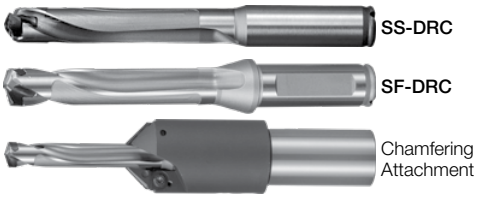
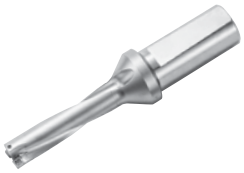
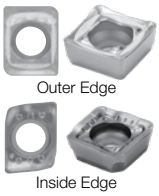
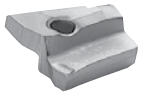
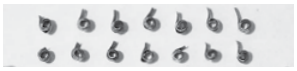
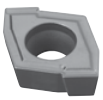
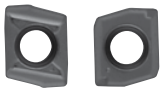
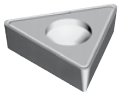
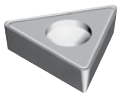
DRILLING

K1 - K127

Product Lineup

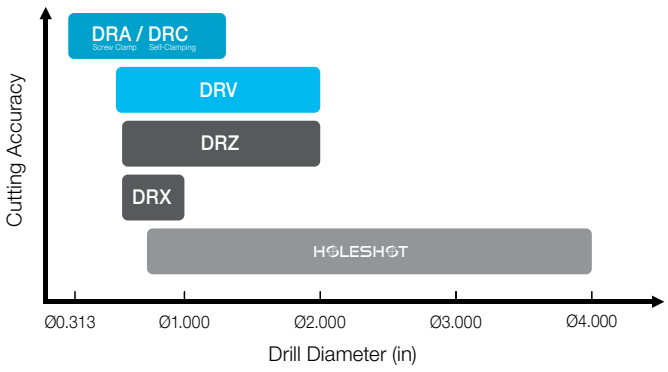
Series Name	Image	Drill Dia. (Drilling Depth)	Cutting Edge	Notes
DRA **Magic Drill** ➡ **K4**	 Screw Clamp	Ø0.313"~Ø1.299" Ø7.94mm~Ø33.00mm (1.5D / 3D / 5D / 8D / 12D)	Replaceable Insert Tip with Double Margins  **DA**	Lineup  **SS-DRA** **SF-DRA**
DRC **Magic Drill** ➡ **K32**	 Self-Clamping	Ø0.313"~Ø1.023" Ø7.94mm~Ø25.99mm (3D / 5D / 8D)	Replaceable Insert Tip with Double Margins  **DC**	Lineup  **SS-DRC** **SF-DRC** Chamfering Attachment
DRV **Magic Drill** ➡ **K48**	 Silver Coating	Ø0.500"~Ø2.000" Ø12mm~Ø60mm (2D / 3D / 4D / 5D / 6D)	Individually Designed Inner & Outer Edges  Outer Edge Inside Edge **SCMT**	Chip Shape (Workpiece: 1049) Drill Dia. Ø20mm Chip from Outer Edge  Chip from Inside Edge 
DRS **Magic Drill Mini** ➡ **K75**	 Silver Coating	Ø0.394"~Ø0.492" Ø10mm~Ø12.5mm (3.5D)	Inside and Outside Edge on One Insert  **DS**	Chip Shape (Workpiece: 1049) Drill Dia. Ø10mm Chip from Outer Edge  Chip from Inside Edge 
DRZ **Magic Drill** ➡ **K76**		Ø0.562"~Ø2.000" Ø13mm~Ø59mm (2D / 3D) Ø0.562"~Ø2.000" Ø13mm~Ø50mm (4D) Ø0.1.062"~Ø2.000" Ø27mm~Ø50mm (5D)	Inside and Outside Edge on One Insert  **ZCMT**	Chip Shape (Workpiece: 1049) Drill Dia. Ø23mm Chip from Outer Edge  Chip from Inside Edge 
DRX **Magic Drill** ➡ **K93**	 Silver Coating	Ø12mm, Ø12.5mm, Ø13mm (2D / 3D / 4D) Ø12mm, Ø13mm (5D)	2 Cutting Edges per Insert  Outer Edge Inside Edge **ZXMT03**	Chip Shape (Workpiece: 1049) Drill Dia. Ø12mm Chip from Outer Edge  Chip from Inside Edge 
		Ø13.5mm~Ø60mm (2D / 3D / 4D) Ø0.562~Ø1.000" Ø14mm~Ø60mm (5D)	1 Insert Type for Inside and Outside Edges  **ZXMT**	Chip Shape (Workpiece: 1049) Drill Dia. Ø24mm Chip from Outer Edge  Chip from Inside Edge 

Product Lineup

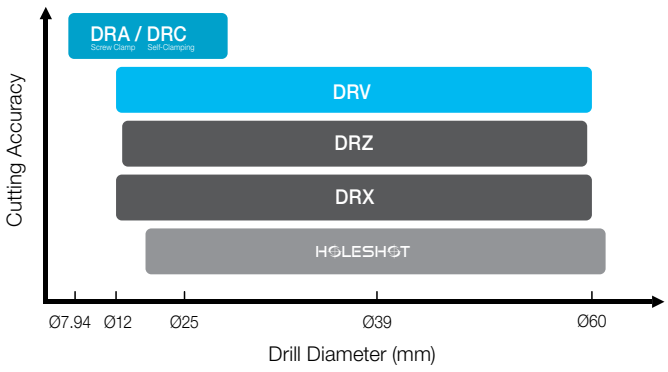
Series Name	Image	Drill Dia. (Drilling Depth)	Cutting Edge	Notes
DR **HOLESHOT** ➔ K110		Ø0.515"~Ø4.000"	 **WCMX**	• Flute design optimized for maximum rigidity and good chip evacuation • Swept back design enables drilling of stacked plates and welded assemblies 
CD **Coremaster Coredrill** ➔ K117		Ø0.825"~Ø3.150"	 **WCMX**	• Available in both fixed pocket and adjustable cartridge providing 0.150" adjustment capability on diameter. • Fast, effective way to expand pre-existing holes. • Two effective flutes allow high feed-rates for improved productivity.
SDR **Stinger Drill** ➔ K121		Ø0.484"~Ø0.844"	Three cutting edges per insert  **TCMT**	• Economical alternative to the Magic Drill • Perfect for job shops or small quantity production • Ideal for low horsepower machines
Counterbore **Countersink** ➔ K124 ➔ K125			Three cutting edges per insert  **TCMT**	**Counterbores** • For socket head cap screws 1/4" to 3/4" and 6mm to 16mm **Countersinks** • For flat head cap screw sizes #10 to 3/4"

Magic Drill Series Application Map

Inch Size Lineup



Metric Size Lineup



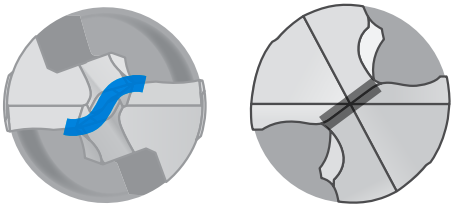
DRA Magic Drill

Excellent Hole Accuracy with a Low Cutting Force Design
5 Advantages to Efficiently Solve Common Drilling Difficulties

1 Low Cutting Force Design Improves Hole Accuracy

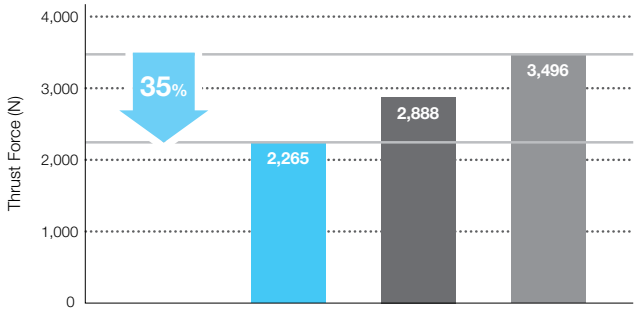
The special chisel edge with S-curve reduces thrust force and controls vibration

Cutting Edge Image



DRA Standard Drill

Low Cutting Force Comparison
(Internal Evaluation)

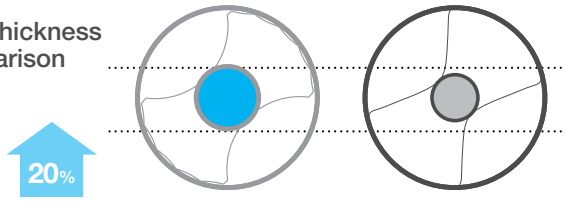


Cutting Conditions : Vc = 390 sfm, f = 0.010 ipr
Drilling Diameter Ø0.551", Drilling Depth 1.772", Wet Workpiece : 1049 Steel

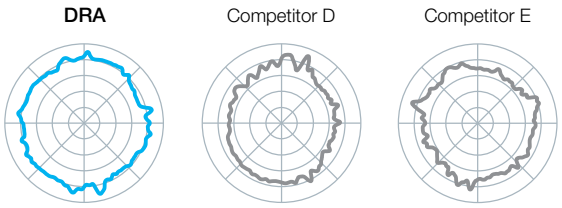
2 Optimal Web Thickness Limits Deflection

The hole accuracy is improved by controlling drill deflection with a 20% thicker web compared with Competitor A

Web Thickness Comparison



Roundness · Cylindricity Comparison
(Internal Evaluation)



	DRA	Competitor D	Competitor E
Roundness	18.7 µm	31.1 µm	27.3 µm
Cylindricity	23.6 µm	34.3 µm	30.1 µm

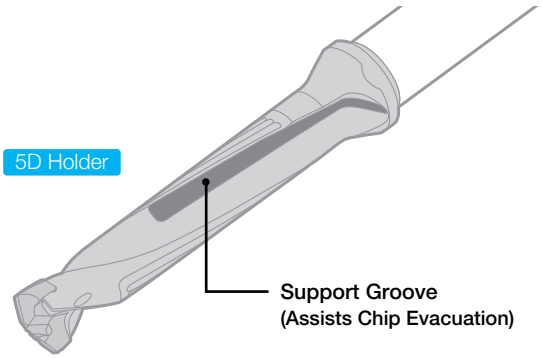
Cutting Conditions : Vc = 390 sfm, f = 0.012 ipr
Drilling Diameter Ø0.551", Measurement Position 2.165", Wet Workpiece : 1049 Steel

3 Fine Chip Breaking Even in Deep Hole Drilling Applications

Optimized chip thinning for stable chip evacuation
Support groove with wider flute (5D, 8D) enables smooth chip evacuation

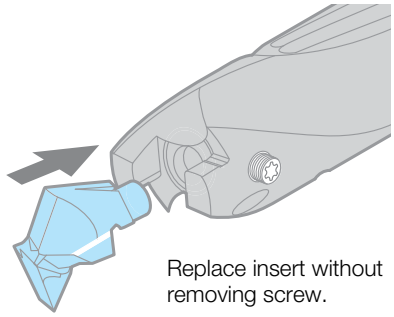
Chip Comparison
(Internal Evaluation)

Cutting Conditions : Vc = 200 sfm, f = 0.008 ipr, Drilling Diameter 0.551"
Drilling Depth 2.756", Wet Workpiece : 304 Stainless Steel

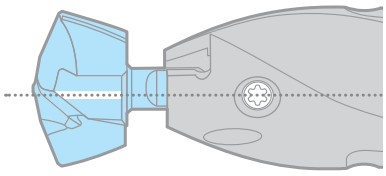


4 Easy Insert Replacement

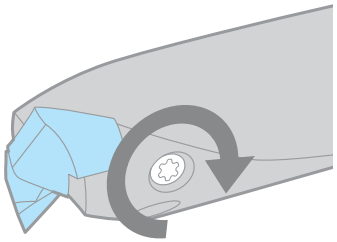
Replace insert without removing screw



Replace insert without removing screw.



Install the insert onto toolholder.
(Align insert guide line with screw position)



Fix the insert by tightening the screw.

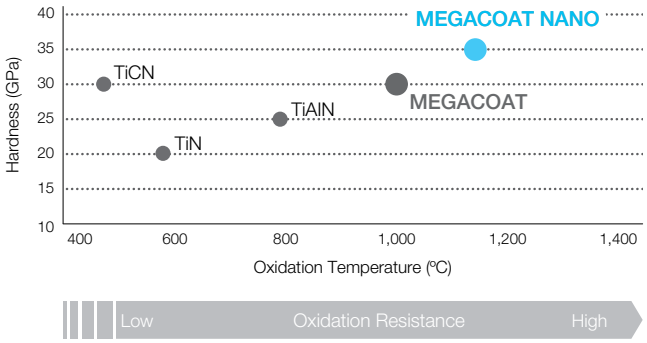
5 Long Tool Life and Stable Machining of Various Workpieces

MEGACOAT NANO grade PR1535 is used to machine various materials from steel to stainless steel, with the combination of a tough substrate and a special nano layer coating

1st Recommendations

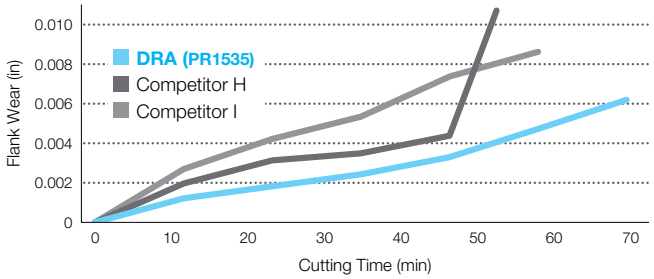
Steel	Cast Iron
PR1535	PR1525

Coating Properties



Wear Resistance Comparison

(Internal Evaluation)

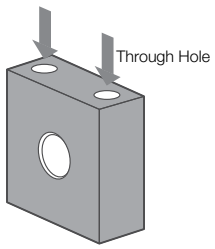


Cutting Conditions : Vc = 330 sfm, f = 0.010 ipr
Drilling Diameter Ø0.551", Cutting Depth 1.772", Wet Workpiece : 4140H

Case Studies

Attachment - Structural Steel

Vc = 230 sfm (n = 1,240 rpm)
f = 0.009 ipr (Vf = 11.221in/min)
Cutting Depth 3.937"
Wet (Internal Coolant)
With Center Hole Drilling
SF0750-DRA180M-8
DA1800M-GM PR1535



Cutting Time

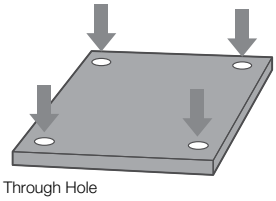
DRA Ø0.709"-8D	**45** sec	30% Cutting Time
Competitor J Ø0.709"-7D	**65** sec	

Competitor J applied a peck cycle to avoid chip clogging.
DRA controlled chip evacuation without pecking.

(User Evaluation)

Plate - Stainless Steel

Vc = 195 sfm (n = 2,120 rpm)
f = 0.005 ipr (Vf = 10 in/min)
Cutting Depth 0.591"
Wet (Internal Coolant)
SS0375-DRA090M-3
DA0900M-GM PR1535



No. of Holes

DRA Ø0.354"-3D	**500**	Tool Life X5
Competitor K Ø0.354"-3D	**100**	

DRA extended the tool life by 5 times compared to Competitor K.
DRA maintained stable machining and excellent surface finish with less cutting noise.

(User Evaluation)

High-Precision

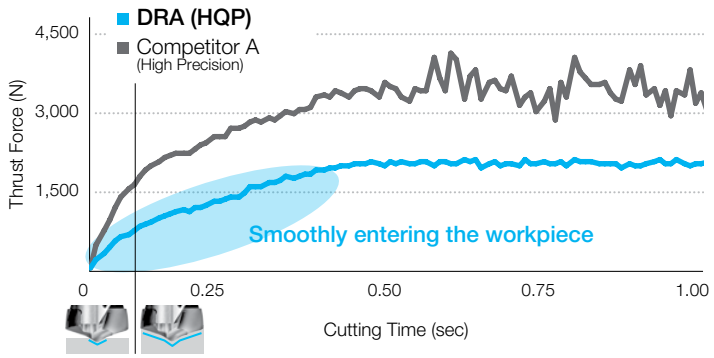
HQP Insert NEW

Improved Centripetal Forces with Special Two-step Bottom Excellent Cylindricity, Roundness and Surface Finish in Steel Machining

1 Improved Centripetal Forces Delivers High-precision Machining Capabilities for both Machining Centers and Lathes

Special two-step bottom, large rake angle and double margin design reduce initial shock for higher precision machining

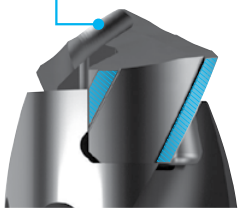
Cutting Force Comparison when Entering Workpiece (Internal Evaluation)



Cutting Conditions: Vc = 330 sfm, f = 0.010 ipr, H = 1.181", Wet Workpiece : 1049 Ø0.630" (3D)

Special Two-step Bottom

Large Rake Angle

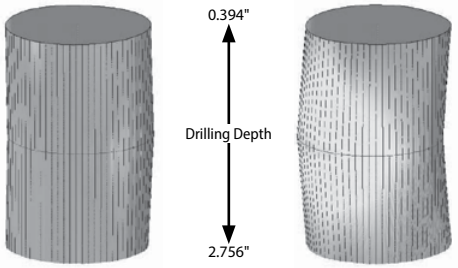


Double Margin

Cylindricity and Roundness Comparison (Internal Evaluation)

Machining Center (BT50)

DRA (HQP) | Competitor A (High Precision)



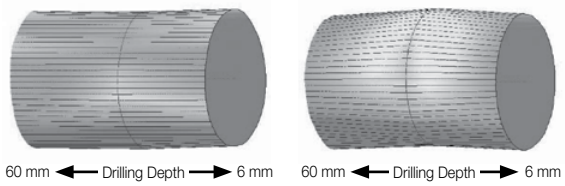
Cylindricity: 19 µm
Roundness: 17 µm (2.756")

Cylindricity: 52 µm
Roundness: 19 µm (2.756")

Cutting Conditions: Vc = 330 sfm, f = 0.010 ipr, H = 3.150", Wet
Workpiece: 1049 Ø0.630" (5D)

Lathes

DRA (HQP) | Competitor B (High Precision)



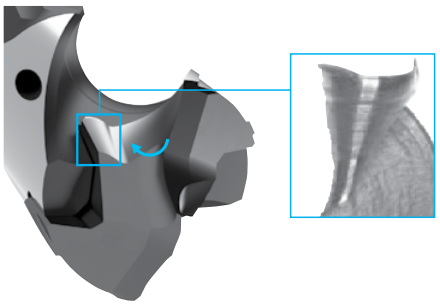
Cylindricity: 19 µm
Roundness: 9 µm (2.362")

Cylindricity: 71 µm
Roundness: 12 µm (2.362")

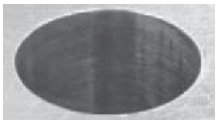
Cutting Conditions: Vc = 390 sfm, f = 0.012 ipr, H = 2.559", Wet
Workpiece: 4137 Ø0.512" (5D)

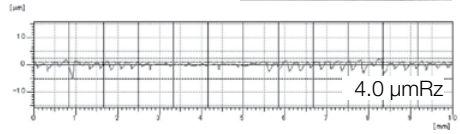
2 Excellent Surface Finish with Unique Flute Shape

Controlled chips reduce scratches on the hole wall



Hole Wall Surface Finish Comparison
(Internal Evaluation)

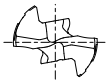


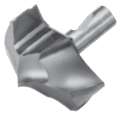


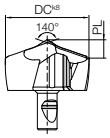
Cutting Conditions: Vc = 330 sfm, f = 0.010 ipr, H = 3.150", Wet
Workpiece: 1049 Ø0.630" (5D)

NEW ITEMS!

Applicable Inserts (HQP - High-Precision Steel)







k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 0.783	+0.0013 0	18.10~ 19.90	+0.033 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Inserts

PR1525 (Steel)

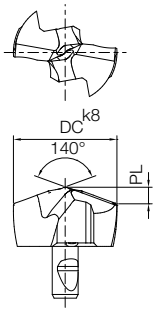
Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR1525	Applicable Toolholder
DA 0794M-HQP	0.313	7.94	0.075	●	SS0375-DRA080M-○ SF0500-DRA080M-○ (SS10-DRA080M-○) (SF12-DRA080M-○)
0800M-HQP	0.315	8.00	0.075	●	
0810M-HQP	0.319	8.10	0.076	●	
0820M-HQP	0.323	8.20	0.076	●	
0830M-HQP	0.327	8.30	0.077	●	
0840M-HQP	0.331	8.40	0.078	●	
DA 0850M-HQP	0.335	8.50	0.078	●	SS0375-DRA085M-○ SF0500-DRA085M-○ (SS10-DRA085M-○) (SF12-DRA085M-○)
0860M-HQP	0.339	8.60	0.079	●	
0870M-HQP	0.343	8.70	0.080	●	
0880M-HQP	0.346	8.80	0.081	●	
0890M-HQP	0.350	8.90	0.081	●	
DA 0900M-HQP	0.354	9.00	0.086	●	SS0375-DRA090M-○ SF0500-DRA090M-○ (SS10-DRA090M-○) (SF12-DRA090M-○)
0910M-HQP	0.358	9.10	0.087	●	
0920M-HQP	0.362	9.20	0.087	●	
0930M-HQP	0.366	9.30	0.088	●	
0940M-HQP	0.370	9.40	0.089	●	
DA 0950M-HQP	0.374	9.50	0.089	●	SS0500-DRA095M-○ SF0500-DRA095M-○ (SS10-DRA095M-○) (SF12-DRA095M-○)
0960M-HQP	0.378	9.60	0.090	●	
0970M-HQP	0.382	9.70	0.091	●	
0980M-HQP	0.386	9.80	0.091	●	
0990M-HQP	0.390	9.90	0.092	●	
DA 1000M-HQP	0.394	10.00	0.093	●	SS0500-DRA100M-○ SF0625-DRA100M-○ (SS12-DRA100M-○) (SF16-DRA100M-○)
1010M-HQP	0.398	10.10	0.093	●	
1020M-HQP	0.402	10.20	0.094	●	
1030M-HQP	0.406	10.30	0.094	●	
1040M-HQP	0.409	10.40	0.095	●	
DA 1050M-HQP	0.413	10.50	0.096	●	SS0500-DRA105M-○ SF0625-DRA105M-○ (SS12-DRA105M-○) (SF16-DRA105M-○)
1060M-HQP	0.417	10.60	0.096	●	
1070M-HQP	0.421	10.70	0.097	●	
1080M-HQP	0.425	10.80	0.097	●	
1090M-HQP	0.429	10.90	0.098	●	
DA 1100M-HQP	0.433	11.00	0.104	●	SS0500-DRA110M-○ SF0625-DRA110M-○ (SS12-DRA110M-○) (SF16-DRA110M-○)
1110M-HQP	0.437	11.10	0.105	●	
1120M-HQP	0.441	11.20	0.106	●	
1130M-HQP	0.445	11.30	0.106	●	
1140M-HQP	0.449	11.40	0.107	●	
DA 1150M-HQP	0.453	11.50	0.107	●	SS0500-DRA115M-○ SF0625-DRA115M-○ (SS12-DRA115M-○) (SF16-DRA115M-○)
1160M-HQP	0.457	11.60	0.108	●	
1170M-HQP	0.461	11.70	0.109	●	
1180M-HQP	0.465	11.80	0.109	●	
1190M-HQP	0.469	11.90	0.110	●	
DA 1200M-HQP	0.472	12.00	0.110	●	SS0625-DRA120M-○ SF0625-DRA120M-○ (SS14-DRA120M-○) (SF16-DRA120M-○)
1210M-HQP	0.476	12.10	0.111	●	
1220M-HQP	0.480	12.20	0.111	●	
1230M-HQP	0.484	12.30	0.112	●	
1240M-HQP	0.488	12.40	0.113	●	
DA 1250M-HQP	0.492	12.50	0.113	●	SS0625-DRA125M-○ SF0625-DRA125M-○ (SS14-DRA125M-○) (SF16-DRA125M-○)
1260M-HQP	0.496	12.60	0.114	●	
1270M-HQP	0.500	12.70	0.115	●	
1280M-HQP	0.504	12.80	0.115	●	
1290M-HQP	0.508	12.90	0.116	●	
DA 1300M-HQP	0.512	13.00	0.117	●	SS0625-DRA130M-○ SF0625-DRA130M-○ (SS14-DRA130M-○) (SF16-DRA130M-○)
1310M-HQP	0.516	13.10	0.118	●	
1320M-HQP	0.520	13.20	0.119	●	
1330M-HQP	0.524	13.30	0.119	●	
1340M-HQP	0.528	13.40	0.120	●	
DA 1350M-HQP	0.531	13.50	0.120	●	SS0625-DRA135M-○ SF0625-DRA135M-○ (SS14-DRA135M-○) (SF16-DRA135M-○)
1360M-HQP	0.535	13.60	0.121	●	
1370M-HQP	0.539	13.70	0.122	●	
1380M-HQP	0.543	13.80	0.122	●	
1390M-HQP	0.547	13.90	0.123	●	
DA 1400M-HQP	0.551	14.00	0.122	●	SS0625-DRA140M-○ SF0625-DRA140M-○ (SS16-DRA140M-○) (SF16-DRA140M-○)
1410M-HQP	0.555	14.10	0.123	●	
1420M-HQP	0.559	14.20	0.124	●	
1430M-HQP	0.563	14.30	0.124	●	
1440M-HQP	0.567	14.40	0.125	●	
DA 1450M-HQP	0.571	14.50	0.126	●	SS0625-DRA145M-○ SF0625-DRA145M-○ (SS16-DRA145M-○) (SF16-DRA145M-○)
1460M-HQP	0.575	14.60	0.126	●	
1470M-HQP	0.579	14.70	0.127	●	
1480M-HQP	0.583	14.80	0.128	●	
1490M-HQP	0.587	14.90	0.128	●	
DA 1500M-HQP	0.591	15.00	0.131	●	SS0625-DRA150M-○ SF0750-DRA150M-○ (SS16-DRA150M-○) (SF20-DRA150M-○)
1510M-HQP	0.594	15.10	0.132	●	
1520M-HQP	0.598	15.20	0.132	●	
1530M-HQP	0.602	15.30	0.133	●	
1540M-HQP	0.606	15.40	0.133	●	
1550M-HQP	0.610	15.50	0.134	●	
1560M-HQP	0.614	15.60	0.135	●	
1570M-HQP	0.618	15.70	0.135	●	
1580M-HQP	0.622	15.80	0.136	●	
1590M-HQP	0.626	15.90	0.137	●	
DA 1600M-HQP	0.630	16.00	0.140	●	SS0750-DRA160M-○ SF0750-DRA160M-○ (SS18-DRA160M-○) (SF20-DRA160M-○)
1610M-HQP	0.634	16.10	0.141	●	
1620M-HQP	0.638	16.20	0.141	●	
1630M-HQP	0.642	16.30	0.142	●	
1640M-HQP	0.646	16.40	0.143	●	
1650M-HQP	0.650	16.50	0.143	●	
1660M-HQP	0.654	16.60	0.144	●	
1670M-HQP	0.657	16.70	0.144	●	
1680M-HQP	0.661	16.80	0.145	●	
1690M-HQP	0.665	16.90	0.145	●	
DA 1700M-HQP	0.669	17.00	0.147	●	SS0750-DRA170M-○ SF0750-DRA170M-○ (SS18-DRA170M-○) (SF20-DRA170M-○)
1710M-HQP	0.673	17.10	0.148	●	
1720M-HQP	0.677	17.20	0.148	●	
1730M-HQP	0.681	17.30	0.149	●	
1740M-HQP	0.685	17.40	0.150	●	
1750M-HQP	0.689	17.50	0.150	●	
1760M-HQP	0.693	17.60	0.151	●	
1770M-HQP	0.697	17.70	0.151	●	
1780M-HQP	0.701	17.80	0.152	●	
1790M-HQP	0.705	17.90	0.153	●	
DA 1800M-HQP	0.709	18.00	0.156	●	SS0750-DRA180M-○ SF0750-DRA180M-○ (SS20-DRA180M-○) (SF25-DRA180M-○)
1810M-HQP	0.713	18.10	0.157	●	
1820M-HQP	0.717	18.20	0.157	●	
1830M-HQP	0.720	18.30	0.158	●	
1840M-HQP	0.724	18.40	0.159	●	
1850M-HQP	0.728	18.50	0.159	●	
1860M-HQP	0.732	18.60	0.160	●	
1870M-HQP	0.736	18.70	0.161	●	
1880M-HQP	0.740	18.80	0.161	●	
1890M-HQP	0.744	18.90	0.162	●	
DA 1900M-HQP	0.748	19.00	0.165	●	SS1000-DRA190M-○ SF0750-DRA190M-○ (SS20-DRA190M-○) (SF25-DRA190M-○)
1910M-HQP	0.752	19.10	0.166	●	
1920M-HQP	0.756	19.20	0.167	●	
1930M-HQP	0.760	19.30	0.167	●	
1940M-HQP	0.764	19.40	0.168	●	
1950M-HQP	0.768	19.50	0.169	●	
1960M-HQP	0.772	19.60	0.169	●	
1970M-HQP	0.776	19.70	0.170	●	
1980M-HQP	0.780	19.80	0.170	●	
1990M-HQP	0.783	19.90	0.171	●	

