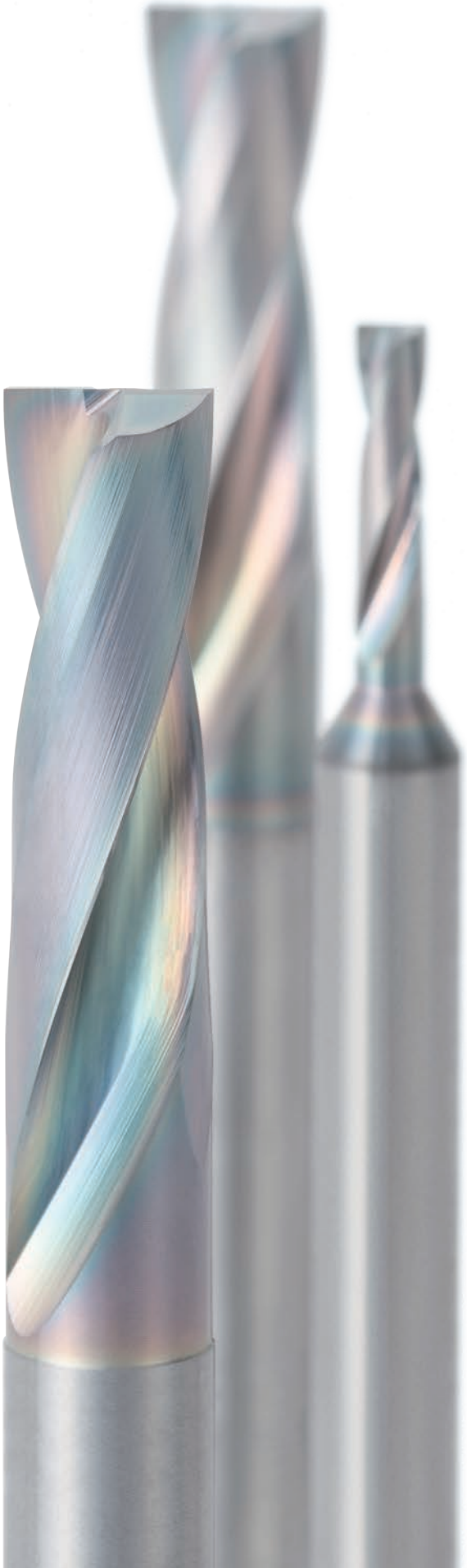
High Performance Flat Bottom Drill

KDZ



New Flat Bottom Drills with Unique Coating Technology Provides Long Tool Life, High Precision and Stable Machining

MEGACOAT NANO EX | Solid

Great for a Wide Range of Drilling Applications Including Counterboring

Achieve High Performance Results from an Economical Flat Bottom Drill

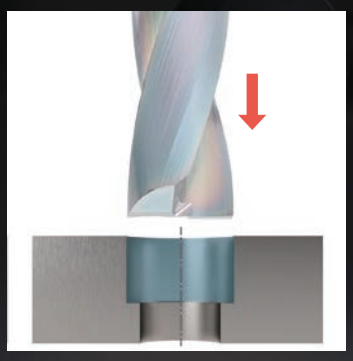
K-series
Let your potential shine

High Performance Flat Bottom Drill

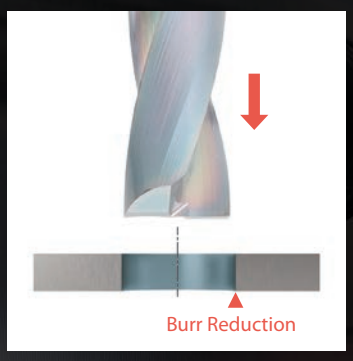
KDZ

Innovative, Cutting Edge Design

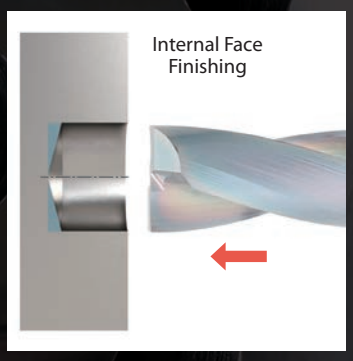
1 Excellent for drilling in many different applications



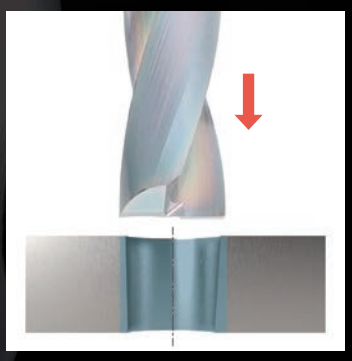
Counterboring



Plunging of Thin Plate



Turning in Automatic Lathes



Hole Expanding

K-series
Let your potential shine

2 Styles Available

Stability-oriented

KDZ

Standard Type

Tough Edge

Short

Total 111 Items
Drilling Dia. ø1.0~ø12.0

Regular

Total 91 Items
Drilling Dia. ø3.0~ø12.0

Standard Type for Various Machining Applications

- Flat land specifications on corners
- Excellent chip evacuation with special flute shape
- Long tool life with MEGACOAT NANO EX coating technology

Sharp Edge

KDZ-HP

High Precision Machining

Low Resistance

Coming Soon

Short

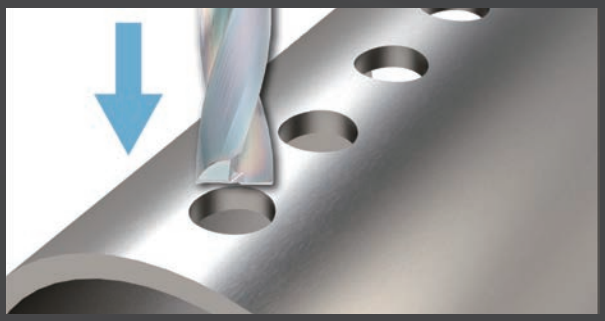
Total 127 Items
Drilling Dia. ø1.0~ø20.0

Regular

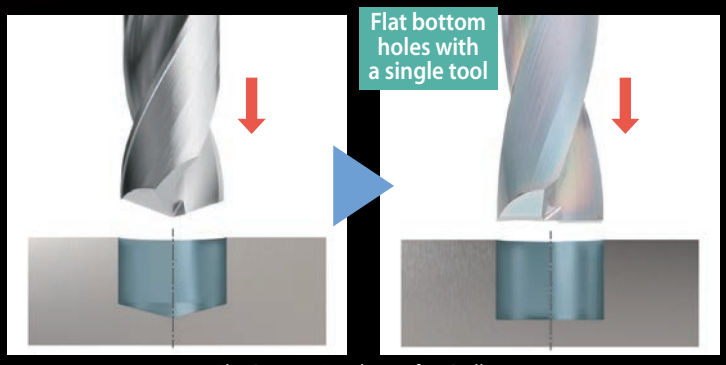
Total 91 Items
Drilling Dia. ø3.0~ø12.0

High-precision and Stable Machining with Special Chip Thinning Shape

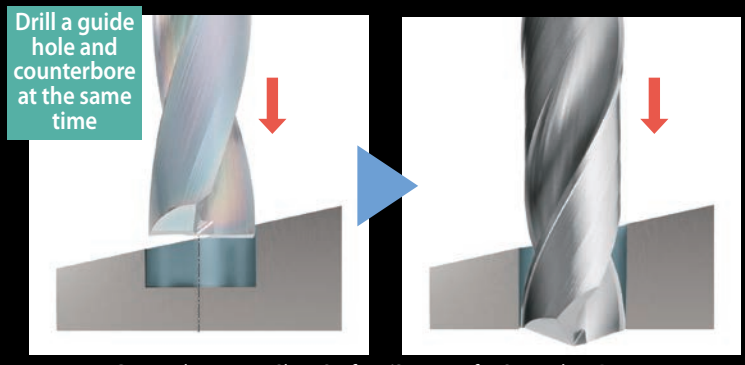
- Improved machining accuracy when entering the workpiece
- Long tool life with MEGACOAT NANO EX coating technology



