065-030-005	□	0.65	5	30	1
DZSDS-0065-040-007	□	0.65	7	40	1
DZSDS-0065-075-015	□	0.65	15	75	1
DZSDS-0065-100-020	□	0.65	20	100	1
DZSDS-0066-040-007	□	0.66	7	40	1
DZSDS-0067-040-007	□	0.67	7	40	1
DZSDS-0068-040-007	□	0.68	7	40	1
DZSDS-0069-040-007	□	0.69	7	40	1
DZSDS-0070-030-005	□	0.70	5	30	0.70
DZSDS-0070-040-015	□	0.70	15	40	0.70
DZSDS-0070-065-020	□	0.70	20	65	0.70
DZSDS-0070-075-020	□	0.70	20	75	0.70
DZSDS-0070-100-020	□	0.70	20	100	0.70
DZSDS-0071-040-010	□	0.71	10	40	0.71

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0072-040-010	□	0.72	10	40	0.72
DZSDS-0073-040-010	□	0.73	10	40	0.73
DZSDS-0074-040-010	□	0.74	10	40	0.74
DZSDS-0075-030-010	□	0.75	10	30	0.75
DZSDS-0075-040-010	□	0.75	10	40	0.75
DZSDS-0075-075-015	□	0.75	15	75	0.75
DZSDS-0075-100-020	□	0.75	20	100	0.75
DZSDS-0076-040-010	□	0.76	10	40	0.76
DZSDS-0077-040-010	□	0.77	10	40	0.77
DZSDS-0078-040-010	□	0.78	10	40	0.78
DZSDS-0079-040-010	□	0.79	10	40	0.79
DZSDS-0080-030-010	□	0.80	10	30	0.80
DZSDS-0080-040-015	□	0.80	15	40	0.80
DZSDS-0080-040-020	□	0.80	20	40	0.80
DZSDS-0080-075-025	□	0.80	25	75	0.80
DZSDS-0080-100-025	□	0.80	25	100	0.80
DZSDS-0081-040-015	□	0.81	15	40	0.81
DZSDS-0082-040-015	□	0.82	15	40	0.82
DZSDS-0083-040-015	□	0.83	15	40	0.83
DZSDS-0084-040-015	□	0.84	15	40	0.84
DZSDS-0085-030-010	□	0.85	10	30	0.85
DZSDS-0085-040-015	□	0.85	15	40	0.85
DZSDS-0085-075-015	□	0.85	15	75	0.85
DZSDS-0085-100-020	□	0.85	20	100	0.85
DZSDS-0086-040-015	□	0.86	15	40	0.86
DZSDS-0087-040-015	□	0.87	15	40	0.87
DZSDS-0088-040-015	□	0.88	15	40	0.88
DZSDS-0089-040-015	□	0.89	15	40	0.89
DZSDS-0090-030-010	□	0.90	10	30	0.90
DZSDS-0090-040-015	□	0.90	15	40	0.90
DZSDS-0090-040-020	□	0.90	20	40	0.90
DZSDS-0090-075-025	□	0.90	25	75	0.90
DZSDS-0090-100-025	□	0.90	25	100	0.90
DZSDS-0091-040-015	□	0.91	15	40	0.91
DZSDS-0092-040-015	□	0.92	15	40	0.92
DZSDS-0093-040-015	□	0.93	15	40	0.93
DZSDS-0094-040-015	□	0.94	15	40	0.94
DZSDS-0095-030-010	□	0.95	10	30	0.95
DZSDS-0095-040-015	□	0.95	15	40	0.95
DZSDS-0095-075-020	□	0.95	20	75	0.95
DZSDS-0095-100-020	□	0.95	20	100	0.95

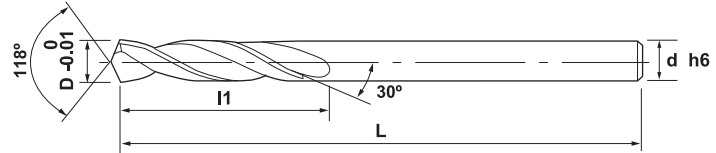
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0096-040-015	□	0.96	15	40	0.96
DZSDS-0097-040-015	□	0.97	15	40	0.97
DZSDS-0098-040-015	□	0.98	15	40	0.98
DZSDS-0099-040-015	□	0.99	15	40	0.99
DZSDS-0100-030-010	□	1.00	10	30	1.00
DZSDS-0100-040-015	□	1.00	15	40	1.00
DZSDS-0100-040-020	□	1.00	20	40	1.00
DZSDS-0100-075-035	□	1.00	35	75	1.00
DZSDS-0100-100-035	□	1.00	35	100	1.00
DZSDS-0100-150-035	□	1.00	35	150	1.00
DZSDS-0100-200-040	□	1.00	40	200	1.00
DZSDS-0101-040-015	□	1.01	15	40	1.01
DZSDS-0102-040-015	□	1.02	15	40	1.02
DZSDS-0103-040-015	□	1.03	15	40	1.03
DZSDS-0104-040-015	□	1.04	15	40	1.04
DZSDS-0105-030-010	□	1.05	10	30	1.05
DZSDS-0105-040-015	□	1.05	15	40	1.05
DZSDS-0105-075-020	□	1.05	20	75	1.05
DZSDS-0105-100-020	□	1.05	20	100	1.05
DZSDS-0106-040-015	□	1.06	15	40	1.06
DZSDS-0107-040-015	□	1.07	15	40	1.07
DZSDS-0108-040-015	□	1.08	15	40	1.08
DZSDS-0109-040-015	□	1.09	15	40	1.09
DZSDS-0110-030-010	□	1.10	10	30	1.10
DZSDS-0110-040-015	□	1.10	15	40	1.10
DZSDS-0110-045-020	□	1.10	20	45	1.10
DZSDS-0110-075-035	□	1.10	35	75	1.10
DZSDS-0110-100-035	□	1.10	35	100	1.10
DZSDS-0110-150-035	□	1.10	35	150	1.10
DZSDS-0110-200-040	□	1.10	40	200	1.10
DZSDS-0111-040-015	□	1.11	15	40	1.11
DZSDS-0112-040-015	□	1.12	15	40	1.12
DZSDS-0113-040-015	□	1.13	15	40	1.13
DZSDS-0114-040-015	□	1.14	15	40	1.14
DZSDS-0115-030-010	□	1.15	10	30	1.15
DZSDS-0115-040-015	□	1.15	15	40	1.15
DZSDS-0115-075-020	□	1.15	20	75	1.15
DZSDS-0115-100-025	□	1.15	25	100	1.15
DZSDS-0116-040-015	□	1.16	15	40	1.16
DZSDS-0117-040-015	□	1.17	15	40	1.17
DZSDS-0118-040-015	□	1.18	15	40	1.18



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
DZSDS-0119-040-015	□	1.19	15	40	1.19
DZSDS-0120-030-010	□	1.20	10	30	1.20
DZSDS-0120-040-015	□	1.20	15	40	1.20
DZSDS-0120-045-020	□	1.20	20	45	1.20
DZSDS-0120-075-035	□	1.20	35	75	1.20
DZSDS-0120-100-035	□	1.20	35	100	1.20
DZSDS-0120-150-035	□	1.20	35	150	1.20
DZSDS-0120-200-040	□	1.20	40	200	1.20
DZSDS-0121-040-015	□	1.21	15	40	1.21
DZSDS-0122-040-015	□	1.22	15	40	1.22
DZSDS-0123-040-015	□	1.23	15	40	1.23
DZSDS-0124-040-015	□	1.24	15	40	1.24
DZSDS-0125-030-010	□	1.25	10	30	1.25
DZSDS-0125-040-015	□	1.25	15	40	1.25
DZSDS-0125-075-025	□	1.25	25	75	1.25
DZSDS-0125-100-025	□	1.25	25	100	1.25
DZSDS-0126-040-015	□	1.26	15	40	1.26
DZSDS-0127-040-015	□	1.27	15	40	1.27
DZSDS-0128-040-015	□	1.28	15	40	1.28
DZSDS-0129-040-015	□	1.29	15	40	1.29
DZSDS-0130-030-010	□	1.30	10	30	1.30
DZSDS-0130-040-015	□	1.30	15	40	1.30
DZSDS-0130-045-020	□	1.30	20	45	1.30
DZSDS-0130-075-035	□	1.30	35	75	1.30
DZSDS-0130-100-035	□	1.30	35	100	1.30
DZSDS-0130-150-035	□	1.30	35	150	1.30
DZSDS-0130-200-040	□	1.30	40	200	1.30
DZSDS-0131-040-015	□	1.31	15	40	1.31
DZSDS-0132-040-015	□	1.32	15	40	1.32
DZSDS-0133-040-015	□	1.33	15	40	1.33
DZSDS-0134-040-015	□	1.34	15	40	1.34
DZSDS-0135-030-010	□	1.35	10	30	1.35
DZSDS-0135-040-015	□	1.35	15	40	1.35
DZSDS-0135-075-025	□	1.35	25	75	1.35
DZSDS-0135-100-025	□	1.35	25	100	1.35
DZSDS-0136-040-015	□	1.36	15	40	1.36
DZSDS-0137-040-015	□	1.37	15	40	1.37
DZSDS-0138-040-015	□	1.38	15	40	1.38
DZSDS-0139-040-015	□	1.39	15	40	1.39
DZSDS-0140-030-010	□	1.40	10	30	1.40
DZSDS-0140-040-015	□	1.40	15	40	1.40

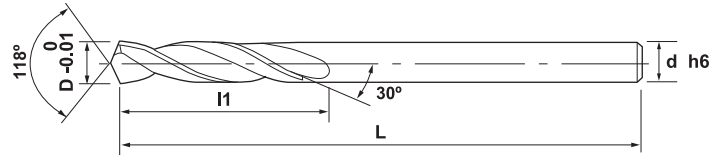
CATALOG NUMBER	STK	DIMENSIONS			
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DZSDS-0140-045-020	□	1.40	20	45	1.40
DZSDS-0140-075-035	□	1.40	35	75	1.40
DZSDS-0140-100-035	□	1.40	35	100	1.40
DZSDS-0140-150-035	□	1.40	35	150	1.40
DZSDS-0140-200-050	□	1.40	50	200	1.40
DZSDS-0141-040-015	□	1.41	15	40	1.41
DZSDS-0142-040-015	□	1.42	15	40	1.42
DZSDS-0143-040-015	□	1.43	15	40	1.43
DZSDS-0144-040-015	□	1.44	15	40	1.44
DZSDS-0145-030-010	□	1.45	10	30	1.45
DZSDS-0145-040-015	□	1.45	15	40	1.45
DZSDS-0145-075-030	□	1.45	30	75	1.45
DZSDS-0145-100-030	□	1.45	30	100	1.45
DZSDS-0146-040-015	□	1.46	15	40	1.46
DZSDS-0147-040-015	□	1.47	15	40	1.47
DZSDS-0148-040-015	□	1.48	15	40	1.48
DZSDS-0149-040-015	□	1.49	15	40	1.49
DZSDS-0150-030-010	□	1.50	10	30	1.50
DZSDS-0150-040-015	□	1.50	15	40	1.50
DZSDS-0150-040-020	□	1.50	20	40	1.50
DZSDS-0150-075-035	□	1.50	35	75	1.50
DZSDS-0150-100-045	□	1.50	45	100	1.50
DZSDS-0150-150-045	□	1.50	45	150	1.50
DZSDS-0150-200-050	□	1.50	50	200	1.50
DZSDS-0151-040-020	□	1.51	20	40	1.51
DZSDS-0152-040-020	□	1.52	20	40	1.52
DZSDS-0153-040-020	□	1.53	20	40	1.53
DZSDS-0154-040-020	□	1.54	20	40	1.54
DZSDS-0155-040-020	□	1.55	20	40	1.55
DZSDS-0155-075-030	□	1.55	30	75	1.55
DZSDS-0155-100-045	□	1.55	45	100	1.55
DZSDS-0156-040-020	□	1.56	20	40	1.56
DZSDS-0157-040-020	□	1.57	20	40	1.57
DZSDS-0158-040-020	□	1.58	20	40	1.58
DZSDS-0159-040-020	□	1.59	20	40	1.59
DZSDS-0160-040-020	□	1.60	20	40	1.60
DZSDS-0160-045-025	□	1.60	25	45	1.60
DZSDS-0160-075-035	□	1.60	35	75	1.60
DZSDS-0160-100-045	□	1.60	45	100	1.60
DZSDS-0160-150-045	□	1.60	45	150	1.60
DZSDS-0160-200-055	□	1.60	55	200	1.60