*Applicable Toolholders in ( ) are metric

Recommended Cutting Conditions ➔ K27

Inserts are sold in 1 piece boxes

Applicable Inserts (GM - General Purpose)



k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.181	+0.0013 0	18.10~ 30.00	+0.033 0
1.185~ 1.299	+0.0015 0	30.10~ 33.00	+0.039 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Inserts

PR1535 (Steel / Stainless Steel) **PR1525** (Cast Iron)

Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR1535	Grade PR1525	Applicable Toolholder
DA 0794M-GM	0.313	7.94	0.053	●	●	SS0375-DRA080M-○ SF0500-DRA080M-○ (SS10-DRA080M-○) (SF12-DRA080M-○)
0800M-GM	0.315	8.00	0.053	●	●	
0810M-GM	0.319	8.10	0.054	●	●	
0818M-GM	0.322	8.18	0.054	●	□	
0820M-GM	0.323	8.20	0.055	●	●	
0830M-GM	0.327	8.30	0.055	●	●	
0840M-GM	0.331	8.40	0.056	●	●	
DA 0850M-GM	0.335	8.50	0.057	●	●	SS0375-DRA085M-○ SF0500-DRA085M-○ (SS10-DRA085M-○) (SF12-DRA085M-○)
0860M-GM	0.339	8.60	0.057	●	●	
0870M-GM	0.343	8.70	0.058	●	●	
0880M-GM	0.346	8.80	0.059	●	●	
0890M-GM	0.350	8.90	0.060	●	●	
DA 0900M-GM	0.354	9.00	0.060	●	●	SS0375-DRA090M-○ SF0500-DRA090M-○ (SS10-DRA090M-○) (SF12-DRA090M-○)
0910M-GM	0.358	9.10	0.061	●	●	
0920M-GM	0.362	9.20	0.061	●	●	
0930M-GM	0.366	9.30	0.062	●	●	
0940M-GM	0.370	9.40	0.063	●	●	
DA 0950M-GM	0.374	9.50	0.063	●	●	SS0500-DRA095M-○ SF0500-DRA095M-○ (SS10-DRA095M-○) (SF12-DRA095M-○)
0953M-GM	0.375	9.53	0.064	●	□	
0960M-GM	0.378	9.60	0.064	●	●	
0970M-GM	0.382	9.70	0.065	●	●	
0980M-GM	0.386	9.80	0.066	●	●	
0990M-GM	0.390	9.90	0.066	●	●	
DA 1000M-GM	0.394	10.00	0.067	●	●	SS0500-DRA100M-○ SF0625-DRA100M-○ (SS12-DRA100M-○) (SF16-DRA100M-○)
1010M-GM	0.398	10.10	0.068	●	●	
1020M-GM	0.402	10.20	0.068	●	●	
1030M-GM	0.406	10.30	0.069	●	●	
1040M-GM	0.409	10.40	0.070	●	●	
DA 1050M-GM	0.413	10.50	0.071	●	●	SS0500-DRA105M-○ SF0625-DRA105M-○ (SS12-DRA105M-○) (SF16-DRA105M-○)
1060M-GM	0.417	10.60	0.071	●	●	
1070M-GM	0.421	10.70	0.072	●	●	
1072M-GM	0.422	10.72	0.072	●	□	
1080M-GM	0.425	10.80	0.073	●	●	
1090M-GM	0.429	10.90	0.073	●	●	
DA 1100M-GM	0.433	11.00	0.074	●	●	SS0500-DRA110M-○ SF0625-DRA110M-○ (SS12-DRA110M-○) (SF16-DRA110M-○)
1110M-GM	0.437	11.10	0.074	●	●	
1120M-GM	0.441	11.20	0.075	●	●	
1130M-GM	0.445	11.30	0.076	●	●	
1140M-GM	0.449	11.40	0.076	●	●	
DA 1150M-GM	0.453	11.50	0.077	●	●	SS0500-DRA115M-○ SF0625-DRA115M-○ (SS12-DRA115M-○) (SF16-DRA115M-○)
1160M-GM	0.457	11.60	0.078	●	●	
1170M-GM	0.461	11.70	0.079	●	●	
1180M-GM	0.465	11.80	0.079	●	●	
1190M-GM	0.469	11.90	0.080	●	●	
DA 1200M-GM	0.472	12.00	0.080	●	●	SS0625-DRA120M-○ SF0625-DRA120M-○ (SS14-DRA120M-○) (SF16-DRA120M-○)
1210M-GM	0.476	12.10	0.081	●	●	
1220M-GM	0.480	12.20	0.081	●	●	
1230M-GM	0.484	12.30	0.082	●	●	
1240M-GM	0.488	12.40	0.083	●	●	
DA 1250M-GM	0.492	12.50	0.083	●	●	SS0625-DRA125M-○ SF0625-DRA125M-○ (SS14-DRA125M-○) (SF16-DRA125M-○)
1260M-GM	0.496	12.60	0.084	●	●	
1270M-GM	0.500	12.70	0.085	●	●	
1280M-GM	0.504	12.80	0.086	●	●	
1290M-GM	0.508	12.90	0.086	●	●	

Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR1535	Grade PR1525	Applicable Toolholder
DA 1300M-GM	0.512	13.00	0.087	●	●	SS0625-DRA130M-○ SF0625-DRA130M-○ (SS14-DRA130M-○) (SF16-DRA130M-○)
1310M-GM	0.516	13.10	0.087	●	●	
1320M-GM	0.520	13.20	0.088	●	●	
1330M-GM	0.524	13.30	0.089	●	●	
1340M-GM	0.528	13.40	0.089	●	●	
DA 1350M-GM	0.531	13.50	0.090	●	●	SS0625-DRA135M-○ SF0625-DRA135M-○ (SS14-DRA135M-○) (SF16-DRA135M-○)
1360M-GM	0.535	13.60	0.091	●	●	
1370M-GM	0.539	13.70	0.092	●	●	
1380M-GM	0.543	13.80	0.092	●	●	
1390M-GM	0.547	13.90	0.093	●	●	
DA 1400M-GM	0.551	14.00	0.092	●	●	SS0625-DRA140M-○ SF0625-DRA140M-○ (SS16-DRA140M-○) (SF16-DRA140M-○)
1410M-GM	0.555	14.10	0.092	●	●	
1420M-GM	0.559	14.20	0.093	●	●	
1430M-GM	0.563	14.30	0.094	●	●	
1440M-GM	0.567	14.40	0.094	●	●	
DA 1450M-GM	0.571	14.50	0.095	●	●	SS0625-DRA145M-○ SF0625-DRA145M-○ (SS16-DRA145M-○) (SF16-DRA145M-○)
1460M-GM	0.575	14.60	0.096	●	●	
1468M-GM	0.578	14.68	0.096	●	□	
DA 1470M-GM	0.579	14.70	0.097	●	●	SS0625-DRA145M-○ SF0625-DRA145M-○ (SS16-DRA145M-○) (SF16-DRA145M-○)
1480M-GM	0.583	14.80	0.097	●	●	
1490M-GM	0.590	14.90	0.098	●	●	
DA 1500M-GM	0.591	15.00	0.099	●	●	SS0625-DRA150M-○ SF0750-DRA150M-○ (SS16-DRA150M-○) (SF20-DRA150M-○)
1510M-GM	0.594	15.10	0.100	●	●	
1520M-GM	0.598	15.20	0.101	●	●	
1530M-GM	0.602	15.30	0.101	●	●	
1540M-GM	0.606	15.40	0.102	●	●	
1550M-GM	0.610	15.50	0.103	●	●	
1560M-GM	0.614	15.60	0.103	●	●	
1570M-GM	0.618	15.70	0.104	●	●	
1580M-GM	0.622	15.80	0.105	●	●	
1588M-GM	0.625	15.88	0.106	●	□	
1590M-GM	0.626	15.90	0.106	●	●	
DA 1600M-GM	0.630	16.00	0.106	●	●	SS0750-DRA160M-○ SF0750-DRA160M-○ (SS18-DRA160M-○) (SF20-DRA160M-○)
1610M-GM	0.634	16.10	0.107	●	●	
1620M-GM	0.638	16.20	0.107	●	●	
1630M-GM	0.642	16.30	0.108	●	●	
1640M-GM	0.646	16.40	0.109	●	●	
1650M-GM	0.650	16.50	0.110	●	●	
1660M-GM	0.654	16.60	0.110	●	●	
1667M-GM	0.656	16.67	0.111	●	□	
1670M-GM	0.657	16.70	0.111	●	●	
1680M-GM	0.661	16.80	0.112	●	●	
1690M-GM	0.665	16.90	0.112	●	●	
DA 1700M-GM	0.669	17.00	0.113	●	●	SS0750-DRA170M-○ SF0750-DRA170M-○ (SS18-DRA170M-○) (SF20-DRA170M-○)
1710M-GM	0.673	17.10	0.113	●	●	
1720M-GM	0.677	17.20	0.114	●	●	
1730M-GM	0.681	17.30	0.115	●	●	
1740M-GM	0.685	17.40	0.116	●	●	
1746M-GM	0.687	17.46	0.116	●	□	
1750M-GM	0.689	17.50	0.116	●	●	
1760M-GM	0.693	17.60	0.117	●	●	
1770M-GM	0.697	17.70	0.118	●	●	
1780M-GM	0.701	17.80	0.118	●	●	
1790M-GM	0.705	17.90	0.119	●	●	

*Applicable Toolholders in ( ) are metric

Recommended Cutting Conditions ➡ K26

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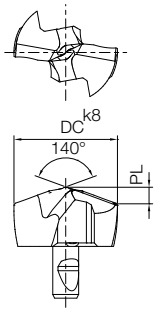
Applicable Inserts (GM - General Purpose)



k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.181	+0.0013 0	18.10~ 30.00	+0.033 0
1.185~ 1.299	+0.0015 0	30.10~ 33.00	+0.039 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Inserts

PR1535 (Steel / Stainless Steel) PR1525 (Cast Iron)

Part Number	DC in	DC mm	PL (in)	PR1535	PR1525	Applicable Toolholder
DA 1800M-GM	0.709	18.00	0.120	●	●	SS0750-DRA180M-○ SF0750-DRA180M-○ (SS20-DRA180M-○) (SF25-DRA180M-○)
1810M-GM	0.713	18.10	0.120	●	●	
1820M-GM	0.717	18.20	0.121	●	●	
1830M-GM	0.720	18.30	0.122	●	●	
1840M-GM	0.724	18.40	0.122	●	●	
1850M-GM	0.728	18.50	0.123	●	●	
1860M-GM	0.732	18.60	0.124	●	●	
1870M-GM	0.736	18.70	0.125	●	●	
1880M-GM	0.740	18.80	0.125	●	●	
1890M-GM	0.744	18.90	0.126	●	●	
DA 1900M-GM	0.748	19.00	0.126	●	●	SS1000-DRA190M-○ SF0750-DRA190M-○ (SS20-DRA190M-○) (SF25-DRA190M-○)
1905M-GM	0.750	19.05	0.127	●	□	
1910M-GM	0.752	19.10	0.127	●	●	
1920M-GM	0.756	19.20	0.128	●	●	
1930M-GM	0.760	19.30	0.129	●	●	
1940M-GM	0.764	19.40	0.129	●	●	
1950M-GM	0.768	19.50	0.130	●	●	
1960M-GM	0.772	19.60	0.131	●	●	
1970M-GM	0.776	19.70	0.132	●	●	
1980M-GM	0.780	19.80	0.132	●	●	
1990M-GM	0.783	19.90	0.133	●	●	
DA 2000M-GM	0.787	20.00	0.133	●	●	SS1000-DRA200M-○ SF1000-DRA200M-○ (SS25-DRA200M-○) (SF25-DRA200M-○)
2010M-GM	0.791	20.10	0.134	●	●	
2020M-GM	0.795	20.20	0.134	●	●	
2030M-GM	0.799	20.30	0.135	●	●	
2040M-GM	0.803	20.40	0.136	●	●	
2050M-GM	0.807	20.50	0.136	●	●	
2060M-GM	0.811	20.60	0.137	●	●	
2064M-GM	0.813	20.64	0.137	●	□	
2070M-GM	0.815	20.70	0.138	●	●	
2080M-GM	0.819	20.80	0.139	●	●	
2090M-GM	0.823	20.90	0.139	●	●	
DA 2100M-GM	0.827	21.00	0.140	●	●	SS1000-DRA210M-○ SF1000-DRA210M-○ (SS25-DRA210M-○) (SF25-DRA210M-○)
2150M-GM	0.846	21.50	0.143	●	●	
DA 2200M-GM	0.866	22.00	0.146	●	●	SS1000-DRA220M-○ SF1000-DRA220M-○ (SS25-DRA220M-○) (SF25-DRA220M-○)
2223M-GM	0.875	22.23	0.148	●	●	
2250M-GM	0.886	22.50	0.150	●	●	
DA 2300M-GM	0.906	23.00	0.153	●	●	SS1000-DRA230M-○ SF1000-DRA230M-○ (SS25-DRA230M-○) (SF25-DRA230M-○)
2350M-GM	0.925	23.50	0.156	●	●	
2381M-GM	0.937	23.81	0.158	●	□	
DA 2400M-GM	0.945	24.00	0.159	●	●	SS1000-DRA240M-○ SF1000-DRA240M-○ (SS25-DRA240M-○) (SF25-DRA240M-○)
2450M-GM	0.965	24.50	0.163	●	●	
DA 2500M-GM	0.984	25.00	0.165	●	●	SS1000-DRA250M-○ SF1000-DRA250M-○ (SS32-DRA250M-○) (SF25-DRA250M-○)
2540M-GM	1.000	25.40	0.168	●	□	
2550M-GM	1.004	25.50	0.169	●	●	

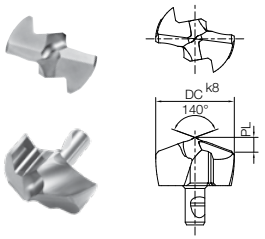
Part Number	DC in	DC mm	PL (in)	PR1535	PR1525	Applicable Toolholder
NEW DA 2600M-GM	1.024	26.00	0.189	●	●	(SF32-DRA260M-○)
NEW 2650M-GM	1.043	26.50	0.193	●	●	
NEW DA 2700M-GM	1.063	27.00	0.196	●	●	(SF32-DRA270M-○)
NEW 2750M-GM	1.083	27.50	0.200	●	●	
NEW DA 2800M-GM	1.102	28.00	0.186	●	●	(SF32-DRA280M-○)
NEW 2850M-GM	1.122	28.50	0.190	●	●	
NEW DA 2900M-GM	1.142	29.00	0.193	●	●	(SF32-DRA290M-○)
NEW 2950M-GM	1.161	29.50	0.197	●	●	
NEW DA 3000M-GM	1.181	30.00	0.200	●	●	(SF32-DRA300M-○)
NEW 3050M-GM	1.201	30.50	0.204	●	●	
NEW DA 3100M-GM	1.220	31.00	0.207	●	●	(SF32-DRA310M-○)
NEW 3150M-GM	1.240	31.50	0.211	●	●	
NEW DA 3200M-GM	1.260	32.00	0.213	●	●	(SF32-DRA320M-○)
NEW 3250M-GM	1.280	32.50	0.217	●	●	
NEW 3300M-GM	1.299	33.00	0.221	●	●	

Recommended Cutting Conditions K26

*Applicable Toolholders in ( ) are metric

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Applicable Inserts (KM - Cast Iron)



k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.004	+0.0013 0	18.10~ 25.50	+0.033 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Inserts

PR1525 (Cast Iron)

Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR1525	Applicable Toolholder
DA 0794M-KM	0.313	7.94	0.072	●	SS0375-DRA080M-O SF0500-DRA080M-O (SS10-DRA080M-O) (SF12-DRA080M-O)
0800M-KM	0.315	8.00	0.073	●	
0810M-KM	0.319	8.10	0.074	●	
0820M-KM	0.323	8.20	0.076	●	
0830M-KM	0.327	8.30	0.078	●	
0840M-KM	0.331	8.40	0.080	●	
DA 0850M-KM	0.335	8.50	0.081	●	SS0375-DRA085M-O SF0500-DRA085M-O (SS10-DRA085M-O) (SF12-DRA085M-O)
0860M-KM	0.339	8.60	0.083	●	
0870M-KM	0.343	8.70	0.084	●	
0880M-KM	0.346	8.80	0.086	●	
0890M-KM	0.350	8.90	0.088	●	
DA 0900M-KM	0.354	9.00	0.080	●	SS0375-DRA090M-O SF0500-DRA090M-O (SS10-DRA090M-O) (SF12-DRA090M-O)
0910M-KM	0.358	9.10	0.081	●	
0920M-KM	0.362	9.20	0.083	●	
0930M-KM	0.366	9.30	0.085	●	
0940M-KM	0.370	9.40	0.086	●	
DA 0950M-KM	0.374	9.50	0.088	●	SS0500-DRA095M-O SF0500-DRA095M-O (SS10-DRA095M-O) (SF12-DRA095M-O)
0960M-KM	0.378	9.60	0.089	●	
0970M-KM	0.382	9.70	0.091	●	
0980M-KM	0.386	9.80	0.093	●	
0990M-KM	0.390	9.90	0.094	●	
DA 1000M-KM	0.394	10.00	0.087	●	SS0500-DRA100M-O SF0625-DRA100M-O (SS12-DRA100M-O) (SF16-DRA100M-O)
1010M-KM	0.398	10.10	0.088	●	
1020M-KM	0.402	10.20	0.090	●	
1030M-KM	0.406	10.30	0.091	●	
1040M-KM	0.409	10.40	0.093	●	
DA 1050M-KM	0.413	10.50	0.095	●	SS0500-DRA105M-O SF0625-DRA105M-O (SS12-DRA105M-O) (SF16-DRA105M-O)
1060M-KM	0.417	10.60	0.096	●	
1070M-KM	0.421	10.70	0.098	●	
1080M-KM	0.425	10.80	0.100	●	
1090M-KM	0.429	10.90	0.101	●	
DA 1100M-KM	0.433	11.00	0.098	●	SS0500-DRA110M-O SF0625-DRA110M-O (SS12-DRA110M-O) (SF16-DRA110M-O)
1110M-KM	0.437	11.10	0.100	●	
1120M-KM	0.441	11.20	0.102	●	
1130M-KM	0.445	11.30	0.104	●	
1140M-KM	0.449	11.40	0.105	●	
DA 1150M-KM	0.453	11.50	0.107	●	SS0500-DRA115M-O SF0625-DRA115M-O (SS12-DRA115M-O) (SF16-DRA115M-O)
1160M-KM	0.457	11.60	0.108	●	
1170M-KM	0.461	11.70	0.110	●	
1180M-KM	0.465	11.80	0.112	●	
1190M-KM	0.469	11.90	0.113	●	
DA 1200M-KM	0.472	12.00	0.106	●	SS0625-DRA120M-O SF0625-DRA120M-O (SS14-DRA120M-O) (SF16-DRA120M-O)
1210M-KM	0.476	12.10	0.107	●	
1220M-KM	0.480	12.20	0.109	●	
1230M-KM	0.484	12.30	0.110	●	
1240M-KM	0.488	12.40	0.112	●	
DA 1250M-KM	0.492	12.50	0.114	●	SS0625-DRA125M-O SF0625-DRA125M-O (SS14-DRA125M-O) (SF16-DRA125M-O)
1260M-KM	0.496	12.60	0.115	●	
1270M-KM	0.500	12.70	0.117	●	
1280M-KM	0.504	12.80	0.119	●	
1290M-KM	0.508	12.90	0.120	●	
DA 1300M-KM	0.512	13.00	0.111	●	SS0625-DRA130M-O SF0625-DRA130M-O (SS14-DRA130M-O) (SF16-DRA130M-O)
1310M-KM	0.516	13.10	0.113	●	
1320M-KM	0.520	13.20	0.115	●	
1330M-KM	0.524	13.30	0.117	●	
1340M-KM	0.528	13.40	0.118	●	
DA 1350M-KM	0.531	13.50	0.120	●	SS0625-DRA135M-O SF0625-DRA135M-O (SS14-DRA135M-O) (SF16-DRA135M-O)
1360M-KM	0.535	13.60	0.121	●	
1370M-KM	0.539	13.70	0.123	●	
1380M-KM	0.543	13.80	0.125	●	
1390M-KM	0.547	13.90	0.126	●	
DA 1400M-KM	0.551	14.00	0.120	●	SS0625-DRA140M-O SF0625-DRA140M-O (SS16-DRA140M-O) (SF16-DRA140M-O)
1410M-KM	0.555	14.10	0.122	●	
1420M-KM	0.559	14.20	0.123	●	
1430M-KM	0.563	14.30	0.125	●	
1440M-KM	0.567	14.40	0.126	●	
DA 1450M-KM	0.571	14.50	0.128	●	SS0625-DRA145M-O SF0625-DRA145M-O (SS16-DRA145M-O) (SF16-DRA145M-O)
1460M-KM	0.575	14.60	0.130	●	
DA 1470M-KM	0.579	14.70	0.131	●	
1480M-KM	0.583	14.80	0.133	●	
1490M-KM	0.590	14.90	0.135	●	
DA 1500M-KM	0.591	15.00	0.128	●	SS0625-DRA150M-O SF0750-DRA150M-O (SS16-DRA150M-O) (SF20-DRA150M-O)
1510M-KM	0.594	15.10	0.129	●	
1520M-KM	0.598	15.20	0.131	●	
1530M-KM	0.602	15.30	0.133	●	
1540M-KM	0.606	15.40	0.134	●	
1550M-KM	0.610	15.50	0.136	●	
1560M-KM	0.614	15.60	0.137	●	
1570M-KM	0.618	15.70	0.139	●	
1580M-KM	0.622	15.80	0.141	●	
1590M-KM	0.626	15.90	0.143	●	
DA 1600M-KM	0.630	16.00	0.135	●	SS0750-DRA160M-O SF0750-DRA160M-O (SS18-DRA160M-O) (SF20-DRA160M-O)
1610M-KM	0.634	16.10	0.137	●	
1620M-KM	0.638	16.20	0.138	●	
1630M-KM	0.642	16.30	0.140	●	
1640M-KM	0.646	16.40	0.142	●	
1650M-KM	0.650	16.50	0.143	●	
1660M-KM	0.654	16.60	0.145	●	
1670M-KM	0.657	16.70	0.146	●	
1680M-KM	0.661	16.80	0.148	●	
1690M-KM	0.665	16.90	0.150	●	
DA 1700M-KM	0.669	17.00	0.142	●	SS0750-DRA170M-O SF0750-DRA170M-O (SS18-DRA170M-O) (SF20-DRA170M-O)
1710M-KM	0.673	17.10	0.144	●	
1720M-KM	0.677	17.20	0.145	●	
1730M-KM	0.681	17.30	0.147	●	
1740M-KM	0.685	17.40	0.149	●	
1750M-KM	0.689	17.50	0.150	●	
1760M-KM	0.693	17.60	0.152	●	
1770M-KM	0.697	17.70	0.154	●	
1780M-KM	0.701	17.80	0.156	●	
1790M-KM	0.705	17.90	0.157	●	
DA 1800M-KM	0.709	18.00	0.149	●	SS0750-DRA180M-O SF0750-DRA180M-O (SS20-DRA180M-O) (SF25-DRA180M-O)
1810M-KM	0.713	18.10	0.151	●	
1820M-KM	0.717	18.20	0.153	●	
1830M-KM	0.720	18.30	0.154	●	
1840M-KM	0.724	18.40	0.156	●	
1850M-KM	0.728	18.50	0.157	●	
1860M-KM	0.732	18.60	0.159	●	
1870M-KM	0.736	18.70	0.161	●	
1880M-KM	0.740	18.80	0.163	●	
1890M-KM	0.744	18.90	0.164	●	
DA 1900M-KM	0.748	19.00	0.156	●	SS1000-DRA190M-O SF0750-DRA190M-O (SS20-DRA190M-O) (SF25-DRA190M-O)
1910M-KM	0.752	19.10	0.158	●	
1920M-KM	0.756	19.20	0.159	●	
1930M-KM	0.760	19.30	0.161	●	
1940M-KM	0.764	19.40	0.163	●	
1950M-KM	0.768	19.50	0.165	●	
1960M-KM	0.772	19.60	0.166	●	
1970M-KM	0.776	19.70	0.168	●	
1980M-KM	0.780	19.80	0.169	●	
1990M-KM	0.783	19.90	0.171	●	
DA 2000M-KM	0.787	20.00	0.165	●	SS1000-DRA200M-O SF1000-DRA200M-O (SS25-DRA200M-O) (SF25-DRA200M-O)
2010M-KM	0.791	20.10	0.167	●	
2020M-KM	0.795	20.20	0.169	●	
2030M-KM	0.799	20.30	0.170	●	
2040M-KM	0.803	20.40	0.172	●	
2050M-KM	0.807	20.50	0.174	●	
2060M-KM	0.811	20.60	0.175	●	
2070M-KM	0.815	20.70	0.177	●	
2080M-KM	0.819	20.80	0.179	●	
2090M-KM	0.823	20.90	0.180	●	
DA 2100M-KM	0.827	21.00	0.172	●	SS1000-DRA210M-O SF1000-DRA210M-O (SS25-DRA210M-O) (SF25-DRA210M-O)
2150M-KM	0.846	21.50	0.181	●	
DA 2200M-KM	0.866	22.00	0.179	●	SS1000-DRA220M-O SF1000-DRA220M-O (SS25-DRA220M-O) (SF25-DRA220M-O)
2250M-KM	0.886	22.50	0.187	●	
DA 2300M-KM	0.906	23.00	0.187	●	SS1000-DRA230M-O SF1000-DRA230M-O (SS25-DRA230M-O) (SF25-DRA230M-O)
2350M-KM	0.925	23.50	0.194	●	
DA 2400M-KM	0.945	24.00	0.193	●	SS1000-DRA240M-O SF1000-DRA240M-O (SS25-DRA240M-O) (SF25-DRA240M-O)
2450M-KM	0.965	24.50	0.202	●	
DA 2500M-KM	0.984	25.00	0.200	●	SS1000-DRA250M-O SF1000-DRA250M-O (SS32-DRA250M-O) (SF25-DRA250M-O)
2550M-KM	1.004	25.50	0.208	●	