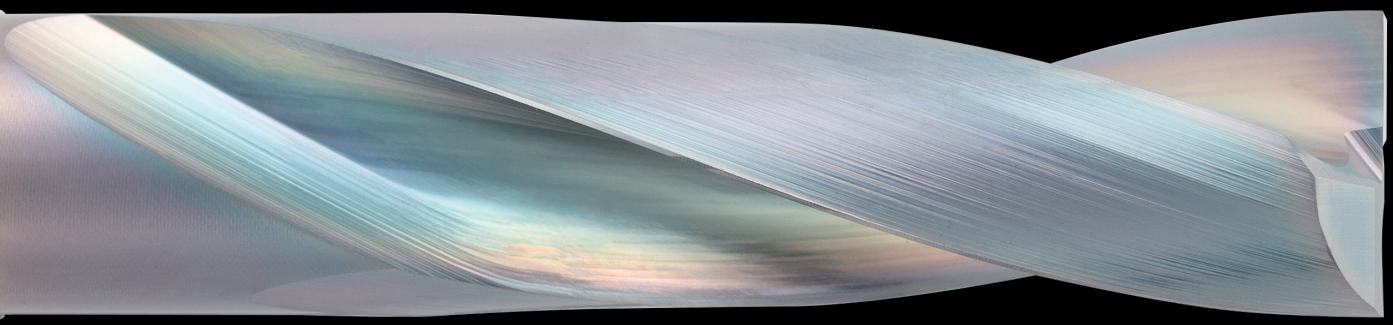
Stable machining accuracy even when drilling into cylindrical or curved surfaces. (KDZ-HP is recommended for cylindrical and curved surfaces.)



Flat Bottom Finishing after Drilling



Counterboring on Slant Surface/Spotting for Secondary Process



A unique coating designed to optimize drilling performance is now available

MEGACOAT NANO EX | Solid

2 Excellent wear resistance and fracture resistance

Special nano lamination x multilayer lamination

Nano-Lamination

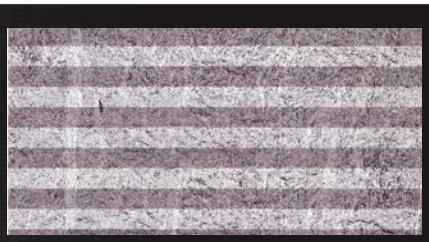
AlCrN based coating

Excellent lubricity and adhesion

Nano-Lamination

TiAlN based coating

Superior wear resistance



Point

1. Improved toughness by optimizing the lamination period of the film
2. Increased Cr content for excellent lubricity and with adhesion resistance to suppress wear and chipping

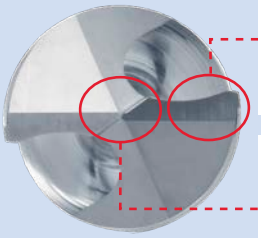
Film

Base Material

CG Image

General Drilling Challenges

Due to the difference in speed between the outside edge and the center, different edge designs are required to extend tool life



Drilling speed High

Wear and chipping resistance is required

Drilling speed Low

Adhesion and chipping resistance is required

Solution

Cutting edge conditions comparison when drilling (Internal evaluation)

Cutting Conditions: Vc = 80 m/min, f = 0.06 mm/rev,
Cutting Dia. ø3, Drilling depth: 6 mm Wet (External Coolant) Workpiece: S50C

KDZ with MEGACOAT NANO EX

Wear Resistance **Adhesion Resistance** **Chipping Resistance**

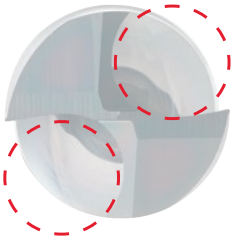
Provides high resistance performance for precision drilling

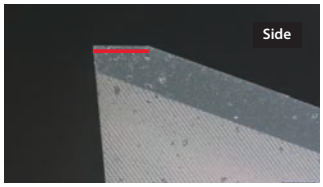
3 Unique shape for excellent machining performance

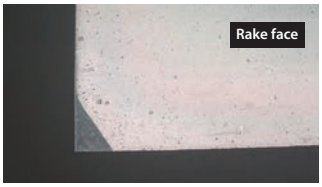
KDZ

Stability-oriented

A Large Chip Pocket
Excellent Chip Evacuation







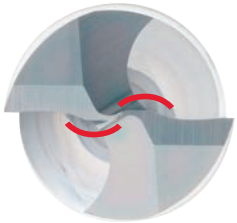
Flat land specifications to improve fracture resistance

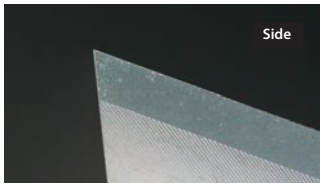
KDZ-HP

Sharp Edge

Special design improves chip thinning and discharge

Reducing the load on the center of the cutting edge



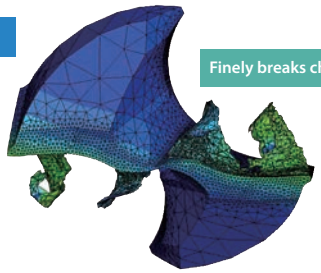


There is no land and a rake face is formed from the cutting edge

Reduced impact forces when entering provides high-precision and stable machining (~ø12)

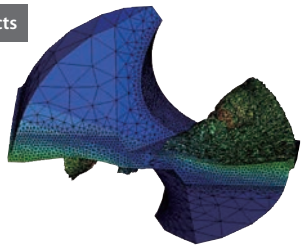
Chipping simulation comparison (Image) (Internal evaluation)