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0161-040-020	□	1.61	20	40	1.61
DZSDS-0162-040-020	□	1.62	20	40	1.62
DZSDS-0163-040-020	□	1.63	20	40	1.63
DZSDS-0164-040-020	□	1.64	20	40	1.64
DZSDS-0165-040-020	□	1.65	20	40	1.65
DZSDS-0165-075-030	□	1.65	30	75	1.65
DZSDS-0165-100-045	□	1.65	45	100	1.65
DZSDS-0166-040-020	□	1.66	20	40	1.66
DZSDS-0167-040-020	□	1.67	20	40	1.67
DZSDS-0168-040-020	□	1.68	20	40	1.68
DZSDS-0169-040-020	□	1.69	20	40	1.69
DZSDS-0170-040-020	□	1.70	20	40	1.70
DZSDS-0170-045-025	□	1.70	25	45	1.70
DZSDS-0170-075-035	□	1.70	35	75	1.70
DZSDS-0170-100-045	□	1.70	45	100	1.70
DZSDS-0170-150-045	□	1.70	45	150	1.70
DZSDS-0170-200-055	□	1.70	55	200	1.70
DZSDS-0171-040-020	□	1.71	20	40	1.71
DZSDS-0172-040-020	□	1.72	20	40	1.72
DZSDS-0173-040-020	□	1.73	20	40	1.73
DZSDS-0174-040-020	□	1.74	20	40	1.74
DZSDS-0175-040-020	□	1.75	20	40	1.75
DZSDS-0175-075-030	□	1.75	30	75	1.75
DZSDS-0175-100-045	□	1.75	45	100	1.75
DZSDS-0176-040-020	□	1.76	20	40	1.76
DZSDS-0177-040-020	□	1.77	20	40	1.77
DZSDS-0178-040-020	□	1.78	20	40	1.78
DZSDS-0179-040-020	□	1.79	20	40	1.79
DZSDS-0180-040-020	□	1.80	20	40	1.80
DZSDS-0180-045-025	□	1.80	25	45	1.80
DZSDS-0180-075-035	□	1.80	35	75	1.80
DZSDS-0180-100-045	□	1.80	45	100	1.80
DZSDS-0180-150-045	□	1.80	45	150	1.80
DZSDS-0180-200-055	□	1.80	55	200	1.80
DZSDS-0181-040-020	□	1.81	20	40	1.81
DZSDS-0182-040-020	□	1.82	20	40	1.82
DZSDS-0183-040-020	□	1.83	20	40	1.83
DZSDS-0184-040-020	□	1.84	20	40	1.84
DZSDS-0185-040-020	□	1.85	20	40	1.85
DZSDS-0185-075-030	□	1.85	30	75	1.85
DZSDS-0185-100-045	□	1.85	45	100	1.85

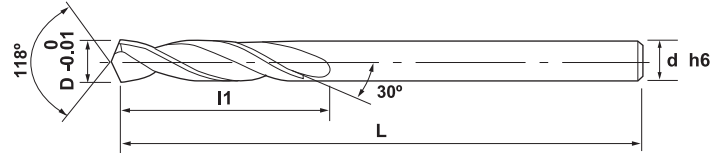
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0186-040-020	□	1.86	20	40	1.86
DZSDS-0187-040-020	□	1.87	20	40	1.87
DZSDS-0188-040-020	□	1.88	20	40	1.88
DZSDS-0189-040-020	□	1.89	20	40	1.89
DZSDS-0190-040-020	□	1.90	20	40	1.90
DZSDS-0190-045-025	□	1.90	25	45	1.90
DZSDS-0190-075-035	□	1.90	35	75	1.90
DZSDS-0190-100-045	□	1.90	45	100	1.90
DZSDS-0190-150-045	□	1.90	45	150	1.90
DZSDS-0190-200-055	□	1.90	55	200	1.90
DZSDS-0191-040-020	□	1.91	20	40	1.91
DZSDS-0192-040-020	□	1.92	20	40	1.92
DZSDS-0193-040-020	□	1.93	20	40	1.93
DZSDS-0194-040-020	□	1.94	20	40	1.94
DZSDS-0195-040-020	□	1.95	20	40	1.95
DZSDS-0195-075-030	□	1.95	30	75	1.95
DZSDS-0195-100-045	□	1.95	45	100	1.95
DZSDS-0196-040-020	□	1.96	20	40	1.96
DZSDS-0197-040-020	□	1.97	20	40	1.97
DZSDS-0198-040-020	□	1.98	20	40	1.98
DZSDS-0199-040-020	□	1.99	20	40	1.99
DZSDS-0200-040-020	□	2.00	20	40	2.00
DZSDS-0200-050-025	□	2.00	25	50	2.00
DZSDS-0200-075-035	□	2.00	35	75	2.00
DZSDS-0200-100-045	□	2.00	45	100	2.00
DZSDS-0200-150-055	□	2.00	55	150	2.00
DZSDS-0200-200-060	□	2.00	60	200	2.00
DZSDS-0201-040-020	□	2.01	20	40	2.01
DZSDS-0202-040-020	□	2.02	20	40	2.02
DZSDS-0203-040-020	□	2.03	20	40	2.03
DZSDS-0204-040-020	□	2.04	20	40	2.04
DZSDS-0205-040-020	□	2.05	20	40	2.05
DZSDS-0205-075-035	□	2.05	35	75	2.05
DZSDS-0205-100-045	□	2.05	45	100	2.05
DZSDS-0206-040-020	□	2.06	20	40	2.06
DZSDS-0207-040-020	□	2.07	20	40	2.07
DZSDS-0208-040-020	□	2.08	20	40	2.08
DZSDS-0209-040-020	□	2.09	20	40	2.09
DZSDS-0210-040-020	□	2.10	20	40	2.10
DZSDS-0210-050-025	□	2.10	25	50	2.10
DZSDS-0210-075-035	□	2.10	35	75	2.10



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
DZSDS-0210-100-045	□	2.10	45	100	2.10
DZSDS-0210-150-055	□	2.10	55	150	2.10
DZSDS-0210-200-060	□	2.10	60	200	2.10
DZSDS-0211-040-020	□	2.11	20	40	2.11
DZSDS-0212-040-020	□	2.12	20	40	2.12
DZSDS-0213-040-020	□	2.13	20	40	2.13
DZSDS-0214-040-020	□	2.14	20	40	2.14
DZSDS-0215-040-020	□	2.15	20	40	2.15
DZSDS-0215-075-035	□	2.15	35	75	2.15
DZSDS-0215-100-045	□	2.15	45	100	2.15
DZSDS-0216-040-020	□	2.16	20	40	2.16
DZSDS-0217-040-020	□	2.17	20	40	2.17
DZSDS-0218-040-020	□	2.18	20	40	2.18
DZSDS-0219-040-020	□	2.19	20	40	2.19
DZSDS-0220-040-020	□	2.20	20	40	2.20
DZSDS-0220-055-030	□	2.20	30	55	2.20
DZSDS-0220-075-035	□	2.20	35	75	2.20
DZSDS-0220-100-045	□	2.20	45	100	2.20
DZSDS-0220-150-055	□	2.20	55	150	2.20
DZSDS-0220-200-060	□	2.20	60	200	2.20
DZSDS-0221-040-020	□	2.21	20	40	2.21
DZSDS-0222-040-020	□	2.22	20	40	2.22
DZSDS-0223-040-020	□	2.23	20	40	2.23
DZSDS-0224-040-020	□	2.24	20	40	2.24
DZSDS-0225-040-020	□	2.25	20	40	2.25
DZSDS-0225-075-035	□	2.25	35	75	2.25
DZSDS-0225-100-045	□	2.25	45	100	2.25
DZSDS-0226-040-020	□	2.26	20	40	2.26
DZSDS-0227-040-020	□	2.27	20	40	2.27
DZSDS-0228-040-020	□	2.28	20	40	2.28
DZSDS-0229-040-020	□	2.29	20	40	2.29
DZSDS-0230-040-020	□	2.30	20	40	2.30
DZSDS-0230-055-030	□	2.30	30	55	2.30
DZSDS-0230-075-035	□	2.30	35	75	2.30
DZSDS-0230-100-045	□	2.30	45	100	2.30
DZSDS-0230-150-055	□	2.30	55	150	2.30
DZSDS-0230-200-060	□	2.30	60	200	2.30
DZSDS-0231-040-020	□	2.31	20	40	2.31
DZSDS-0232-040-020	□	2.32	20	40	2.32
DZSDS-0233-040-020	□	2.33	20	40	2.33
DZSDS-0234-040-020	□	2.34	20	40	2.34

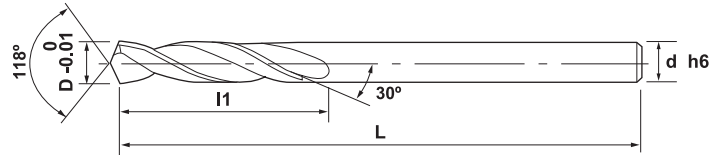
CATALOG NUMBER	STK	DIMENSIONS			
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DZSDS-0236-040-020	□	2.36	20	40	2.36
DZSDS-0236-075-035	□	2.36	35	75	2.36
DZSDS-0236-100-045	□	2.36	45	100	2.36
DZSDS-0237-040-020	□	2.37	20	40	2.37
DZSDS-0238-040-020	□	2.38	20	40	2.38
DZSDS-0239-040-020	□	2.39	20	40	2.39
DZSDS-0240-040-020	□	2.40	20	40	2.40
DZSDS-0240-060-030	□	2.40	30	60	2.40
DZSDS-0240-075-035	□	2.40	35	75	2.40
DZSDS-0240-100-050	□	2.40	50	100	2.40
DZSDS-0240-150-055	□	2.40	55	150	2.40
DZSDS-0240-200-060	□	2.40	60	200	2.40
DZSDS-0241-040-020	□	2.41	20	40	2.41
DZSDS-0242-040-020	□	2.42	20	40	2.42
DZSDS-0243-040-020	□	2.43	20	40	2.43
DZSDS-0244-040-020	□	2.44	20	40	2.44
DZSDS-0245-040-020	□	2.45	20	40	2.45
DZSDS-0245-075-035	□	2.45	35	75	2.45
DZSDS-0245-100-045	□	2.45	45	100	2.45
DZSDS-0246-040-020	□	2.46	20	40	2.46
DZSDS-0247-040-020	□	2.47	20	40	2.47
DZSDS-0248-040-020	□	2.48	20	40	2.48
DZSDS-0249-040-020	□	2.49	20	40	2.49
DZSDS-0250-040-020	□	2.50	20	40	2.50
DZSDS-0250-060-030	□	2.50	30	60	2.50
DZSDS-0250-075-040	□	2.50	40	75	2.50
DZSDS-0250-100-050	□	2.50	50	100	2.50
DZSDS-0250-150-060	□	2.50	60	150	2.50
DZSDS-0250-200-060	□	2.50	60	200	2.50
DZSDS-0251-040-020	□	2.51	20	40	2.51
DZSDS-0252-040-020	□	2.52	20	40	2.52
DZSDS-0253-040-020	□	2.53	20	40	2.53
DZSDS-0254-040-020	□	2.54	20	40	2.54
DZSDS-0255-040-020	□	2.55	20	40	2.55
DZSDS-0255-075-040	□	2.55	40	75	2.55
DZSDS-0255-100-050	□	2.55	50	100	2.55
DZSDS-0256-040-020	□	2.56	20	40	2.56
DZSDS-0257-040-020	□	2.57	20	40	2.57
DZSDS-0258-040-020	□	2.58	20	40	2.58
DZSDS-0259-040-020	□	2.59	20	40	2.59

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0260-045-022	□	2.60	22	45	2.60
DZSDS-0260-060-030	□	2.60	30	60	2.60
DZSDS-0260-075-040	□	2.60	40	75	2.60
DZSDS-0260-100-050	□	2.60	50	100	2.60
DZSDS-0260-150-060	□	2.60	60	150	2.60
DZSDS-0260-200-060	□	2.60	60	200	2.60
DZSDS-0261-045-022	□	2.61	22	45	2.61
DZSDS-0262-045-022	□	2.62	22	45	2.62
DZSDS-0263-045-022	□	2.63	22	45	2.63
DZSDS-0264-045-022	□	2.64	22	45	2.64
DZSDS-0265-045-022	□	2.65	22	45	2.65
DZSDS-0265-075-040	□	2.65	40	75	2.65
DZSDS-0265-100-050	□	2.65	50	100	2.65
DZSDS-0266-045-022	□	2.66	22	45	2.66
DZSDS-0267-045-022	□	2.67	22	45	2.67
DZSDS-0268-045-022	□	2.68	22	45	2.68
DZSDS-0269-045-022	□	2.69	22	45	2.69
DZSDS-0270-045-022	□	2.70	22	45	2.70
DZSDS-0270-060-035	□	2.70	35	60	2.70
DZSDS-0270-075-040	□	2.70	40	75	2.70
DZSDS-0270-100-050	□	2.70	50	100	2.70
DZSDS-0270-150-060	□	2.70	60	150	2.70
DZSDS-0270-200-060	□	2.70	60	200	2.70
DZSDS-0271-045-022	□	2.71	22	45	2.71
DZSDS-0272-045-022	□	2.72	22	45	2.72
DZSDS-0273-045-022	□	2.73	22	45	2.73
DZSDS-0274-045-022	□	2.74	22	45	2.74
DZSDS-0275-045-022	□	2.75	22	45	2.75
DZSDS-0275-075-040	□	2.75	40	75	2.75
DZSDS-0275-100-050	□	2.75	50	100	2.75
DZSDS-0276-045-022	□	2.76	22	45	2.76
DZSDS-0277-045-022	□	2.77	22	45	2.77
DZSDS-0278-045-022	□	2.78	22	45	2.78
DZSDS-0279-045-022	□	2.79	22	45	2.79
DZSDS-0280-045-022	□	2.80	22	45	2.80
DZSDS-0280-060-035	□	2.80	35	60	2.80
DZSDS-0280-075-040	□	2.80	40	75	2.80
DZSDS-0280-100-050	□	2.80	50	100	2.80
DZSDS-0280-150-060	□	2.80	60	150	2.80
DZSDS-0280-200-060	□	2.80	60	200	2.80
DZSDS-0281-045-022	□	2.81	22	45	2.81