*Applicable Toolholders in ( ) are metric

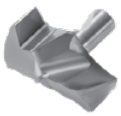
Recommended Cutting Conditions ➡ K28

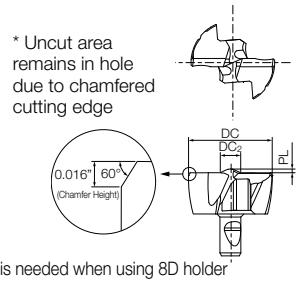
Inserts are sold in 1 piece boxes

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

Applicable Inserts (FTP - Flat Bottom / Counterboring)





Note
Applicable to 1.5D, 3D, 5D and 8D holders. Guide hole (0.5xDC) is needed when using 8D holder

k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	8.00~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.30~ 18.00	+0.027 0
0.713~ 1.004	+0.0013 0	18.50~ 25.40	+0.033 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Inserts

PR1535 (Steel / Stainless Steel) **PR1525** (Cast Iron)

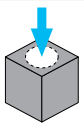
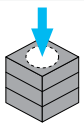
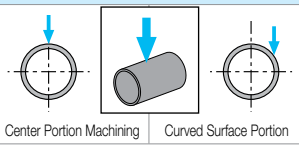
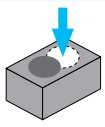
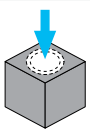
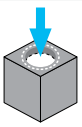
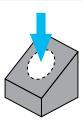
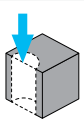
Part Number	Dimensions DC in	DC mm	DC_2 in	DC_2 mm	PL (in)	Grade PR1535	PR1525	Applicable Toolholder
DA 0800M-FTP	0.315	8.00	0.114	2.90	0.016	●	●	SS0375-DRA080M-O SF0500-DRA080M-O (SS10-DRA080M-O) (SF12-DRA080M-O)
0830M-FTP	0.327	8.30				●	●	
DA 0850M-FTP	0.335	8.50				●	●	SS0375-DRA085M-O SF0500-DRA085M-O (SS10-DRA085M-O) (SF12-DRA085M-O)
0880M-FTP	0.346	8.80				●	●	
DA 0900M-FTP	0.354	9.00	0.118	3.00	0.017	●	●	SS0375-DRA090M-O SF0500-DRA090M-O (SS10-DRA090M-O) (SF12-DRA090M-O)
0930M-FTP	0.366	9.30				●	●	
DA 0950M-FTP	0.374	9.50				●	●	SS0500-DRA095M-O SF0500-DRA095M-O (SS10-DRA095M-O) (SF12-DRA095M-O)
DA 1000M-FTP	0.394	10.00	0.130	3.30	0.018	●	●	SS0500-DRA100M-O SF0625-DRA100M-O (SS12-DRA100M-O) (SF16-DRA100M-O)
1030M-FTP	0.406	10.30				●	●	
DA 1050M-FTP	0.413	10.50				●	●	SS0500-DRA105M-O SF0625-DRA105M-O (SS12-DRA105M-O) (SF16-DRA105M-O)
1080M-FTP	0.425	10.80				●	●	
DA 1100M-FTP	0.433	11.00	0.134	3.40	0.020	●	●	SS0500-DRA110M-O SF0625-DRA110M-O (SS12-DRA110M-O) (SF16-DRA110M-O)
DA 1150M-FTP	0.453	11.50				●	●	SS0500-DRA115M-O SF0625-DRA115M-O (SS12-DRA115M-O) (SF16-DRA115M-O)
DA 1200M-FTP	0.472	12.00	0.146	3.70	0.021	●	●	SS0625-DRA120M-O SF0625-DRA120M-O (SS14-DRA120M-O) (SF16-DRA120M-O)
DA 1250M-FTP	0.492	12.50				●	●	SS0625-DRA125M-O SF0625-DRA125M-O (SS14-DRA125M-O) (SF16-DRA125M-O)
1270M-FTP	0.500	12.70				●	●	
DA 1300M-FTP	0.512	13.00	0.154	3.90	0.022	●	●	SS0625-DRA130M-O SF0625-DRA130M-O (SS14-DRA130M-O) (SF16-DRA130M-O)
1350M-FTP	0.531	13.50				●	●	SS0625-DRA135M-O SF0625-DRA135M-O (SS14-DRA135M-O) (SF16-DRA135M-O)

Part Number	Dimensions DC in	DC mm	DC_2 in	DC_2 mm	PL (in)	Grade PR1535	PR1525	Applicable Toolholder
DA 1400M-FTP	0.551	14.00	0.165	4.20	0.024	●	●	SS0625-DRA140M-O SF0625-DRA140M-O (SS16-DRA140M-O) (SF16-DRA140M-O)
DA 1450M-FTP	0.571	14.50				●	●	SS0625-DRA145M-O SF0625-DRA145M-O (SS16-DRA145M-O) (SF16-DRA145M-O)
DA 1500M-FTP	0.591	15.00	0.173	4.40	0.026	●	●	SS0625-DRA150M-O SF0750-DRA150M-O (SS16-DRA150M-O) (SF20-DRA150M-O)
1550M-FTP	0.610	15.50				●	●	
DA 1600M-FTP	0.630	16.00	0.181	4.60	0.028	●	●	SS0750-DRA160M-O SF0750-DRA160M-O (SS18-DRA160M-O) (SF20-DRA160M-O)
1650M-FTP	0.650	16.50				●	●	
DA 1700M-FTP	0.669	17.00	0.197	5.00	0.030	●	●	SS0750-DRA170M-O SF0750-DRA170M-O (SS18-DRA170M-O) (SF20-DRA170M-O)
1750M-FTP	0.689	17.50				●	●	
DA 1800M-FTP	0.709	18.00	0.197	5.00	0.031	●	●	SS0750-DRA180M-O SF0750-DRA180M-O (SS20-DRA180M-O) (SF25-DRA180M-O)
1850M-FTP	0.728	18.50				●	●	
DA 1900M-FTP	0.748	19.00	0.209	5.30	0.033	●	●	SS1000-DRA190M-O SF0750-DRA190M-O (SS20-DRA190M-O) (SF25-DRA190M-O)
1950M-FTP	0.768	19.50				●	●	
DA 2000M-FTP	0.787	20.00	0.224	5.70	0.035	●	●	SS1000-DRA200M-O SF1000-DRA200M-O (SS25-DRA200M-O) (SF25-DRA200M-O)
2050M-FTP	0.807	20.50				●	●	
DA 2100M-FTP	0.827	21.00	0.236	6.00	0.037	●	●	SS1000-DRA210M-O SF1000-DRA210M-O (SS25-DRA210M-O) (SF25-DRA210M-O)
2150M-FTP	0.846	21.50				●	●	
DA 2200M-FTP	0.866	22.00	0.252	6.40	0.039	●	●	SS1000-DRA220M-O SF1000-DRA220M-O (SS25-DRA220M-O) (SF25-DRA220M-O)
2250M-FTP	0.886	22.50				●	●	
DA 2300M-FTP	0.906	23.00	0.260	6.60	0.041	●	●	SS1000-DRA230M-O SF1000-DRA230M-O (SS25-DRA230M-O) (SF25-DRA230M-O)
2350M-FTP	0.925	23.50				●	●	
DA 2400M-FTP	0.945	24.00	0.268	6.80	0.043	●	●	SS1000-DRA240M-O SF1000-DRA240M-O (SS25-DRA240M-O) (SF25-DRA240M-O)
2450M-FTP	0.965	24.50				●	●	
DA 2500M-FTP	0.984	25.00	0.276	7.00	0.047	●	●	SS1000-DRA250M-O SF1000-DRA250M-O (SS32-DRA250M-O) (SF25-DRA250M-O)
2540M-FTP	1.000	25.40				●	●	

*Applicable Toolholders in ( ) are metric

Recommended Cutting Conditions ➡ K29

Applicable Workpieces for FTP Inserts

Plain Surface	Stacked Plates	Tubing	*Hole Expansion	Existing Hole	Concave Surface	Slant Surface	Half Cylindrical
		 Center Portion Machining / Curved Surface Portion					

1.5D Holder Recommended

Over 3D Holder Recommended

Over 3D Holder NOT Recommended

NOT Recommended

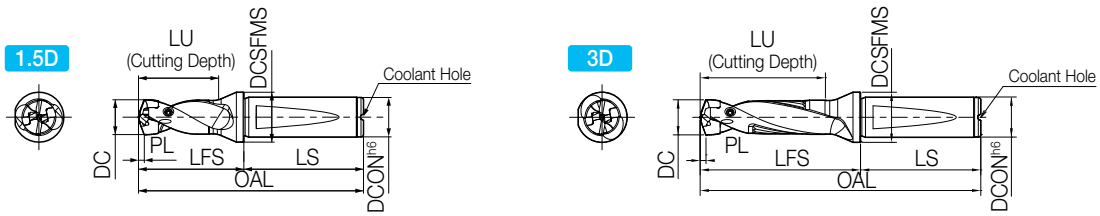
*Overlap should be under 1/3xD for hole expansion with 1.5D holder

Inserts are sold in 1 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SF-DRA (Drilling Depth: 1.5xDC / 3xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 1.5D (Inch Size)

Part Number	Stock	Dimensions (in)								Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS		Clamp Screw	Wrench
		min.	max.									
SF0500-DRA080M-1.5	●	0.313	0.334	0.500	2.805	1.033	0.504	1.772	0.630	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF0500-DRA085M-1.5	●	0.335	0.353		2.854	1.083	0.531			DA0850M-... ~ DA0890M-...		
SF0500-DRA090M-1.5	●	0.354	0.373		2.904	1.132	0.563			DA0900M-... ~ DA0940M-...		
SF0500-DRA095M-1.5	●	0.374	0.393		2.953	1.181	0.591			DA0950M-... ~ DA0990M-...		
SF0625-DRA100M-1.5	●	0.394	0.412	0.625	3.120	1.230	0.622	1.890	0.787	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF0625-DRA105M-1.5	●	0.413	0.432		3.169	1.280	0.650			DA1050M-... ~ DA1090M-...		
SF0625-DRA110M-1.5	●	0.433	0.452		3.258	1.368	0.681			DA1100M-... ~ DA1140M-...		
SF0625-DRA115M-1.5	●	0.453	0.471		3.307	1.417	0.709			DA1150M-... ~ DA1190M-...		
SF0625-DRA120M-1.5	●	0.472	0.491		3.356	1.467	0.740			DA1200M-... ~ DA1240M-...		
SF0625-DRA125M-1.5	●	0.492	0.511		3.406	1.516	0.768			DA1250M-... ~ DA1290M-...		
SF0625-DRA130M-1.5	●	0.512	0.530		3.455	1.565	0.799			DA1300M-... ~ DA1340M-...		
SF0625-DRA135M-1.5	●	0.531	0.550		3.504	1.614	0.827			DA1350M-... ~ DA1390M-...		
SF0625-DRA140M-1.5	●	0.551	0.570		3.553	1.663	0.858			DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SF0625-DRA145M-1.5	●	0.571	0.590		3.602	1.713	0.886			DA1450M-... ~ DA1490M-...		
SF0750-DRA150M-1.5	●	0.591	0.629	0.750	3.819	1.850	0.917	1.969	0.984	DA1500M-... ~ DA1590M-...		
SF0750-DRA160M-1.5	●	0.630	0.668		3.957	1.988	0.976			DA1600M-... ~ DA1690M-...		
SF0750-DRA170M-1.5	●	0.669	0.708		4.055	2.087	1.035			DA1700M-... ~ DA1790M-...		
SF0750-DRA180M-1.5	●	0.709	0.747		4.193	2.224	1.094			DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF0750-DRA190M-1.5	●	0.748	0.786		4.291	2.323	1.154			DA1900M-... ~ DA1990M-...		
SF1000-DRA200M-1.5	●	0.787	0.826	1.000	4.626	2.421	1.213	2.205	1.260	DA2000M-... ~ DA2090M-...		
SF1000-DRA210M-1.5	●	0.827	0.865		4.724	2.520	1.272			DA2100M-... ~ DA2150M-...		
SF1000-DRA220M-1.5	●	0.866	0.905		4.862	2.657	1.331			DA2200M-... ~ DA2250M-...		
SF1000-DRA230M-1.5	●	0.906	0.944		4.961	2.756	1.390			DA2300M-... ~ DA2381M-...		
SF1000-DRA240M-1.5	●	0.945	0.983		5.059	2.854	1.449			DA2400M-... ~ DA2450M-...		
SF1000-DRA250M-1.5	●	0.984	1.004		5.157	2.953	1.508			DA2500M-... ~ DA2550M-...		

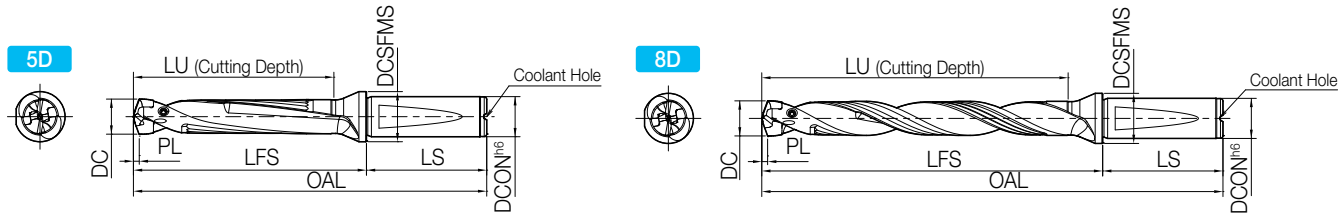
Toolholder Dimensions - 3D (Inch Size)

Part Number	Stock	Dimensions (in)								Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS		Clamp Screw	Wrench
		min.	max.									
SF0500-DRA080M-3	●	0.313	0.334	0.500	3.307	1.535	1.004	1.772	0.630	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF0500-DRA085M-3	●	0.335	0.353		3.386	1.614	1.063			DA0850M-... ~ DA0890M-...		
SF0500-DRA090M-3	●	0.354	0.373		3.465	1.693	1.122			DA0900M-... ~ DA0940M-...		
SF0500-DRA095M-3	●	0.374	0.393		3.543	1.772	1.181			DA0950M-... ~ DA0990M-...		
SF0625-DRA100M-3	●	0.394	0.412	0.625	3.740	1.850	1.240	1.890	0.787	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF0625-DRA105M-3	●	0.413	0.432		3.819	1.929	1.299			DA1050M-... ~ DA1090M-...		
SF0625-DRA110M-3	●	0.433	0.452		3.937	2.047	1.358			DA1100M-... ~ DA1140M-...		
SF0625-DRA115M-3	●	0.453	0.471		4.016	2.126	1.417			DA1150M-... ~ DA1190M-...		
SF0625-DRA120M-3	●	0.472	0.491		4.094	2.205	1.476			DA1200M-... ~ DA1240M-...		
SF0625-DRA125M-3	●	0.492	0.511		4.173	2.283	1.535			DA1250M-... ~ DA1290M-...		
SF0625-DRA130M-3	●	0.512	0.530		4.252	2.362	1.594			DA1300M-... ~ DA1340M-...		
SF0625-DRA135M-3	●	0.531	0.550		4.331	2.441	1.654			DA1350M-... ~ DA1390M-...		
SF0625-DRA140M-3	●	0.551	0.570		4.409	2.520	1.713			DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SF0625-DRA145M-3	●	0.571	0.590		4.488	2.598	1.772			DA1450M-... ~ DA1490M-...		
SF0750-DRA150M-3	●	0.591	0.629	0.750	4.764	2.795	1.890	1.969	0.984	DA1500M-... ~ DA1590M-...		
SF0750-DRA160M-3	●	0.630	0.668		4.961	2.992	2.008			DA1600M-... ~ DA1690M-...		
SF0750-DRA170M-3	●	0.669	0.708		5.118	3.150	2.126			DA1700M-... ~ DA1790M-...		
SF0750-DRA180M-3	●	0.709	0.747		5.315	3.346	2.244			DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF0750-DRA190M-3	●	0.748	0.786		5.472	3.504	2.362			DA1900M-... ~ DA1990M-...		
SF1000-DRA200M-3	●	0.787	0.826	1.000	5.866	3.661	2.480	2.205	1.260	DA2000M-... ~ DA2090M-...		
SF1000-DRA210M-3	●	0.827	0.865		6.024	3.819	2.598			DA2100M-... ~ DA2150M-...		
SF1000-DRA220M-3	●	0.866	0.905		6.220	4.016	2.717			DA2200M-... ~ DA2250M-...		
SF1000-DRA230M-3	●	0.906	0.944		6.378	4.173	2.835			DA2300M-... ~ DA2381M-...		
SF1000-DRA240M-3	●	0.945	0.983		6.535	4.331	2.953			DA2400M-... ~ DA2450M-...		
SF1000-DRA250M-3	●	0.984	1.004		6.693	4.488	3.071			DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

SF-DRA (Drilling Depth: 5xDC / 8xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5D (Inch Size)

Part Number	Stock	Dimensions (in)								Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS	Applicable Insert See Page K7~K11	Clamp Screw	Wrench
		min.	max.									
SF0500-DRA080M-5	●	0.313	0.334	0.500	3.976	2.205	1.673	1.772	0.630	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF0500-DRA085M-5	●	0.335	0.353		4.094	2.323	1.772			DA0850M-... ~ DA0890M-...		
SF0500-DRA090M-5	●	0.354	0.373		4.213	2.441	1.870			DA0900M-... ~ DA0940M-...		
SF0500-DRA095M-5	●	0.374	0.393		4.331	2.559	1.969			DA0950M-... ~ DA0990M-...		
SF0625-DRA100M-5	●	0.394	0.412	0.625	4.567	2.677	2.067	1.890	0.787	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF0625-DRA105M-5	●	0.413	0.432		4.685	2.795	2.165			DA1050M-... ~ DA1090M-...		
SF0625-DRA110M-5	●	0.433	0.452		4.843	2.953	2.264			DA1100M-... ~ DA1140M-...		
SF0625-DRA115M-5	●	0.453	0.471		4.961	3.071	2.362			DA1150M-... ~ DA1190M-...		
SF0625-DRA120M-5	●	0.472	0.491		5.079	3.189	2.461			DA1200M-... ~ DA1240M-...		
SF0625-DRA125M-5	●	0.492	0.511		5.197	3.307	2.559			DA1250M-... ~ DA1290M-...		
SF0625-DRA130M-5	●	0.512	0.530		5.315	3.425	2.657			DA1300M-... ~ DA1340M-...		
SF0625-DRA135M-5	●	0.531	0.550		5.433	3.543	2.756			DA1350M-... ~ DA1390M-...		
SF0625-DRA140M-5	●	0.551	0.570		5.551	3.661	2.854			DA1400M-... ~ DA1440M-...		
SF0625-DRA145M-5	●	0.571	0.590		5.669	3.780	2.953			DA1450M-... ~ DA1490M-...		
SF0750-DRA150M-5	●	0.591	0.629	0.750	6.024	4.055	3.150	1.969	0.984	DA1500M-... ~ DA1590M-...	HS-3048TRP	DTP-6
SF0750-DRA160M-5	●	0.630	0.668		6.299	4.331	3.346			DA1600M-... ~ DA1690M-...		
SF0750-DRA170M-5	●	0.669	0.708		6.535	4.567	3.543			DA1700M-... ~ DA1790M-...		
SF0750-DRA180M-5	●	0.709	0.747		6.811	4.843	3.740			DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF0750-DRA190M-5	●	0.748	0.786		7.047	5.079	3.937			DA1900M-... ~ DA1990M-...		
SF1000-DRA200M-5	●	0.787	0.826	1.000	7.520	5.315	4.134	2.205	1.260	DA2000M-... ~ DA2090M-...		
SF1000-DRA210M-5	●	0.827	0.865		7.756	5.551	4.331			DA2100M-... ~ DA2150M-...		
SF1000-DRA220M-5	●	0.866	0.905		8.031	5.827	4.528			DA2200M-... ~ DA2250M-...		
SF1000-DRA230M-5	●	0.906	0.944		8.268	6.063	4.724			DA2300M-... ~ DA2381M-...		
SF1000-DRA240M-5	●	0.945	0.983		8.504	6.299	4.921			DA2400M-... ~ DA2450M-...		
SF1000-DRA250M-5	●	0.984	1.004		8.740	6.535	5.116			DA2500M-... ~ DA2550M-...		

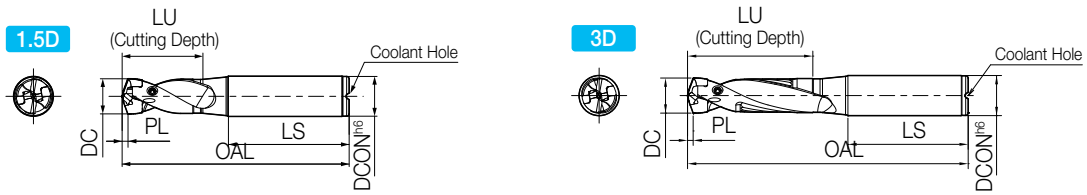
Toolholder Dimensions - 8D (Inch Size)

Part Number	Stock	Dimensions (in)								Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS	Applicable Insert See Page K7~K11	Clamp Screw	Wrench
		min.	max.									
SF0500-DRA080M-8	●	0.313	0.334	0.500	4.961	3.189	2.677	1.772	0.630	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF0500-DRA085M-8	●	0.335	0.353		5.157	3.386	2.835			DA0850M-... ~ DA0890M-...		
SF0500-DRA090M-8	●	0.354	0.373		5.315	3.543	2.992			DA0900M-... ~ DA0940M-...		
SF0500-DRA095M-8	●	0.374	0.393		5.512	3.740	3.150			DA0950M-... ~ DA0990M-...		
SF0625-DRA100M-8	●	0.394	0.412	0.625	5.787	3.898	3.307	1.890	0.787	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF0625-DRA105M-8	●	0.413	0.432		5.984	4.094	3.465			DA1050M-... ~ DA1090M-...		
SF0625-DRA110M-8	●	0.433	0.452		6.181	4.291	3.622			DA1100M-... ~ DA1140M-...		
SF0625-DRA115M-8	●	0.453	0.471		6.378	4.488	3.780			DA1150M-... ~ DA1190M-...		
SF0625-DRA120M-8	●	0.472	0.491		6.535	4.646	3.937			DA1200M-... ~ DA1240M-...		
SF0625-DRA125M-8	●	0.492	0.511		6.732	4.843	4.094			DA1250M-... ~ DA1290M-...		
SF0625-DRA130M-8	●	0.512	0.530		6.890	5.000	4.252			DA1300M-... ~ DA1340M-...		
SF0625-DRA135M-8	●	0.531	0.550		7.087	5.197	4.409			DA1350M-... ~ DA1390M-...		
SF0625-DRA140M-8	●	0.551	0.570		7.244	5.354	4.567			DA1400M-... ~ DA1440M-...		
SF0625-DRA145M-8	●	0.571	0.590		7.441	5.551	4.724			DA1450M-... ~ DA1490M-...		
SF0750-DRA150M-8	●	0.591	0.629	0.750	7.913	5.945	5.039	1.969	0.984	DA1500M-... ~ DA1590M-...	HS-3048TRP	DTP-6
SF0750-DRA160M-8	●	0.630	0.668		8.307	6.339	5.354			DA1600M-... ~ DA1690M-...		
SF0750-DRA170M-8	●	0.669	0.708		8.661	6.693	5.669			DA1700M-... ~ DA1790M-...		
SF0750-DRA180M-8	●	0.709	0.747		9.055	7.087	5.984			DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF0750-DRA190M-8	●	0.748	0.786		9.409	7.441	6.299			DA1900M-... ~ DA1990M-...		
SF1000-DRA200M-8	●	0.787	0.826	1.000	10.000	7.795	6.614	2.205	1.260	DA2000M-... ~ DA2090M-...		
SF1000-DRA210M-8	●	0.827	0.865		10.354	8.150	6.929			DA2100M-... ~ DA2150M-...		
SF1000-DRA220M-8	●	0.866	0.905		10.748	8.543	7.244			DA2200M-... ~ DA2250M-...		
SF1000-DRA230M-8	●	0.906	0.944		11.102	8.898	7.559			DA2300M-... ~ DA2381M-...		
SF1000-DRA240M-8	●	0.945	0.983		11.457	9.252	7.874			DA2400M-... ~ DA2450M-...		
SF1000-DRA250M-8	●	0.984	1.004		11.811	9.606	8.189			DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

SS-DRA (Drilling Depth: 1.5xDC/ 3xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 1.5D (Inch Size)

Part Number	Stock	Dimensions (in)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS0375-DRA080M-1.5	●	0.313	0.334	0.375	2.608	0.504	1.575	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS0375-DRA085M-1.5	●	0.335	0.353		2.657	0.531		DA0850M-... ~ DA0890M-...		
SS0375-DRA090M-1.5	●	0.354	0.373		2.707	0.563		DA0900M-... ~ DA0940M-...		
SS0500-DRA095M-1.5	●	0.374	0.393	0.500	2.953	0.591	1.772	DA0950M-... ~ DA0990M-...	HS-2534TRP	
SS0500-DRA100M-1.5	●	0.394	0.412		3.002	0.622		DA1000M-... ~ DA1040M-...		
SS0500-DRA105M-1.5	●	0.413	0.432		3.051	0.650		DA1050M-... ~ DA1090M-...		
SS0500-DRA110M-1.5	●	0.433	0.452		3.140	0.681		DA1100M-... ~ DA1140M-...		
SS0500-DRA115M-1.5	●	0.453	0.471		3.189	0.709		DA1150M-... ~ DA1190M-...		
SS0625-DRA120M-1.5	●	0.472	0.491	0.625	3.356	0.740	1.890	DA1200M-... ~ DA1240M-...		
SS0625-DRA125M-1.5	●	0.492	0.511		3.406	0.768		DA1250M-... ~ DA1290M-...		
SS0625-DRA130M-1.5	●	0.512	0.530		3.455	0.799		DA1300M-... ~ DA1340M-...		
SS0625-DRA135M-1.5	●	0.531	0.550		3.504	0.827		DA1350M-... ~ DA1390M-...		
SS0625-DRA140M-1.5	●	0.551	0.570		3.553	0.858		DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS0625-DRA145M-1.5	●	0.571	0.590		3.602	0.886		DA1450M-... ~ DA1490M-...		
SS0625-DRA150M-1.5	●	0.591	0.629		3.740	0.917		DA1500M-... ~ DA1590M-...		
SS0750-DRA160M-1.5	●	0.630	0.668	0.750	3.957	0.976	1.969	DA1600M-... ~ DA1690M-...		
SS0750-DRA170M-1.5	●	0.669	0.708		4.055	1.035		DA1700M-... ~ DA1790M-...		
SS0750-DRA180M-1.5	●	0.709	0.747		4.193	1.094		DA1800M-... ~ DA1890M-...		
SS1000-DRA190M-1.5	●	0.748	0.786	1.000	4.528	1.154	2.205	DA1900M-... ~ DA1990M-...	HS-4067TRP	DTP-7
SS1000-DRA200M-1.5	●	0.787	0.826		4.626	1.213		DA2000M-... ~ DA2090M-...		
SS1000-DRA210M-1.5	●	0.827	0.865		4.724	1.272		DA2100M-... ~ DA2150M-...		
SS1000-DRA220M-1.5	●	0.866	0.905		4.862	1.331		DA2200M-... ~ DA2250M-...		
SS1000-DRA230M-1.5	●	0.906	0.944		4.961	1.390		DA2300M-... ~ DA2381M-...		
SS1000-DRA240M-1.5	●	0.945	0.983		5.059	1.449		DA2400M-... ~ DA2450M-...		
SS1000-DRA250M-1.5	●	0.984	1.004		5.157	1.508		DA2500M-... ~ DA2550M-...		