KDZ-HP

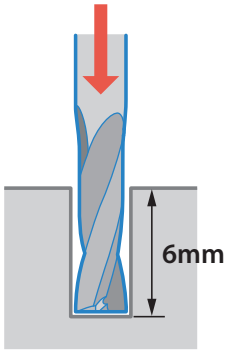


Finely breaks chips into small pieces

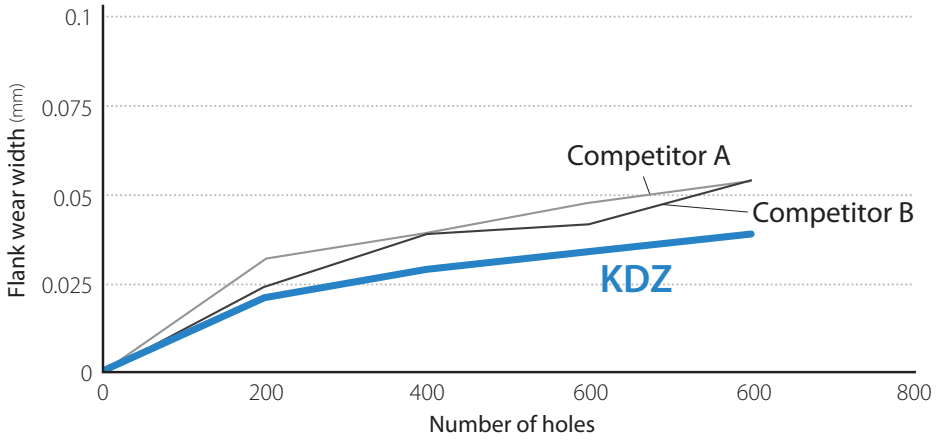
Conventional products



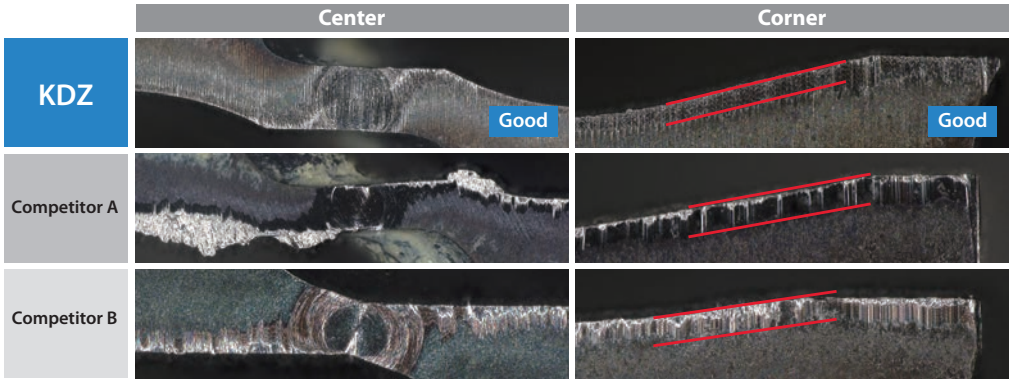
Drilling Performance (Internal evaluation)



Wear Resistance Comparison



Edge condition



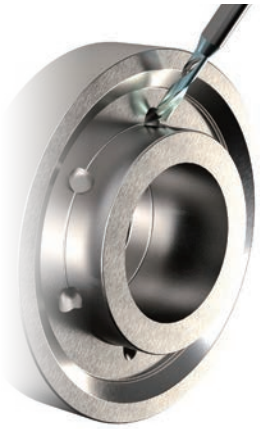
Cutting Conditions: Vc = 80 m/min, f = 0.06 mm/rev, Cutting Dia. ø3, Drilling depth: 6 mm Wet (External Coolant) Workpiece: S50C

KDZ restrains wear. Less welding and chipping
Showed high wear resistance, adhesion resistance and chipping resistance

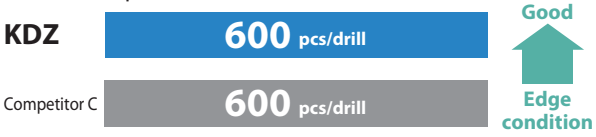
Case Studies

Automotive Parts S25C

n = 6,000 min^{-1} (Vc = 55 m/min)
Vf = 115 mm/min (f = 0.02 mm/rev)
Drilling depth 3 mm Wet (External coolant) KDZ0300X3.0S060N

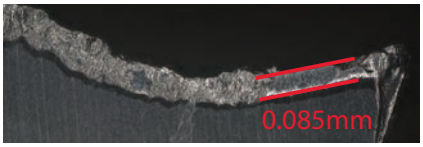


Number of Workpieces

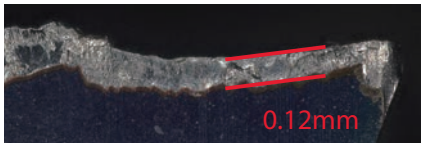


Edge condition

KDZ



Competitor C



KDZ provides superior wear resistance and stable machining

(User evaluation)

KDZ Short

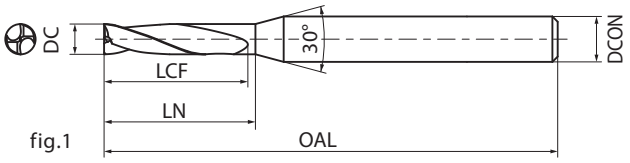
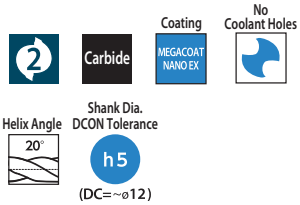


fig.1



Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0100X1.5S040N	●	1.0	0 -0.010	3	4	4	50	fig.1
KDZ0110X1.5S040N	●	1.1	0 -0.010	3.5	4.5	4	50	fig.1
KDZ0120X1.5S040N	●	1.2						
KDZ0130X1.5S040N	●	1.3	0 -0.010	4	5	4	50	fig.1
KDZ0140X1.5S040N	●	1.4	0 -0.010	4.5	5.5	4	50	fig.1
KDZ0150X1.5S040N	●	1.5	0 -0.010	5	6	4	50	fig.1
KDZ0160X1.5S040N	●	1.6						
KDZ0170X1.5S040N	●	1.7	0 -0.010	5.5	6.5	4	50	fig.1
KDZ0180X1.5S040N	●	1.8	0 -0.010	6	7	4	50	fig.1
KDZ0190X1.5S040N	●	1.9						
KDZ0200X1.5S040N	●	2.0						
KDZ0210X1.5S040N	●	2.1	0 -0.010	7	8	4	50	fig.1
KDZ0220X1.5S040N	●	2.2						
KDZ0230X1.5S040N	●	2.3						
KDZ0240X1.5S040N	●	2.4	0 -0.010	8	9	4	50	fig.1
KDZ0250X1.5S040N	●	2.5						
KDZ0260X1.5S040N	●	2.6						
KDZ0270X1.5S040N	●	2.7	0 -0.010	9	10	4	50	fig.1
KDZ0280X1.5S040N	●	2.8						
KDZ0290X1.5S040N	●	2.9						
KDZ0300X1.5S060N	●	3.0				6	60	
KDZ0310X1.5S060N	●	3.1	0 -0.012	10	11	6	60	fig.1
KDZ0320X1.5S060N	●	3.2						
KDZ0330X1.5S060N	●	3.3						
KDZ0340X1.5S060N	●	3.4	0 -0.012	11	12	6	60	fig.1
KDZ0350X1.5S060N	●	3.5						
KDZ0360X1.5S060N	●	3.6						

Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0370X1.5S060N	●	3.7	0 -0.012	12	13	6	60	fig.1
KDZ0380X1.5S060N	●	3.8						
KDZ0390X1.5S060N	●	3.9						
KDZ0400X1.5S060N	●	4.0						
KDZ0410X1.5S060N	●	4.1	0 -0.012	13	14	6	60	fig.1
KDZ0420X1.5S060N	●	4.2						
KDZ0430X1.5S060N	●	4.3						
KDZ0440X1.5S060N	●	4.4	0 -0.012	14	15	6	60	fig.1
KDZ0450X1.5S060N	●	4.5						
KDZ0460X1.5S060N	●	4.6						
KDZ0470X1.5S060N	●	4.7	0 -0.012	15	16	6	60	fig.1
KDZ0480X1.5S060N	●	4.8						
KDZ0490X1.5S060N	●	4.9						
KDZ0500X1.5S060N	●	5.0	0 -0.012	16	17	6	60	fig.1
KDZ0510X1.5S060N	●	5.1						
KDZ0520X1.5S060N	●	5.2						
KDZ0530X1.5S060N	●	5.3						
KDZ0540X1.5S060N	●	5.4	0 -0.012	17	18	6	60	fig.1
KDZ0550X1.5S060N	●	5.5						
KDZ0560X1.5S060N	●	5.6						
KDZ0570X1.5S060N	●	5.7	0 -0.012	18	19	6	60	fig.1
KDZ0580X1.5S060N	●	5.8						
KDZ0590X1.5S060N	●	5.9						

●: Standard Stock

The standard drilling depth is 1.5 D (1.5 x DC).