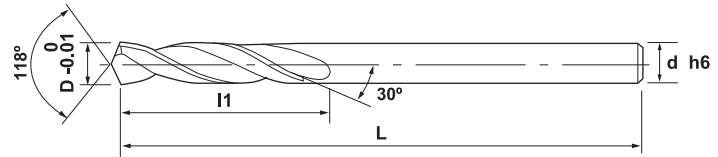
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0282-045-022	□	2.82	22	45	2.82
DZSDS-0283-045-022	□	2.83	22	45	2.83
DZSDS-0284-045-022	□	2.84	22	45	2.84
DZSDS-0285-045-022	□	2.85	22	45	2.85
DZSDS-0285-075-040	□	2.85	40	75	2.85
DZSDS-0285-100-050	□	2.85	50	100	2.85
DZSDS-0286-045-022	□	2.86	22	45	2.86
DZSDS-0287-045-022	□	2.87	22	45	2.87
DZSDS-0288-045-022	□	2.88	22	45	2.88
DZSDS-0289-045-022	□	2.89	22	45	2.89
DZSDS-0290-045-022	□	2.90	22	45	2.90
DZSDS-0290-060-035	□	2.90	35	60	2.90
DZSDS-0290-075-040	□	2.90	40	75	2.90
DZSDS-0290-100-050	□	2.90	50	100	2.90
DZSDS-0290-150-060	□	2.90	60	150	2.90
DZSDS-0290-200-060	□	2.90	60	200	2.90
DZSDS-0291-045-022	□	2.91	22	45	2.91
DZSDS-0292-045-022	□	2.92	22	45	2.92
DZSDS-0293-045-022	□	2.93	22	45	2.93
DZSDS-0294-045-022	□	2.94	22	45	2.94
DZSDS-0295-045-022	□	2.95	22	45	2.95
DZSDS-0295-075-040	□	2.95	40	75	2.95
DZSDS-0295-100-050	□	2.95	50	100	2.95
DZSDS-0296-045-022	□	2.96	22	45	2.96
DZSDS-0297-045-022	□	2.97	22	45	2.97
DZSDS-0298-045-022	□	2.98	22	45	2.98
DZSDS-0299-045-022	□	2.99	22	45	2.99
DZSDS-0300-045-022	□	3.00	22	45	3.00
DZSDS-0300-060-035	□	3.00	35	60	3.00
DZSDS-0300-075-040	□	3.00	40	75	3.00
DZSDS-0300-100-050	□	3.00	50	100	3.00
DZSDS-0300-150-060	□	3.00	60	150	3.00
DZSDS-0300-200-060	□	3.00	60	200	3.00
DZSDS-0301-045-025	□	3.01	25	45	3.01
DZSDS-0302-045-025	□	3.02	25	45	3.02
DZSDS-0303-045-025	□	3.03	25	45	3.03
DZSDS-0304-045-025	□	3.04	25	45	3.04
DZSDS-0305-045-025	□	3.05	25	45	3.05
DZSDS-0305-075-040	□	3.05	40	75	3.05
DZSDS-0305-100-050	□	3.05	50	100	3.05
DZSDS-0306-045-025	□	3.06	25	45	3.06



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
DZSDS-0307-045-025	□	3.07	25	45	3.07
DZSDS-0308-045-025	□	3.08	25	45	3.08
DZSDS-0309-045-025	□	3.09	25	45	3.09
DZSDS-0310-050-025	□	3.10	25	50	3.10
DZSDS-0310-065-035	□	3.10	35	65	3.10
DZSDS-0310-100-055	□	3.10	55	100	3.10
DZSDS-0310-150-065	□	3.10	65	150	3.10
DZSDS-0310-200-070	□	3.10	70	200	3.10
DZSDS-0311-050-025	□	3.11	25	50	3.11
DZSDS-0312-050-025	□	3.12	25	50	3.12
DZSDS-0313-050-025	□	3.13	25	50	3.13
DZSDS-0314-050-025	□	3.14	25	50	3.14
DZSDS-0315-050-025	□	3.15	25	50	3.15
DZSDS-0315-100-055	□	3.15	55	100	3.15
DZSDS-0316-050-025	□	3.16	25	50	3.16
DZSDS-0317-050-025	□	3.17	25	50	3.17
DZSDS-0318-050-025	□	3.18	25	50	3.18
DZSDS-0319-050-025	□	3.19	25	50	3.19
DZSDS-0320-050-025	□	3.20	25	50	3.20
DZSDS-0320-065-035	□	3.20	35	65	3.20
DZSDS-0320-100-055	□	3.20	55	100	3.20
DZSDS-0320-150-065	□	3.20	65	150	3.20
DZSDS-0320-200-070	□	3.20	70	200	3.20
DZSDS-0321-050-025	□	3.21	25	50	3.21
DZSDS-0322-050-025	□	3.22	25	50	3.22
DZSDS-0323-050-025	□	3.23	25	50	3.23
DZSDS-0324-050-025	□	3.24	25	50	3.24
DZSDS-0325-050-025	□	3.25	25	50	3.25
DZSDS-0325-100-055	□	3.25	55	100	3.25
DZSDS-0326-050-025	□	3.26	25	50	3.26
DZSDS-0327-050-025	□	3.27	25	50	3.27
DZSDS-0328-050-025	□	3.28	25	50	3.28
DZSDS-0329-050-025	□	3.29	25	50	3.29
DZSDS-0330-050-025	□	3.30	25	50	3.30
DZSDS-0330-065-035	□	3.30	35	65	3.30
DZSDS-0330-100-055	□	3.30	55	100	3.30
DZSDS-0330-150-065	□	3.30	65	150	3.30
DZSDS-0330-200-070	□	3.30	70	200	3.30
DZSDS-0331-050-025	□	3.31	25	50	3.31
DZSDS-0332-050-025	□	3.32	25	50	3.32
DZSDS-0333-050-025	□	3.33	25	50	3.33

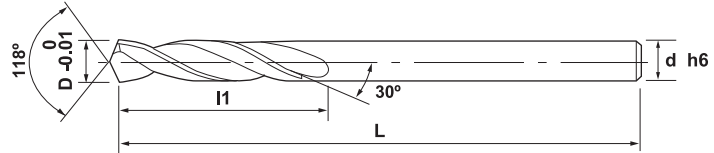
CATALOG NUMBER	STK	DIMENSIONS			
		D	L1	L	d
DZSDS-0334-050-025	□	3.34	25	50	3.34
DZSDS-0335-050-025	□	3.35	25	50	3.35
DZSDS-0335-100-055	□	3.35	55	100	3.35
DZSDS-0336-050-025	□	3.36	25	50	3.36
DZSDS-0337-050-025	□	3.37	25	50	3.37
DZSDS-0338-050-025	□	3.38	25	50	3.38
DZSDS-0339-050-025	□	3.39	25	50	3.39
DZSDS-0340-050-025	□	3.40	25	50	3.40
DZSDS-0340-070-040	□	3.40	40	70	3.40
DZSDS-0340-100-055	□	3.40	55	100	3.40
DZSDS-0340-150-065	□	3.40	65	150	3.40
DZSDS-0340-200-070	□	3.40	70	200	3.40
DZSDS-0341-050-025	□	3.41	25	50	3.41
DZSDS-0342-050-025	□	3.42	25	50	3.42
DZSDS-0343-050-025	□	3.43	25	50	3.43
DZSDS-0344-050-025	□	3.44	25	50	3.44
DZSDS-0345-050-025	□	3.45	25	50	3.45
DZSDS-0345-100-055	□	3.45	55	100	3.45
DZSDS-0346-050-025	□	3.46	25	50	3.46
DZSDS-0347-050-025	□	3.47	25	50	3.47
DZSDS-0348-050-025	□	3.48	25	50	3.48
DZSDS-0349-050-025	□	3.49	25	50	3.49
DZSDS-0350-050-025	□	3.50	25	50	3.50
DZSDS-0350-070-040	□	3.50	40	70	3.50
DZSDS-0350-100-055	□	3.50	55	100	3.50
DZSDS-0350-150-065	□	3.50	65	150	3.50
DZSDS-0350-200-070	□	3.50	70	200	3.50
DZSDS-0351-050-025	□	3.51	25	50	3.51
DZSDS-0352-050-025	□	3.52	25	50	3.52
DZSDS-0353-050-025	□	3.53	25	50	3.53
DZSDS-0354-050-025	□	3.54	25	50	3.54
DZSDS-0355-050-025	□	3.55	25	50	3.55
DZSDS-0355-100-055	□	3.55	55	100	3.55
DZSDS-0356-050-025	□	3.56	25	50	3.56
DZSDS-0357-050-025	□	3.57	25	50	3.57
DZSDS-0358-050-025	□	3.58	25	50	3.58
DZSDS-0359-050-025	□	3.59	25	50	3.59
DZSDS-0360-055-030	□	3.60	30	55	3.60
DZSDS-0360-070-040	□	3.60	40	70	3.60
DZSDS-0360-100-055	□	3.60	55	100	3.60
DZSDS-0360-150-065	□	3.60	65	150	3.60

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0360-200-070	□	3.60	70	200	3.60
DZSDS-0361-055-030	□	3.61	30	55	3.61
DZSDS-0362-055-030	□	3.62	30	55	3.62
DZSDS-0363-055-030	□	3.63	30	55	3.63
DZSDS-0364-055-030	□	3.64	30	55	3.64
DZSDS-0365-055-030	□	3.65	30	55	3.65
DZSDS-0365-100-055	□	3.65	55	100	3.65
DZSDS-0366-055-030	□	3.66	30	55	3.66
DZSDS-0367-055-030	□	3.67	30	55	3.67
DZSDS-0368-055-030	□	3.68	30	55	3.68
DZSDS-0369-055-030	□	3.69	30	55	3.69
DZSDS-0370-055-030	□	3.70	30	55	3.70
DZSDS-0370-070-040	□	3.70	40	70	3.70
DZSDS-0370-100-055	□	3.70	55	100	3.70
DZSDS-0370-150-065	□	3.70	65	150	3.70
DZSDS-0370-200-070	□	3.70	70	200	3.70
DZSDS-0371-055-030	□	3.71	30	55	3.71
DZSDS-0372-055-030	□	3.72	30	55	3.72
DZSDS-0373-055-030	□	3.73	30	55	3.73
DZSDS-0374-055-030	□	3.74	30	55	3.74
DZSDS-0375-055-030	□	3.75	30	55	3.75
DZSDS-0375-100-055	□	3.75	55	100	3.75
DZSDS-0376-055-030	□	3.76	30	55	3.76
DZSDS-0377-055-030	□	3.77	30	55	3.77
DZSDS-0378-055-030	□	3.78	30	55	3.78
DZSDS-0379-055-030	□	3.79	30	55	3.79
DZSDS-0380-055-030	□	3.80	30	55	3.80
DZSDS-0380-075-045	□	3.80	45	75	3.80
DZSDS-0380-100-055	□	3.80	55	100	3.80
DZSDS-0380-150-065	□	3.80	65	150	3.80
DZSDS-0380-200-070	□	3.80	70	200	3.80
DZSDS-0381-055-030	□	3.81	30	55	3.81
DZSDS-0382-055-030	□	3.82	30	55	3.82
DZSDS-0383-055-030	□	3.83	30	55	3.83
DZSDS-0384-055-030	□	3.84	30	55	3.84
DZSDS-0385-055-030	□	3.85	30	55	3.85
DZSDS-0385-100-055	□	3.85	55	100	3.85
DZSDS-0386-055-030	□	3.86	30	55	3.86
DZSDS-0387-055-030	□	3.87	30	55	3.87
DZSDS-0388-055-030	□	3.88	30	55	3.88
DZSDS-0389-055-030	□	3.89	30	55	3.89