Toolholder Dimensions - 3D (Inch Size)

Part Number	Stock	Dimensions (in)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS0375-DRA080M-3	●	0.313	0.334	0.375	3.110	1.004	1.575	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS0375-DRA085M-3	●	0.335	0.353		3.189	1.063		DA0850M-... ~ DA0890M-...		
SS0375-DRA090M-3	●	0.354	0.373		3.268	1.122		DA0900M-... ~ DA0940M-...		
SS0500-DRA095M-3	●	0.374	0.393	0.500	3.543	1.181	1.772	DA0950M-... ~ DA0990M-...	HS-2534TRP	
SS0500-DRA100M-3	●	0.394	0.412		3.622	1.240		DA1000M-... ~ DA1040M-...		
SS0500-DRA105M-3	●	0.413	0.432		3.701	1.299		DA1050M-... ~ DA1090M-...		
SS0500-DRA110M-3	●	0.433	0.452		3.819	1.358		DA1100M-... ~ DA1140M-...		
SS0500-DRA115M-3	●	0.453	0.471		3.898	1.417		DA1150M-... ~ DA1190M-...		
SS0625-DRA120M-3	●	0.472	0.491	0.625	4.094	1.476	1.890	DA1200M-... ~ DA1240M-...		
SS0625-DRA125M-3	●	0.492	0.511		4.173	1.535		DA1250M-... ~ DA1290M-...		
SS0625-DRA130M-3	●	0.512	0.530		4.252	1.594		DA1300M-... ~ DA1340M-...		
SS0625-DRA135M-3	●	0.531	0.550		4.331	1.654		DA1350M-... ~ DA1390M-...		
SS0625-DRA140M-3	●	0.551	0.570		4.409	1.713		DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS0625-DRA145M-3	●	0.571	0.590		4.488	1.772		DA1450M-... ~ DA1490M-...		
SS0625-DRA150M-3	●	0.591	0.629		4.685	1.890		DA1500M-... ~ DA1590M-...		
SS0750-DRA160M-3	●	0.630	0.668	0.750	4.961	2.008	1.969	DA1600M-... ~ DA1690M-...		
SS0750-DRA170M-3	●	0.669	0.708		5.118	2.126		DA1700M-... ~ DA1790M-...		
SS0750-DRA180M-3	●	0.709	0.747		5.315	2.244		DA1800M-... ~ DA1890M-...		
SS1000-DRA190M-3	●	0.748	0.786	1.000	5.472	2.362	2.205	DA1900M-... ~ DA1990M-...	HS-4067TRP	DTP-7
SS1000-DRA200M-3	●	0.787	0.826		5.866	2.480		DA2000M-... ~ DA2090M-...		
SS1000-DRA210M-3	●	0.827	0.865		6.024	2.598		DA2100M-... ~ DA2150M-...		
SS1000-DRA220M-3	●	0.866	0.905		6.220	2.717		DA2200M-... ~ DA2250M-...		
SS1000-DRA230M-3	●	0.906	0.944		6.378	2.835		DA2300M-... ~ DA2381M-...		
SS1000-DRA240M-3	●	0.945	0.983		6.535	2.953		DA2400M-... ~ DA2450M-...		
SS1000-DRA250M-3	●	0.984	1.004		6.693	3.070		DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

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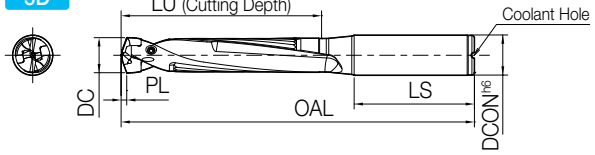
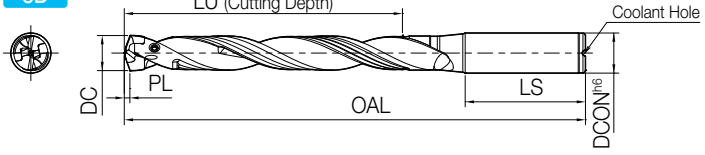
SS-DRA (Drilling Depth: 5xDC / 8xDC)

Straight Shank

5D



8D



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5D (Inch Size)

Part Number	Stock	Dimensions (in)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS0375-DRA080M-5	●	0.313	0.334	0.375	3.780	1.673	1.575	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS0375-DRA085M-5	●	0.335	0.353		3.898	1.772		DA0850M-... ~ DA0890M-...		
SS0375-DRA090M-5	●	0.354	0.373		4.016	1.870		DA0900M-... ~ DA0940M-...		
SS0500-DRA095M-5	●	0.374	0.393	0.500	4.331	1.969	1.772	DA0950M-... ~ DA0990M-...	HS-2534TRP	
SS0500-DRA100M-5	●	0.394	0.412		4.449	2.067		DA1000M-... ~ DA1040M-...		
SS0500-DRA105M-5	●	0.413	0.432		4.567	2.165		DA1050M-... ~ DA1090M-...		
SS0500-DRA110M-5	●	0.433	0.452		4.724	2.264		DA1100M-... ~ DA1140M-...		
SS0500-DRA115M-5	●	0.453	0.471		4.843	2.362		DA1150M-... ~ DA1190M-...		
SS0625-DRA120M-5	●	0.472	0.491	0.625	5.079	2.461	1.890	DA1200M-... ~ DA1240M-...		
SS0625-DRA125M-5	●	0.492	0.511		5.197	2.559		DA1250M-... ~ DA1290M-...		
SS0625-DRA130M-5	●	0.512	0.530		5.315	2.657		DA1300M-... ~ DA1340M-...		
SS0625-DRA135M-5	●	0.531	0.550		5.433	2.756		DA1350M-... ~ DA1390M-...		
SS0625-DRA140M-5	●	0.551	0.570		5.551	2.854		DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS0625-DRA145M-5	●	0.571	0.590		5.669	2.953		DA1450M-... ~ DA1490M-...		
SS0625-DRA150M-5	●	0.591	0.629		5.945	3.150		DA1500M-... ~ DA1590M-...		
SS0750-DRA160M-5	●	0.630	0.668	0.750	6.299	3.346	1.969	DA1600M-... ~ DA1690M-...		
SS0750-DRA170M-5	●	0.669	0.708		6.535	3.543		DA1700M-... ~ DA1790M-...		
SS0750-DRA180M-5	●	0.709	0.747		6.811	3.740		DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SS1000-DRA190M-5	●	0.748	0.786	1.000	7.047	3.937	2.205	DA1900M-... ~ DA1990M-...		
SS1000-DRA200M-5	●	0.787	0.826		7.520	4.134		DA2000M-... ~ DA2090M-...		
SS1000-DRA210M-5	●	0.827	0.865		7.756	4.331		DA2100M-... ~ DA2150M-...		
SS1000-DRA220M-5	●	0.866	0.905		8.031	4.528		DA2200M-... ~ DA2250M-...		
SS1000-DRA230M-5	●	0.906	0.944		8.268	4.724		DA2300M-... ~ DA2381M-...		
SS1000-DRA240M-5	●	0.945	0.983		8.504	4.921		DA2400M-... ~ DA2450M-...		
SS1000-DRA250M-5	●	0.984	1.004		8.740	5.116		DA2500M-... ~ DA2550M-...		

Toolholder Dimensions - 8D (Inch Size)

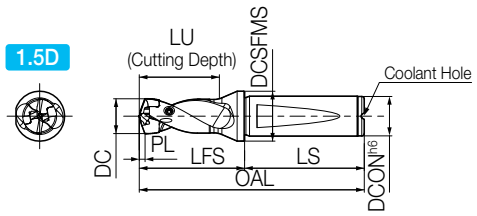
Part Number	Stock	Dimensions (in)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS0375-DRA080M-8	●	0.313	0.334	0.375	4.764	2.677	1.575	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS0375-DRA085M-8	●	0.335	0.353		4.961	2.835		DA0850M-... ~ DA0890M-...		
SS0375-DRA090M-8	●	0.354	0.373		5.118	2.992		DA0900M-... ~ DA0940M-...		
SS0500-DRA095M-8	●	0.374	0.393	0.500	5.512	3.150	1.772	DA0950M-... ~ DA0990M-...	HS-2534TRP	
SS0500-DRA100M-8	●	0.394	0.412		5.669	3.307		DA1000M-... ~ DA1040M-...		
SS0500-DRA105M-8	●	0.413	0.432		5.866	3.465		DA1050M-... ~ DA1090M-...		
SS0500-DRA110M-8	●	0.433	0.452		6.063	3.622		DA1100M-... ~ DA1140M-...		
SS0500-DRA115M-8	●	0.453	0.471		6.260	3.780		DA1150M-... ~ DA1190M-...		
SS0625-DRA120M-8	●	0.472	0.491	0.625	6.535	3.937	1.890	DA1200M-... ~ DA1240M-...		
SS0625-DRA125M-8	●	0.492	0.511		6.732	4.094		DA1250M-... ~ DA1290M-...		
SS0625-DRA130M-8	●	0.512	0.530		6.890	4.252		DA1300M-... ~ DA1340M-...		
SS0625-DRA135M-8	●	0.531	0.550		7.087	4.409		DA1350M-... ~ DA1390M-...		
SS0625-DRA140M-8	●	0.551	0.570		7.244	4.567		DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS0625-DRA145M-8	●	0.571	0.590		7.441	4.724		DA1450M-... ~ DA1490M-...		
SS0625-DRA150M-8	●	0.591	0.629		7.835	5.039		DA1500M-... ~ DA1590M-...		
SS0750-DRA160M-8	●	0.630	0.668	0.750	8.307	5.354	1.969	DA1600M-... ~ DA1690M-...		
SS0750-DRA170M-8	●	0.669	0.708		8.661	5.669		DA1700M-... ~ DA1790M-...		
SS0750-DRA180M-8	●	0.709	0.747		9.055	5.984		DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SS1000-DRA190M-8	●	0.748	0.786	1.000	9.409	6.299	2.205	DA1900M-... ~ DA1990M-...		
SS1000-DRA200M-8	●	0.787	0.826		10.000	6.614		DA2000M-... ~ DA2090M-...		
SS1000-DRA210M-8	●	0.827	0.865		10.354	6.929		DA2100M-... ~ DA2150M-...		
SS1000-DRA220M-8	●	0.866	0.905		10.748	7.244		DA2200M-... ~ DA2250M-...		
SS1000-DRA230M-8	●	0.906	0.944		11.102	7.559		DA2300M-... ~ DA2381M-...		
SS1000-DRA240M-8	●	0.945	0.983		11.457	7.874		DA2400M-... ~ DA2450M-...		
SS1000-DRA250M-8	●	0.984	1.004		11.969	8.189		DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SF-DRA (Drilling Depth: 1.5xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 1.5D (Metric Size)

Part Number	Stock	Dimensions (mm)								Applicable Insert See Page ➡ K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS		Clamp Screw	Wrench
		min.	max.									
SF12-DRA080M-1.5	●	7.94	8.49	12	71.2	26.2	12.8	45	16	DA0794M-...~DA0840M-...	HS-2524TRP	FTP-5
SF12-DRA085M-1.5	●	8.50	8.99		72.5	27.5	13.5			DA0850M-...~DA0890M-...		
SF12-DRA090M-1.5	●	9.00	9.49		73.7	28.7	14.3			DA0900M-...~DA0940M-...		
SF12-DRA095M-1.5	●	9.50	9.99		75.0	30.0	15.0			DA0950M-...~DA0990M-...		
SF16-DRA100M-1.5	●	10.00	10.49	16	79.2	31.2	15.8	48	20	DA1000M-...~DA1040M-...	HS-2534TRP	
SF16-DRA105M-1.5	●	10.50	10.99		80.5	32.5	16.5			DA1050M-...~DA1090M-...		
SF16-DRA110M-1.5	●	11.00	11.49		82.7	34.7	17.3			DA1100M-...~DA1140M-...		
SF16-DRA115M-1.5	●	11.50	11.99		84.0	36.0	18.0			DA1150M-...~DA1190M-...		
SF16-DRA120M-1.5	●	12.00	12.49		85.2	37.2	18.8			DA1200M-...~DA1240M-...		
SF16-DRA125M-1.5	●	12.50	12.99		86.5	38.5	19.5			DA1250M-...~DA1290M-...		
SF16-DRA130M-1.5	●	13.00	13.49		87.7	39.7	20.3			DA1300M-...~DA1340M-...		
SF16-DRA135M-1.5	●	13.50	13.99		89.0	41.0	21.0			DA1350M-...~DA1390M-...		
SF16-DRA140M-1.5	●	14.00	14.49		90.2	42.2	21.8			DA1400M-...~DA1440M-...	HS-3048TRP	DTP-6
SF16-DRA145M-1.5	●	14.50	14.99		91.5	43.5	22.5			DA1450M-...~DA1490M-...		
SF20-DRA150M-1.5	●	15.00	15.99	20	97.0	47.0	24.0	50	25	DA1500M-...~DA1590M-...		
SF20-DRA160M-1.5	●	16.00	16.99		100.5	50.5	25.5			DA1600M-...~DA1690M-...		
SF20-DRA170M-1.5	●	17.00	17.99		103.0	53.0	27.0			DA1700M-...~DA1790M-...		
SF25-DRA180M-1.5	●	18.00	18.99	25	112.5	56.5	28.5	56	32	DA1800M-...~DA1890M-...	HS-4067TRP	DTP-7
SF25-DRA190M-1.5	●	19.00	19.99		115.0	59.0	30.0			DA1900M-...~DA1990M-...		
SF25-DRA200M-1.5	●	20.00	20.99		117.5	61.5	31.5			DA2000M-...~DA2090M-...		
SF25-DRA210M-1.5	●	21.00	21.99		120.0	64.0	33.0			DA2100M-...~DA2150M-...		
SF25-DRA220M-1.5	●	22.00	22.99		123.5	67.5	34.5			DA2200M-...~DA2250M-...		
SF25-DRA230M-1.5	●	23.00	23.99		126.0	70.0	36.0			DA2300M-...~DA2350M-...		
SF25-DRA240M-1.5	●	24.00	24.99		128.5	72.5	37.5			DA2400M-...~DA2450M-...		
SF25-DRA250M-1.5	●	25.00	25.50		131.0	75.0	39.0			DA2500M-...~DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ **K7~K11** for actual cutting diameters (DC).

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SF-DRA (Drilling Depth: 3xDC)

Flange Shank

3D

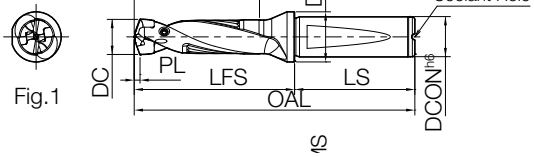

Fig.1

3D

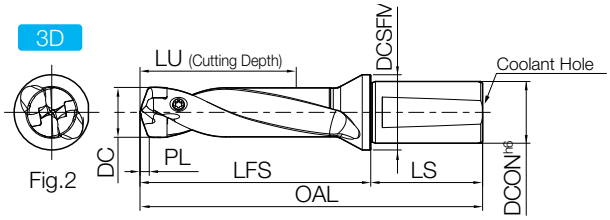

Fig.2

For PL dimension, reference insert dimension table.

Toolholder Dimensions - 3D (Metric Size)

Part Number	Stock	Dimensions (mm)								Drawing	Applicable Insert See Page ➡ K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS			Clamp Screw	Wrench
		min.	max.										
SF12-DRA080M-3	●	7.94	8.49	12	84	39	25.5	45	16	Fig.1	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF12-DRA085M-3	●	8.50	8.99		86	41	27.0				DA0850M-... ~ DA0890M-...		
SF12-DRA090M-3	●	9.00	9.49		88	43	28.5				DA0900M-... ~ DA0940M-...		
SF12-DRA095M-3	●	9.50	9.99		90	45	30.0				DA0950M-... ~ DA0990M-...		
SF16-DRA100M-3	●	10.00	10.49	16	95	47	31.5	48	20	Fig.1	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF16-DRA105M-3	●	10.50	10.99		97	49	33.0				DA1050M-... ~ DA1090M-...		
SF16-DRA110M-3	●	11.00	11.49		100	52	34.5				DA1100M-... ~ DA1140M-...		
SF16-DRA115M-3	●	11.50	11.99		102	54	36.0				DA1150M-... ~ DA1190M-...		
SF16-DRA120M-3	●	12.00	12.49		104	56	37.5				DA1200M-... ~ DA1240M-...		
SF16-DRA125M-3	●	12.50	12.99		106	58	39.0				DA1250M-... ~ DA1290M-...		
SF16-DRA130M-3	●	13.00	13.49		108	60	40.5				DA1300M-... ~ DA1340M-...		
SF16-DRA135M-3	●	13.50	13.99		110	62	42.0				DA1350M-... ~ DA1390M-...		
SF16-DRA140M-3	●	14.00	14.49		112	64	43.5				DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SF16-DRA145M-3	●	14.50	14.99		114	66	45.0				DA1450M-... ~ DA1490M-...		
SF20-DRA150M-3	●	15.00	15.99	20	121	71	48.0	50	25	Fig.1	DA1500M-... ~ DA1590M-...		
SF20-DRA160M-3	●	16.00	16.99		126	76	51.0				DA1600M-... ~ DA1690M-...		
SF20-DRA170M-3	●	17.00	17.99		130	80	54.0				DA1700M-... ~ DA1790M-...		
SF25-DRA180M-3	●	18.00	18.99	25	141	85	57.0	56	32	Fig.1	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF25-DRA190M-3	●	19.00	19.99		145	89	60.0				DA1900M-... ~ DA1990M-...		
SF25-DRA200M-3	●	20.00	20.99		149	93	63.0				DA2000M-... ~ DA2090M-...		
SF25-DRA210M-3	●	21.00	21.99		153	97	66.0				DA2100M-... ~ DA2150M-...		
SF25-DRA220M-3	●	22.00	22.99		158	102	69.0				DA2200M-... ~ DA2250M-...		
SF25-DRA230M-3	●	23.00	23.99		162	106	72.0				DA2300M-... ~ DA2350M-...		
SF25-DRA240M-3	●	24.00	24.99		166	110	75.0				DA2400M-... ~ DA2450M-...		
SF25-DRA250M-3	●	25.00	25.50		170	114	78.0				DA2500M-... ~ DA2550M-...		
NEW SF32-DRA260M-3	●	26.00	26.99	32	178	120	81.0	58	39	Fig.2	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
NEW SF32-DRA270M-3	●	27.00	27.99		181	123	84.0				DA2700M-...~DA2750M-...		
NEW SF32-DRA280M-3	●	28.00	28.99		185	127	87.0				DA2800M-...~DA2850M-...		
NEW SF32-DRA290M-3	●	29.00	29.99		189	131	90.0				DA2900M-...~DA2950M-...		
NEW SF32-DRA300M-3	●	30.00	30.99		193	135	93.0				DA3000M-...~DA3050M-...		
NEW SF32-DRA310M-3	●	31.00	31.99		196	138	96.0				DA3100M-...~DA3150M-...		
NEW SF32-DRA320M-3	●	32.00	33.00		200	142	99.0				DA3200M-...~DA3300M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ K7~K11 for actual cutting diameters (DC).

SF-DRA (Drilling Depth: 5xDC)

Flange Shank

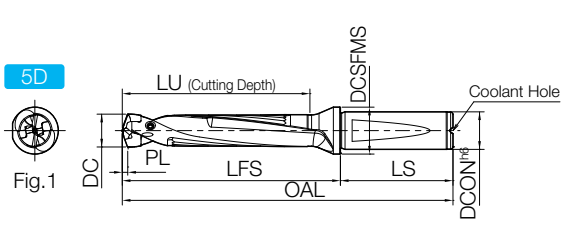

Fig.1

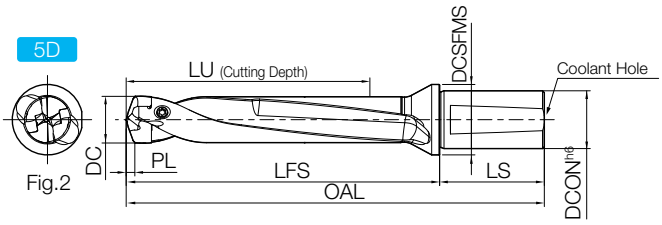

Fig.2

For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5D (Metric Size)

Part Number	Stock	Dimensions (mm)								Drawing	Applicable Insert See Page ➡ K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS			Clamp Screw	Wrench
		min.	max.										
SF12-DRA080M-5	●	7.94	8.49	12	101	56	42.5	45	16	Fig.1	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF12-DRA085M-5	●	8.50	8.99		104	59	45.0				DA0850M-... ~ DA0890M-...		
SF12-DRA090M-5	●	9.00	9.49		107	62	47.5				DA0900M-... ~ DA0940M-...		
SF12-DRA095M-5	●	9.50	9.99		110	65	50.0				DA0950M-... ~ DA0990M-...		
SF16-DRA100M-5	●	10.00	10.49	16	116	68	52.5	48	20	Fig.1	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF16-DRA105M-5	●	10.50	10.99		119	71	55.0				DA1050M-... ~ DA1090M-...		
SF16-DRA110M-5	●	11.00	11.49		123	75	57.5				DA1100M-... ~ DA1140M-...		
SF16-DRA115M-5	●	11.50	11.99		126	78	60.0				DA1150M-... ~ DA1190M-...		
SF16-DRA120M-5	●	12.00	12.49		129	81	62.5				DA1200M-... ~ DA1240M-...		
SF16-DRA125M-5	●	12.50	12.99		132	84	65.0				DA1250M-... ~ DA1290M-...		
SF16-DRA130M-5	●	13.00	13.49		135	87	67.5				DA1300M-... ~ DA1340M-...		
SF16-DRA135M-5	●	13.50	13.99		138	90	70.0				DA1350M-... ~ DA1390M-...		
SF16-DRA140M-5	●	14.00	14.49		141	93	72.5				DA1400M-... ~ DA1440M-...		
SF16-DRA145M-5	●	14.50	14.99		144	96	75.0				DA1450M-... ~ DA1490M-...		
SF20-DRA150M-5	●	15.00	15.99	20	153	103	80.0	50	25	Fig.1	DA1500M-... ~ DA1590M-...	HS-3048TRP	DTP-6
SF20-DRA160M-5	●	16.00	16.99		160	110	85.0				DA1600M-... ~ DA1690M-...		
SF20-DRA170M-5	●	17.00	17.99		166	116	90.0				DA1700M-... ~ DA1790M-...		
SF25-DRA180M-5	●	18.00	18.99	25	179	123	95.0	56	32	Fig.1	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF25-DRA190M-5	●	19.00	19.99		185	129	100.0				DA1900M-... ~ DA1990M-...		
SF25-DRA200M-5	●	20.00	20.99		191	135	105.0				DA2000M-... ~ DA2090M-...		
SF25-DRA210M-5	●	21.00	21.99		197	141	110.0				DA2100M-... ~ DA2150M-...		
SF25-DRA220M-5	●	22.00	22.99		204	148	115.0				DA2200M-... ~ DA2250M-...		
SF25-DRA230M-5	●	23.00	23.99		210	154	120.0				DA2300M-... ~ DA2350M-...		
SF25-DRA240M-5	●	24.00	24.99		216	160	125.0				DA2400M-... ~ DA2450M-...		
SF25-DRA250M-5	●	25.00	25.50		222	166	130.0				DA2500M-... ~ DA2550M-...		
NEW SF32-DRA260M-5	●	26.00	26.99	32	232	174	135.0	58	39	Fig.2	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
NEW SF32-DRA270M-5	●	27.00	27.99		237	179	140.0				DA2700M-...~DA2750M-...		
NEW SF32-DRA280M-5	●	28.00	28.99		243	185	145.0				DA2800M-...~DA2850M-...		
NEW SF32-DRA290M-5	●	29.00	29.99		249	191	150.0				DA2900M-...~DA2950M-...		
NEW SF32-DRA300M-5	●	30.00	30.99		255	197	155.0				DA3000M-...~DA3050M-...		
NEW SF32-DRA310M-5	●	31.00	31.99		260	202	160.0				DA3100M-...~DA3150M-...		
NEW SF32-DRA320M-5	●	32.00	33.00		266	208	165.0				DA3200M-...~DA3300M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ **K7~K11** for actual cutting diameters (DC).

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SF-DRA (Drilling Depth: 8xDC)

Flange Shank

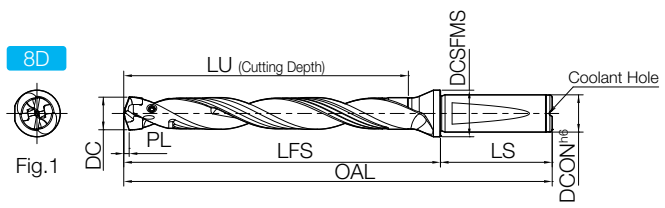


Fig.1

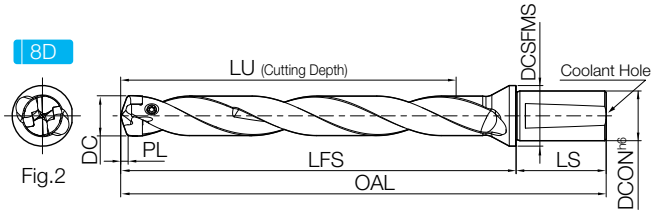


Fig.2

For PL dimension, reference insert dimension table.