KDZ Short

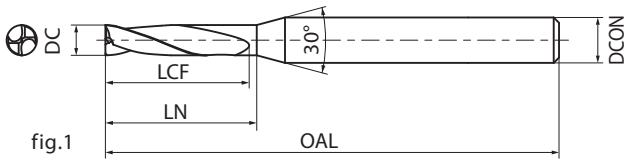
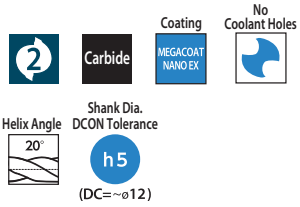


fig.1



Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0600X1.5S060N	●	6.0	0 -0.012	19	21	6	60	fig.1
KDZ0610X1.5S080N	●	6.1	0 -0.015			8	70	
KDZ0620X1.5S080N	●	6.2						
KDZ0630X1.5S080N	●	6.3	0 -0.015	20	22	8	70	fig.1
KDZ0640X1.5S080N	●	6.4						
KDZ0650X1.5S080N	●	6.5						
KDZ0660X1.5S080N	●	6.6						
KDZ0670X1.5S080N	●	6.7	0 -0.015	21	23	8	70	fig.1
KDZ0680X1.5S080N	●	6.8						
KDZ0690X1.5S080N	●	6.9						
KDZ0700X1.5S080N	●	7.0	0 -0.015	22	24	8	70	fig.1
KDZ0710X1.5S080N	●	7.1						
KDZ0720X1.5S080N	●	7.2						
KDZ0730X1.5S080N	●	7.3	0 -0.015	23	25	8	70	fig.1
KDZ0740X1.5S080N	●	7.4						
KDZ0750X1.5S080N	●	7.5						
KDZ0760X1.5S080N	●	7.6	0 -0.015	24	25	8	70	fig.1
KDZ0770X1.5S080N	●	7.7						
KDZ0780X1.5S080N	●	7.8						
KDZ0790X1.5S080N	●	7.9						
KDZ0800X1.5S080N	●	8.0	0 -0.015	25	27	8	70	fig.1
KDZ0810X1.5S100N	●	8.1				10	80	
KDZ0820X1.5S100N	●	8.2						
KDZ0830X1.5S100N	●	8.3	0 -0.015	26	28	10	80	fig.1
KDZ0840X1.5S100N	●	8.4						
KDZ0850X1.5S100N	●	8.5						
KDZ0860X1.5S100N	●	8.6	0 -0.015	27	29	10	80	fig.1
KDZ0870X1.5S100N	●	8.7						
KDZ0880X1.5S100N	●	8.8						
KDZ0890X1.5S100N	●	8.9	0 -0.015	28	30	10	80	fig.1
KDZ0900X1.5S100N	●	9.0						
KDZ0910X1.5S100N	●	9.1						

Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0920X1.5S100N	●	9.2	0 -0.015	29	31	10	80	fig.1
KDZ0930X1.5S100N	●	9.3						
KDZ0940X1.5S100N	●	9.4						
KDZ0950X1.5S100N	●	9.5						
KDZ0960X1.5S100N	●	9.6	0 -0.015	30	32	10	80	fig.1
KDZ0970X1.5S100N	●	9.7						
KDZ0980X1.5S100N	●	9.8						
KDZ0990X1.5S100N	●	9.9	0 -0.015	31	33	10	80	fig.1
KDZ1000X1.5S100N	●	10.0						
KDZ1010X1.5S120N	●	10.1	0 -0.018			12	100	
KDZ1020X1.5S120N	●	10.2	0 -0.018	32	34	12	100	fig.1
KDZ1030X1.5S120N	●	10.3						
KDZ1040X1.5S120N	●	10.4						
KDZ1050X1.5S120N	●	10.5	0 -0.018	33	35	12	100	fig.1
KDZ1060X1.5S120N	●	10.6						
KDZ1070X1.5S120N	●	10.7						
KDZ1080X1.5S120N	●	10.8						
KDZ1090X1.5S120N	●	10.9	0 -0.018	34	36	12	100	fig.1
KDZ1100X1.5S120N	●	11.0						
KDZ1110X1.5S120N	●	11.1						
KDZ1120X1.5S120N	●	11.2	0 -0.018	35	37	12	100	fig.1
KDZ1130X1.5S120N	●	11.3						
KDZ1140X1.5S120N	●	11.4						
KDZ1150X1.5S120N	●	11.5	0 -0.018	36	38	12	100	fig.1
KDZ1160X1.5S120N	●	11.6						
KDZ1170X1.5S120N	●	11.7						
KDZ1180X1.5S120N	●	11.8						
KDZ1190X1.5S120N	●	11.9						
KDZ1200X1.5S120N	●	12.0	0 -0.018	37	39	12	100	fig.1

●: Standard Stock

The standard drilling depth is 1.5 D (1.5 x DC).

KDZ Regular

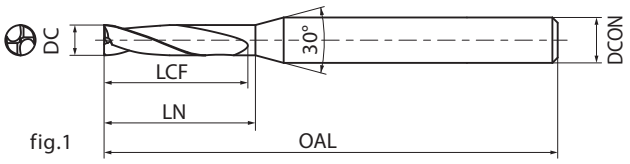
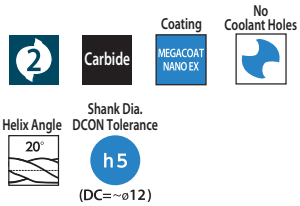


fig.1



Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0300X3.0S060N	●	3.0	0 -0.010	14	15	6	60	fig.1
KDZ0310X3.0S060N	●	3.1	0 -0.012					
KDZ0320X3.0S060N	●	3.2						
KDZ0330X3.0S060N	●	3.3	0 -0.012	15	16	6	60	fig.1
KDZ0340X3.0S060N	●	3.4						
KDZ0350X3.0S060N	●	3.5	0 -0.012	17	18	6	60	fig.1
KDZ0360X3.0S060N	●	3.6						
KDZ0370X3.0S060N	●	3.7						
KDZ0380X3.0S060N	●	3.8						
KDZ0390X3.0S060N	●	3.9						
KDZ0400X3.0S060N	●	4.0	0 -0.012	19	20	6	60	fig.1
KDZ0410X3.0S060N	●	4.1						
KDZ0420X3.0S060N	●	4.2	0 -0.012	20	21	6	60	fig.1
KDZ0430X3.0S060N	●	4.3						
KDZ0440X3.0S060N	●	4.4						
KDZ0450X3.0S060N	●	4.5	0 -0.012	21	22	6	60	fig.1
KDZ0460X3.0S060N	●	4.6						
KDZ0470X3.0S060N	●	4.7						

Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0480X3.0S060N	●	4.8	0 -0.012	21	22	6	60	fig.1
KDZ0490X3.0S060N	●	4.9						
KDZ0500X3.0S060N	●	5.0	0 -0.012	23	24	6	60	fig.1
KDZ0510X3.0S060N	●	5.1						
KDZ0520X3.0S060N	●	5.2						
KDZ0530X3.0S060N	●	5.3	0 -0.012	24	25	6	60	fig.1
KDZ0540X3.0S060N	●	5.4						
KDZ0550X3.0S060N	●	5.5	0 -0.012	25	26	6	60	fig.1
KDZ0560X3.0S060N	●	5.6	0 -0.012	26	27	6	60	fig.1
KDZ0570X3.0S060N	●	5.7						
KDZ0580X3.0S060N	●	5.8						
KDZ0590X3.0S060N	●	5.9						
KDZ0600X3.0S060N	●	6.0	0 -0.012	28	28	6	60	fig.1
KDZ0610X3.0S080N	●	6.1	0 -0.015		29	8	70	
KDZ0620X3.0S080N	●	6.2						
KDZ0630X3.0S080N	●	6.3						
KDZ0640X3.0S080N	●	6.4						
KDZ0650X3.0S080N	●	6.5	0 -0.015	30	31	8	70	fig.1