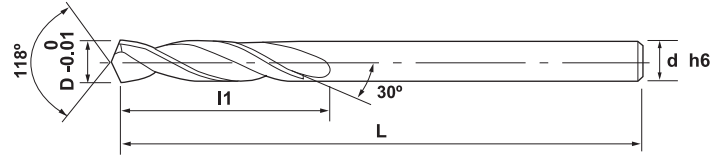
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0390-055-030	□	3.90	30	55	3.90
DZSDS-0390-075-045	□	3.90	45	75	3.90
DZSDS-0390-100-055	□	3.90	55	100	3.90
DZSDS-0390-150-065	□	3.90	65	150	3.90
DZSDS-0390-200-070	□	3.90	70	200	3.90
DZSDS-0391-055-030	□	3.91	30	55	3.91
DZSDS-0392-055-030	□	3.92	30	55	3.92
DZSDS-0393-055-030	□	3.93	30	55	3.93
DZSDS-0394-055-030	□	3.94	30	55	3.94
DZSDS-0395-055-030	□	3.95	30	55	3.95
DZSDS-0395-100-055	□	3.95	55	100	3.95
DZSDS-0396-055-030	□	3.96	30	55	3.96
DZSDS-0397-055-030	□	3.97	30	55	3.97
DZSDS-0398-055-030	□	3.98	30	55	3.98
DZSDS-0399-055-030	□	3.99	30	55	3.99
DZSDS-0400-055-030	□	4.00	30	55	4.00
DZSDS-0400-065-035	□	4.00	35	65	4.00
DZSDS-0400-075-045	□	4.00	45	75	4.00
DZSDS-0400-100-055	□	4.00	55	100	4.00
DZSDS-0400-150-065	□	4.00	65	150	4.00
DZSDS-0400-200-070	□	4.00	70	200	4.00
DZSDS-0401-055-030	□	4.01	30	55	4.01
DZSDS-0402-055-030	□	4.02	30	55	4.02
DZSDS-0403-055-030	□	4.03	30	55	4.03
DZSDS-0404-055-030	□	4.04	30	55	4.04
DZSDS-0405-055-030	□	4.05	30	55	4.05
DZSDS-0405-100-055	□	4.05	55	100	4.05
DZSDS-0406-055-030	□	4.06	30	55	4.06
DZSDS-0407-055-030	□	4.07	30	55	4.07
DZSDS-0408-055-030	□	4.08	30	55	4.08
DZSDS-0409-055-030	□	4.09	30	55	4.09
DZSDS-0410-065-035	□	4.10	35	65	4.10
DZSDS-0410-075-045	□	4.10	45	75	4.10
DZSDS-0410-100-055	□	4.10	55	100	4.10
DZSDS-0410-150-065	□	4.10	65	150	4.10
DZSDS-0410-200-070	□	4.10	70	200	4.10
DZSDS-0411-060-040	□	4.11	40	60	4.11
DZSDS-0412-060-040	□	4.12	40	60	4.12
DZSDS-0413-060-040	□	4.13	40	60	4.13
DZSDS-0414-060-040	□	4.14	40	60	4.14
DZSDS-0415-060-040	□	4.15	40	60	4.15



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0415-100-055	□	4.15	55	100	4.15
DZSDS-0416-060-040	□	4.16	40	60	4.16
DZSDS-0417-060-040	□	4.17	40	60	4.17
DZSDS-0418-060-040	□	4.18	40	60	4.18
DZSDS-0419-060-040	□	4.19	40	60	4.19
DZSDS-0420-070-040	□	4.20	40	70	4.20
DZSDS-0420-075-045	□	4.20	45	75	4.20
DZSDS-0420-100-055	□	4.20	55	100	4.20
DZSDS-0420-150-065	□	4.20	65	150	4.20
DZSDS-0420-200-070	□	4.20	70	200	4.20
DZSDS-0421-060-040	□	4.21	40	60	4.21
DZSDS-0422-060-040	□	4.22	40	60	4.22
DZSDS-0423-060-040	□	4.23	40	60	4.23
DZSDS-0424-060-040	□	4.24	40	60	4.24
DZSDS-0425-060-040	□	4.25	40	60	4.25
DZSDS-0425-100-055	□	4.25	55	100	4.25
DZSDS-0426-060-040	□	4.26	40	60	4.26
DZSDS-0427-060-040	□	4.27	40	60	4.27
DZSDS-0428-060-040	□	4.28	40	60	4.28
DZSDS-0429-060-040	□	4.29	40	60	4.29
DZSDS-0430-070-040	□	4.30	40	70	4.30
DZSDS-0430-080-050	□	4.30	50	80	4.30
DZSDS-0430-100-055	□	4.30	55	100	4.30
DZSDS-0430-150-065	□	4.30	65	150	4.30
DZSDS-0430-200-070	□	4.30	70	200	4.30
DZSDS-0431-060-040	□	4.31	40	60	4.31
DZSDS-0432-060-040	□	4.32	40	60	4.32
DZSDS-0433-060-040	□	4.33	40	60	4.33
DZSDS-0434-060-040	□	4.34	40	60	4.34
DZSDS-0435-060-040	□	4.35	40	60	4.35
DZSDS-0435-100-055	□	4.35	55	100	4.35
DZSDS-0436-060-040	□	4.36	40	60	4.36
DZSDS-0437-060-040	□	4.37	40	60	4.37
DZSDS-0438-060-040	□	4.38	40	60	4.38
DZSDS-0439-060-040	□	4.39	40	60	4.39
DZSDS-0440-070-040	□	4.40	40	70	4.40
DZSDS-0440-080-050	□	4.40	50	80	4.40
DZSDS-0440-100-055	□	4.40	55	100	4.40
DZSDS-0440-150-065	□	4.40	65	150	4.40
DZSDS-0440-200-070	□	4.40	70	200	4.40
DZSDS-0441-060-040	□	4.41	40	60	4.41

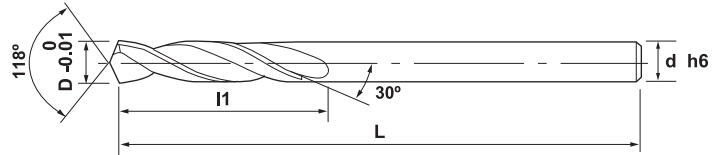
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0442-060-040	□	4.42	40	60	4.42
DZSDS-0443-060-040	□	4.43	40	60	4.43
DZSDS-0444-060-040	□	4.44	40	60	4.44
DZSDS-0445-060-040	□	4.45	40	60	4.45
DZSDS-0445-100-055	□	4.45	55	100	4.45
DZSDS-0446-060-040	□	4.46	40	60	4.46
DZSDS-0447-060-040	□	4.47	40	60	4.47
DZSDS-0448-060-040	□	4.48	40	60	4.48
DZSDS-0449-060-040	□	4.49	40	60	4.49
DZSDS-0450-070-040	□	4.50	40	70	4.50
DZSDS-0450-080-050	□	4.50	50	80	4.50
DZSDS-0450-100-055	□	4.50	55	100	4.50
DZSDS-0450-150-065	□	4.50	65	150	4.50
DZSDS-0450-200-070	□	4.50	70	200	4.50
DZSDS-0451-060-040	□	4.51	40	60	4.51
DZSDS-0452-060-040	□	4.52	40	60	4.52
DZSDS-0453-060-040	□	4.53	40	60	4.53
DZSDS-0454-060-040	□	4.54	40	60	4.54
DZSDS-0455-060-040	□	4.55	40	60	4.55
DZSDS-0455-100-055	□	4.55	55	100	4.55
DZSDS-0456-060-040	□	4.56	40	60	4.56
DZSDS-0457-060-040	□	4.57	40	60	4.57
DZSDS-0458-060-040	□	4.58	40	60	4.58
DZSDS-0459-060-040	□	4.59	40	60	4.59
DZSDS-0460-070-040	□	4.60	40	70	4.60
DZSDS-0460-080-050	□	4.60	50	80	4.60
DZSDS-0460-100-055	□	4.60	55	100	4.60
DZSDS-0460-150-065	□	4.60	65	150	4.60
DZSDS-0460-200-070	□	4.60	70	200	4.60
DZSDS-0461-065-040	□	4.61	40	65	4.61
DZSDS-0462-065-040	□	4.62	40	65	4.62
DZSDS-0463-065-040	□	4.63	40	65	4.63
DZSDS-0464-065-040	□	4.64	40	65	4.64
DZSDS-0465-065-040	□	4.65	40	65	4.65
DZSDS-0465-100-055	□	4.65	55	100	4.65
DZSDS-0466-065-040	□	4.66	40	65	4.66
DZSDS-0467-065-040	□	4.67	40	65	4.67
DZSDS-0468-065-040	□	4.68	40	65	4.68
DZSDS-0469-065-040	□	4.69	40	65	4.69
DZSDS-0470-070-040	□	4.70	40	70	4.70
DZSDS-0470-080-050	□	4.70	50	80	4.70

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



Drills

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0470-100-055	□	4.70	55	100	4.70
DZSDS-0470-150-065	□	4.70	65	150	4.70
DZSDS-0470-200-070	□	4.70	70	200	4.70
DZSDS-0471-065-040	□	4.71	40	65	4.71
DZSDS-0472-065-040	□	4.72	40	65	4.72
DZSDS-0473-065-040	□	4.73	40	65	4.73
DZSDS-0474-065-040	□	4.74	40	65	4.74
DZSDS-0475-065-040	□	4.75	40	65	4.75
DZSDS-0475-100-055	□	4.75	55	100	4.75
DZSDS-0476-065-040	□	4.76	40	65	4.76
DZSDS-0477-065-040	□	4.77	40	65	4.77
DZSDS-0478-065-040	□	4.78	40	65	4.78
DZSDS-0479-065-040	□	4.79	40	65	4.79
DZSDS-0480-070-040	□	4.80	40	70	4.80
DZSDS-0480-080-050	□	4.80	50	80	4.80
DZSDS-0480-100-055	□	4.80	55	100	4.80
DZSDS-0480-150-065	□	4.80	65	150	4.80
DZSDS-0480-200-070	□	4.80	70	200	4.80
DZSDS-0481-065-040	□	4.81	40	65	4.81
DZSDS-0482-065-040	□	4.82	40	65	4.82
DZSDS-0483-065-040	□	4.83	40	65	4.83
DZSDS-0484-065-040	□	4.84	40	65	4.84
DZSDS-0485-065-040	□	4.85	40	65	4.85
DZSDS-0485-100-055	□	4.85	55	100	4.85
DZSDS-0486-065-040	□	4.86	40	65	4.86
DZSDS-0487-065-040	□	4.87	40	65	4.87
DZSDS-0488-065-040	□	4.88	40	65	4.88
DZSDS-0489-065-040	□	4.89	40	65	4.89
DZSDS-0490-070-040	□	4.90	40	70	4.90
DZSDS-0490-080-050	□	4.90	50	80	4.90
DZSDS-0490-100-055	□	4.90	55	100	4.90
DZSDS-0490-150-065	□	4.90	65	150	4.90
DZSDS-0490-200-070	□	4.90	70	200	4.90
DZSDS-0491-065-040	□	4.91	40	65	4.91
DZSDS-0492-065-040	□	4.92	40	65	4.92
DZSDS-0493-065-040	□	4.93	40	65	4.93
DZSDS-0494-065-040	□	4.94	40	65	4.94
DZSDS-0495-065-040	□	4.95	40	65	4.95
DZSDS-0495-100-055	□	4.95	55	100	4.95
DZSDS-0496-065-040	□	4.96	40	65	4.96
DZSDS-0497-065-040	□	4.97	40	65	4.97