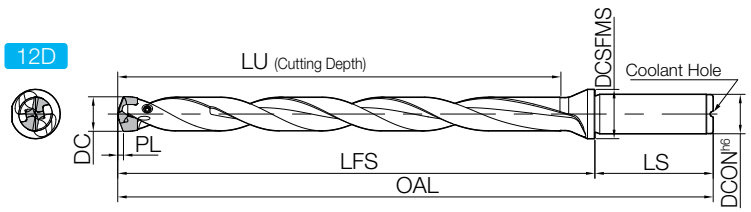
Toolholder Dimensions - 8D (Metric Size)

Part Number	Stock	Dimensions (mm)								Drawing	Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS			Clamp Screw	Wrench
		min.	max.										
SF12-DRA080M-8	●	7.94	8.49	12	126	81	68.0	45	16	Fig.1	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SF12-DRA085M-8	●	8.50	8.99		131	86	72.0				DA0850M-... ~ DA0890M-...		
SF12-DRA090M-8	●	9.00	9.49		135	90	76.0				DA0900M-... ~ DA0940M-...		
SF12-DRA095M-8	●	9.50	9.99		140	95	80.0				DA0950M-... ~ DA0990M-...		
SF16-DRA100M-8	●	10.00	10.49	16	147	99	84.0	48	20	Fig.1	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SF16-DRA105M-8	●	10.50	10.99		152	104	88.0				DA1050M-... ~ DA1090M-...		
SF16-DRA110M-8	●	11.00	11.49		157	109	92.0				DA1100M-... ~ DA1140M-...		
SF16-DRA115M-8	●	11.50	11.99		162	114	96.0				DA1150M-... ~ DA1190M-...		
SF16-DRA120M-8	●	12.00	12.49		166	118	100.0				DA1200M-... ~ DA1240M-...		
SF16-DRA125M-8	●	12.50	12.99		171	123	104.0				DA1250M-... ~ DA1290M-...		
SF16-DRA130M-8	●	13.00	13.49		175	127	108.0				DA1300M-... ~ DA1340M-...		
SF16-DRA135M-8	●	13.50	13.99		180	132	112.0				DA1350M-... ~ DA1390M-...		
SF16-DRA140M-8	●	14.00	14.49		184	136	116.0				DA1400M-... ~ DA1440M-...		
SF16-DRA145M-8	●	14.50	14.99		189	141	120.0				DA1450M-... ~ DA1490M-...		
SF20-DRA150M-8	●	15.00	15.99	20	201	151	128.0	50	25	Fig.1	DA1500M-... ~ DA1590M-...	HS-3048TRP	DTP-6
SF20-DRA160M-8	●	16.00	16.99		211	161	136.0				DA1600M-... ~ DA1690M-...		
SF20-DRA170M-8	●	17.00	17.99		220	170	144.0				DA1700M-... ~ DA1790M-...		
SF25-DRA180M-8	●	18.00	18.99	25	236	180	152.0	56	32	Fig.1	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SF25-DRA190M-8	●	19.00	19.99		245	189	160.0				DA1900M-... ~ DA1990M-...		
SF25-DRA200M-8	●	20.00	20.99		254	198	168.0				DA2000M-... ~ DA2090M-...		
SF25-DRA210M-8	●	21.00	21.99		263	207	176.0				DA2100M-... ~ DA2150M-...		
SF25-DRA220M-8	●	22.00	22.99		273	217	184.0				DA2200M-... ~ DA2250M-...		
SF25-DRA230M-8	●	23.00	23.99		282	226	192.0				DA2300M-... ~ DA2350M-...		
SF25-DRA240M-8	●	24.00	24.99		291	235	200.0				DA2400M-... ~ DA2450M-...		
SF25-DRA250M-8	●	25.00	25.50		300	244	208.0				DA2500M-... ~ DA2550M-...		
NEW SF32-DRA260M-8	●	26.00	26.99	32	313	255	216.0	58	39	Fig.2	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
NEW SF32-DRA270M-8	●	27.00	27.99		321	263	224.0				DA2700M-...~DA2750M-...		
NEW SF32-DRA280M-8	●	28.00	28.99		330	272	232.0				DA2800M-...~DA2850M-...		
NEW SF32-DRA290M-8	●	29.00	29.99		339	281	240.0				DA2900M-...~DA2950M-...		
NEW SF32-DRA300M-8	●	30.00	30.99		348	290	248.0				DA3000M-...~DA3050M-...		
NEW SF32-DRA310M-8	●	31.00	31.99		356	298	256.0				DA3100M-...~DA3150M-...		
NEW SF32-DRA320M-8	●	32.00	33.00		365	307	264.0				DA3200M-...~DA3300M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

SF-DRA (Drilling Depth: 12xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 12D (Metric Size)

Part Number	Stock	Dimensions (mm)								Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LFS	LU	LS	DCSFMS		Clamp Screw	Wrench
		min.	max.									
SF16-DRA120M-12	●	12	12.49	16	216	168	150	48	20	**DA1200M-... ~ DA1240M-...**	HS-2534TRP	FTP-5
SF16-DRA125M-12	●	12.5	12.99		223	175	156			**DA1250M-... ~ DA1290M-...**		
SF16-DRA130M-12	●	13	13.49		229	181	162			**DA1300M-... ~ DA1340M-...**		
SF16-DRA135M-12	●	13.5	13.99		236	188	168			**DA1350M-... ~ DA1390M-...**		
SF16-DRA140M-12	●	14	14.49		242	194	174			**DA1400M-... ~ DA1440M-...**		
SF16-DRA145M-12	●	14.5	14.99		249	201	180			**DA1450M-... ~ DA1490M-...**		
SF20-DRA150M-12	●	15	15.99	20	265	215	192	50	25	**DA1500M-... ~ DA1590M-...**	HS-3048TRP	DTP-6
SF20-DRA160M-12	●	16	16.99		279	229	204			**DA1600M-... ~ DA1690M-...**		
SF20-DRA170M-12	●	17	17.99		292	242	216			**DA1700M-... ~ DA1790M-...**		
SF25-DRA180M-12	●	18	18.99	25	312	256	228	56	32	**DA1800M-... ~ DA1890M-...**	HS-4067TRP	DTP-7
SF25-DRA190M-12	●	19	19.99		325	269	240			**DA1900M-... ~ DA1990M-...**		
SF25-DRA200M-12	●	20	20.99		338	282	252			**DA2000M-... ~ DA2090M-...**		
SF25-DRA210M-12	●	21	21.99		351	295	264			**DA2100M-... ~ DA2150M-...**		
SF25-DRA220M-12	●	22	22.99		365	309	276			**DA2200M-... ~ DA2250M-...**		
SF25-DRA230M-12	●	23	23.99		378	322	288			**DA2300M-... ~ DA2350M-...**		
SF25-DRA240M-12	●	24	24.99		391	335	300			**DA2400M-... ~ DA2450M-...**		
SF25-DRA250M-12	●	25	25.5		404	348	312			**DA2500M-... ~ DA2550M-...**		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

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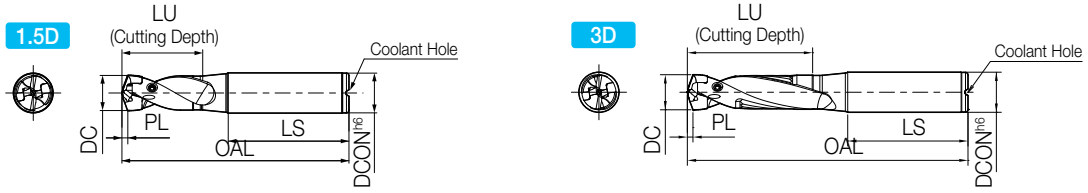
SS-DRA (Drilling Depth: 1.5xDC / 3xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 1.5D (Metric Size)

Part Number	Stock	Dimensions (mm)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS10-DRA080M-1.5	●	7.94	8.49	10	66.2	12.8	40	DA0794M-...~DA0840M-...	HS-2524TRP	FTP-5
SS10-DRA085M-1.5	●	8.50	8.99		67.5	13.5		DA0850M-...~DA0890M-...		
SS10-DRA090M-1.5	●	9.00	9.49		68.7	14.3		DA0900M-...~DA0940M-...		
SS10-DRA095M-1.5	●	9.50	9.99		70.0	15.0		DA0950M-...~DA0990M-...		
SS12-DRA100M-1.5	●	10.00	10.49	12	76.2	15.8	45	DA1000M-...~DA1040M-...	HS-2534TRP	
SS12-DRA105M-1.5	●	10.50	10.99		77.5	16.5		DA1050M-...~DA1090M-...		
SS12-DRA110M-1.5	●	11.00	11.49		79.7	17.3		DA1100M-...~DA1140M-...		
SS12-DRA115M-1.5	●	11.50	11.99		81.0	18.0		DA1150M-...~DA1190M-...		
SS14-DRA120M-1.5	●	12.00	12.49	14	82.2	18.8		DA1200M-...~DA1240M-...		
SS14-DRA125M-1.5	●	12.50	12.99		83.5	19.5		DA1250M-...~DA1290M-...		
SS14-DRA130M-1.5	●	13.00	13.49		84.7	20.3		DA1300M-...~DA1340M-...		
SS14-DRA135M-1.5	●	13.50	13.99		86.0	21.0		DA1350M-...~DA1390M-...		
SS16-DRA140M-1.5	●	14.00	14.49	16	90.2	21.8	48	DA1400M-...~DA1440M-...	HS-3048TRP	DTP-6
SS16-DRA145M-1.5	●	14.50	14.99		91.5	22.5		DA1450M-...~DA1490M-...		
SS16-DRA150M-1.5	●	15.00	15.99		95.0	24.0		DA1500M-...~DA1590M-...		
SS18-DRA160M-1.5	●	16.00	16.99	18	98.5	25.5		DA1600M-...~DA1690M-...		
SS18-DRA170M-1.5	●	17.00	17.99		101.0	27.0		DA1700M-...~DA1790M-...		
SS20-DRA180M-1.5	●	18.00	18.99	20	106.5	28.5	50	DA1800M-...~DA1890M-...	HS-4067TRP	DTP-7
SS20-DRA190M-1.5	●	19.00	19.99		109.0	30.0		DA1900M-...~DA1990M-...		
SS25-DRA200M-1.5	●	20.00	20.99	25	117.5	31.5	56	DA2000M-...~DA2090M-...		
SS25-DRA210M-1.5	●	21.00	21.99		120.0	33.0		DA2100M-...~DA2150M-...		
SS25-DRA220M-1.5	●	22.00	22.99		123.5	34.5		DA2200M-...~DA2250M-...		
SS25-DRA230M-1.5	●	23.00	23.99		126.0	36.0		DA2300M-...~DA2350M-...		
SS25-DRA240M-1.5	●	24.00	24.99		128.5	37.5		DA2400M-...~DA2450M-...		
SS32-DRA250M-1.5	●	25.00	25.50	32	135.0	39.0	60	DA2500M-...~DA2550M-...		

Toolholder Dimensions - 3D (Metric Size)

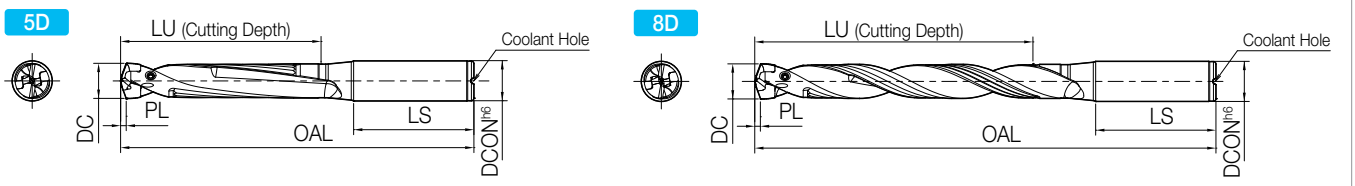
Part Number	Stock	Dimensions (mm)						Applicable Insert See Page K7~K11	Spare Parts	
		DC		DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
		min.	max.							
SS10-DRA080M-3	●	7.94	8.49	10	79	25.5	40	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS10-DRA085M-3	●	8.50	8.99		81	27.0		DA0850M-... ~ DA0890M-...		
SS10-DRA090M-3	●	9.00	9.49		83	28.5		DA0900M-... ~ DA0940M-...		
SS10-DRA095M-3	●	9.50	9.99		85	30.0		DA0950M-... ~ DA0990M-...		
SS12-DRA100M-3	●	10.00	10.49	12	92	31.5	45	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SS12-DRA105M-3	●	10.50	10.99		94	33.0		DA1050M-... ~ DA1090M-...		
SS12-DRA110M-3	●	11.00	11.49		97	34.5		DA1100M-... ~ DA1140M-...		
SS12-DRA115M-3	●	11.50	11.99		99	36.0		DA1150M-... ~ DA1190M-...		
SS14-DRA120M-3	●	12.00	12.49	14	101	37.5		DA1200M-... ~ DA1240M-...		
SS14-DRA125M-3	●	12.50	12.99		103	39.0		DA1250M-... ~ DA1290M-...		
SS14-DRA130M-3	●	13.00	13.49		105	40.5		DA1300M-... ~ DA1340M-...		
SS14-DRA135M-3	●	13.50	13.99		107	42.0		DA1350M-... ~ DA1390M-...		
SS16-DRA140M-3	●	14.00	14.49	16	112	43.5	48	DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS16-DRA145M-3	●	14.50	14.99		114	45.0		DA1450M-... ~ DA1490M-...		
SS16-DRA150M-3	●	15.00	15.99		119	48.0		DA1500M-... ~ DA1590M-...		
SS18-DRA160M-3	●	16.00	16.99	18	124	51.0		DA1600M-... ~ DA1690M-...		
SS18-DRA170M-3	●	17.00	17.99		128	54.0		DA1700M-... ~ DA1790M-...		
SS20-DRA180M-3	●	18.00	18.99	20	135	57.0	50	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SS20-DRA190M-3	●	19.00	19.99		139	60.0		DA1900M-... ~ DA1990M-...		
SS25-DRA200M-3	●	20.00	20.99	25	149	63.0	56	DA2000M-... ~ DA2090M-...		
SS25-DRA210M-3	●	21.00	21.99		153	66.0		DA2100M-... ~ DA2150M-...		
SS25-DRA220M-3	●	22.00	22.99		158	69.0		DA2200M-... ~ DA2250M-...		
SS25-DRA230M-3	●	23.00	23.99		162	72.0		DA2300M-... ~ DA2350M-...		
SS25-DRA240M-3	●	24.00	24.99		166	75.0		DA2400M-... ~ DA2450M-...		
SS32-DRA250M-3	●	25.00	25.50	32	174	78.0	60	DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SS-DRA (Drilling Depth: 5xDC / 8xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5D (Metric Size)

Part Number	Stock	Dimensions (mm)						Applicable Insert See Page K7~K11	Spare Parts	
		DC min.	DC max.	DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
SS10-DRA080M-5	●	7.94	8.49	10	96	42.5	40	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS10-DRA085M-5	●	8.50	8.99		99	45.0		DA0850M-... ~ DA0890M-...		
SS10-DRA090M-5	●	9.00	9.49		102	47.5		DA0900M-... ~ DA0940M-...		
SS10-DRA095M-5	●	9.50	9.99		105	50.0		DA0950M-... ~ DA0990M-...		
SS12-DRA100M-5	●	10.00	10.49	12	113	52.5	45	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SS12-DRA105M-5	●	10.50	10.99		116	55.0		DA1050M-... ~ DA1090M-...		
SS12-DRA110M-5	●	11.00	11.49		120	57.5		DA1100M-... ~ DA1140M-...		
SS12-DRA115M-5	●	11.50	11.99		123	60.0		DA1150M-... ~ DA1190M-...		
SS14-DRA120M-5	●	12.00	12.49	14	126	62.5		DA1200M-... ~ DA1240M-...		
SS14-DRA125M-5	●	12.50	12.99		129	65.0		DA1250M-... ~ DA1290M-...		
SS14-DRA130M-5	●	13.00	13.49		132	67.5		DA1300M-... ~ DA1340M-...		
SS14-DRA135M-5	●	13.50	13.99		135	70.0		DA1350M-... ~ DA1390M-...		
SS16-DRA140M-5	●	14.00	14.49	16	141	72.5	48	DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS16-DRA145M-5	●	14.50	14.99		144	75.0		DA1450M-... ~ DA1490M-...		
SS16-DRA150M-5	●	15.00	15.99		151	80.0		DA1500M-... ~ DA1590M-...		
SS18-DRA160M-5	●	16.00	16.99	18	158	85.0		DA1600M-... ~ DA1690M-...		
SS18-DRA170M-5	●	17.00	17.99		164	90.0		DA1700M-... ~ DA1790M-...		
SS20-DRA180M-5	●	18.00	18.99	20	173	95.0	50	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SS20-DRA190M-5	●	19.00	19.99		179	100.0		DA1900M-... ~ DA1990M-...		
SS25-DRA200M-5	●	20.00	20.99	25	191	105.0	56	DA2000M-... ~ DA2090M-...		
SS25-DRA210M-5	●	21.00	21.99		197	110.0		DA2100M-... ~ DA2150M-...		
SS25-DRA220M-5	●	22.00	22.99		204	115.0		DA2200M-... ~ DA2250M-...		
SS25-DRA230M-5	●	23.00	23.99		210	120.0		DA2300M-... ~ DA2350M-...		
SS25-DRA240M-5	●	24.00	24.99		216	125.0		DA2400M-... ~ DA2450M-...		
SS32-DRA250M-5	●	25.00	25.50	32	226	130.0	60	DA2500M-... ~ DA2550M-...		

Toolholder Dimensions - 8D (Metric Size)

Part Number	Stock	Dimensions (mm)						Applicable Insert See Page K7~K11	Spare Parts	
		DC min.	DC max.	DCON (h6)	OAL	LU	LS		Clamp Screw	Wrench
SS10-DRA080M-8	●	7.94	8.49	10	121	68.0	40	DA0794M-... ~ DA0840M-...	HS-2524TRP	FTP-5
SS10-DRA085M-8	●	8.50	8.99		126	72.0		DA0850M-... ~ DA0890M-...		
SS10-DRA090M-8	●	9.00	9.49		130	76.0		DA0900M-... ~ DA0940M-...		
SS10-DRA095M-8	●	9.50	9.99		135	80.0		DA0950M-... ~ DA0990M-...		
SS12-DRA100M-8	●	10.00	10.49	12	144	84.0	45	DA1000M-... ~ DA1040M-...	HS-2534TRP	
SS12-DRA105M-8	●	10.50	10.99		149	88.0		DA1050M-... ~ DA1090M-...		
SS12-DRA110M-8	●	11.00	11.49		154	92.0		DA1100M-... ~ DA1140M-...		
SS12-DRA115M-8	●	11.50	11.99		159	96.0		DA1150M-... ~ DA1190M-...		
SS14-DRA120M-8	●	12.00	12.49	14	163	100.0		DA1200M-... ~ DA1240M-...		
SS14-DRA125M-8	●	12.50	12.99		168	104.0		DA1250M-... ~ DA1290M-...		
SS14-DRA130M-8	●	13.00	13.49		172	108.0		DA1300M-... ~ DA1340M-...		
SS14-DRA135M-8	●	13.50	13.99		177	112.0		DA1350M-... ~ DA1390M-...		
SS16-DRA140M-8	●	14.00	14.49	16	184	116.0	48	DA1400M-... ~ DA1440M-...	HS-3048TRP	DTP-6
SS16-DRA145M-8	●	14.50	14.99		189	120.0		DA1450M-... ~ DA1490M-...		
SS16-DRA150M-8	●	15.00	15.99		199	128.0		DA1500M-... ~ DA1590M-...		
SS18-DRA160M-8	●	16.00	16.99	18	209	136.0		DA1600M-... ~ DA1690M-...		
SS18-DRA170M-8	●	17.00	17.99		218	144.0		DA1700M-... ~ DA1790M-...		
SS20-DRA180M-8	●	18.00	18.99	20	230	152.0	50	DA1800M-... ~ DA1890M-...	HS-4067TRP	DTP-7
SS20-DRA190M-8	●	19.00	19.99		239	160.0		DA1900M-... ~ DA1990M-...		
SS25-DRA200M-8	●	20.00	20.99	25	254	168.0	56	DA2000M-... ~ DA2090M-...		
SS25-DRA210M-8	●	21.00	21.99		263	176.0		DA2100M-... ~ DA2150M-...		
SS25-DRA220M-8	●	22.00	22.99		273	184.0		DA2200M-... ~ DA2250M-...		
SS25-DRA230M-8	●	23.00	23.99		282	192.0		DA2300M-... ~ DA2350M-...		
SS25-DRA240M-8	●	24.00	24.99		291	200.0		DA2400M-... ~ DA2450M-...		
SS32-DRA250M-8	●	25.00	25.50	32	304	208.0	60	DA2500M-... ~ DA2550M-...		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K7~K11 for actual cutting diameters (DC).

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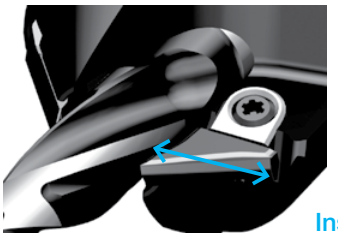
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRA Chamfering Attachment

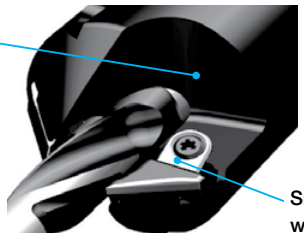
New straight shank DRA chamfering attachment
Excellent chip control in a wide range of drilling depths

1 Excellent Stability and Chip Evacuation

Easy-to-adjust chamfering insert slides in radial direction with a clamp structure that provides good chip evacuation

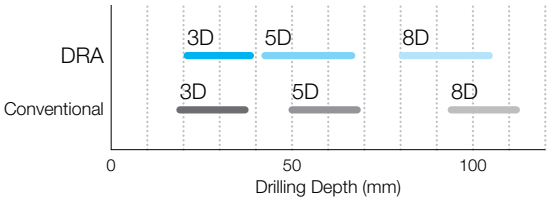


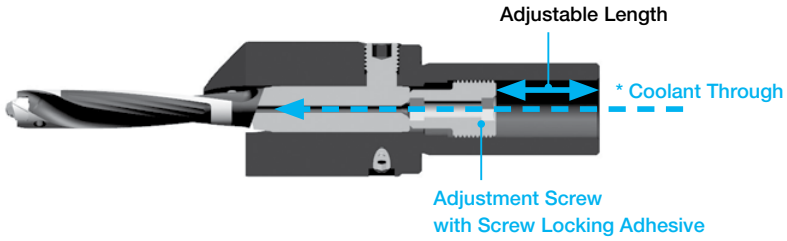
Inserts slide in the radial direction to adjust with drilling diameter



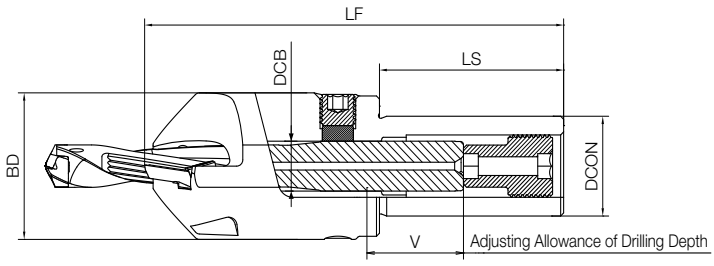
2 Fully Adjustable for a Wide Range of Drilling Depths

Range of adjustable depths for a ø14mm drilling diameter





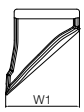
DRA Chamfering Attachment (for Straight Shank Only)



Chamfer Attachment Dimensions (Metric Size)

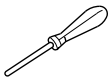
Part Number	Stock	Applicable Drill Shank Dia. DCB	Dimensions (mm)					Applicable Chamfer Insert
			DCON	BD	LF	LS	V (Max)	
S20-CH10-DRA	●	10	20	39	110	52	18	CT12T3-45DA
S32-CH12-DRA	●	12	32	43	130	62	24	
S32-CH14-DRA	●	14	32	45	130	62	24	
S32-CH16-DRA	●	16	32	47	141	62	24	
S32-CH18-DRA	●	18	32	49	145	62	24	
S32-CH20-DRA	●	20	32	53	150	62	24.5	

Applicable Insert

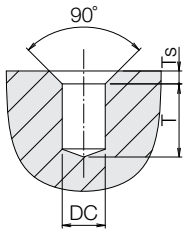
Shape			Part Number	MEGACOAT NANO	Dimensions (mm)	
				PR1535	W1	S
			**CT12T3-45DA**	●	13.54	3.97

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Chamfer Attachment pare Parts

Chamfering Attachment	Adjusting Screw		For Fixing Drills					For Mounting Inserts		
			Clamp	Clamp Screw			Plug Screw	Clamp	Clamp Screw	Wrench
Part Number		Width Across Flat (mm)			Width Across Flat (mm)	Torque [N·m]				
S20-CH10-DRA	AJ-12X22	6	CP-CH10	HS8X8	4	12	BNP6	C09N	W6X18N	DTM-15
S32-CH12-DRA	AJ-16X30		CP-CH12			15				
S32-CH14-DRA	AJ-20X30	8	CP-CH14	HS10X10	5	20				
S32-CH16-DRA			CP-CH16	HS12X10	6	30				
S32-CH18-DRA	AJ-22x35	10	CP-CH18			30				
S32-CH20-DRA			CP-CH20	HS16X10	8	45				

Drilling & Chamfering Depths



Cutting Dia. (mm) DC		Drilling Depth (mm)						Chamfering Dimension (mm)		Applicable Chamfering Attachment
		T (3XD)		T (5XD)		T (8XD)				
min.	max.	min.	max.	min.	max.	min.	max.	Ts	Tsmax.	
7.94	8.49	12.5	20	18	36	43	60	2.5	8	**S20-CH10-DRA**
8.50	8.99	12.5	21.5	21.5	38.5	48	64			
9.00	9.49	12.5	23	24	41	52	68			
9.50	9.99	12.5	24.5	27.5	43.5	57.5	72.5			
10.00	10.49	15.5	26	22	46	52	76	4	8	**S32-CH12-DRA**
10.50	10.99	16	27.5	24.5	48.5	56	80			
11.00	11.49	16.5	29	27	51	60	84			
11.50	11.99	17.5	30.5	29.5	53.5	64	88			
12.00	12.49	18	32	32	56	68	92	4	8	**S32-CH14-DRA**
12.50	12.99	19	34	35	59	72.5	96.5			
13.00	13.49	19.5	35.5	37.5	61.5	76	100			
13.50	13.99	20	36.5	39.5	63.5	80	104			
14.00	14.49	21	38.5	42.5	66.5	84.5	108.5	4	8	**S32-CH16-DRA**
14.50	14.99	21.5	40	45	69	88.5	112.5			
15.00	15.99	22.5	41.5	47.5	71.5	92.5	116.5			
16.00	16.99	24	44.5	52.5	76.5	100.5	124.5	4	8	**S32-CH18-DRA**
17.00	17.99	25.5	47.5	57.5	81.5	108.5	132.5			
18.00	18.99	27.5	51	64	87	121	141	4	8	**S32-CH20-DRA**
19.00	19.99	29.5	54	69	92	129	149			

Ts: Max. chamfering dimension at the full feed.
Tsmax.: Max. chamfering dimension at a 50% feed reduction.

1. Mount DRA drill into the chamfering attachment (Fig.1)

Fig.1 Install the DRA

2. Install an insert and tighten temporarily with clearance between the cutting edge and DRA body (Fig.2)

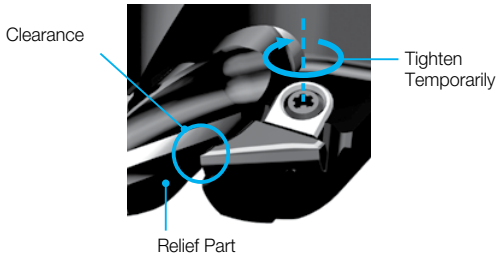


Fig.2 Install Inserts

3. Adjust drilling depth by turning adjustment screw with hexagon wrench (Fig.3)

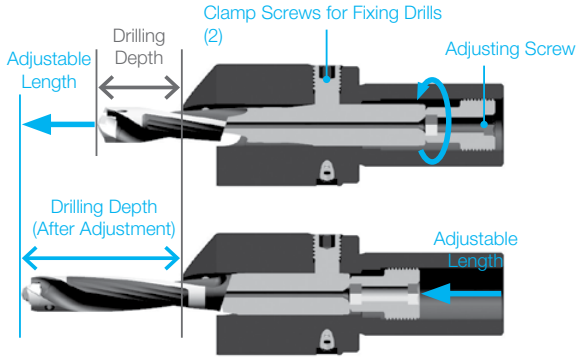


Fig.3 Adjustment of Drilling Depth

4. Align the flute edge and black relief part of the drill to the position shown by rotating the DRA drill (Fig.4)

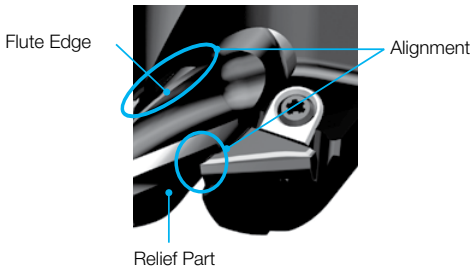


Fig.4 DRA Alignment

5. Fasten the two clamp screws for DRA (See table 1. for recommended torque)

Table1. Recommended Torque

Chamfering Attachment Part Number	Clamp Screw	
	Recommended Torque (N·m)	Width Across Flat (mm)
S20-CH10-DRA	12	4
S32-CH12-DRA	15	
S32-CH14-DRA	20	5
S32-CH16-DRA	30	6
S32-CH18-DRA	30	
S32-CH20-DRA	45	8

6. Tighten the inserts while lightly pressing the edge of insert against the relief part (Fig.5) (Recommended torque is 3.5Nm)

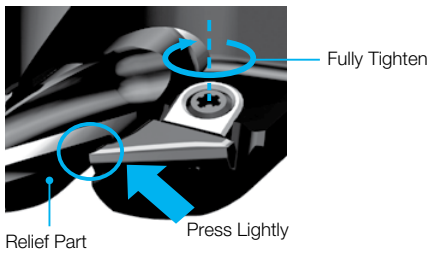


Fig.5 Fully Tighten

Cautions

- Chamfering attachment is compatible with straight shank SS-DRA. It cannot be used for flanged shank SF-DRA.
- Chamfering requires two chamfering inserts. Using one insert is not recommended.
- Only fully remove clamp screws when replacing them.
- Clamps and clamp screws for mounting inserts need to be replaced regularly.
- Screw locking adhesive is applied to adjustment screw. The effect will eventually wear off if the screws are used for a long time. Regular replacement is recommended.
- Please do not operate the plug screws.