The standard drilling depth is 2.0 D (2.0 x DC).
Pecking is recommended when Drilling Depth is 2D or over

●: Standard Stock

KDZ Regular

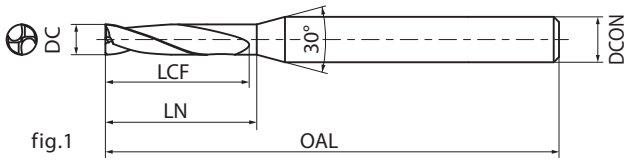
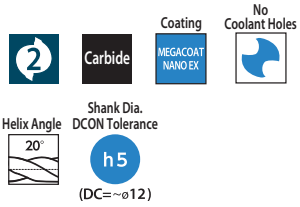


fig.1



Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0660X3.0S080N	●	6.6	0 -0.015	30	31	8	70	fig.1
KDZ0670X3.0S080N	●	6.7						
KDZ0680X3.0S080N	●	6.8	0 -0.015	31	32	8	70	fig.1
KDZ0690X3.0S080N	●	6.9						
KDZ0700X3.0S080N	●	7.0	0 -0.015	32	33	8	70	fig.1
KDZ0710X3.0S080N	●	7.1						
KDZ0720X3.0S080N	●	7.2						
KDZ0730X3.0S080N	●	7.3						
KDZ0740X3.0S080N	●	7.4						
KDZ0750X3.0S080N	●	7.5	0 -0.015	34	35	8	70	fig.1
KDZ0760X3.0S080N	●	7.6						
KDZ0770X3.0S080N	●	7.7						
KDZ0780X3.0S080N	●	7.8						
KDZ0790X3.0S080N	●	7.9						
KDZ0800X3.0S080N	●	8.0	0 -0.015	36	36	8	70	fig.1
KDZ0810X3.0S100N	●	8.1			37	10	80	
KDZ0820X3.0S100N	●	8.2						
KDZ0830X3.0S100N	●	8.3						
KDZ0840X3.0S100N	●	8.4						
KDZ0850X3.0S100N	●	8.5	0 -0.015	38	39	10	80	fig.1
KDZ0860X3.0S100N	●	8.6						
KDZ0870X3.0S100N	●	8.7						
KDZ0880X3.0S100N	●	8.8	0 -0.015	39	40	10	80	fig.1
KDZ0890X3.0S100N	●	8.9						
KDZ0900X3.0S100N	●	9.0	0 -0.015	40	41	10	80	fig.1
KDZ0910X3.0S100N	●	9.1						
KDZ0920X3.0S100N	●	9.2						
KDZ0930X3.0S100N	●	9.3						
KDZ0940X3.0S100N	●	9.4						

Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0950X3.0S100N	●	9.5	0 -0.015	42	43	10	80	fig.1
KDZ0960X3.0S100N	●	9.6						
KDZ0970X3.0S100N	●	9.7						
KDZ0980X3.0S100N	●	9.8						
KDZ0990X3.0S100N	●	9.9						
KDZ1000X3.0S100N	●	10.0	0 -0.015	45	45	10	80	fig.1
KDZ1010X3.0S120N	●	10.1	0 -0.018		46	12	100	
KDZ1020X3.0S120N	●	10.2						
KDZ1030X3.0S120N	●	10.3	0 -0.018	46	47	12	100	fig.1
KDZ1040X3.0S120N	●	10.4						
KDZ1050X3.0S120N	●	10.5	0 -0.018	47	48	12	100	fig.1
KDZ1060X3.0S120N	●	10.6						
KDZ1070X3.0S120N	●	10.7						
KDZ1080X3.0S120N	●	10.8						
KDZ1090X3.0S120N	●	10.9						
KDZ1100X3.0S120N	●	11.0	0 -0.018	51	52	12	100	fig.1
KDZ1110X3.0S120N	●	11.1						
KDZ1120X3.0S120N	●	11.2						
KDZ1130X3.0S120N	●	11.3						
KDZ1140X3.0S120N	●	11.4						
KDZ1150X3.0S120N	●	11.5	0 -0.018	53	54	12	100	fig.1
KDZ1160X3.0S120N	●	11.6						
KDZ1170X3.0S120N	●	11.7						
KDZ1180X3.0S120N	●	11.8						
KDZ1190X3.0S120N	●	11.9						
KDZ1200X3.0S120N	●	12.0	0 -0.018	54	54	12	100	fig.1

●: Standard Stock

The standard drilling depth is 2.0 D (2.0 x DC).
Pecking is recommended when Drilling Depth is 2D or over

Coming Soon (To be released in January 2023)

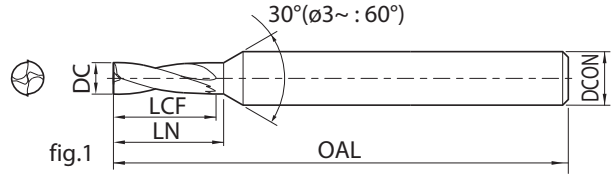


fig.1

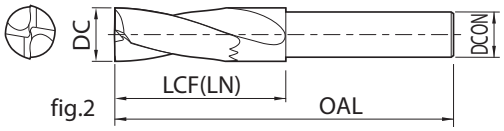
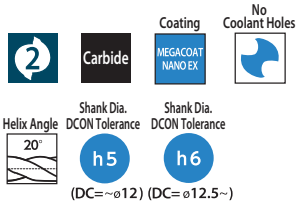


fig.2



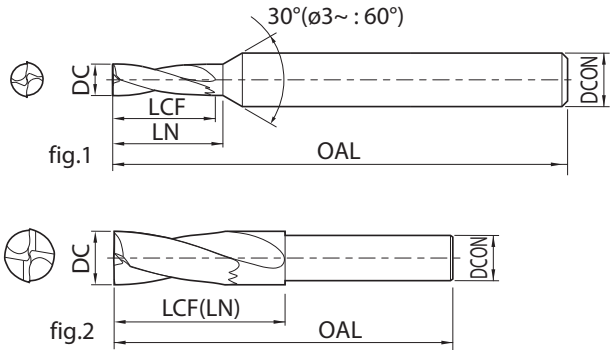
Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0100X1.5S040N-HP	●	1.0	0 -0.010	3.5	4.3	4	50	fig.1
KDZ0110X1.5S040N-HP	●	1.1	0 -0.010	3.9	4.7	4	50	fig.1
KDZ0120X1.5S040N-HP	●	1.2	0 -0.010	4.3	5.1	4	50	fig.1
KDZ0130X1.5S040N-HP	●	1.3	0 -0.010	4.7	5.5	4	50	fig.1
KDZ0140X1.5S040N-HP	●	1.4	0 -0.010	5.1	5.9	4	50	fig.1
KDZ0150X1.5S040N-HP	●	1.5	0 -0.010	5.5	6.3	4	50	fig.1
KDZ0160X1.5S040N-HP	●	1.6	0 -0.010	5.7	6.5	4	50	fig.1
KDZ0170X1.5S040N-HP	●	1.7	0 -0.010	5.9	6.7	4	50	fig.1
KDZ0180X1.5S040N-HP	●	1.8	0 -0.010	6.1	6.9	4	50	fig.1
KDZ0190X1.5S040N-HP	●	1.9	0 -0.010	6.3	7.1	4	50	fig.1
KDZ0200X1.5S040N-HP	●	2.0	0 -0.010	6.5	7.3	4	50	fig.1
KDZ0210X1.5S040N-HP	●	2.1	0 -0.010	6.9	7.7	4	50	fig.1
KDZ0220X1.5S040N-HP	●	2.2	0 -0.010	7.3	8.1	4	50	fig.1
KDZ0230X1.5S040N-HP	●	2.3	0 -0.010	7.7	8.5	4	50	fig.1
KDZ0240X1.5S040N-HP	●	2.4	0 -0.010	8.1	8.9	4	50	fig.1
KDZ0250X1.5S040N-HP	●	2.5	0 -0.010	8.5	9.3	4	50	fig.1
KDZ0260X1.5S040N-HP	●	2.6	0 -0.010	8.8	9.5	4	50	fig.1
KDZ0270X1.5S040N-HP	●	2.7	0 -0.010	9.1	9.8	4	50	fig.1
KDZ0280X1.5S040N-HP	●	2.8	0 -0.010	9.3	10.0	4	50	fig.1
KDZ0290X1.5S040N-HP	●	2.9	0 -0.010	9.5	10.3	4	50	fig.1
KDZ0300X1.5S060N-HP	●	3.0	0 -0.010	9	10	6	60	fig.1
KDZ0310X1.5S060N-HP	●	3.1	0 -0.012	10	11	6	60	fig.1
KDZ0320X1.5S060N-HP	●	3.2						
KDZ0330X1.5S060N-HP	●	3.3						
KDZ0340X1.5S060N-HP	●	3.4	0 -0.012	11	12	6	60	fig.1
KDZ0350X1.5S060N-HP	●	3.5						
KDZ0360X1.5S060N-HP	●	3.6						
KDZ0370X1.5S060N-HP	●	3.7	0 -0.012	12	13	6	60	fig.1
KDZ0380X1.5S060N-HP	●	3.8						
KDZ0390X1.5S060N-HP	●	3.9						
KDZ0400X1.5S060N-HP	●	4.0						
KDZ0410X1.5S060N-HP	●	4.1	0 -0.012	13	14	6	60	fig.1
KDZ0420X1.5S060N-HP	●	4.2						
KDZ0430X1.5S060N-HP	●	4.3						