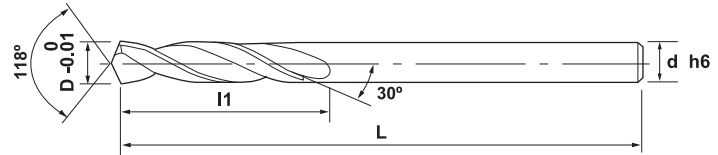
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0498-065-040	□	4.98	40	65	4.98
DZSDS-0499-065-040	□	4.99	40	65	4.99
DZSDS-0500-065-040	□	5.00	40	65	5.00
DZSDS-0500-080-050	□	5.00	50	80	5.00
DZSDS-0500-100-060	□	5.00	60	100	5.00
DZSDS-0500-150-075	□	5.00	75	150	5.00
DZSDS-0500-200-090	□	5.00	90	200	5.00
DZSDS-0500-250-120	□	5.00	120	250	5.00
DZSDS-0501-065-040	□	5.01	40	65	5.01
DZSDS-0502-065-040	□	5.02	40	65	5.02
DZSDS-0503-065-040	□	5.03	40	65	5.03
DZSDS-0504-065-040	□	5.04	40	65	5.04
DZSDS-0505-065-040	□	5.05	40	65	5.05
DZSDS-0505-100-060	□	5.05	60	100	5.05
DZSDS-0506-065-040	□	5.06	40	65	5.06
DZSDS-0507-065-040	□	5.07	40	65	5.07
DZSDS-0508-065-040	□	5.08	40	65	5.08
DZSDS-0509-065-040	□	5.09	40	65	5.09
DZSDS-0510-065-040	□	5.10	40	65	5.10
DZSDS-0510-100-060	□	5.10	60	100	5.10
DZSDS-0510-150-075	□	5.10	75	150	5.10
DZSDS-0510-200-090	□	5.10	90	200	5.10
DZSDS-0510-250-120	□	5.10	120	250	5.10
DZSDS-0511-065-040	□	5.11	40	65	5.11
DZSDS-0512-065-040	□	5.12	40	65	5.12
DZSDS-0513-065-040	□	5.13	40	65	5.13
DZSDS-0514-065-040	□	5.14	40	65	5.14
DZSDS-0515-065-040	□	5.15	40	65	5.15
DZSDS-0515-100-060	□	5.15	60	100	5.15
DZSDS-0516-065-040	□	5.16	40	65	5.16
DZSDS-0517-065-040	□	5.17	40	65	5.17
DZSDS-0518-065-040	□	5.18	40	65	5.18
DZSDS-0519-065-040	□	5.19	40	65	5.19
DZSDS-0520-065-040	□	5.20	40	65	5.20
DZSDS-0520-100-060	□	5.20	60	100	5.20
DZSDS-0520-150-075	□	5.20	75	150	5.20
DZSDS-0520-200-090	□	5.20	90	200	5.20
DZSDS-0520-250-120	□	5.20	120	250	5.20
DZSDS-0521-065-040	□	5.21	40	65	5.21
DZSDS-0522-065-040	□	5.22	40	65	5.22
DZSDS-0523-065-040	□	5.23	40	65	5.23



METRIC

Solid Carbide Drill

DZSDS Type
- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0524-065-040	□	5.24	40	65	5.24
DZSDS-0525-065-040	□	5.25	40	65	5.25
DZSDS-0525-100-060	□	5.25	60	100	5.25
DZSDS-0526-065-040	□	5.26	40	65	5.26
DZSDS-0527-065-040	□	5.27	40	65	5.27
DZSDS-0528-065-040	□	5.28	40	65	5.28
DZSDS-0529-065-040	□	5.29	40	65	5.29
DZSDS-0530-065-040	□	5.30	40	65	5.30
DZSDS-0530-100-060	□	5.30	60	100	5.30
DZSDS-0530-150-075	□	5.30	75	150	5.30
DZSDS-0530-200-090	□	5.30	90	200	5.30
DZSDS-0530-250-120	□	5.30	120	250	5.30
DZSDS-0531-065-040	□	5.31	40	65	5.31
DZSDS-0532-065-040	□	5.32	40	65	5.32
DZSDS-0533-065-040	□	5.33	40	65	5.33
DZSDS-0534-065-040	□	5.34	40	65	5.34
DZSDS-0535-065-040	□	5.35	40	65	5.35
DZSDS-0535-100-060	□	5.35	60	100	5.35
DZSDS-0536-065-040	□	5.36	40	65	5.36
DZSDS-0537-065-040	□	5.37	40	65	5.37
DZSDS-0538-065-040	□	5.38	40	65	5.38
DZSDS-0539-065-040	□	5.39	40	65	5.39
DZSDS-0540-065-040	□	5.40	40	65	5.40
DZSDS-0540-100-060	□	5.40	60	100	5.40
DZSDS-0540-150-075	□	5.40	75	150	5.40
DZSDS-0540-200-090	□	5.40	90	200	5.40
DZSDS-0540-250-120	□	5.40	120	250	5.40
DZSDS-0541-065-040	□	5.41	40	65	5.41
DZSDS-0542-065-040	□	5.42	40	65	5.42
DZSDS-0543-065-040	□	5.43	40	65	5.43
DZSDS-0544-065-040	□	5.44	40	65	5.44
DZSDS-0545-065-040	□	5.45	40	65	5.45
DZSDS-0545-100-060	□	5.45	60	100	5.45
DZSDS-0546-065-040	□	5.46	40	65	5.46
DZSDS-0547-065-040	□	5.47	40	65	5.47
DZSDS-0548-065-040	□	5.48	40	65	5.48
DZSDS-0549-065-040	□	5.49	40	65	5.49
DZSDS-0550-065-040	□	5.50	40	65	5.50
DZSDS-0550-100-060	□	5.50	60	100	5.50
DZSDS-0550-150-075	□	5.50	75	150	5.50
DZSDS-0550-200-090	□	5.50	90	200	5.50

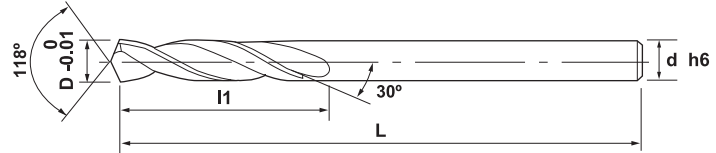
CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0550-250-120	□	5.50	120	250	5.50
DZSDS-0551-065-040	□	5.51	40	65	5.51
DZSDS-0552-065-040	□	5.52	40	65	5.52
DZSDS-0553-065-040	□	5.53	40	65	5.53
DZSDS-0554-065-040	□	5.54	40	65	5.54
DZSDS-0555-065-040	□	5.55	40	65	5.55
DZSDS-0555-100-060	□	5.55	60	100	5.55
DZSDS-0556-065-040	□	5.56	40	65	5.56
DZSDS-0557-065-040	□	5.57	40	65	5.57
DZSDS-0558-065-040	□	5.58	40	65	5.58
DZSDS-0559-065-040	□	5.59	40	65	5.59
DZSDS-0560-070-045	□	5.60	45	70	5.60
DZSDS-0560-100-060	□	5.60	60	100	5.60
DZSDS-0560-150-075	□	5.60	75	150	5.60
DZSDS-0560-200-090	□	5.60	90	200	5.60
DZSDS-0560-250-120	□	5.60	120	250	5.60
DZSDS-0561-070-045	□	5.61	45	70	5.61
DZSDS-0562-070-045	□	5.62	45	70	5.62
DZSDS-0563-070-045	□	5.63	45	70	5.63
DZSDS-0564-070-045	□	5.64	45	70	5.64
DZSDS-0565-070-045	□	5.65	45	70	5.65
DZSDS-0565-100-060	□	5.65	60	100	5.65
DZSDS-0566-070-045	□	5.66	45	70	5.66
DZSDS-0567-070-045	□	5.67	45	70	5.67
DZSDS-0568-070-045	□	5.68	45	70	5.68
DZSDS-0569-070-045	□	5.69	45	70	5.69
DZSDS-0570-070-045	□	5.70	45	70	5.70
DZSDS-0570-100-060	□	5.70	60	100	5.70
DZSDS-0570-150-075	□	5.70	75	150	5.70
DZSDS-0570-200-090	□	5.70	90	200	5.70
DZSDS-0570-250-120	□	5.70	120	250	5.70
DZSDS-0571-070-045	□	5.71	45	70	5.71
DZSDS-0572-070-045	□	5.72	45	70	5.72
DZSDS-0573-070-045	□	5.73	45	70	5.73
DZSDS-0574-070-045	□	5.74	45	70	5.74
DZSDS-0575-070-045	□	5.75	45	70	5.75
DZSDS-0575-100-060	□	5.75	60	100	5.75
DZSDS-0576-070-045	□	5.76	45	70	5.76
DZSDS-0577-070-045	□	5.77	45	70	5.77
DZSDS-0578-070-045	□	5.78	45	70	5.78
DZSDS-0579-070-045	□	5.79	45	70	5.79

Solid Carbide Drill

METRIC

DZSDS Type

- Solid carbide coated drill



CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0580-070-045	<input type="checkbox"/>	5.80	45	70	5.80
DZSDS-0580-100-060	<input type="checkbox"/>	5.80	60	100	5.80
DZSDS-0580-150-075	<input type="checkbox"/>	5.80	75	150	5.80
DZSDS-0580-200-090	<input type="checkbox"/>	5.80	90	200	5.80
DZSDS-0580-250-120	<input type="checkbox"/>	5.80	120	250	5.80
DZSDS-0581-070-045	<input type="checkbox"/>	5.81	45	70	5.81
DZSDS-0582-070-045	<input type="checkbox"/>	5.82	45	70	5.82
DZSDS-0583-070-045	<input type="checkbox"/>	5.83	45	70	5.83
DZSDS-0584-070-045	<input type="checkbox"/>	5.84	45	70	5.84
DZSDS-0585-070-045	<input type="checkbox"/>	5.85	45	70	5.85
DZSDS-0585-100-060	<input type="checkbox"/>	5.85	60	100	5.85
DZSDS-0586-070-045	<input type="checkbox"/>	5.86	45	70	5.86
DZSDS-0587-070-045	<input type="checkbox"/>	5.87	45	70	5.87
DZSDS-0588-070-045	<input type="checkbox"/>	5.88	45	70	5.88
DZSDS-0589-070-045	<input type="checkbox"/>	5.89	45	70	5.89
DZSDS-0590-070-045	<input type="checkbox"/>	5.90	45	70	5.90
DZSDS-0590-100-060	<input type="checkbox"/>	5.90	60	100	5.90
DZSDS-0590-150-075	<input type="checkbox"/>	5.90	75	150	5.90
DZSDS-0590-200-090	<input type="checkbox"/>	5.90	90	200	5.90
DZSDS-0590-250-120	<input type="checkbox"/>	5.90	120	250	5.90

CATALOG NUMBER	STK	DIMENSIONS			
		D	l1	L	d
DZSDS-0591-070-045	<input type="checkbox"/>	5.91	45	70	5.91
DZSDS-0592-070-045	<input type="checkbox"/>	5.92	45	70	5.92
DZSDS-0593-070-045	<input type="checkbox"/>	5.93	45	70	5.93
DZSDS-0594-070-045	<input type="checkbox"/>	5.94	45	70	5.94
DZSDS-0595-070-045	<input type="checkbox"/>	5.95	45	70	5.95
DZSDS-0595-100-060	<input type="checkbox"/>	5.95	60	100	5.95
DZSDS-0596-070-045	<input type="checkbox"/>	5.96	45	70	5.96
DZSDS-0597-070-045	<input type="checkbox"/>	5.97	45	70	5.97
DZSDS-0598-070-045	<input type="checkbox"/>	5.98	45	70	5.98
DZSDS-0599-070-045	<input type="checkbox"/>	5.99	45	70	5.99
DZSDS-0600-070-045	<input type="checkbox"/>	6.00	45	70	6.00
DZSDS-0600-100-060	<input type="checkbox"/>	6.00	60	100	6.00
DZSDS-0600-150-075	<input type="checkbox"/>	6.00	75	150	6.00
DZSDS-0600-200-090	<input type="checkbox"/>	6.00	90	200	6.00
DZSDS-0600-250-120	<input type="checkbox"/>	6.00	120	250	6.00

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

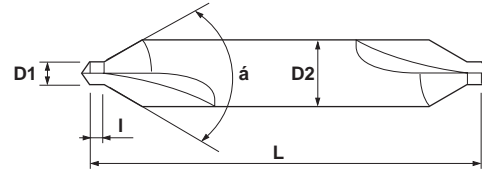
Drill Diameter D	Work Material					
	Carbon Steel		Alloy Steel		Cast Iron	
	mm/min	mm/rev	mm/min	mm/rev	mm/min	mm/rev
0.3mm up to 1.5mm	20 ~ 50	0.006 ~ 0.03	20 ~ 50	0.006 ~ 0.03	25 ~ 60	0.01 ~ 0.05
1.5mm up to 3.0mm	20 ~ 50	0.03 ~ 0.06	20 ~ 50	0.03 ~ 0.06	25 ~ 60	0.05 ~ 0.1
3mm up to 5mm	20 ~ 50	0.06 ~ 0.1	20 ~ 50	0.06 ~ 0.1	25 ~ 60	0.1 ~ 0.15
5mm up to 6mm	20 ~ 50	0.1 ~ 0.12	20 ~ 50	0.1 ~ 0.12	25 ~ 60	0.15 ~ 0.2