GM Insert - Recommended Cutting Conditions

Workpiece Material	Recommended Grade / Cutting Speed (sfm)		Cutting Dia. DC (in)	Cutting Dia. DC (mm)	Holder Type (Cutting Depth) Feed Rate (ipr)					Notes
	PR1535	PR1525			1.5D	3D	5D	8D	12D	
Low Carbon Steel	★ 330-590	☆ 330-590	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	Coolant Info See K30
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 28.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			1.142 - 1.280	29.00 - 32.50	0.0079 - 0.0177		0.0063 - 0.0142		-	
			1.299	33.00	0.0079 - 0.0177		0.0063 - 0.0142			
Carbon Steel	★ 330-490	☆ 330-490	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			1.142 - 1.280	29.00 - 32.50	0.0079 - 0.0177		0.0063 - 0.0142		-	
			1.299	33.00	0.0079 - 0.0177		0.0063 - 0.0142			
Alloy Steel	★ 230-390	☆ 230-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			1.142 - 1.280	29.00 - 32.50	0.0079 - 0.0177		0.0063 - 0.0142		-	
			1.299	33.00	0.0079 - 0.0177		0.0063 - 0.0142			
Tool Steel	★ 160-300	☆ 160-300	0.313 - 0.429	7.94 - 10.90	0.0031 - 0.0067		0.0025 - 0.0054		0.0022 - 0.0047	
			0.433 - 0.547	11.00 - 13.90	0.0031 - 0.0087		0.0025 - 0.0069		0.0022 - 0.0061	
			0.551 - 0.705	14.00 - 17.90	0.0043 - 0.0098		0.0035 - 0.0079		0.0030 - 0.0069	
			0.709 - 0.846	18.00 - 21.50	0.0043 - 0.0110		0.0035 - 0.0088		0.0030 - 0.0077	
			0.866 - 0.965	22.00 - 24.50	0.0055 - 0.0126		0.0044 - 0.0101		0.0039 - 0.0088	
			0.984 - 1.004	25.00 - 25.50	0.0055 - 0.0126		0.0044 - 0.0101		0.0039 - 0.0088	
			1.142 - 1.280	29.00 - 32.50	0.0055 - 0.0126		0.0044 - 0.0101		-	
			1.299	33.00	0.0055 - 0.0126		0.0044 - 0.0101			
Stainless Steel ※	★ 130-230	☆ 130-230	0.313 - 0.429	7.94 - 10.90	0.0039 - 0.0094		0.0031 - 0.0076		0.0028 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0039 - 0.0094		0.0031 - 0.0076		0.0028 - 0.0066	
			0.551 - 0.705	14.00 - 17.90	0.0047 - 0.0118		0.0038 - 0.0094		0.0033 - 0.0083	
			0.709 - 0.846	18.00 - 21.50	0.0059 - 0.0118		0.0047 - 0.0094		0.0041 - 0.0083	
			0.866 - 0.965	22.00 - 24.50	0.0059 - 0.0118		0.0047 - 0.0094		0.0041 - 0.0083	
			0.984 - 1.004	25.00 - 25.50	0.0059 - 0.0138		0.0047 - 0.0110		0.0041 - 0.0096	
			1.142 - 1.280	29.00 - 32.50	0.0059 - 0.0138		0.0047 - 0.0110		-	
			1.299	33.00	0.0059 - 0.0138		0.0047 - 0.0110			
Gray Cast Iron	☆ 300-560	★ 300-560	0.313 - 0.429	7.94 - 10.90	0.0055 - 0.0114		0.0044 - 0.0091		0.0039 - 0.0080	
			0.433 - 0.547	11.00 - 13.90	0.0055 - 0.0146		0.0044 - 0.0117		0.0039 - 0.0102	
			0.551 - 0.705	14.00 - 17.90	0.0075 - 0.0169		0.0060 - 0.0135		0.0052 - 0.0119	
			0.709 - 0.846	18.00 - 21.50	0.0075 - 0.0177		0.0060 - 0.0142		0.0052 - 0.0124	
			0.866 - 0.965	22.00 - 24.50	0.0094 - 0.0177		0.0076 - 0.0142		0.0066 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0094 - 0.0177		0.0076 - 0.0142		0.0066 - 0.0124	
			1.142 - 1.280	29.00 - 32.50	0.0094 - 0.0177		0.0076 - 0.0142		-	
			1.299	33.00	0.0094 - 0.0177		0.0076 - 0.0142			
Nodular Cast Iron	☆ 130-390	★ 130-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			1.142 - 1.280	29.00 - 32.50	0.0079 - 0.0177		0.0063 - 0.0142		-	
			1.299	33.00	0.0079 - 0.0177		0.0063 - 0.0142			

※ Feed Rate 0.006 ipr or less is recommended for stainless steel until drilling depth reaches 0.5DC.

★ : 1st Recommendation ☆ : 2nd Recommendation

Notes: The recommended cutting conditions are for drilling on plain surfaces.
The conditions for drilling on slant hole shows the depth from the top of workpiece.
Set the feed rate under 50% when inclination angle is under 30°. Set the feed rate under 30% when inclination angle is over 30°.
Traversing is not recommended.
Applicable to 1.5D, 3D, 5D, 8D and 12D holders. Prepared hole (0.5DC) is needed when using 8D/12D holder.

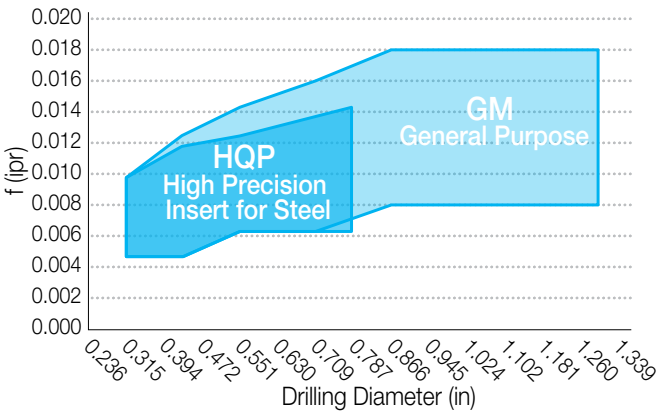
As drilling depth increases (**1.5D → 3D → 5D → 8D**), feed rates should be reduced.
Recommended Feed Rate: **1.5D/3D** = 100%, **5D/8D** ≤ 80%, **12D** ≤ 70%
Recommended Cutting Speed: **8D** ≤ 80%, **12D** ≤ 70%

HQP Insert - Recommended Cutting Conditions

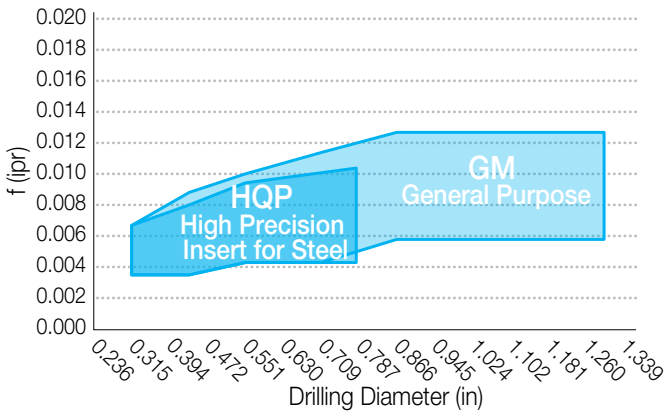
Workpiece Material	Recommended Grade / Cutting Speed (sfm)	Cutting Dia. DC (in)	Cutting Dia. DC (mm)	Holder Type (Cutting Depth) Feed Rate (ipr)					Notes
	PR1525			1.5D	3D	5D	8D	12D	
Low Carbon Steel	★ 260-590	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	Coolant Info See K30
		0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0110		0.0038 - 0.0088		0.0033 - 0.0077	
		0.551 - 0.744	14.00 - 18.90	0.0063 - 0.0126		0.0050 - 0.0101		0.0044 - 0.0088	
		0.748 - 0.783	19.00 - 19.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
Carbon Steel	★ 260-490	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
		0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0110		0.0038 - 0.0088		0.0033 - 0.0077	
		0.551 - 0.744	14.00 - 18.90	0.0063 - 0.0126		0.0050 - 0.0101		0.0044 - 0.0088	
		0.748 - 0.783	19.00 - 19.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
Alloy Steel	★ 230-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
		0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0110		0.0038 - 0.0088		0.0033 - 0.0077	
		0.551 - 0.744	14.00 - 18.90	0.0063 - 0.0126		0.0050 - 0.0101		0.0044 - 0.0088	
		0.748 - 0.783	19.00 - 19.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
Tool Steel	★ 160-300	0.313 - 0.429	7.94 - 10.90	0.0031 - 0.0067		0.0025 - 0.0054		0.0022 - 0.0047	
		0.433 - 0.547	11.00 - 13.90	0.0031 - 0.0079		0.0025 - 0.0063		0.0022 - 0.0055	
		0.551 - 0.744	14.00 - 18.90	0.0043 - 0.0091		0.0035 - 0.0072		0.0030 - 0.0063	
		0.748 - 0.783	19.00 - 19.90	0.0043 - 0.0102		0.0035 - 0.0082		0.0030 - 0.0072	

As drilling depth increases (**1.5D → 3D → 5D → 8D**), feed rates should be reduced.
Recommended Feed Rate: **1.5D/3D** = 100%, **5D/8D** ≤ 80%, **12D** ≤ 70%
Recommended Cutting Speed: **8D** ≤ 80%, **12D** ≤ 70%

Low Carbon Steel/Carbon Steel/Alloy Steel



Mold Steel



KM Insert - Recommended Cutting Conditions

Workpiece Material	Cutting Speed (sfm)	Cutting Dia. DC (in)	Cutting Dia. DC (mm)	Holder Type (Cutting Depth) Feed Rate (ipr)					Notes
	PR1525			1.5D	3D	5D	8D	12D	
Gray Cast Iron	★ 300-560	0.313 - 0.429	7.94 - 10.90	0.0067 - 0.0138		0.0054 - 0.0110		0.0047 - 0.0096	Coolant Info See K30
		0.433 - 0.547	11.00 - 13.90	0.0075 - 0.0165		0.0060 - 0.0132		0.0052 - 0.0116	
		0.551 - 0.705	14.00 - 17.90	0.0091 - 0.0209		0.0072 - 0.0167		0.0063 - 0.0146	
		0.709 - 0.846	18.00 - 21.50	0.0098 - 0.0236		0.0079 - 0.0189		0.0069 - 0.0165	
		0.866 - 0.965	22.00 - 24.50	0.0126 - 0.0236		0.0101 - 0.0189		0.0088 - 0.0165	
		0.984 - 1.004	25.00 - 25.50	0.0126 - 0.0236		0.0101 - 0.0189		0.0088 - 0.0165	
Nodular Cast Iron	★ 130-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
		0.433 - 0.547	11.00 - 13.90	0.0067 - 0.0142		0.0054 - 0.0113		0.0047 - 0.0099	
		0.551 - 0.705	14.00 - 17.90	0.0083 - 0.0189		0.0066 - 0.0151		0.0058 - 0.0132	
		0.709 - 0.846	18.00 - 21.50	0.0094 - 0.0236		0.0076 - 0.0189		0.0066 - 0.0165	
		0.866 - 0.965	22.00 - 24.50	0.0106 - 0.0236		0.0085 - 0.0189		0.0074 - 0.0165	
		0.984 - 1.004	25.00 - 25.50	0.0106 - 0.0236		0.0085 - 0.0189		0.0074 - 0.0165	

- As drilling depth increases (**3D** → **5D** → **8D**), feed rates should be reduced.
- Recommended Feed Rate: **3D** = 100%, **5D** ≤ 80%, **8D** ≤ 70%

★ : 1st Recommendation ☆ : 2nd Recommendation

FTP Insert - Recommended Cutting Conditions

Workpiece Material	Recommended Grade / Cutting Speed (sfm)		Cutting Dia. DC (in)	Cutting Dia. DC (mm)	Holder Type (Cutting Depth) Feed Rate (ipr)					Notes
	PR1535	PR1525			1.5D	3D	5D	8D	12D	
Low Carbon Steel	★ 330-590	☆ 330-590	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
Carbon Steel	★ 330-490	☆ 330-490	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
Alloy Steel	★ 230-390	☆ 230-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0157		0.0063 - 0.0126		0.0055 - 0.0110	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
Tool Steel	★ 160-300	☆ 160-300	0.313 - 0.429	7.94 - 10.90	0.0031 - 0.0067		0.0025 - 0.0054		0.0022 - 0.0047	Coolant Info See K30
			0.433 - 0.547	11.00 - 13.90	0.0031 - 0.0087		0.0025 - 0.0069		0.0022 - 0.0061	
			0.551 - 0.705	14.00 - 17.90	0.0043 - 0.0098		0.0035 - 0.0079		0.0030 - 0.0069	
			0.709 - 0.846	18.00 - 21.50	0.0043 - 0.0110		0.0035 - 0.0088		0.0030 - 0.0077	
			0.866 - 0.965	22.00 - 24.50	0.0055 - 0.0118		0.0044 - 0.0094		0.0039 - 0.0083	
			0.984 - 1.004	25.00 - 25.50	0.0055 - 0.0126		0.0044 - 0.0101		0.0039 - 0.0088	
Stainless Steel ※	★ 130-230	☆ 130-230	0.313 - 0.429	7.94 - 10.90	0.0039 - 0.0079		0.0031 - 0.0063		0.0028 - 0.0055	
			0.433 - 0.547	11.00 - 13.90	0.0039 - 0.0079		0.0031 - 0.0063		0.0028 - 0.0055	
			0.551 - 0.705	14.00 - 17.90	0.0039 - 0.0094		0.0031 - 0.0076		0.0028 - 0.0066	
			0.709 - 0.846	18.00 - 21.50	0.0059 - 0.0094		0.0047 - 0.0076		0.0041 - 0.0066	
			0.866 - 0.965	22.00 - 24.50	0.0059 - 0.0094		0.0047 - 0.0076		0.0041 - 0.0066	
			0.984 - 1.004	25.00 - 25.50	0.0059 - 0.0110		0.0047 - 0.0088		0.0041 - 0.0077	
Gray Cast Iron	☆ 300-560	★ 300-560	0.313 - 0.429	7.94 - 10.90	0.0055 - 0.0114		0.0044 - 0.0091		0.0039 - 0.0080	
			0.433 - 0.547	11.00 - 13.90	0.0055 - 0.0146		0.0044 - 0.0117		0.0039 - 0.0102	
			0.551 - 0.705	14.00 - 17.90	0.0075 - 0.0169		0.0060 - 0.0135		0.0052 - 0.0119	
			0.709 - 0.846	18.00 - 21.50	0.0075 - 0.0177		0.0060 - 0.0142		0.0052 - 0.0124	
			0.866 - 0.965	22.00 - 24.50	0.0094 - 0.0177		0.0076 - 0.0142		0.0066 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0094 - 0.0177		0.0076 - 0.0142		0.0066 - 0.0124	
Nodular Cast Iron	☆ 130-390	★ 130-390	0.313 - 0.429	7.94 - 10.90	0.0047 - 0.0094		0.0038 - 0.0076		0.0033 - 0.0066	
			0.433 - 0.547	11.00 - 13.90	0.0047 - 0.0122		0.0038 - 0.0098		0.0033 - 0.0085	
			0.551 - 0.705	14.00 - 17.90	0.0063 - 0.0142		0.0050 - 0.0113		0.0044 - 0.0099	
			0.709 - 0.846	18.00 - 21.50	0.0063 - 0.0157		0.0050 - 0.0126		0.0044 - 0.0110	
			0.866 - 0.965	22.00 - 24.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	
			0.984 - 1.004	25.00 - 25.50	0.0079 - 0.0177		0.0063 - 0.0142		0.0055 - 0.0124	

As drilling depth increases (**1.5D → 3D → 5D → 8D**), feed rates should be reduced.
Recommended Feed Rate: **1.5D/3D** = 100%, **5D/8D** ≤ 80%, **12D** ≤ 70%
Recommended Cutting Speed: **8D** ≤ 80%, **12D** ≤ 70%

★ : 1st Recommendation ☆ : 2nd Recommendation

※ Feed Rate 0.006 ipr or less is recommended for stainless steel until drilling depth reaches 0.5DC.

Notes: The recommended cutting conditions are for drilling on plain surfaces.
The conditions for drilling on slant hole shows the depth from the top of workpiece.
Set the feed rate under 50% when inclination angle is under 30°.
Set the feed rate under 30% when inclination angle is over 30°.
Traversing is not recommended.
Applicable to 1.5D, 3D, 5D, 8D and 12D holders. Prepared hole (0.5DC) is needed when using 8D/12D holder.

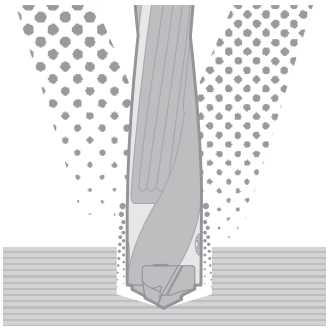
Coolant (Machining Dry is Not Recommended)

1st Recommendation

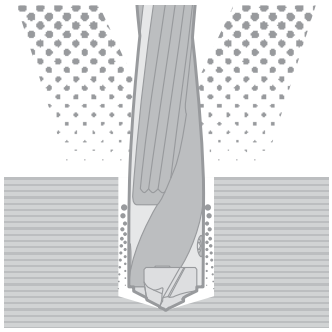
Internal Coolant

Internal + External Coolant

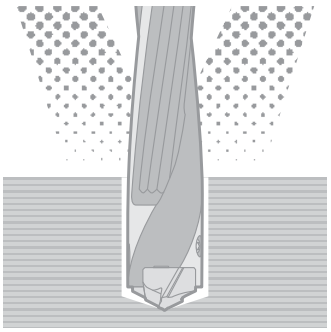
Drilling Depth is Less than 1D



Stainless Steel or High-feed Machining



External Coolant

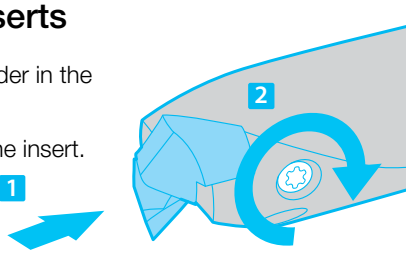


Lathe Application: Max. Drill Depth 3D

Vertical M/C Max. Drill Depth 1.5D

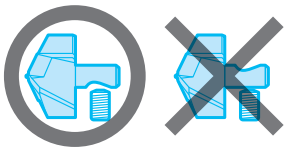
How to Attach Inserts

1. Install insert onto the toolholder in the right direction.
2. Tighten clamp screw to fix the insert. (Torque: see page ➡ **K31**)



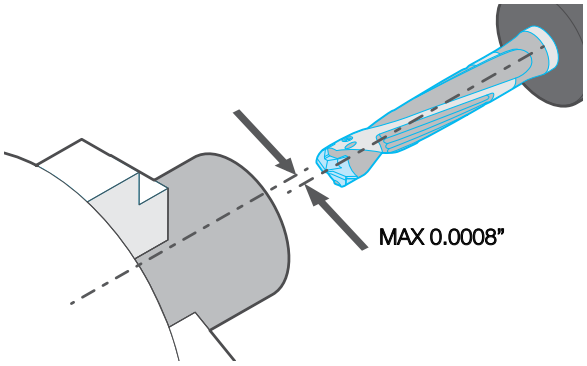
※1 Remove dust on insert pocket using air blow for every replacement.
※2 Make sure that the locating surfaces of the insert closely contacts the toolholder.

Be Careful of the Insert Direction



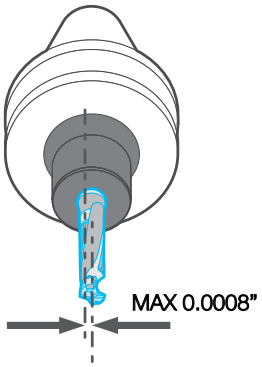
Core Deviation / Alignment Cautions

If Drill is Stationary



DRA works with both boring sleeve and collet-chuck. Center line deviation should be less than 0.0008" between workpiece and drill.

If Drill is Rotating



Do not use any arbor whose attachment surface is deformed. Center deviation must be less than 0.0008".

Machining Center Installation Cautions

How to Install DRA

1st Recommendation

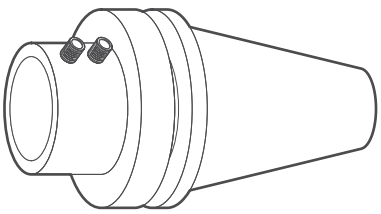
Hydro-chuck, Power-chuck, Collet-chuck

Hydro-chuck
Power-chuck
Collet-chuck

Install DRA Into These Chucks

2nd Recommendation

Side-lock Arbor



Example of Side Lock Arbor

Other Cautions

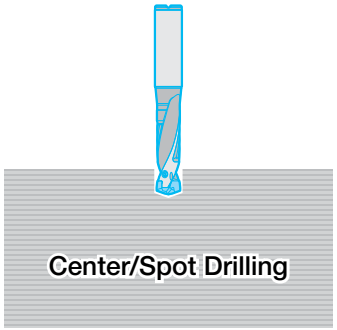
Cautions for Machining with 8D and 12D Holder

Recommended Machining

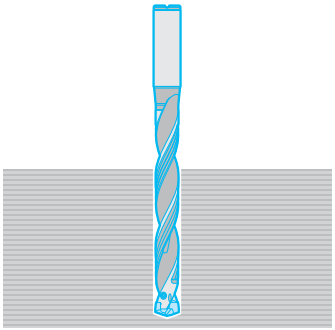
1 Make a center spot using DRA 1.5D/3D/5D
(Center spot should be at least half of cutting diameter)

2 Then drill the hole using DRA (8D/12D type).

1 DRA1.5D/3D/5D



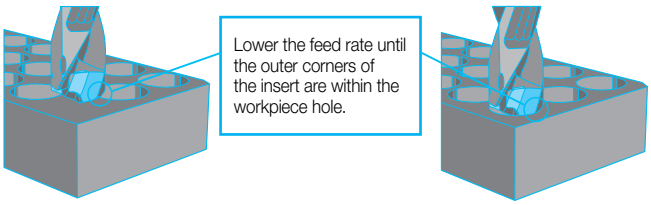
2 DRA 8D/12D



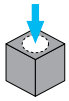
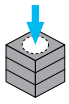
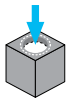
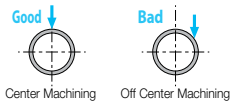
Using KM Inserts

When Drilling Cast Iron with KM Inserts

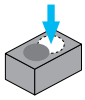
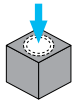
Reduce the feed to 0.006 ipr until the outer corners of the insert are within the workpiece hole



Applicable Workpieces for GM and KM Inserts

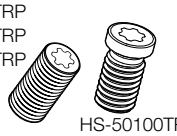
Application	Workpiece Shape	Machining Caution
Plain Surface		1. When machining stainless steel, for hole depths of up to 0.5D, keep feed rate at less than 0.006 ipr. 2. Thru coolant is recommended for smooth chip removal. For stainless steel, the combination of thru and external coolant is recommended.
Stacked Plates		1. Fix stacked plates securely to ensure they do not slip while machining.
Concave Surface		1. When machining concave holes, set the feed rate at less than half of recommended feed for continuous hole machining. 2. Utilize a pecking cycle if chips are not broken short at the inlet.
Tubing		1. Hole machining on the centerline of the tubing is possible. 2. Do not machine on curved surface areas. 

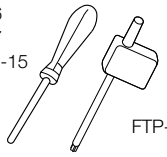
Not Recommended Workpieces for GM and KM Inserts

Application	Hole Expansion	Angled Surface	Half Cylindrical	Existing Hole
Workpiece Shape				

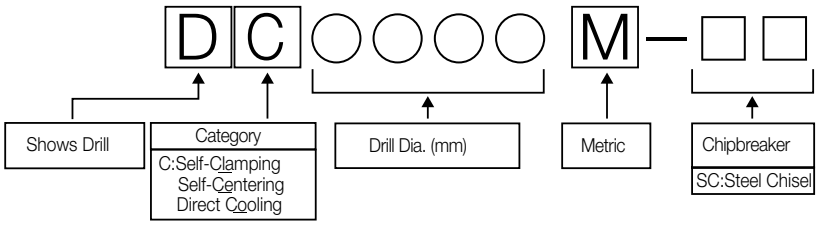
For FTP Insert Applicable Workpieces See Page K8

Spare Parts

Clamp Screw	Part Number
HS-2524TRP HS-2534TRP HS-3048TRP HS-4067TRP 	**HS-2524TRP**
	HS-2534TRP
	HS-3048TRP
	HS-4067TRP
	HS-50100TRP

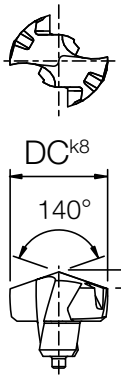
Wrench	Part Number	Torque
DTP-6 DTP-7 DTPM-15 	**FTP-5**	0.5 Nm (4.4 in/lb)
	DTP-6	0.8 Nm (7.1 in/lb)
	DTP-7	1.2 Nm (10.6 in/lb)
	DTPM-15	3.5 Nm (31.0 in/lb)

DC Insert Identification System



DC Inserts (Ø0.313"~0.488")

PR0315 is tough super micro grain carbide grade with TiAlN coating, with excellent wear resistance and fracture resistance. It maintains stable machining of carbon steel, alloy steel and cast iron.