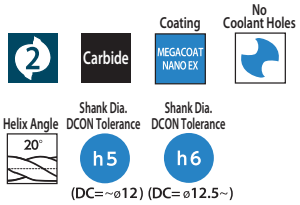
Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0440X1.5S060N-HP	●	4.4	0 -0.012	14	15	6	60	fig.1
KDZ0450X1.5S060N-HP	●	4.5						
KDZ0460X1.5S060N-HP	●	4.6						
KDZ0470X1.5S060N-HP	●	4.7	0 -0.012	15	16	6	60	fig.1
KDZ0480X1.5S060N-HP	●	4.8						
KDZ0490X1.5S060N-HP	●	4.9						
KDZ0500X1.5S060N-HP	●	5.0	0 -0.012	16	17	6	60	fig.1
KDZ0510X1.5S060N-HP	●	5.1						
KDZ0520X1.5S060N-HP	●	5.2						
KDZ0530X1.5S060N-HP	●	5.3						
KDZ0540X1.5S060N-HP	●	5.4	0 -0.012	17	18	6	60	fig.1
KDZ0550X1.5S060N-HP	●	5.5						
KDZ0560X1.5S060N-HP	●	5.6						
KDZ0570X1.5S060N-HP	●	5.7	0 -0.012	18	19	6	60	fig.1
KDZ0580X1.5S060N-HP	●	5.8						
KDZ0590X1.5S060N-HP	●	5.9						
KDZ0600X1.5S060N-HP	●	6.0	0 -0.012	19	21	6	60	fig.1
KDZ0610X1.5S080N-HP	●	6.1	0 -0.015	19	21	8	70	fig.1
KDZ0620X1.5S080N-HP	●	6.2						
KDZ0630X1.5S080N-HP	●	6.3	0 -0.015	20	22	8	70	fig.1
KDZ0640X1.5S080N-HP	●	6.4						
KDZ0650X1.5S080N-HP	●	6.5						
KDZ0660X1.5S080N-HP	●	6.6						
KDZ0670X1.5S080N-HP	●	6.7	0 -0.015	21	23	8	70	fig.1
KDZ0680X1.5S080N-HP	●	6.8						
KDZ0690X1.5S080N-HP	●	6.9						
KDZ0700X1.5S080N-HP	●	7.0	0 -0.015	22	24	8	70	fig.1
KDZ0710X1.5S080N-HP	●	7.1						
KDZ0720X1.5S080N-HP	●	7.2						
KDZ0730X1.5S080N-HP	●	7.3	0 -0.015	23	25	8	70	fig.1
KDZ0740X1.5S080N-HP	●	7.4						
KDZ0750X1.5S080N-HP	●	7.5						

●: Standard Stock

The standard drilling depth is 1.5 D (1.5 x DC).

Coming Soon (To be released in January 2023)





Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0760X1.5S080N-HP	●	7.6	0 -0.015	24	25	8	70	fig.1
KDZ0770X1.5S080N-HP	●	7.7						
KDZ0780X1.5S080N-HP	●	7.8						
KDZ0790X1.5S080N-HP	●	7.9						
KDZ0800X1.5S080N-HP	●	8.0	0 -0.015	25	27	8	70	fig.1
KDZ0810X1.5S100N-HP	●	8.1	0 -0.015	25	27	10	80	fig.1
KDZ0820X1.5S100N-HP	●	8.2						
KDZ0830X1.5S100N-HP	●	8.3	0 -0.015	26	28	10	80	fig.1
KDZ0840X1.5S100N-HP	●	8.4						
KDZ0850X1.5S100N-HP	●	8.5						
KDZ0860X1.5S100N-HP	●	8.6	0 -0.015	27	29	10	80	fig.1
KDZ0870X1.5S100N-HP	●	8.7						
KDZ0880X1.5S100N-HP	●	8.8						
KDZ0890X1.5S100N-HP	●	8.9	0 -0.015	28	30	10	80	fig.1
KDZ0900X1.5S100N-HP	●	9.0						
KDZ0910X1.5S100N-HP	●	9.1						
KDZ0920X1.5S100N-HP	●	9.2	0 -0.015	29	31	10	80	fig.1
KDZ0930X1.5S100N-HP	●	9.3						
KDZ0940X1.5S100N-HP	●	9.4						
KDZ0950X1.5S100N-HP	●	9.5						
KDZ0960X1.5S100N-HP	●	9.6	0 -0.015	30	32	10	80	fig.1
KDZ0970X1.5S100N-HP	●	9.7						
KDZ0980X1.5S100N-HP	●	9.8						
KDZ0990X1.5S100N-HP	●	9.9	0 -0.015	31	33	10	80	fig.1
KDZ1000X1.5S100N-HP	●	10.0						
KDZ1010X1.5S120N-HP	●	10.1	0 -0.018	31	33	12	100	fig.1
KDZ1020X1.5S120N-HP	●	10.2	0 -0.018	32	34	12	100	fig.1
KDZ1030X1.5S120N-HP	●	10.3						
KDZ1040X1.5S120N-HP	●	10.4						
KDZ1050X1.5S120N-HP	●	10.5	0 -0.018	33	35	12	100	fig.1
KDZ1060X1.5S120N-HP	●	10.6						
KDZ1070X1.5S120N-HP	●	10.7						
KDZ1080X1.5S120N-HP	●	10.8						

The standard drilling depth is 1.5 D (1.5 x DC).

Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ1090X1.5S120N-HP	●	10.9	0 -0.018	34	36	12	100	fig.1
KDZ1100X1.5S120N-HP	●	11.0						
KDZ1110X1.5S120N-HP	●	11.1						
KDZ1120X1.5S120N-HP	●	11.2	0 -0.018	35	37	12	100	fig.1
KDZ1130X1.5S120N-HP	●	11.3						
KDZ1140X1.5S120N-HP	●	11.4						
KDZ1150X1.5S120N-HP	●	11.5	0 -0.018	36	38	12	100	fig.1
KDZ1160X1.5S120N-HP	●	11.6						
KDZ1170X1.5S120N-HP	●	11.7						
KDZ1180X1.5S120N-HP	●	11.8						
KDZ1190X1.5S120N-HP	●	11.9						
KDZ1200X1.5S120N-HP	●	12.0	0 -0.018	37	39	12	100	fig.1
KDZ1250X1.5S120N-HP	●	12.5	0 -0.018	41	41	12	100	fig.2
KDZ1300X1.5S120N-HP	●	13.0		43	43			
KDZ1350X1.5S120N-HP	●	13.5		44	44			
KDZ1400X1.5S120N-HP	●	14.0		45	45			
KDZ1450X1.5S120N-HP	●	14.5	0 -0.018	47	47	12	115	fig.2
KDZ1500X1.5S120N-HP	●	15.0		48	48			
KDZ1550X1.5S120N-HP	●	15.5		50	50			
KDZ1600X1.5S160N-HP	●	16.0	0 -0.018	52	52	16	115	fig.1
KDZ1650X1.5S160N-HP	●	16.5	0 -0.018	53	53	16	115	fig.2
KDZ1700X1.5S160N-HP	●	17.0		54	54			
KDZ1750X1.5S160N-HP	●	17.5		56	56			
KDZ1800X1.5S160N-HP	●	18.0		57	57			
KDZ1850X1.5S160N-HP	●	18.5	0 -0.021	59	59	16	125	fig.2
KDZ1900X1.5S160N-HP	●	19.0		60	60			
KDZ1950X1.5S160N-HP	●	19.5		62	62			
KDZ2000X1.5S200N-HP	●	20.0	0 -0.021	63	63	20	125	fig.1

●: Standard Stock

Coming Soon (To be released in January 2023)

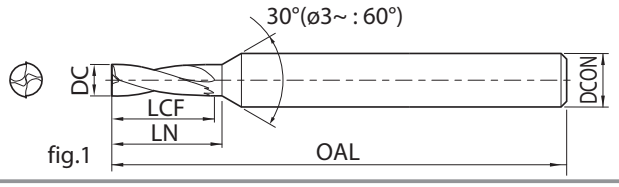
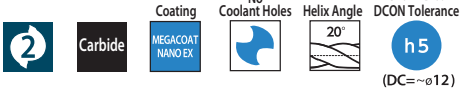


fig.1



Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0300X3.0S060N-HP	●	3.0	0 -0.010	14	15	6	60	fig.1
KDZ0310X3.0S060N-HP	●	3.1	0 -0.012	14	15	6	60	fig.1
KDZ0320X3.0S060N-HP	●	3.2						
KDZ0330X3.0S060N-HP	●	3.3	0 -0.012	15	16	6	60	fig.1
KDZ0340X3.0S060N-HP	●	3.4						
KDZ0350X3.0S060N-HP	●	3.5	0 -0.012	17	18	6	60	fig.1
KDZ0360X3.0S060N-HP	●	3.6						
KDZ0370X3.0S060N-HP	●	3.7						
KDZ0380X3.0S060N-HP	●	3.8						
KDZ0390X3.0S060N-HP	●	3.9						
KDZ0400X3.0S060N-HP	●	4.0	0 -0.012	19	20	6	60	fig.1
KDZ0410X3.0S060N-HP	●	4.1						
KDZ0420X3.0S060N-HP	●	4.2	0 -0.012	20	21	6	60	fig.1
KDZ0430X3.0S060N-HP	●	4.3						
KDZ0440X3.0S060N-HP	●	4.4						
KDZ0450X3.0S060N-HP	●	4.5	0 -0.012	21	22	6	60	fig.1
KDZ0460X3.0S060N-HP	●	4.6						
KDZ0470X3.0S060N-HP	●	4.7						
KDZ0480X3.0S060N-HP	●	4.8						
KDZ0490X3.0S060N-HP	●	4.9						
KDZ0500X3.0S060N-HP	●	5.0	0 -0.012	23	24	6	60	fig.1
KDZ0510X3.0S060N-HP	●	5.1						
KDZ0520X3.0S060N-HP	●	5.2						
KDZ0530X3.0S060N-HP	●	5.3	0 -0.012	24	25	6	60	fig.1
KDZ0540X3.0S060N-HP	●	5.4						
KDZ0550X3.0S060N-HP	●	5.5	0 -0.012	25	26	6	60	fig.1
KDZ0560X3.0S060N-HP	●	5.6	0 -0.012	26	27	6	60	fig.1
KDZ0570X3.0S060N-HP	●	5.7						
KDZ0580X3.0S060N-HP	●	5.8						
KDZ0590X3.0S060N-HP	●	5.9						
KDZ0600X3.0S060N-HP	●	6.0	0 -0.012	28	(28)	6	60	fig.1
KDZ0610X3.0S080N-HP	●	6.1	0 -0.015	28	29	8	70	fig.1
KDZ0620X3.0S080N-HP	●	6.2						
KDZ0630X3.0S080N-HP	●	6.3						
KDZ0640X3.0S080N-HP	●	6.4						
KDZ0650X3.0S080N-HP	●	6.5	0 -0.015	30	31	8	70	fig.1
KDZ0660X3.0S080N-HP	●	6.6						
KDZ0670X3.0S080N-HP	●	6.7						
KDZ0680X3.0S080N-HP	●	6.8	0 -0.015	31	32	8	70	fig.1
KDZ0690X3.0S080N-HP	●	6.9						
KDZ0700X3.0S080N-HP	●	7.0	0 -0.015	32	33	8	70	fig.1
KDZ0710X3.0S080N-HP	●	7.1						
KDZ0720X3.0S080N-HP	●	7.2						
KDZ0730X3.0S080N-HP	●	7.3						
KDZ0740X3.0S080N-HP	●	7.4						
KDZ0750X3.0S080N-HP	●	7.5	0 -0.015	34	35	8	70	fig.1