METRIC

Solid Carbide Center Drill

CDS Type
- Solid carbide center drill



CATALOG NUMBER		STK	DIMENSIONS				
			\acute{a}	D1	I	D2	L
CDS60-10-4	S-CDR 1 X 60	<input type="checkbox"/>	60°	1	1	4	45
CDS60-15-5	S-CDR 1.5 X 60	<input type="checkbox"/>	60°	1.5	1.5	5	50
CDS60-20-6	S-CDR 2 X 60	<input type="checkbox"/>	60°	2	2	6	55
CDS60-25-7.7	S-CDR 2.5 X 60	<input type="checkbox"/>	60°	2.5	2.5	7.7	60
CDS60-25-8	S-CDR 2.5 X 60-8	<input type="checkbox"/>	60°	2.5	2.5	8	60
CDS60-30-7.7	S-CDR 3 X 60	<input type="checkbox"/>	60°	3	3	7.7	65
CDS60-30-8	S-CDR 3 X 60-8	<input type="checkbox"/>	60°	3	3	8	65
CDS60-40-10	S-CDR 4 X 60	<input type="checkbox"/>	60°	4	4	10	65
CDS60-50-11	S-CDR 5 X 60	<input type="checkbox"/>	60°	5	5	11	78
CDS60-50-12	S-CDR 5 X 60-12	<input type="checkbox"/>	60°	5	5	12	78
CDS60-60-18	S-CDR 6 X 60	<input type="checkbox"/>	60°	6	6	18	90
CDS90-10-4	S-CDR 1 X 90	<input type="checkbox"/>	90°	1	1	4	45
CDS90-15-5	S-CDR 1.5 X 90	<input type="checkbox"/>	90°	1.5	1.5	5	50
CDS90-20-6	S-CDR 2 X 90	<input type="checkbox"/>	90°	2	2	6	55
CDS90-25-8	S-CDR 2.5 X 90	<input type="checkbox"/>	90°	2.5	2.5	8	60
CDS90-30-8	S-CDR 3 X 90	<input type="checkbox"/>	90°	3	3	8	65
CDS90-40-10	S-CDR 4 X 90	<input type="checkbox"/>	90°	4	4	10	65
CDS90-50-12	S-CDR 5 X 90	<input type="checkbox"/>	90°	5	5	12	78
CDS90-60-18	S-CDR 6 X 90	<input type="checkbox"/>	90°	6	6	18	90

CDSL type

CATALOG NUMBER		STK	DIMENSIONS				
			\acute{a}	D1	I	D2	L
CDL60-1004-100	S-CDL 1 X 60	<input type="checkbox"/>	60°	1	1	4	100
CDL60-1505-100	S-CDL 1.5 X 60	<input type="checkbox"/>	60°	1.5	1.5	5	100
CDL60-2006-100	S-CDL 2 X 60	<input type="checkbox"/>	60°	2	2	6	100
CDL60-2006-150	S-CDLL 2 X 60	<input type="checkbox"/>	60°	2	2	6	150
CDL60-2508-100	S-CDL 2.5 X 60	<input type="checkbox"/>	60°	2.5	2.5	8	100
CDL60-2508-150	S-CDLL 2.5 X 60	<input type="checkbox"/>	60°	2.5	2.5	8	150
CDL60-3008-100	S-CDL 3 X 60	<input type="checkbox"/>	60°	3	3	8	100
CDL60-3008-150	S-CDLL 3 X 60	<input type="checkbox"/>	60°	3	3	8	150
CDL60-4010-100	S-CDL 4 X 60	<input type="checkbox"/>	60°	4	4	10	100
CDL60-4010-150	S-CDLL 4 X 60	<input type="checkbox"/>	60°	4	4	10	150
CDL60-5012-100	S-CDL 5 X 60	<input type="checkbox"/>	60°	5	5	12	100
CDL60-5012-150	S-CDLL 5 X 60	<input type="checkbox"/>	60°	5	5	12	150
CDL90-1004-100	S-CDL 1 X 90	<input type="checkbox"/>	90°	1	1	4	100
CDL90-1505-100	S-CDL 1.5 X 90	<input type="checkbox"/>	90°	1.5	1.5	5	100
CDL90-2006-100	S-CDL 2 X 90	<input type="checkbox"/>	90°	2	2	6	100
CDL90-2006-150	S-CDLL 2 X 90	<input type="checkbox"/>	90°	2	2	6	150
CDL90-2508-100	S-CDL 2.5 X 90	<input type="checkbox"/>	90°	2.5	2.5	8	100
CDL90-2508-150	S-CDLL 2.5 X 90	<input type="checkbox"/>	90°	2.5	2.5	8	150
CDL90-3008-100	S-CDL 3 X 90	<input type="checkbox"/>	90°	3	3	8	100
CDL90-3008-150	S-CDLL 3 X 90	<input type="checkbox"/>	90°	3	3	8	150
CDL90-4010-100	S-CDL 4 X 90	<input type="checkbox"/>	90°	4	4	10	100
CDL90-4010-150	S-CDLL 4 X 90	<input type="checkbox"/>	90°	4	4	10	150
CDL90-5012-100	S-CDL 5 X 90	<input type="checkbox"/>	90°	5	5	12	100
CDL90-5012-150	S-CDLL 5 X 90	<input type="checkbox"/>	90°	5	5	12	150

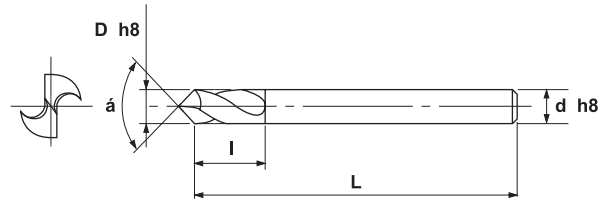
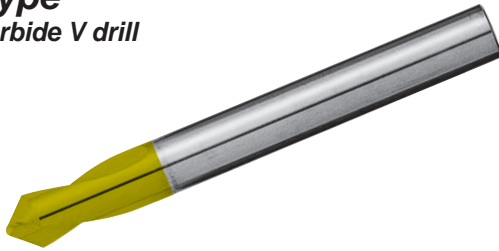
• Stocked standard Inquire regarding delivery

V Point Drill

METRIC

VSD Type

- Solid carbide V drill



VSD

CATALOG NUMBER	UNCOATED	COATED	DIMENSIONS				
	CR1	JC3521	\acute{a}	D	I	L	d
VSD-030-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	3	8	50	3
VSD-040-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	4	10	50	4
VSD-050-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	5	13	60	5
VSD-060-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	6	15	70	6
VSD-080-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	8	20	80	8
VSD-100-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	10	25	90	10
VSD-120-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	12	27	100	12
VSD-160-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	16	40	145	16
VSD-200-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	20	50	165	20
VSD-250-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	25	60	180	25
VSD-030-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	3	8	50	3
VSD-040-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	4	10	50	4
VSD-050-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	5	13	60	5
VSD-060-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	6	15	70	6
VSD-080-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	8	20	80	8
VSD-100-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	10	25	90	10
VSD-120-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	12	27	100	12
VSD-160-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	16	40	145	16
VSD-200-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	20	50	165	20
VSD-250-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	25	60	180	25

VSDL

CATALOG NUMBER	UNCOATED	COATED	DIMENSIONS				
	CR1	JC3521	\acute{a}	D	I	L	d
VSDL-030-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	3	8	100	3
VSDL-040-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	4	10	100	4
VSDL-050-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	5	13	110	5
VSDL-060-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	6	15	120	6
VSDL-080-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	8	20	140	8
VSDL-100-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	10	25	160	10
VSDL-120-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	12	27	180	12
VSDL-160-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	16	40	230	16
VSDL-200-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	20	50	250	20
VSDL-250-90°	<input type="checkbox"/>	<input type="checkbox"/>	90°	25	60	280	25
VSDL-030-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	3	8	100	3
VSDL-040-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	4	10	100	4
VSDL-050-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	5	13	110	5
VSDL-060-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	6	15	120	6
VSDL-080-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	8	20	140	8
VSDL-100-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	10	25	160	10
VSDL-120-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	12	27	180	12
VSDL-160-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	16	40	230	16
VSDL-200-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	20	50	250	20
VSDL-250-120°	<input type="checkbox"/>	<input type="checkbox"/>	120°	25	60	280	25

Drills



METRIC

V Point Drill

Recommended Cutting Data

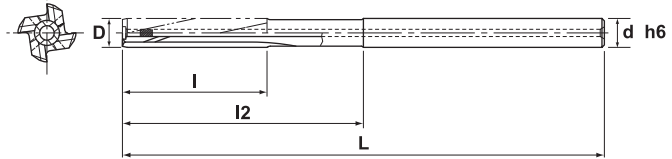
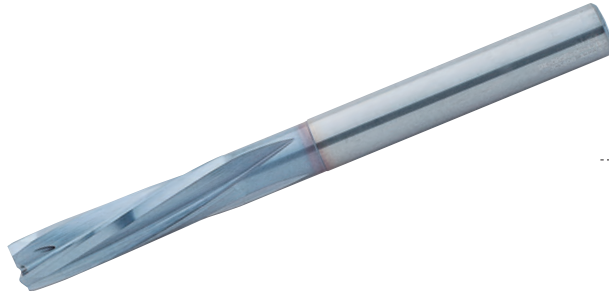
Diameter	Work Material					
	Cast Iron		Carbon Steel		Alloy Steel	
	mm/min	mm/rev	mm/min	mm/rev	mm/min	mm/rev
3	50 ~ 70	0.1 ~ 0.15	40 ~ 60	0.05 ~ 0.1	40 ~ 60	0.05 ~ 0.1
4	50 ~ 70	0.1 ~ 0.15	40 ~ 60	0.05 ~ 0.1	40 ~ 60	0.05 ~ 0.1
5	50 ~ 70	0.1 ~ 0.15	40 ~ 60	0.05 ~ 0.1	40 ~ 60	0.05 ~ 0.1
6	60 ~ 80	0.1 ~ 0.2	50 ~ 70	0.1 ~ 0.15	50 ~ 70	0.1 ~ 0.15
8	60 ~ 80	0.1 ~ 0.2	50 ~ 70	0.1 ~ 0.15	50 ~ 70	0.1 ~ 0.15
10	60 ~ 80	0.15 ~ 0.25	50 ~ 70	0.1 ~ 0.2	50 ~ 70	0.1 ~ 0.2
12	70 ~ 90	0.15 ~ 0.25	50 ~ 70	0.1 ~ 0.2	50 ~ 70	0.1 ~ 0.2
16	70 ~ 90	0.15 ~ 0.25	60 ~ 80	0.1 ~ 0.2	60 ~ 80	0.1 ~ 0.2
20	70 ~ 90	0.15 ~ 0.25	60 ~ 80	0.1 ~ 0.2	60 ~ 80	0.1 ~ 0.2
25	70 ~ 90	0.15 ~ 0.25	60 ~ 80	0.1 ~ 0.2	60 ~ 80	0.1 ~ 0.2

Solid Carbide Reamer

METRIC

DX-DHSR Type

- Solid carbide coated reamer



Drills

CATALOG NUMBER	STK	DIMENSIONS					
		D	I	I2	L	d	Tap
DX-DHSR-OH-030	□	3.0	20	35	70	3	
DX-DHSR-OH-031	□	3.1	20	35	70	4	
DX-DHSR-OH-032	□	3.2	20	35	70	4	
DX-DHSR-OH-033	□	3.3	20	35	70	4	M4X0.7
DX-DHSR-OH-034	□	3.4	20	35	70	4	
DX-DHSR-OH-035	□	3.5	20	35	70	4	
DX-DHSR-OH-036	□	3.6	20	35	70	4	
DX-DHSR-OH-037	□	3.7	20	35	70	4	
DX-DHSR-OH-038	□	3.8	20	35	70	4	
DX-DHSR-OH-039	□	3.9	20	35	70	4	
DX-DHSR-OH-040	□	4.0	20	35	70	4	
DX-DHSR-OH-041	□	4.1	20	40	80	5	
DX-DHSR-OH-042	□	4.2	20	40	80	5	M5X0.8
DX-DHSR-OH-043	□	4.3	20	40	80	5	
DX-DHSR-OH-044	□	4.4	20	40	80	5	
DX-DHSR-OH-045	□	4.5	25	40	80	5	
DX-DHSR-OH-046	□	4.6	25	40	80	5	
DX-DHSR-OH-047	□	4.7	25	40	80	5	
DX-DHSR-OH-048	□	4.8	25	40	80	5	
DX-DHSR-OH-049	□	4.9	25	40	80	5	
DX-DHSR-OH-050	□	5.0	25	40	80	5	M6X1.0
DX-DHSR-OH-051	□	5.1	30	50	95	6	
DX-DHSR-OH-052	□	5.2	30	50	95	6	
DX-DHSR-OH-053	□	5.3	30	50	95	6	
DX-DHSR-OH-054	□	5.4	30	50	95	6	
DX-DHSR-OH-055	□	5.5	30	50	95	6	
DX-DHSR-OH-056	□	5.6	30	50	100	6	
DX-DHSR-OH-057	□	5.7	30	50	100	6	
DX-DHSR-OH-058	□	5.8	30	50	100	6	
DX-DHSR-OH-059	□	5.9	30	50	100	6	
DX-DHSR-OH-060	□	6.0	30	50	100	6	
DX-DHSR-OH-061	□	6.1	30	50	100	8	
DX-DHSR-OH-062	□	6.2	30	50	100	8	
DX-DHSR-OH-063	□	6.3	30	50	100	8	
DX-DHSR-OH-064	□	6.4	30	50	100	8	
DX-DHSR-OH-065	□	6.5	30	50	100	8	
DX-DHSR-OH-066	□	6.6	30	50	100	8	
DX-DHSR-OH-067	□	6.7	30	50	100	8	
DX-DHSR-OH-068	□	6.8	30	50	100	8	M8X1.5
DX-DHSR-OH-069	□	6.9	30	50	100	8	