Insert	Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR0315	Applicable Toolholder See Page ➔ K35~K37, ➔ K40~K42
 	DC 0794M-SC	0.313	7.94	0.054	●	SS10-DRC080M-○ SF12-DRC080M-○
	0800M-SC	0.315	8.00	0.054	●	
	0810M-SC	0.319	8.10	0.055	●	
	0820M-SC	0.323	8.20	0.056	●	
	0830M-SC	0.327	8.30	0.056	●	
	0840M-SC	0.331	8.40	0.057	●	
	DC 0850M-SC	0.335	8.50	0.058	●	SS10-DRC085M-○ SF12-DRC085M-○
	0860M-SC	0.339	8.60	0.058	●	
	0870M-SC	0.343	8.70	0.059	●	
	0880M-SC	0.346	8.80	0.060	●	
	0890M-SC	0.350	8.90	0.061	●	
	DC 0900M-SC	0.354	9.00	0.061	●	SS10-DRC090M-○ SF12-DRC090M-○
	0910M-SC	0.358	9.10	0.062	●	
	0920M-SC	0.362	9.20	0.063	●	
	0930M-SC	0.366	9.30	0.063	●	
	0940M-SC	0.370	9.40	0.064	●	
	DC 0950M-SC	0.374	9.50	0.065	●	SS10-DRC095M-○ SF12-DRC095M-○
	0960M-SC	0.378	9.60	0.065	●	
	0970M-SC	0.382	9.70	0.066	●	
	0980M-SC	0.386	9.80	0.067	●	
	0990M-SC	0.390	9.90	0.067	●	
	DC 1000M-SC	0.394	10.00	0.068	●	SS12-DRC100M-○ SF16-DRC100M-○
	1010M-SC	0.398	10.10	0.069	●	
	1020M-SC	0.402	10.20	0.069	●	
	1030M-SC	0.406	10.30	0.070	●	
	1040M-SC	0.409	10.40	0.071	●	
	DC 1050M-SC	0.413	10.50	0.071	●	SS12-DRC105M-○ SF16-DRC105M-○
	1060M-SC	0.417	10.60	0.072	●	
	1070M-SC	0.421	10.70	0.073	●	
	1080M-SC	0.425	10.80	0.073	●	
	1090M-SC	0.429	10.90	0.074	●	
	DC 1100M-SC	0.433	11.00	0.075	●	SS12-DRC110M-○ SF16-DRC110M-○
	1110M-SC	0.437	11.10	0.075	●	
	1120M-SC	0.441	11.20	0.076	●	
	1130M-SC	0.445	11.30	0.077	●	
	1140M-SC	0.449	11.40	0.078	●	
	DC 1150M-SC	0.453	11.50	0.078	●	SS12-DRC115M-○ SF16-DRC115M-○
	1160M-SC	0.457	11.60	0.079	●	
	1170M-SC	0.461	11.70	0.080	●	
	1180M-SC	0.465	11.80	0.080	●	
	1190M-SC	0.469	11.90	0.081	●	
	DC 1200M-SC	0.472	12.00	0.081	●	SS14-DRC120M-○ SF16-DRC120M-○
	1210M-SC	0.476	12.10	0.082	●	
	1220M-SC	0.480	12.20	0.083	●	
	1230M-SC	0.484	12.30	0.083	●	
	1240M-SC	0.488	12.40	0.084	●	

k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.023	+0.0013 0	18.10~ 25.99	+0.033 0

k8 is the dimension tolerance of the insert. It is not the tolerance of the cutting diameter.

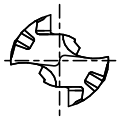
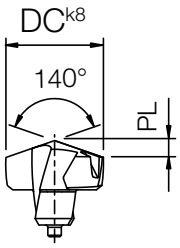
Recommended Cutting Conditions ➔ **K44**

Inserts are sold in 1 piece boxes

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DC Inserts (Ø0.492"~0.744")

Insert	Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR0315	Applicable Toolholder See Page K35~K37, K40~K42
  	DC 1250M-SC	0.492	12.50	0.085	●	SS14-DRC125M-○ SF16-DRC125M-○
	1260M-SC	0.496	12.60	0.085	●	
	1270M-SC	0.500	12.70	0.086	●	
	1280M-SC	0.504	12.80	0.087	●	
	1290M-SC	0.508	12.90	0.088	●	
	DC 1300M-SC	0.512	13.00	0.088	●	SS14-DRC130M-○ SF16-DRC130M-○
	1310M-SC	0.516	13.10	0.089	●	
	1320M-SC	0.520	13.20	0.090	●	
	1330M-SC	0.524	13.30	0.091	●	
	1340M-SC	0.528	13.40	0.091	●	
	DC 1350M-SC	0.531	13.50	0.092	●	SS14-DRC135M-○ SF16-DRC135M-○
	1360M-SC	0.535	13.60	0.093	●	
	1370M-SC	0.539	13.70	0.093	●	
	1380M-SC	0.543	13.80	0.094	●	
	1390M-SC	0.547	13.90	0.094	●	
	DC 1400M-SC	0.551	14.00	0.095	●	SS16-DRC140M-○ SF16-DRC140M-○
	1410M-SC	0.555	14.10	0.096	●	
	1420M-SC	0.559	14.20	0.096	●	
	1430M-SC	0.563	14.30	0.097	●	
	1440M-SC	0.567	14.40	0.098	●	
	DC 1450M-SC	0.571	14.50	0.098	●	SS16-DRC145M-○ SF16-DRC145M-○
	1460M-SC	0.575	14.60	0.099	●	
	1470M-SC	0.579	14.70	0.100	●	
	1480M-SC	0.583	14.80	0.100	●	
	1490M-SC	0.587	14.90	0.101	●	
	DC 1500M-SC	0.591	15.00	0.102	●	SS16-DRC150M-○ SF20-DRC150M-○
	1510M-SC	0.594	15.10	0.102	●	
	1520M-SC	0.598	15.20	0.103	●	
	1530M-SC	0.602	15.30	0.104	●	
	1540M-SC	0.606	15.40	0.105	●	
	1550M-SC	0.610	15.50	0.106	●	
	1560M-SC	0.614	15.60	0.106	●	
	1570M-SC	0.618	15.70	0.107	●	
	1580M-SC	0.622	15.80	0.107	●	
	DC 1600M-SC	0.630	16.00	0.109	●	SS18-DRC160M-○ SF20-DRC160M-○
	1610M-SC	0.634	16.10	0.109	●	
	1620M-SC	0.638	16.20	0.110	●	
	1630M-SC	0.642	16.30	0.111	●	
	1640M-SC	0.646	16.40	0.111	●	
	1650M-SC	0.650	16.50	0.112	●	
	1660M-SC	0.654	16.60	0.113	●	
	1670M-SC	0.657	16.70	0.114	●	
	1680M-SC	0.661	16.80	0.114	●	
	1690M-SC	0.665	16.90	0.115	●	
	DC 1700M-SC	0.669	17.00	0.115	●	SS18-DRC170M-○ SF20-DRC170M-○
	1710M-SC	0.673	17.10	0.116	●	
	1720M-SC	0.677	17.20	0.117	●	
	1730M-SC	0.681	17.30	0.118	●	
	1740M-SC	0.685	17.40	0.118	●	
	1750M-SC	0.689	17.50	0.119	●	
	1760M-SC	0.693	17.60	0.120	●	
	1770M-SC	0.697	17.70	0.120	●	
	1780M-SC	0.701	17.80	0.121	●	
	1790M-SC	0.705	17.90	0.122	●	
	DC 1800M-SC	0.709	18.00	0.122	●	SS20-DRC180M-○ SF25-DRC180M-○
	1810M-SC	0.713	18.10	0.123	●	
	1820M-SC	0.717	18.20	0.124	●	
	1830M-SC	0.720	18.30	0.124	●	
	1840M-SC	0.724	18.40	0.125	●	
	1850M-SC	0.728	18.50	0.126	●	
	1860M-SC	0.732	18.60	0.126	●	
	1870M-SC	0.736	18.70	0.127	●	
	1880M-SC	0.740	18.80	0.128	●	
	1890M-SC	0.744	18.90	0.129	●	

k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.023	+0.0013 0	18.10~ 25.99	+0.033 0

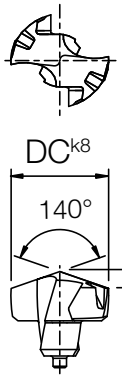
k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

Recommended Cutting Conditions ➡ **K44**

Inserts are sold in 1 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DC Inserts (Ø0.748"~1.023")

Insert	Part Number	Dimensions DC in	Dimensions DC mm	Dimensions PL (in)	Grade PR0315	Applicable Toolholder See Page ➡ K35~K37, ➡ K40~K42
 	DC 1900M-SC	0.748	19.00	0.129	●	SS20-DRC190M-○ SF25-DRC190M-○
	1910M-SC	0.752	19.10	0.130	●	
	1920M-SC	0.756	19.20	0.130	●	
	1930M-SC	0.760	19.30	0.131	●	
	1940M-SC	0.764	19.40	0.132	●	
	1950M-SC	0.768	19.50	0.133	●	
	1960M-SC	0.772	19.60	0.133	●	
	1970M-SC	0.776	19.70	0.134	●	
	1980M-SC	0.780	19.80	0.135	●	
	1990M-SC	0.783	19.90	0.135	●	
	DC 2000M-SC	0.787	20.00	0.136	●	SS25-DRC200M-○ SF25-DRC200M-○
	2010M-SC	0.791	20.10	0.137	●	
	2020M-SC	0.795	20.20	0.137	●	
	2030M-SC	0.799	20.30	0.138	●	
	2040M-SC	0.803	20.40	0.139	●	
	2050M-SC	0.807	20.50	0.139	●	
	2060M-SC	0.811	20.60	0.140	●	
	2070M-SC	0.815	20.70	0.141	●	
	2080M-SC	0.819	20.80	0.141	●	
	2090M-SC	0.823	20.90	0.142	●	
	2099M-SC	0.826	20.99	0.143	●	
	DC 2100M-SC	0.827	21.00	0.143	●	SS25-DRC210M-○ SF25-DRC210M-○
	2150M-SC	0.846	21.50	0.146	●	
	2200M-SC	0.866	22.00	0.149	●	SS25-DRC220M-○ SF25-DRC220M-○
	2250M-SC	0.886	22.50	0.153	●	
	2300M-SC	0.906	23.00	0.156	●	SS25-DRC230M-○ SF25-DRC230M-○
	2350M-SC	0.925	23.50	0.160	●	
	2400M-SC	0.945	24.00	0.163	●	SS25-DRC240M-○ SF25-DRC240M-○
	2450M-SC	0.965	24.50	0.167	●	
	2500M-SC	0.984	25.00	0.170	●	SS32-DR250M-○ SF25-DRC250M-○
	2550M-SC	1.004	25.50	0.173	●	

k8 Tolerance

DC (in)	k8 (in)	DC (mm)	k8 (mm)
0.313~ 0.394	+0.0009 0	7.94~ 10.00	+0.022 0
0.398~ 0.709	+0.0011 0	10.10~ 18.00	+0.027 0
0.713~ 1.023	+0.0013 0	18.10~ 25.99	+0.033 0

k8 is the dimension tolerance of the insert.
It is not the tolerance of the cutting diameter.

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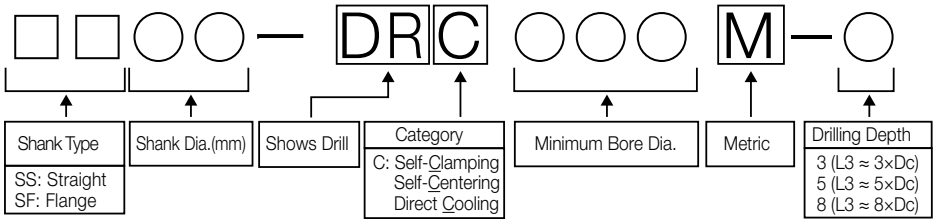
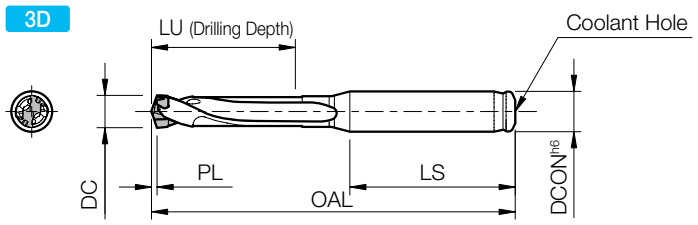
DRC Toolholder Identification System



SS-DRC (Drilling Depth: 3xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 3DC (Metric Size)

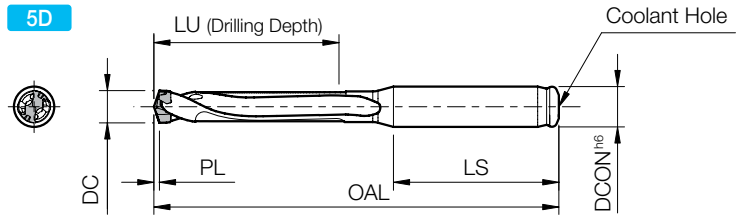
Part Number		Stock	Dimensions (mm)						Spare Parts	Applicable Insert See Page ➡ K32~K34	Applicable Chamfering Attachment and Insert	
			DC		DCON (h6)	OAL	LU	LS	Wrench ➡ K43		Chamfer Attachment ➡ K38	Chamfer Insert ➡ K39
			min.	max.								
SS10-	DRC080M-3	●	7.94	8.49	10	79	25.5	40	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC	S20-CH10	CT08T2-45A
	DRC085M-3	●	8.50	8.99		81	27.0			DC0850M-SC ~ DC0890M-SC		
	DRC090M-3	●	9.00	9.49		83	28.5			DC0900M-SC ~ DC0940M-SC		
	DRC095M-3	●	9.50	9.99		85	30.0			DC0950M-SC ~ DC0990M-SC		
SS12-	DRC100M-3	●	10.00	10.49	12	92	31.5	45	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC	S32-CH12	CT12T3-45A
	DRC105M-3	●	10.50	10.99		94	33.0			DC1050M-SC ~ DC1090M-SC		
	DRC110M-3	●	11.00	11.49		96	34.5			DC1100M-SC ~ DC1140M-SC		
	DRC115M-3	●	11.50	11.99		98	36.0			DC1150M-SC ~ DC1190M-SC		
SS14-	DRC120M-3	●	12.00	12.49	14	101	37.5		WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC	S32-CH14	
	DRC125M-3	●	12.50	12.99		103	39.0			DC1250M-SC ~ DC1290M-SC		
	DRC130M-3	●	13.00	13.49		105	40.5			DC1300M-SC ~ DC1340M-SC		
	DRC135M-3	●	13.50	13.99		107	42.0			DC1350M-SC ~ DC1390M-SC		
SS16-	DRC140M-3	●	14.00	14.49	16	112	43.5	48	WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC	S32-CH16	
	DRC145M-3	●	14.50	14.99		114	45.0			DC1450M-SC ~ DC1490M-SC		
	DRC150M-3	●	15.00	15.99		118	48.0			DC1500M-SC ~ DC1580M-SC		
SS18-	DRC160M-3	●	16.00	16.99	18	122	51.0			DC1600M-SC ~ DC1690M-SC	S32-CH18	
	DRC170M-3	●	17.00	17.99		127	54.0		WDRC17	DC1700M-SC ~ DC1790M-SC		
SS20-	DRC180M-3	●	18.00	18.99	20	133	57.0	50		DC1800M-SC ~ DC1890M-SC	-	-
	DRC190M-3	●	19.00	19.99		137	60.0			DC1900M-SC ~ DC1990M-SC		
SS25-	DRC200M-3	●	20.00	20.99	25	147	63.0	56		DC2000M-SC ~ DC2099M-SC		
	DRC210M-3	●	21.00	21.99		151	66.0			DC2100M-SC ~ DC2150M-SC		
	DRC220M-3	●	22.00	22.99		156	69.0			DC2200M-SC ~ DC2250M-SC		
	DRC230M-3	●	23.00	23.99		160	72.0			DC2300M-SC ~ DC2350M-SC		
	DRC240M-3	●	24.00	24.99		164	75.0			DC2400M-SC ~ DC2450M-SC		
SS32-	DRC250M-3	●	25.00	25.50	32	172	78.0	60		DC2500M-SC ~ DC2550M-SC		

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions ➡ K44

SS-DRC (Drilling Depth: 5xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5DC (Metric Size)

Part Number		Stock	Dimensions (mm)						Spare Parts	Applicable Insert See Page ➡ K32~K34	Applicable Chamfering Attachment and Insert	
			DC min.	DC max.	DCON (h6)	OAL	LU	LS	Wrench ➡ K43		Chamfer Attachment ➡ K38	Chamfer Insert ➡ K39
SS10-	DRC080M-5	●	7.94	8.49	10	97	42.5	40	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC	S20-CH10	CT08T2-45A
	DRC085M-5	●	8.50	8.99		100	45.0			DC0850M-SC ~ DC0890M-SC		
	DRC090M-5	●	9.00	9.49		103	47.5			DC0900M-SC ~ DC0940M-SC		
	DRC095M-5	●	9.50	9.99		107	50.0			DC0950M-SC ~ DC0990M-SC		
SS12-	DRC100M-5	●	10.00	10.49	12	115	52.5	45	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC	S32-CH12	CT12T3-45A
	DRC105M-5	●	10.50	10.99		118	55.0			DC1050M-SC ~ DC1090M-SC		
	DRC110M-5	●	11.00	11.49		121	57.5			DC1100M-SC ~ DC1140M-SC		
	DRC115M-5	●	11.50	11.99		124	60.0			DC1150M-SC ~ DC1190M-SC		
SS14-	DRC120M-5	●	12.00	12.49	14	127	62.5		WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC	S32-CH14	
	DRC125M-5	●	12.50	12.99		130	65.0			DC1250M-SC ~ DC1290M-SC		
	DRC130M-5	●	13.00	13.49		133	67.5			DC1300M-SC ~ DC1340M-SC		
	DRC135M-5	●	13.50	13.99		137	70.0			DC1350M-SC ~ DC1390M-SC		
SS16-	DRC140M-5	●	14.00	14.49	16	143	72.5	48	WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC	S32-CH16	
	DRC145M-5	●	14.50	14.99		146	75.0			DC1450M-SC ~ DC1490M-SC		
	DRC150M-5	●	15.00	15.99		152	80.0			DC1500M-SC ~ DC1580M-SC		
SS18-	DRC160M-5	●	16.00	16.99	18	158	85.0			DC1600M-SC ~ DC1690M-SC	S32-CH18	
	DRC170M-5	●	17.00	17.99		165	90.0		WDRC17	DC1700M-SC ~ DC1790M-SC		
SS20-	DRC180M-5	●	18.00	18.99	20	173	95.0	50		DC1800M-SC ~ DC1890M-SC	-	-
	DRC190M-5	●	19.00	19.99		179	100.0			DC1900M-SC ~ DC1990M-SC		
SS25-	DRC200M-5	●	20.00	20.99	25	191	105.0	56		DC2000M-SC ~ DC2099M-SC		
	DRC210M-5	●	21.00	21.99		198	110.0			DC2100M-SC ~ DC2150M-SC		
	DRC220M-5	●	22.00	22.99		204	115.0			DC2200M-SC ~ DC2250M-SC		
	DRC230M-5	●	23.00	23.99		210	120.0			DC2300M-SC ~ DC2350M-SC		
	DRC240M-5	●	24.00	24.99		216	125.0			DC2400M-SC ~ DC2450M-SC		
SS32-	DRC250M-5	●	25.00	25.50	32	227	130.0	60		DC2500M-SC ~ DC2550M-SC		

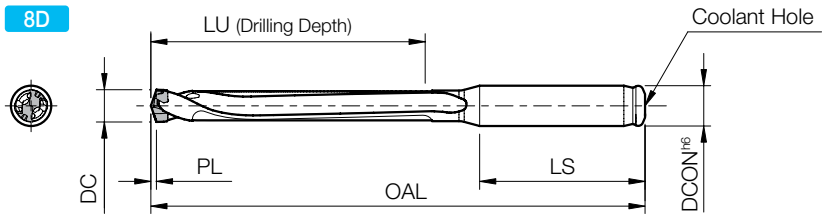
*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions ➡ K44

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

SS-DRC (Drilling Depth: 8xDC)

Straight Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 8DC (Metric Size)

Part Number		Stock	Dimensions (mm)						Spare Parts	Applicable Insert See Page ➡ K32~K34	Applicable Chamfering Attachment and Insert	
			DC		DCON (h6)	OAL	LU	LS	Wrench ➡ K43		Chamfer Attachment ➡ K38	Chamfer Insert ➡ K39
			min.	max.								
SS10-	DRC080M-8	●	7.94	8.49	10	122.5	68	40	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC	S20-CH10	CT08T2-45A
	DRC085M-8	●	8.50	8.99		127.0	72			DC0850M-SC ~ DC0890M-SC		
	DRC090M-8	●	9.00	9.49		131.5	76			DC0900M-SC ~ DC0940M-SC		
	DRC095M-8	●	9.50	9.99		137.0	80			DC0950M-SC ~ DC0990M-SC		
SS12-	DRC100M-8	●	10.00	10.49	12	146.5	84	45	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC	S32-CH12	CT12T3-45A
	DRC105M-8	●	10.50	10.99		151.0	88			DC1050M-SC ~ DC1090M-SC		
	DRC110M-8	●	11.00	11.49		155.5	92			DC1100M-SC ~ DC1140M-SC		
	DRC115M-8	●	11.50	11.99		160.0	96			DC1150M-SC ~ DC1190M-SC		
SS14-	DRC120M-8	●	12.00	12.49	14	164.5	100		WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC	S32-CH14	
	DRC125M-8	●	12.50	12.99		169.0	104			DC1250M-SC ~ DC1290M-SC		
	DRC130M-8	●	13.00	13.49		173.5	108			DC1300M-SC ~ DC1340M-SC		
	DRC135M-8	●	13.50	13.99		179.0	112			DC1350M-SC ~ DC1390M-SC		
SS16-	DRC140M-8	●	14.00	14.49	16	186.5	116	48	WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC	S32-CH16	
	DRC145M-8	●	14.50	14.99		191.0	120			DC1450M-SC ~ DC1490M-SC		
	DRC150M-8	●	15.00	15.99		200.0	128			DC1500M-SC ~ DC1580M-SC		
SS18-	DRC160M-8	●	16.00	16.99	18	209.0	136			DC1600M-SC ~ DC1690M-SC	S32-CH18	
	DRC170M-8	●	17.00	17.99		219.0	144		WDRC17	DC1700M-SC ~ DC1790M-SC		
SS20-	DRC180M-8	●	18.00	18.99	20	230.0	152	50		DC1800M-SC ~ DC1890M-SC	-	-
	DRC190M-8	●	19.00	19.99		239.0	160			DC1900M-SC ~ DC1990M-SC		
SS25-	DRC200M-8	●	20.00	20.99	25	254.0	168	56		DC2000M-SC ~ DC2099M-SC		
	DRC210M-8	●	21.00	21.99		264.0	176			DC2100M-SC ~ DC2150M-SC		
	DRC220M-8	●	22.00	22.99		273.0	184			DC2200M-SC ~ DC2250M-SC		
	DRC230M-8	●	23.00	23.99		282.0	192			DC2300M-SC ~ DC2350M-SC		
	DRC240M-8	●	24.00	24.99		291.0	200			DC2400M-SC ~ DC2450M-SC		
SS32-	DRC250M-8	●	25.00	25.50	32	305.0	208	60		DC2500M-SC ~ DC2550M-SC		

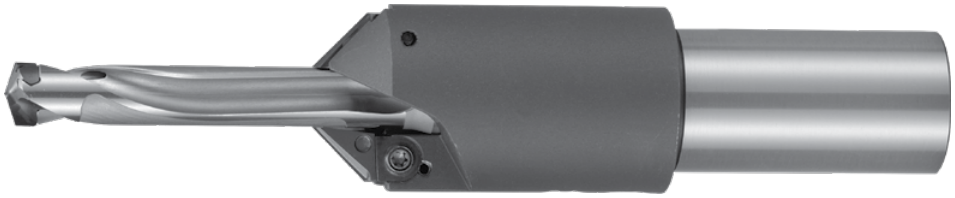
*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions ➡ K44

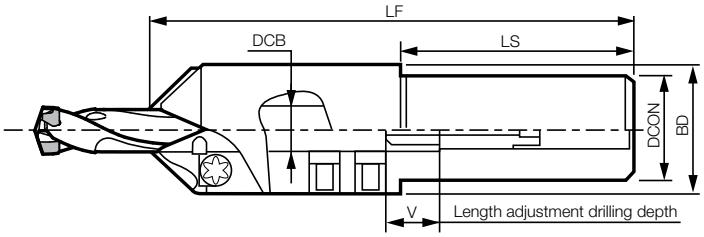
Chamfering Attachment

● Drilling and Chamfering Simultaneously

By using the chamfering attachment, the SS-DRC can perform drilling and chamfering in one set up.



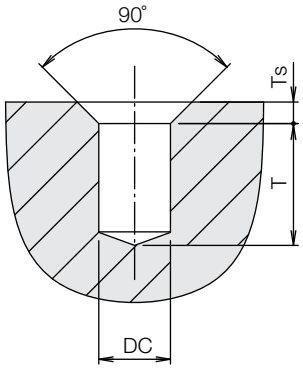
● Toolholder



Part Number	Stock	Applicable Drill Shank Dia. DCB	Dimensions (mm)					Applicable Chamfer Insert
			DCON	BD	LF	LS	V	
S20-CH10	●	10	20	29	122	52	17	**CT08T2-45A**
S32-CH12	□	12	32	38	133	62	21	**CT12T3-45A**
S32-CH14	□	14		40	137		16	
S32-CH16	●	16		42	141		19	
S32-CH18	□	18		47	144		15	

Note) Chamfering attachment is dedicated for Straight Shank SS-DRC type.
It cannot be used for Flanged Shank SF-DRC types.

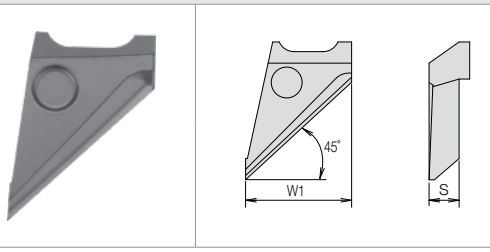
● Drilling and Chamfering Depths



Cutting Dia. (in)		Drilling Depth (in)						Chamfering Dimension (in)		Applicable Chamfering Attachment
DC		T (3D)		T (5D)		T (8D)		Ts		
min.	max.	min.	max.	min.	max.	min.	max.	Ts 100	Ts max.	
Ø0.313	Ø0.334	0.433	0.748	0.827	1.457	1.850	2.480	0.0984	0.1969	**S20-CH10**
Ø0.335	Ø0.354	0.472	0.827	0.945	1.575	2.008	2.638			
Ø0.354	Ø0.374	0.472	0.906	1.063	1.693	2.205	2.835			
Ø0.374	Ø0.393	0.512	0.984	1.220	1.850	2.402	3.031			
Ø0.394	Ø0.413	0.512	1.024	1.102	1.929	2.362	3.189	0.1378	0.2756	**S32-CH12**
Ø0.413	Ø0.433	0.551	1.102	1.220	2.047	2.520	3.346			
Ø0.433	Ø0.452	0.551	1.181	1.339	2.165	2.717	3.543			
Ø0.453	Ø0.472	0.591	1.260	1.457	2.283	2.874	3.701			
Ø0.472	Ø0.492	0.591	1.181	1.614	2.205	3.110	3.701	0.1575	0.3150	**S32-CH14**
Ø0.492	Ø0.511	0.669	1.260	1.732	2.323	3.268	3.780			
Ø0.512	Ø0.531	0.748	1.339	1.850	2.441	3.465	4.055			
Ø0.531	Ø0.551	0.827	1.417	2.008	2.598	3.661	4.252			
Ø0.551	Ø0.570	0.748	1.457	1.969	2.677	3.701	4.409	0.1575	0.3150	**S32-CH16**
Ø0.571	Ø0.590	0.827	1.535	2.087	2.795	3.858	4.567			
Ø0.591	Ø0.630	0.984	1.693	2.323	3.031	4.213	4.921			
Ø0.630	Ø0.669	1.181	1.732	2.598	3.150	4.606	5.157	0.1575	0.3150	**S32-CH18**
Ø0.669	Ø0.708	1.378	1.929	2.874	3.425	5.000	5.551			

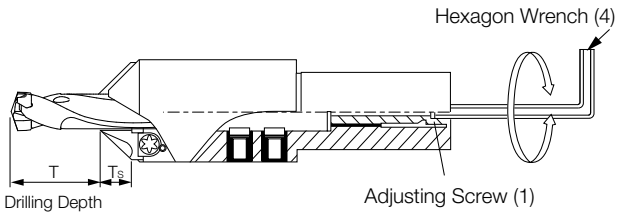
Ts 100: Max. chamfering dimension at the full feed.
Ts max.: Max. chamfering dimension at a 50% feed reduction.
(Max. chamfering dimension of machining possible without step feeding)

Applicable Inserts

Insert	Part Number	Dimensions (mm)		PVD Coated Carbide	Applicable Chamfering Attachment
		W1	S	PR0315	
	CT08T2-45A	8	2.83	●	S20-CH10
	CT12T3-45A	12	3.98	●	S32-CH12 ~ S32-CH18

● Method to use DRC chamfering attachment

1. Drilling Depth Adjustment

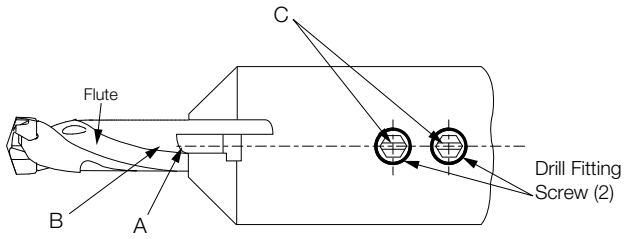


Insert drill into chamfering attachment.