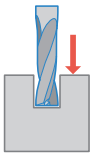
Description	Stock	Dimension (mm)						Shape
		DC	Outside Dia. Tolerance	LCF	LN	DCON	OAL	
KDZ0760X3.0S080N-HP	●	7.6	0 -0.015	34	35	8	70	fig.1
KDZ0770X3.0S080N-HP	●	7.7						
KDZ0780X3.0S080N-HP	●	7.8						
KDZ0790X3.0S080N-HP	●	7.9						
KDZ0800X3.0S080N-HP	●	8.0	0 -0.015	36	(36)	8	70	fig.1
KDZ0810X3.0S100N-HP	●	8.1	0 -0.015	36	37	10	80	fig.1
KDZ0820X3.0S100N-HP	●	8.2						
KDZ0830X3.0S100N-HP	●	8.3						
KDZ0840X3.0S100N-HP	●	8.4						
KDZ0850X3.0S100N-HP	●	8.5	0 -0.015	38	39	10	80	fig.1
KDZ0860X3.0S100N-HP	●	8.6						
KDZ0870X3.0S100N-HP	●	8.7						
KDZ0880X3.0S100N-HP	●	8.8	0 -0.015	39	40	10	80	fig.1
KDZ0890X3.0S100N-HP	●	8.9						
KDZ0900X3.0S100N-HP	●	9.0	0 -0.015	40	41	10	80	fig.1
KDZ0910X3.0S100N-HP	●	9.1						
KDZ0920X3.0S100N-HP	●	9.2						
KDZ0930X3.0S100N-HP	●	9.3						
KDZ0940X3.0S100N-HP	●	9.4						
KDZ0950X3.0S100N-HP	●	9.5	0 -0.015	42	43	10	80	fig.1
KDZ0960X3.0S100N-HP	●	9.6						
KDZ0970X3.0S100N-HP	●	9.7						
KDZ0980X3.0S100N-HP	●	9.8						
KDZ0990X3.0S100N-HP	●	9.9						
KDZ1000X3.0S100N-HP	●	10.0	0 -0.015	45	(45)	10	80	fig.1
KDZ1010X3.0S120N-HP	●	10.1	0 -0.018	45	46	12	100	fig.1
KDZ1020X3.0S120N-HP	●	10.2						
KDZ1030X3.0S120N-HP	●	10.3	0 -0.018	46	47	12	100	fig.1
KDZ1040X3.0S120N-HP	●	10.4						
KDZ1050X3.0S120N-HP	●	10.5	0 -0.018	47	48	12	100	fig.1
KDZ1060X3.0S120N-HP	●	10.6						
KDZ1070X3.0S120N-HP	●	10.7						
KDZ1080X3.0S120N-HP	●	10.8						
KDZ1090X3.0S120N-HP	●	10.9						
KDZ1100X3.0S120N-HP	●	11.0	0 -0.018	51	52	12	100	fig.1
KDZ1110X3.0S120N-HP	●	11.1						
KDZ1120X3.0S120N-HP	●	11.2						
KDZ1130X3.0S120N-HP	●	11.3						
KDZ1140X3.0S120N-HP	●	11.4						
KDZ1150X3.0S120N-HP	●	11.5	0 -0.018	53	54	12	100	fig.1
KDZ1160X3.0S120N-HP	●	11.6						
KDZ1170X3.0S120N-HP	●	11.7						
KDZ1180X3.0S120N-HP	●	11.8						
KDZ1190X3.0S120N-HP	●	11.9						
KDZ1200X3.0S120N-HP	●	12.0	0 -0.018	54	(54)	12	100	fig.1

●: Standard Stock

The standard drilling depth is 2.0 D (2.0 x DC).
Pecking is recommended when Drilling Depth is 2D or over

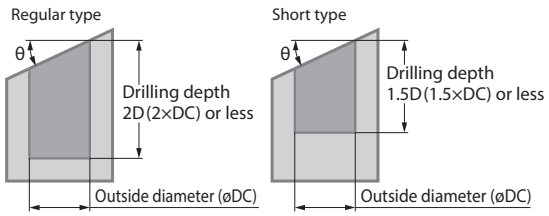
Recommended Cutting Conditions

KDZ

Workpiece	Application	Outside Diameter DC (mm)	ø1	ø2	ø3	ø4	ø5	ø6	ø8	ø10	ø12
Structural Steel Carbon Steel SS400, S45C	 Plunging	Spindle Revolution (min^{-1})	19,500	11,200	8,300	6,200	5,000	4,200	3,200	2,500	2,100
		Feed Rate (mm/min)	300	380	520	520	520	520	520	450	450
Alloy Steel SCM, SNCM		Spindle Revolution (min^{-1})	19,000	10,000	7,200	5,400	4,400	3,600	2,700	2,200	1,800
		Feed Rate (mm/min)	300	320	450	450	450	450	450	400	400
Pre-hardened Steel (30~45HRC)		Spindle Revolution (min^{-1})	16,000	8,000	3,900	2,900	2,300	1,900	1,500	1,200	1,000
		Feed Rate (mm/min)	210	210	210	210	210	210	210	190	190
Nodular Cast Iron FCD400		Spindle Revolution (min^{-1})	16,000	10,000	7,200	5,400	4,400	3,600	2,700	2,200	1,800
		Feed Rate (mm/min)	200	300	390	390	390	390	390	340	340
Aluminum Alloy A7075		Spindle Revolution (min^{-1})	20,000	20,000	17,800	13,100	10,500	8,900	6,700	5,400	4,500
		Feed Rate (mm/min)	500	850	1,270	1,270	1,270	1,270	1,270	1,270	1,270
Aluminum Alloy Casting AC, ADC		Spindle Revolution (min^{-1})	20,000	20,000	13,100	10,000	8,000	6,700	5,000	4,000	3,400
		Feed Rate (mm/min)	450	750	820	820	820	820	820	820	820

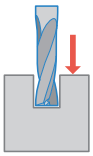
Precautions

- This tool is specially designed for plunging and NOT recommended for traversing
- Coolant is recommended
- Adjust ap to suit machine rigidity and overhang length
- Pecking is recommended when Drilling Depth is 2D or over
- Use chuck and machine with the highest rigidity possible
- Drilling stainless steel (SUS 304, SUS 316) is not recommended
- Cutting condition modifications may be needed when cutting a slant surface, depending on the slant angle (Right Figure)
  When workpiece slant is 30° or less, reduce the feed rate by 50%
  When workpiece slant is 30° or more, reduce the revolution by 70% and the feed rate by 30%



Recommended Cutting Conditions

KDZ-HP

Workpiece	Application	Outside Diameter DC (mm)	ø1	ø1.5	ø2	ø2.5	ø3	ø3.5	ø4	ø4.5	ø5	ø6	ø8	ø10	ø12	ø14	ø16	ø18	ø20
Structural Steel Carbon Steel SS400, S45C	 Plunging	Spindle Revolution (min^{-1})	20,700	13,800	11,150	9,200	9,100	7,800	6,800	6,100	5,500	4,600	3,500	2,800	2,300	1,800	1,600	1,400	1,300
		Feed Rate (mm/min)	350	350	430	430	520	520	520	520	520	520	520	520	520	480	480	480	480
Alloy Steel SCM, SNCM		Spindle Revolution (min^{-1})	17,500	11,700	9,600	7,650	7,200	6,200	5,400	4,800	4,400	3,600	2,700	2,200	1,800	1,500	1,350	1,200	1,100
		Feed Rate (mm/min)	290	290	380	380	450	450	450	450	450	450	450	450	450	420	420	420	420
Pre-hardened Steel (30~45HRC)		Spindle Revolution (min^{-1})	9,600	6,400	5,570	4,460	3,900	3,400	2,900	2,600	2,300	1,900	1,500	1,200	1,000	850	750	650	600
		Feed Rate (mm/min)	120	120	170	170	210	210	210	210	210	210	210	210	210	200	200	200	200
Nodular Cast Iron FCD400		Spindle Revolution (min^{-1})	15,900	10,600	10,360	8,290	7,200	6,200	5,400	4,800	4,400	3,600	2,700	2,200	1,800	1,550	1,350	1,200	1,100
		Feed Rate (mm/min)	220	250	390	390	390	390	390	390	390	390	390	390	390	360	360	360	360
Aluminum Alloy A7075		Spindle Revolution (min^{-1})	39,800	26,600	23,000	18,500	17,800	15,200	13,100	11,800	10,500	8,900	6,700	5,400	4,500	3,800	3,400	3,000	2,700
		Feed Rate (mm/min)	900	1,000	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270	1,270
Aluminum Alloy Casting AC, ADC		Spindle Revolution (min^{-1})	29,000	19,200	17,500	14,000	13,100	11,500	10,000	8,800	8,000	6,700	5,000	4,000	3,400	2,900	2,500	2,200	2,000
		Feed Rate (mm/min)	550	550	820	820	820	820	820	820	820	820	820	820	820	820	820	820	820

Precautions

- This tool is specially designed for plunging and NOT recommended for traversing
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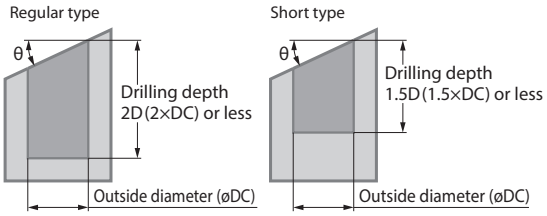

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