CATALOG NUMBER	STK	DIMENSIONS					
		D	I	I2	L	d	Tap
DX-DHSR-OH-070	□	7.0	30	50	100	8	
DX-DHSR-OH-071	□	7.1	30	50	100	8	
DX-DHSR-OH-072	□	7.2	30	50	100	8	
DX-DHSR-OH-073	□	7.3	30	50	100	8	
DX-DHSR-OH-074	□	7.4	30	50	100	8	
DX-DHSR-OH-075	□	7.5	30	60	115	8	
DX-DHSR-OH-076	□	7.6	30	60	115	8	
DX-DHSR-OH-077	□	7.7	30	60	115	8	
DX-DHSR-OH-078	□	7.8	30	60	115	8	
DX-DHSR-OH-079	□	7.9	30	60	115	8	
DX-DHSR-OH-080	□	8.0	30	60	115	8	
DX-DHSR-OH-081	□	8.1	30	60	120	10	
DX-DHSR-OH-082	□	8.2	30	60	120	10	
DX-DHSR-OH-083	□	8.3	30	60	120	10	
DX-DHSR-OH-084	□	8.4	30	60	120	10	
DX-DHSR-OH-085	□	8.5	30	60	120	10	M10X1.5
DX-DHSR-OH-086	□	8.6	30	60	120	10	
DX-DHSR-OH-087	□	8.7	30	60	120	10	
DX-DHSR-OH-088	□	8.8	30	60	120	10	
DX-DHSR-OH-089	□	8.9	30	60	120	10	
DX-DHSR-OH-090	□	9.0	30	60	120	10	
DX-DHSR-OH-091	□	9.1	30	60	125	10	
DX-DHSR-OH-092	□	9.2	30	60	125	10	
DX-DHSR-OH-093	□	9.3	30	60	125	10	
DX-DHSR-OH-094	□	9.4	30	60	125	10	
DX-DHSR-OH-095	□	9.5	30	60	125	10	
DX-DHSR-OH-096	□	9.6	30	60	125	10	
DX-DHSR-OH-097	□	9.7	30	60	125	10	
DX-DHSR-OH-098	□	9.8	30	60	125	10	
DX-DHSR-OH-099	□	9.9	30	60	125	10	
DX-DHSR-OH-100	□	10.0	30	60	125	10	
DX-DHSR-OH-101	□	10.1	50	65	130	12	
DX-DHSR-OH-102	□	10.2	50	65	130	12	
DX-DHSR-OH-103	□	10.3	50	65	130	12	M12X1.75
DX-DHSR-OH-104	□	10.4	50	65	130	12	
DX-DHSR-OH-105	□	10.5	50	65	130	12	
DX-DHSR-OH-106	□	10.6	50	65	130	12	
DX-DHSR-OH-107	□	10.7	50	65	130	12	
DX-DHSR-OH-108	□	10.8	50	65	130	12	
DX-DHSR-OH-109	□	10.9	50	65	130	12	

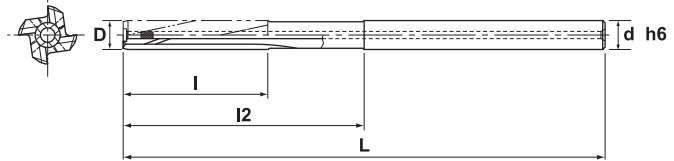
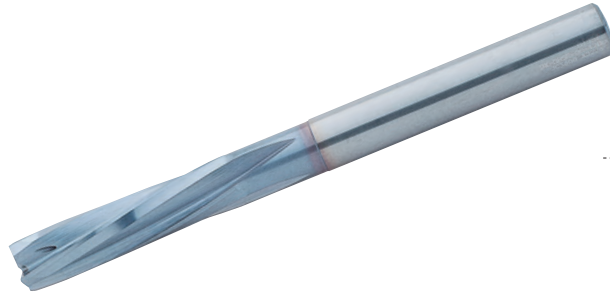


METRIC

Solid Carbide Reamer

DX-DHSR Type

- Solid carbide coated reamer



CATALOG NUMBER	STK	DIMENSIONS					
		D	I	I2	L	d	Tap
DX-DHSR-OH-110	<input type="checkbox"/>	11.0	50	65	130	12	
DX-DHSR-OH-111	<input type="checkbox"/>	11.1	50	70	135	12	
DX-DHSR-OH-112	<input type="checkbox"/>	11.2	50	70	135	12	
DX-DHSR-OH-113	<input type="checkbox"/>	11.3	50	70	135	12	
DX-DHSR-OH-114	<input type="checkbox"/>	11.4	50	70	135	12	
DX-DHSR-OH-115	<input type="checkbox"/>	11.5	50	70	135	12	
DX-DHSR-OH-116	<input type="checkbox"/>	11.6	50	70	135	12	
DX-DHSR-OH-117	<input type="checkbox"/>	11.7	50	70	135	12	
DX-DHSR-OH-118	<input type="checkbox"/>	11.8	50	70	135	12	
DX-DHSR-OH-119	<input type="checkbox"/>	11.9	50	70	135	12	
DX-DHSR-OH-120	<input type="checkbox"/>	12.0	50	70	135	12	

- Stocked standard
- Inquire regarding delivery

Recommended Cutting Data

Material	Hardness	Suitability	Cutting Speed (m/min)
Mild Steel	up to 200HB	◎	15 ~ 50
Carbon Steel	up to 200HB	◎	
Free Cutting Steel	up to 200HB	◎	
Thermal Refining Steel	up to 200HB	◎	15 ~ 40
Tool Steel	up to 200HB	◎	
Alloy Steel	up to 200HB	◎	20 ~ 50
Brass		X	Not suitable for these materials
Cast Metal		X	
Aluminum		X	
Stainless Steel		○	10 ~ 30

Note: In case of work hardening or built up edge, reduce cutting speed and increase feed rate.

◎ = First Choice ○ = Second Choice X = Not Good

Recommended Cutting Speed

Reaming Diameter	Cutting Speed (m/min)
~ 4	30
5 ~ 12	40

Recommended Stock Removal and Feed Rate

Reaming Diameter	Stock Removal (mm)	f (mm/rev)
~ 4	0.1 ~ 0.2	0.1 ~ 0.15
5	0.15 ~ 0.2	0.1 ~ 0.15
6	0.15 ~ 0.2	0.12 ~ 0.2
7 ~ 12	0.2 ~ 0.3	0.2 ~ 0.3

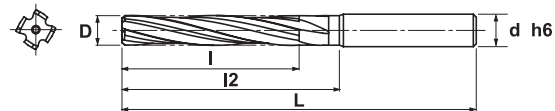
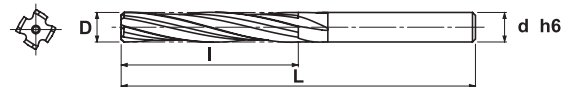
Finish-Hard Reamer

METRIC

DH-FHR Type

- For precise reaming on high hardened material
- Helix angle: 15 degrees, drilling depth 5XD

Diameter	Tolerance
under 3.1mm	+0.007 +0.002
3.1mm up to 6.1mm	+0.009 +0.003
6.1mm up to 10.1mm	+0.011 +0.004
10.1mm and up	+0.013 +0.006



CATALOG NUMBER	STK	DIMENSIONS				
		D	I	I2	L	d
DH-FHR0300	•	3.0	20	28.6	70	4
DH-FHR0301	□	3.01	20	28.6	70	4
DH-FHR0302	□	3.02	20	28.6	70	4
DH-FHR0310	□	3.1	27	33.7	75	4
DH-FHR0320	□	3.2	27	33.9	75	4
DH-FHR0330	□	3.3	27	34.0	75	4
DH-FHR0340	□	3.4	27	34.1	75	4
DH-FHR0350	□	3.5	27	34.3	75	4
DH-FHR0360	□	3.6	27	34.4	75	4
DH-FHR0370	□	3.7	27	34.5	75	4
DH-FHR0380	□	3.8	27	34.7	75	4
DH-FHR0390	□	3.9	27	34.8	75	4
DH-FHR0400	•	4.0	27	-	75	4
DH-FHR0401	□	4.01	27	-	75	4
DH-FHR0402	□	4.02	27	-	75	4
DH-FHR0410	□	4.1	35	42.3	85	6
DH-FHR0420	□	4.2	35	42.5	85	6
DH-FHR0430	□	4.3	35	42.6	85	6
DH-FHR0440	□	4.4	35	42.8	85	6
DH-FHR0450	□	4.5	35	42.9	85	6
DH-FHR0460	□	4.6	35	43.0	85	6
DH-FHR0470	□	4.7	35	43.2	85	6
DH-FHR0480	□	4.8	35	43.3	85	6
DH-FHR0490	□	4.9	35	43.4	85	6
DH-FHR0500	•	5.0	35	43.6	85	6
DH-FHR0501	□	5.01	35	43.6	85	6
DH-FHR0502	□	5.02	35	43.6	85	6
DH-FHR0510	□	5.1	42	48.7	90	6
DH-FHR0520	□	5.2	42	48.9	90	6

CATALOG NUMBER	STK	DIMENSIONS				
		D	I	I2	L	d
DH-FHR0530	□	5.3	42	49.0	90	6
DH-FHR0540	□	5.4	42	49.1	90	6
DH-FHR0550	□	5.5	42	49.3	90	6
DH-FHR0560	□	5.6	42	49.4	90	6
DH-FHR0570	□	5.7	42	49.5	90	6
DH-FHR0580	□	5.8	42	49.7	90	6
DH-FHR0590	□	5.9	42	49.8	90	6
DH-FHR0600	•	6.0	42	-	90	6
DH-FHR0601	□	6.01	42	-	90	6
DH-FHR0602	□	6.02	42	-	90	6
DH-FHR0610	□	6.1	47	57.3	100	8
DH-FHR0620	□	6.2	47	57.5	100	8
DH-FHR0630	□	6.3	47	57.6	100	8
DH-FHR0640	□	6.4	47	57.8	100	8
DH-FHR0650	□	6.5	47	57.9	100	8
DH-FHR0660	□	6.6	47	58.0	100	8
DH-FHR0670	□	6.4	47	58.2	100	8
DH-FHR0680	□	6.8	47	58.3	100	8
DH-FHR0690	□	6.9	47	58.4	100	8
DH-FHR0700	•	7.0	47	58.6	100	8
DH-FHR0701	□	7.01	47	58.6	100	8
DH-FHR0702	□	7.02	47	58.6	100	8
DH-FHR0710	□	7.1	50	60.0	100	8
DH-FHR0720	□	7.2	50	60.0	100	8
DH-FHR0730	□	7.3	50	60.0	100	8
DH-FHR0740	□	7.4	50	60.0	100	8
DH-FHR0750	□	7.5	50	60.0	100	8
DH-FHR0760	□	7.6	50	60.0	100	8
DH-FHR0770	□	7.7	50	60.0	100	8



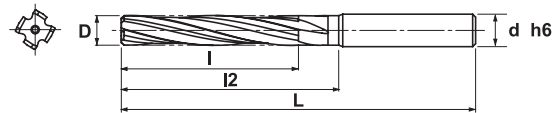
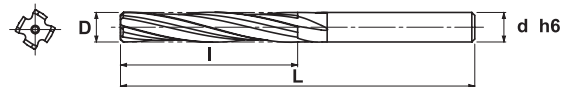
METRIC

Finish-Hard Reamer

DH-FHR Type

- For precise reaming on high hardened material
- Helix angle: 15 degrees, drilling depth 5XD

Diameter	Tolerance
under 3.1mm	+0.007 +0.002
3.1mm up to 6.1mm	+0.009 +0.003
6.1mm up to 10.1mm	+0.011 +0.004
10.1mm and up	+0.013 +0.006



CATALOG NUMBER	STK	DIMENSIONS				
		D	I	I2	L	d
DH-FHR0780	□	7.8	50	60	100	8
DH-FHR0790	□	7.9	50	60	100	8
DH-FHR0800	•	8	50	-	100	8
DH-FHR0801	□	8.01	50	-	100	8
DH-FHR0802	□	8.02	50	-	100	8
DH-FHR0810	□	8.1	60	72.3	120	10
DH-FHR0820	□	8.2	60	72.5	120	10
DH-FHR0830	□	8.3	60	72.6	120	10
DH-FHR0840	□	8.4	60	72.8	120	10
DH-FHR0850	□	8.5	60	72.9	120	10
DH-FHR0860	□	8.6	60	73	120	10
DH-FHR0870	□	8.7	60	73.2	120	10
DH-FHR0880	□	8.8	60	73.3	120	10
DH-FHR0890	□	8.9	60	73.4	120	10
DH-FHR0900	•	9.0	60	73.6	120	10
DH-FHR0901	□	9.01	60	73.6	120	10
DH-FHR0902	□	9.02	60	73.6	120	10
DH-FHR0910	□	9.1	60	75	120	10
DH-FHR0920	□	9.2	60	75	120	10
DH-FHR0930	□	9.3	60	75	120	10
DH-FHR0940	□	9.4	60	75	120	10
DH-FHR0950	□	9.5	60	75	120	10
DH-FHR0960	□	9.6	60	75	120	10
DH-FHR0970	□	9.7	60	75	120	10
DH-FHR0980	□	9.8	60	75	120	10
DH-FHR0990	□	9.9	60	75	120	10
DH-FHR1000	•	10.0	60	-	120	10
DH-FHR1001	□	10.01	60	-	120	10
DH-FHR1002	□	10.02	60	-	120	10

CATALOG NUMBER	STK	DIMENSIONS				
		D	I	I2	L	d
DH-FHR1010	□	10.1	70	87.3	140	12
DH-FHR1020	□	10.2	70	87.5	140	12
DH-FHR1030	□	10.3	87.6	70	140	12
DH-FHR1040	□	10.4	87.8	70	140	12
DH-FHR1050	□	10.5	70	87.9	140	12
DH-FHR1060	□	10.6	70	88	140	12
DH-FHR1070	□	10.7	70	88.2	140	12
DH-FHR1080	□	10.8	70	88.3	140	12
DH-FHR1090	□	10.9	70	88.4	140	12
DH-FHR1100	•	11.0	70	88.6	140	12
DH-FHR1101	□	11.01	70	88.6	140	12
DH-FHR1102	□	11.02	70	88.6	140	12
DH-FHR1110	□	11.1	70	90	140	12
DH-FHR1120	□	11.2	70	90	140	12
DH-FHR1130	□	11.3	70	90	140	12
DH-FHR1140	□	11.4	70	90	140	12
DH-FHR1150	□	11.5	70	90	140	12
DH-FHR1160	□	11.6	70	90	140	12
DH-FHR1170	□	11.7	70	90	140	12
DH-FHR1180	□	11.8	70	90	140	12
DH-FHR1190	□	11.9	70	90	140	12
DH-FHR1200	•	12.0	70	-	140	12
DH-FHR1201	□	12.01	70	-	140	12
DH-FHR1202	□	12.02	70	-	140	12
DH-FHR1210	□	12.1	70	90	140	12
DH-FHR1300	•	13.1	70	88.6	140	14
DH-FHR1600	•	16.0	70	-	140	16

• Stocked standard □ Inquire regarding delivery

Finish-Hard Reamer

METRIC

Recommended Cutting Data for DH-FHR

Drill Diameter	Die Steel (SKT, SKD61) 48 - 56 HRC		Die Steel (SKD11, SKH) 57 - 62 HRC		Die Steel (SKD11, SKH) 63 - 70 HRC		Stock Amount (mm)
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	
	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	Vc (m/min)	f (mm/rev)	
3	2,120	105	1,380	69	1,010	40	0.01 ~ 0.02
	15 ~ 25	0.03 ~ 0.07	10 ~ 15	0.03 ~ 0.07	7 ~ 12	0.02 ~ 0.06	
4	1,590	80	1,040	52	755	30	0.01 ~ 0.02
	15 ~ 25	0.03 ~ 0.07	10 ~ 15	0.03 ~ 0.07	7 ~ 12	0.02 ~ 0.06	
5	1,270	64	830	40	605	24	0.01 ~ 0.02
	15 ~ 25	0.03 ~ 0.07	10 ~ 15	0.03 ~ 0.07	7 ~ 12	0.02 ~ 0.06	
6	1,060	64	690	40	500	20	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.08	10 ~ 15	0.04 ~ 0.08	7 ~ 12	0.03 ~ 0.07	
7	910	55	590	34	430	20	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.08	10 ~ 15	0.04 ~ 0.08	7 ~ 12	0.03 ~ 0.07	
8	795	48	520	30	375	18	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.08	10 ~ 15	0.04 ~ 0.08	7 ~ 12	0.03 ~ 0.07	
9	710	48	460	30	335	16	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.10	10 ~ 15	0.04 ~ 0.10	7 ~ 12	0.03 ~ 0.07	
10	640	45	415	28	300	15	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.10	10 ~ 15	0.04 ~ 0.10	7 ~ 12	0.03 ~ 0.07	
11	580	40	375	25	275	13	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.10	10 ~ 15	0.04 ~ 0.10	7 ~ 12	0.03 ~ 0.07	
12	530	37	345	23	250	12	0.01 ~ 0.02
	15 ~ 25	0.04 ~ 0.10	10 ~ 15	0.04 ~ 0.10	7 ~ 12	0.03 ~ 0.07	
13	370	26	245	17	195	10	0.01 ~ 0.02
	10 ~ 20	0.04 ~ 0.10	7 ~ 13	0.04 ~ 0.10	6 ~ 10	0.03 ~ 0.07	
16	300	21	200	14	160	8	0.01 ~ 0.02
	10 ~ 20	0.04 ~ 0.10	7 ~ 13	0.04 ~ 0.10	6 ~ 10	0.03 ~ 0.07	

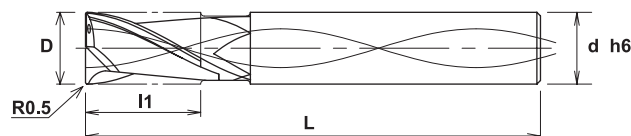
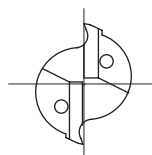
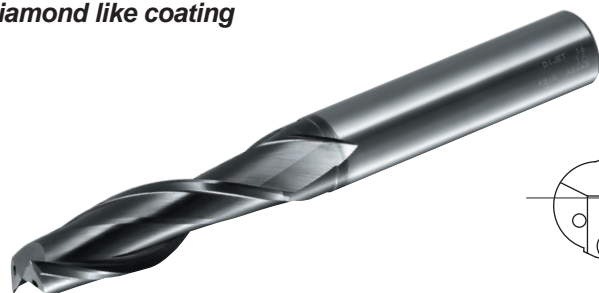


METRIC

Helical Cutting Drill

AL-OCHE Type

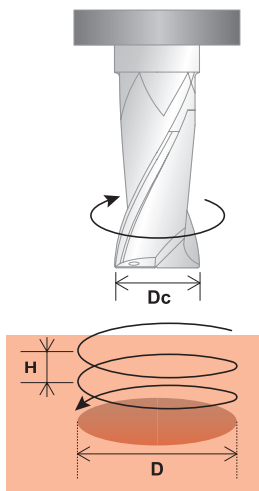
- 2 Flute with 30° Helix and coolant thru
- Diamond like coating



CATALOG NUMBER	STK	DIMENSIONS			
		D	I1	L	d
AL-OCHE2040	•	4	16	60	4
AL-OCHE2060	•	6	22	74	6
AL-OCHE2080	•	8	31	90	8
AL-OCHE2100	•	10	37	105	10
AL-OCHE2120	•	12	43	113	12
AL-OCHE2160	•	16	55	130	16

Recommended Cutting Data

Helical Milling

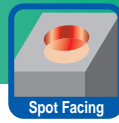


Material	Aluminum Alloy (A5052, A7075)			
Tool Dia. Dc (mm)	Hole Dia. D (mm)	Maximum Depth T (mm)	Spindle Speed n (min ⁻¹)	Feed Speed Vf (mm/min)
4	5 ~ 7	15	16,000	960
6	7 ~ 11	21	10,600	1,060
8	10 ~ 15	30	8,000	2,000
10	12 ~ 19	36	6,400	1,600
12	14 ~ 23	42	5,300	1,300
16	18 ~ 31	54	4,000	1,000

Material	Cast Aluminum Alloy (Up to 13% Si)			
Tool Dia. Dc (mm)	Hole Dia. D (mm)	Maximum Depth T (mm)	Spindle Speed n (min ⁻¹)	Feed Speed Vf (mm/min)
4	5 ~ 7	15	14,400	860
6	7 ~ 11	21	9,500	950
8	10 ~ 15	30	7,200	1,800
10	12 ~ 19	36	5,700	1,400
12	14 ~ 23	42	4,800	1,200
16	18 ~ 31	54	3,800	900

Tool Path Diameter Dk (mm)	Helical Interpolation Depth/Tool Path Rev. H (mm)
1	2.6
2	5
3	6.4
4	7.4
5	8.2
6	8.8
7	9.4
8	9.8
9	10.2
10	10.6
11	11
12	11.3
13	11.5
14	11.8
15	12

- Notes:**
1. Tool path diameter: Dk = Hole diameter D - Tool diameter Dc.
 2. In case of blind hole, last revolution of H should be reduced to 0.8-2.0mm.
 3. In case of through hole, top of tool must come through by 1mm or more due to the tools corner radius of 0.5mm.
 4. Use internal coolant.
 5. Above data applies to solid work piece, when enlarging core hole ae should be 75% of Dc or less and recommend using flood coolant also.
 6. If machine or work piece lack rigidity or chatter occurs, reduce speed and feed with the same ratio to H.



Helical Cutting Drill

METRIC

Recommended Cutting Data for AL-OCHE

Material	Aluminum Alloy (A5052)		Aluminum Alloy (A7075)		Cast Aluminum Alloy (Up to 13% Si)	
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)
Type of Machining - Shoulder Cutting						
	4	16,000	1,800	16,000	1,800	14,000
	6	10,000	1,800	10,000	1,800	9,500
	8	8,000	1,600	8,000	1,600	7,000
	10	6,000	1,300	6,000	1,300	5,700
	12	5,000	1,300	5,000	1,300	4,700
	16	4,000	1,200	4,000	1,200	3,500

Material	Aluminum Alloy (A5052)		Aluminum Alloy (A7075)		Cast Aluminum Alloy (Up to 13% Si)	
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)
Type of Machining - Slotting						
	4	14,000	1,000	14,000	1,000	12,000
	6	9,500	1,000	9,500	1,000	8,500
	8	7,000	1,000	7,000	1,000	6,400
	10	5,700	1,000	5,700	1,000	5,000
	12	4,700	1,000	4,700	1,000	4,200
	16	3,500	1,000	3,500	1,000	3,200

High Speed Cutting Data for AL-OCHE

Material	Aluminum Alloy (A5052)		Aluminum Alloy (A7075)		Cast Aluminum Alloy (Up to 13% Si)	
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)
Type of Machining - Shoulder Cutting						
	4	32,000	3,800	32,000	3,800	28,000
	6	21,000	3,800	21,000	3,800	18,000
	8	16,000	3,200	16,000	3,200	14,000
	10	12,000	3,200	12,000	3,200	11,000
	12	10,000	3,200	10,000	3,200	9,000
	16	8,000	2,800	8,000	2,800	7,000

Material	Aluminum Alloy (A5052)		Aluminum Alloy (A7075)		Cast Aluminum Alloy (Up to 13% Si)	
	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)	n (min ⁻¹)	Vf (mm/min)
Type of Machining - Slotting						
	4	28,000	1,900	28,000	1,900	24,000
	6	19,000	1,900	19,000	1,900	16,000
	8	14,000	1,900	14,000	1,900	12,000
	10	11,000	1,900	11,000	1,900	9,500
	12	9,500	1,900	9,500	1,900	8,000
	16	7,000	1,800	7,000	1,800	6,000

- Notes:**
1. Use water soluble oil.
 2. Use caution when handling, tools are extremely sharp.
 3. Figures should be adjusted according to machining shape, rigidity of machine and work clamping.
 4. If machine does not have enough spindle speed, reduce the feed speed to the same ratio as above.
 5. In case of ramping, recommend reducing the above data by 30-60%.

CATALOG NUMBER	DESCRIPTION	PAGE NUMBER
AL-OCHE	Helical Cutting Drill	D-86
CDL	Solid Carbide Center Drill	D-78
CDS	Solid Carbide Center Drill	D-78
DDS...L	Sigma Drill	D-41
DDS...M	Sigma Drill	D-39
DDS...S	Sigma Drill	D-37
DH-FHR	Finish-Hard Reamer	D-83
DV-DHS	Sigma Drill Hard	D-52
DX-DHSR	Solid Carbide Reamer	D-81
DX-H-DDS	Solid Carbide Coolant thru Drill	D-43
DZ-DHL	Sigma Drill Hard	D-52
DZ-DHS	Sigma Drill Hard	D-49
DZSDS	Solid Carbide Drill	D-66
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EZDM	EZ Drill style (3xs)	D-12
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FC-DDS...L	Sigma Drill for Cast Iron	D-47
FC-DDS...M	Sigma Drill for Cast Iron	D-45
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SCD	S-Cut Drill	D-22
SDS	Solid Carbide Drill	D-54
SDSL	Solid Carbide Drill	D-62
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VN-DVT	Beam Drill Burnishing style	D-10
VSD	Solid Carbide V Point Drill	D-79
VSDL	Solid Carbide V Point Drill	D-79

Notes

Notes

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