Next, temporarily attach the chamfering insert A.

Turn the adjusting screw (1) with the hexagon wrench (4) to set the drilling depth T.

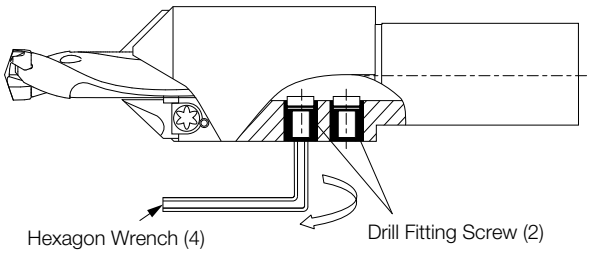
2. Drill Location Check



Rotate the drill so that the lower end of the chamfering insert A is aligned with the body clearance B of the drill.

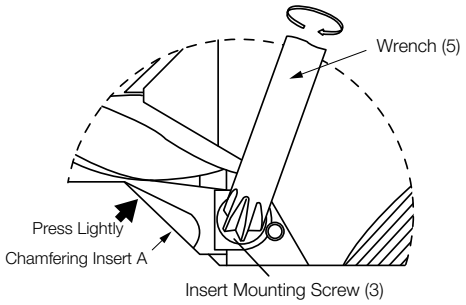
Set it so that slot C and the drill fitting screws (2) are lined up as shown in the figure above.

3. Fix the Drill



Tighten the drill fitting screws (2) with the hexagon wrench (4).
(In the case of using a torque wrench, then please refer to the table below.)

4. Installation of the Chamfering Insert



Press the chamfering insert A lightly into the drill and tighten the insert mounting screw (3) with wrench (5).

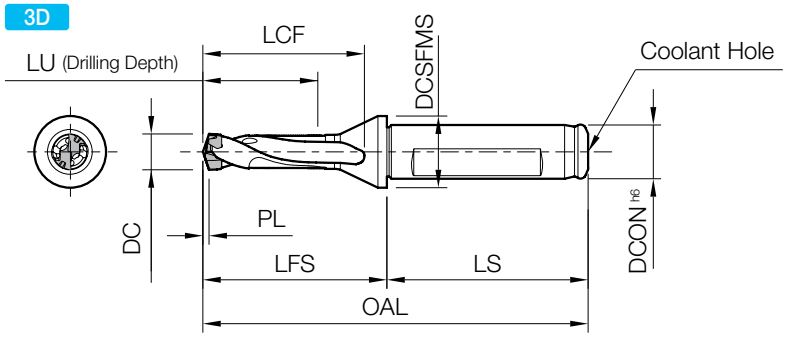
Chamfering Attachment	Torque [Nm]	Adjusting Screw	Drill Fitting Screw	Insert Mounting Screw	Hexagon Wrench	Wrench
S20-CH10	10	AJ-6X38	FS-10	MT-3	LW-3	DT-9
S32-CH12	15	AJ-8X44-9.5	FS-12	MT-4		DT-15
S32-CH14	20	AJ-10X46	FS-14		LW-4	
S32-CH16	30		FS-16			
S32-CH18	45		FS-18		LW-5	

Inserts are sold in 10 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SF-DRC (Drilling Depth: 3xD)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 3DC (Metric Size)

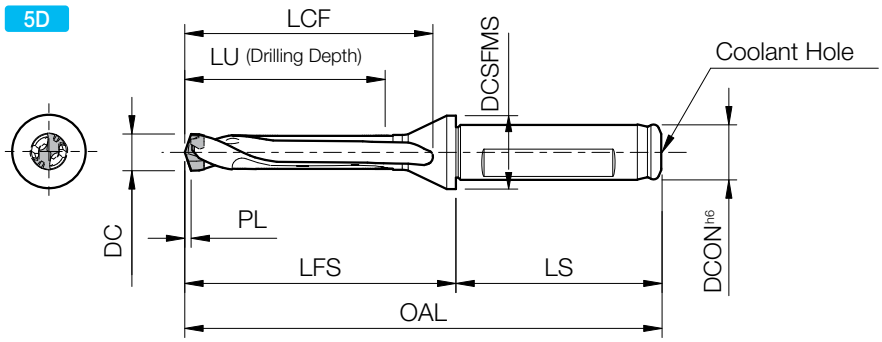
Part Number		Stock	Dimensions (mm)								Spare Parts	Applicable Insert See Page K32~K34
			DC min.	DC max.	DCON (h6)	OAL	LFS	LCF	LU	LS	DCSFMS	Wrench K43	
SF12-	DRC080M-3	●	7.94	8.49	12	86	41	35	26	45	16	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC
	DRC085M-3	●	8.50	8.99		88	43	37	27				DC0850M-SC ~ DC0890M-SC
	DRC090M-3	●	9.00	9.49		90	45	39	29				DC0900M-SC ~ DC0940M-SC
	DRC095M-3	●	9.50	9.99		92	47	41	30				DC0950M-SC ~ DC0990M-SC
SF16-	DRC100M-3	●	10.00	10.49	16	97	49	43	32	48	20	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC
	DRC105M-3	●	10.50	10.99		99	51	45	33				DC1050M-SC ~ DC1090M-SC
	DRC110M-3	●	11.00	11.49		101	53	47	35				DC1100M-SC ~ DC1140M-SC
	DRC115M-3	●	11.50	11.99		103	55	49	36				DC1150M-SC ~ DC1190M-SC
	DRC120M-3	●	12.00	12.49		106	58	52	38			WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC
	DRC125M-3	●	12.50	12.99		108	60	54	39				DC1250M-SC ~ DC1290M-SC
	DRC130M-3	●	13.00	13.49		110	62	56	41				DC1300M-SC ~ DC1340M-SC
	DRC135M-3	●	13.50	13.99		112	64	58	42				DC1350M-SC ~ DC1390M-SC
	DRC140M-3	●	14.00	14.49		114	66	60	44			WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC
	DRC145M-3	●	14.50	14.99		116	68	62	45				DC1450M-SC ~ DC1490M-SC
SF20-	DRC150M-3	●	15.00	15.99	20	122	72	66	48	50	25		DC1500M-SC ~ DC1580M-SC
	DRC160M-3	●	16.00	16.99		126	76	70	51				DC1600M-SC ~ DC1690M-SC
	DRC170M-3	●	17.00	17.99		131	81	75	54			WDRC17	DC1700M-SC ~ DC1790M-SC
SF25-	DRC180M-3	●	18.00	18.99	25	141	85	79	57	56	32		DC1800M-SC ~ DC1890M-SC
	DRC190M-3	●	19.00	19.99		145	89	83	60				DC1900M-SC ~ DC1990M-SC
	DRC200M-3	●	20.00	20.99		149	93	87	63				DC2000M-SC ~ DC2099M-SC
	DRC210M-3	●	21.00	21.99		153	97	91	66				DC2100M-SC ~ DC2150M-SC
	DRC220M-3	●	22.00	22.99		158	102	96	69				DC2200M-SC ~ DC2250M-SC
	DRC230M-3	●	23.00	23.99		162	106	100	72				DC2300M-SC ~ DC2350M-SC
	DRC240M-3	●	24.00	24.99		166	110	104	75				DC2400M-SC ~ DC2450M-SC
	DRC250M-3	●	25.00	25.50		170	114	108	78				DC2500M-SC ~ DC2550M-SC

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions K44

SF-DRC (Drilling Depth: 5xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 5DC (Metric Size)

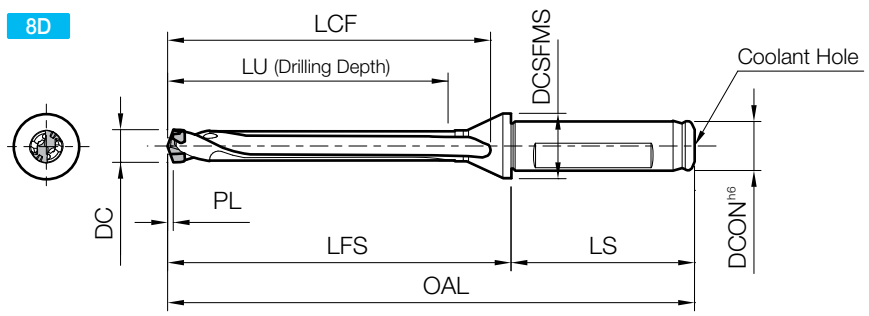
Part Number		Stock	Dimensions (mm)								Spare Parts	Applicable Insert See Page ➡ K32~K34
			DC		DCON (h6)	OAL	LFS	LCF	LU	LS	DCSFMS	Wrench ➡ K43	
			min.	max.									
SF12-	DRC080M-5	●	7.94	8.49	12	104	59	53	43	45	16	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC
	DRC085M-5	●	8.50	8.99		107	62	56	45				DC0850M-SC ~ DC0890M-SC
	DRC090M-5	●	9.00	9.49		110	65	59	48				DC0900M-SC ~ DC0940M-SC
	DRC095M-5	●	9.50	9.99		114	69	63	50				DC0950M-SC ~ DC0990M-SC
SF16-	DRC100M-5	●	10.00	10.49	16	120	72	66	53	48	20	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC
	DRC105M-5	●	10.50	10.99		123	75	69	55				DC1050M-SC ~ DC1090M-SC
	DRC110M-5	●	11.00	11.49		126	78	72	58				DC1100M-SC ~ DC1140M-SC
	DRC115M-5	●	11.50	11.99		129	81	75	60				DC1150M-SC ~ DC1190M-SC
	DRC120M-5	●	12.00	12.49		132	84	78	63			WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC
	DRC125M-5	●	12.50	12.99		135	87	81	65				DC1250M-SC ~ DC1290M-SC
	DRC130M-5	●	13.00	13.49		138	90	84	68				DC1300M-SC ~ DC1340M-SC
	DRC135M-5	●	13.50	13.99		142	94	88	70				DC1350M-SC ~ DC1390M-SC
	DRC140M-5	●	14.00	14.49		145	97	91	73			WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC
	DRC145M-5	●	14.50	14.99		148	100	94	75				DC1450M-SC ~ DC1490M-SC
SF20-	DRC150M-5	●	15.00	15.99	20	156	106	100	80	50	25		DC1500M-SC ~ DC1580M-SC
	DRC160M-5	●	16.00	16.99		162	112	106	85				DC1600M-SC ~ DC1690M-SC
	DRC170M-5	●	17.00	17.99		169	119	113	90				DC1700M-SC ~ DC1790M-SC
SF25-	DRC180M-5	●	18.00	18.99	25	181	125	119	95	56	32	WDRC17	DC1800M-SC ~ DC1890M-SC
	DRC190M-5	●	19.00	19.99		187	131	125	100				DC1900M-SC ~ DC1990M-SC
	DRC200M-5	●	20.00	20.99		193	137	131	105				DC2000M-SC ~ DC2099M-SC
	DRC210M-5	●	21.00	21.99		200	144	138	110				DC2100M-SC ~ DC2150M-SC
	DRC220M-5	●	22.00	22.99		206	150	144	115				DC2200M-SC ~ DC2250M-SC
	DRC230M-5	●	23.00	23.99		212	156	150	120				DC2300M-SC ~ DC2350M-SC
	DRC240M-5	●	24.00	24.99		218	162	156	125				DC2400M-SC ~ DC2450M-SC
	DRC250M-5	●	25.00	25.50		225	169	163	130				DC2500M-SC ~ DC2550M-SC

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page ➡ K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions ➡ K44

SF-DRC (Drilling Depth: 8xDC)

Flange Shank



For PL dimension, reference insert dimension table.

Toolholder Dimensions - 8DC (Metric Size)

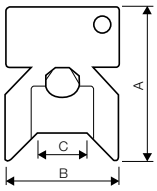
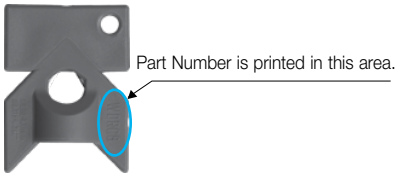
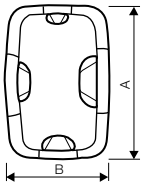
Part Number		Stock	Dimensions (mm)								Spare Parts	Applicable Insert See Page K32~K34
			DC min.	DC max.	DCON (h6)	OAL	LFS	LCF	LU	LS	DCSFMS	Wrench K43	
SF12-	DRC080M-8	●	7.94	8.49	12	129	84	79	68	45	16	WDRC8 (WDRC17)	DC0794M-SC ~ DC0840M-SC
	DRC085M-8	●	8.50	8.99		134	89	83	72				DC0850M-SC ~ DC0890M-SC
	DRC090M-8	●	9.00	9.49		138	93	88	76				DC0900M-SC ~ DC0940M-SC
	DRC095M-8	●	9.50	9.99		144	99	93	80				DC0950M-SC ~ DC0990M-SC
SF16-	DRC100M-8	●	10.00	10.49	16	151	103	97	84	48	20	WDRC10 (WDRC17)	DC1000M-SC ~ DC1040M-SC
	DRC105M-8	●	10.50	10.99		156	108	102	88				DC1050M-SC ~ DC1090M-SC
	DRC110M-8	●	11.00	11.49		160	112	107	92				DC1100M-SC ~ DC1140M-SC
	DRC115M-8	●	11.50	11.99		165	117	111	96				DC1150M-SC ~ DC1190M-SC
	DRC120M-8	●	12.00	12.49		169	121	116	100			WDRC12 (WDRC17)	DC1200M-SC ~ DC1240M-SC
	DRC125M-8	●	12.50	12.99		174	126	120	104				DC1250M-SC ~ DC1290M-SC
	DRC130M-8	●	13.00	13.49		178	130	124	108				DC1300M-SC ~ DC1340M-SC
	DRC135M-8	●	13.50	13.99		184	136	130	112				DC1350M-SC ~ DC1390M-SC
	DRC140M-8	●	14.00	14.49		188	140	134	116			WDRC14 (WDRC17)	DC1400M-SC ~ DC1440M-SC
	DRC145M-8	●	14.50	14.99		193	145	139	120				DC1450M-SC ~ DC1490M-SC
SF20-	DRC150M-8	●	15.00	15.99	20	204	154	148	128	50	25		DC1500M-SC ~ DC1580M-SC
	DRC160M-8	●	16.00	16.99		213	163	157	136				DC1600M-SC ~ DC1690M-SC
	DRC170M-8	●	17.00	17.99		223	173	167	144			WDRC17	DC1700M-SC ~ DC1790M-SC
SF25-	DRC180M-8	●	18.00	18.99	25	238	182	176	152	56	32		DC1800M-SC ~ DC1890M-SC
	DRC190M-8	●	19.00	19.99		247	191	185	160				DC1900M-SC ~ DC1990M-SC
	DRC200M-8	●	20.00	20.99		256	200	194	168				DC2000M-SC ~ DC2099M-SC
	DRC210M-8	●	21.00	21.99		266	210	204	176				DC2100M-SC ~ DC2150M-SC
	DRC220M-8	●	22.00	22.99		275	219	213	184				DC2200M-SC ~ DC2250M-SC
	DRC230M-8	●	23.00	23.99		284	228	222	192				DC2300M-SC ~ DC2350M-SC
	DRC240M-8	●	24.00	24.99		293	237	231	200				DC2400M-SC ~ DC2450M-SC
	DRC250M-8	●	25.00	25.50		303	247	241	208				DC2500M-SC ~ DC2550M-SC

*DC min. & max. show the cutting diameter range of inserts that will fit into the toolholder.
See applicable insert tables on Page K32~K34 for actual cutting diameters (DC).

Recommended Cutting Conditions K44

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

Changing DRC Magic Drill Inserts

Shape		Part Number	Dimensions (in) A	B	C	Notes
		**WDRC8**	1.69	1.30	Ø0.402	 Part Number is printed in this area.
		WDRC10			Ø0.480	
		WDRC12			Ø0.559	
		WDRC14			Ø0.677	
		**WDRC17**	3.03	2.05	-	• WDRC17 (Multiple type wrench) has four insert entry points. If using an insert ranging from DC06692-SC to DC08264-SC, use the entry point printed as Ø0.6692"~Ø0.8264". • WDRC17 can be used instead of WDRC8~14 wrench.

Changing DRC Magic Drill Inserts

How to Attach Inserts

1) Fix drill holder on arbor. For insert exchange, fix arbor on the machine or set on tool presetter.
2) Remove dust using air blower.

3) Install insert onto holder.
(Use gloves to protect your hand from any danger.)

4) Turn lightly in a clockwise direction.
(Use gloves to protect your hand from any danger.)

5) Align the wrench properly with the insert.

6) Make sure the wrench is aligned with the wrench slots on the insert.

(Improper alignment shown)

Slot for wrench

7) Turn the wrench in a slow clockwise direction.
8) Completed.

How to Detach Inserts

1) Remove dust from insert using air blower.
2) Align the wrench properly with the insert.

3) Make sure the wrench is aligned with the wrench slots on the insert.

4) Turn the wrench in a counterclockwise direction.

5) Once lock is released, insert can be turned by fingers.
(Use gloves to protect your hand from any danger.)

6) Remove insert.
(Use gloves to protect your hand from any danger.)

DC Insert - Recommended Cutting Conditions

Workpiece Material	Hardness (HB)	Cutting Conditions: Cutting Speed Vc (sfm)	Cutting Conditions: Spindle Revolution (rpm) / Feed Rate (ipr)	Cutting Dia. DC: Ø8mm Ø0.315"	Ø10mm Ø0.394"	Ø12mm Ø0.472"	Ø14mm Ø0.551"	Ø16mm Ø0.630"	Ø18mm Ø0.709"	Ø20mm Ø0.787"	Ø25mm Ø0.984"
Low Carbon Steel	125	400 - 600	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	1,530 - 2,290
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.012 - 0.020
Carbon Steel	190	330 - 500	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	1,270 - 1,910
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.013 - 0.024
	250	260 - 400	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	1,020 - 1,530
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.015 - 0.025
	300	170 - 250	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	640 - 960
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.013 - 0.018
Alloy Steel	180	230 - 310	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	890 - 1,210
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.014 - 0.024
	275	230 - 310	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	890 - 1,210
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.013 - 0.023
	300	200 - 300	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	760 - 1,150
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.012 - 0.020
	350	170 - 250	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	640 - 960
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.011 - 0.020
Stainless Steel	220	200 - 260	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	760 - 1,020
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.011 - 0.017
	300	170 - 230	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	640 - 890
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.010 - 0.016
Gray Cast Iron	180	400 - 560	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	1,530 - 2,170
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.016 - 0.029
	260	300 - 400	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	1,150 - 1,530
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.014 - 0.028
Nodular Cast Iron	160	200 - 300	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	760 - 1,150
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.013 - 0.026
	250	130 - 210	Spindle Revolution (rpm)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	510 - 830
			Feed Rate (ipr)	0.0043 - 0.0079	0.0051 - 0.0094	0.0055 - 0.0110	0.0067 - 0.0125	0.0075 - 0.0138	0.0091 - 0.0150	0.0098 - 0.0161	0.012 - 0.024

• As drilling depth increases (**3D → 5D → 8D**), feed rates should be reduced.

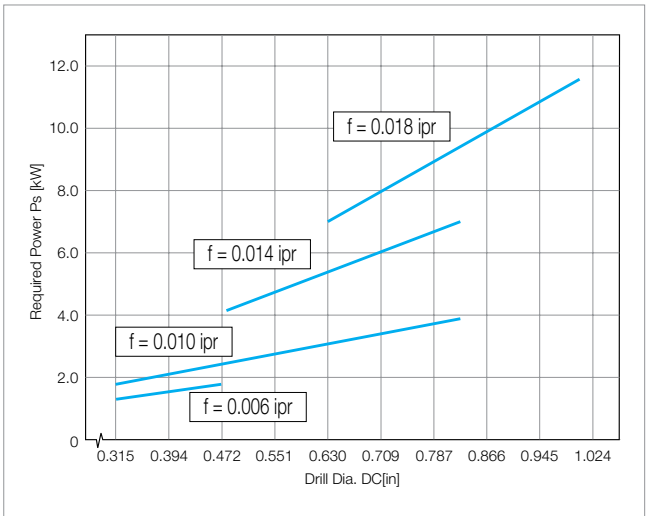
★ : 1st Recommendation ☆ : 2nd Recommendation

Reference Charts

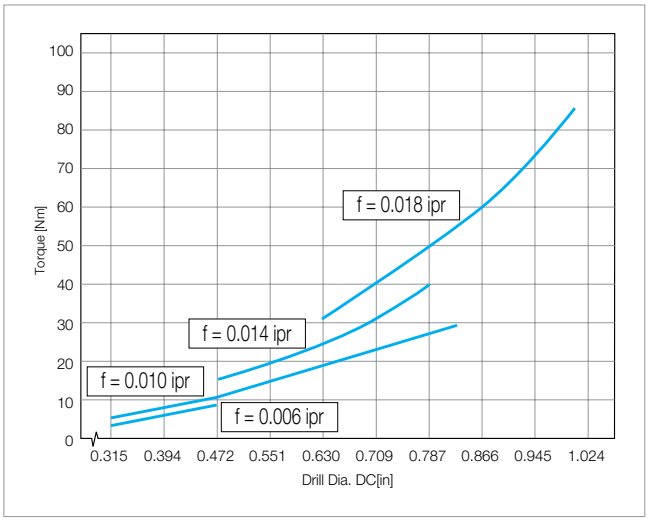
Cutting Conditions

Heat Treated Steel (Hardness 240 HB) Vc = 260 sfm, Wet

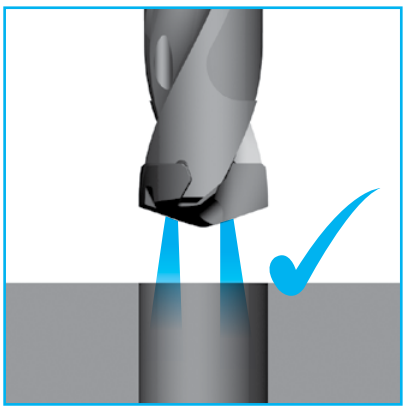
Required Power



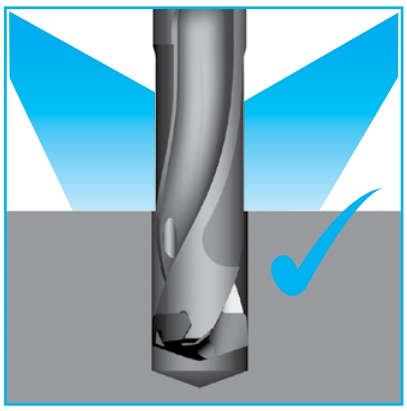
Torque



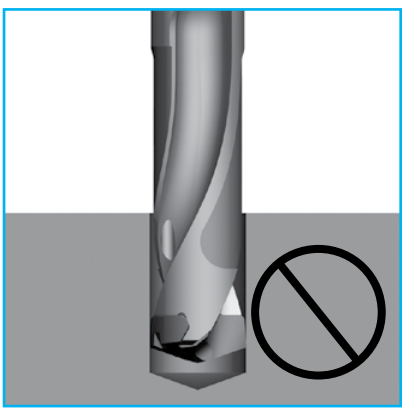
Coolant



1) Internal coolant is recommended.

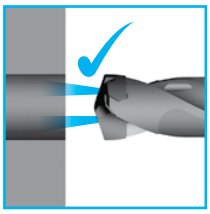


2) In case of external coolant
Cutting depth must be 3xD or less.



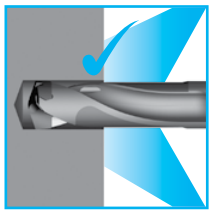
3) Dry cutting is not recommended.

In case of horizontal M/C

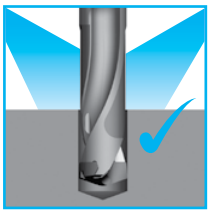


Internal coolant is recommended for horizontal machining center because external coolant may not sufficiently be applied to inside because the tool is revolving.

Lathe: 3D or less



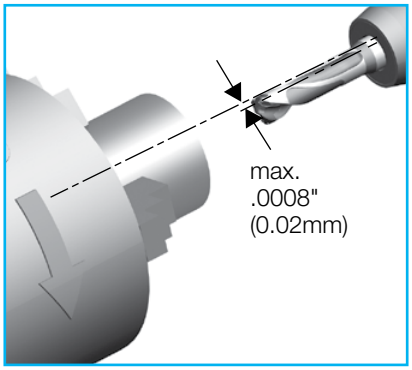
Vertical M/C: 1.5D or less



Precautions for Use

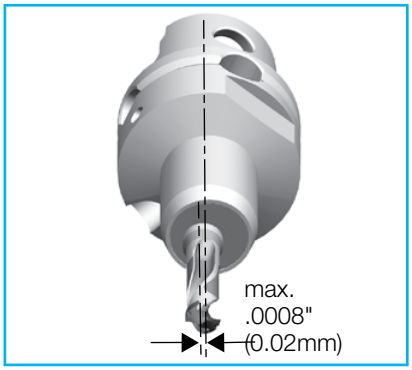
Core Deviation

1) If Drill is Stationary



The max runout between the drill and spindle should not exceed 0.0008.

2) If Drill is Rotating



The max runout allowable on the drill is 0.0008

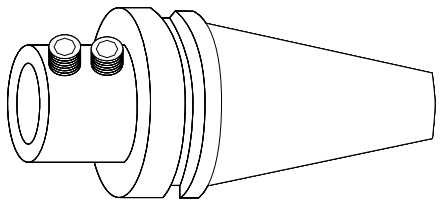
Cautions for Installing on Machining Center

For installation of MagicDrill DRC,
1st Choice...Hydro Chuck, Power Chuck, Collet Chuck, etc.
2nd Choice...Side lock arbor

Hydro Chuck
Power Chuck
Collet Chuck

Install DRC into Above Chuck

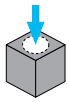
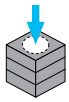
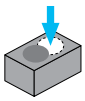
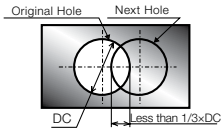
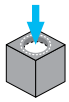
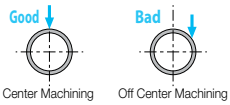
1st Recommendation



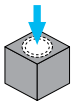
Example of Side Lock Arbor

2nd Recommendation

Applicable Workpieces

Application	Workpiece Shape	Machining Caution
Plain Surface		1. When machining stainless steel, for hole depths of up to 0.5D, keep feed rate at less than 0.006 ipr. 2. Thru coolant is recommended for smooth chip removal. For stainless steel, the combination of thru and external coolant is recommended.
Stacked Plates		1. Fix stacked plates securely to ensure they do not slip while machining.
Hole Expansion		1. if the overlap amount is less than 1/3 x D, machining is possible 
Concave Surface		1. When machining concave holes, set the feed rate at less than half of recommended feed for continuous hole machining. 2. Utilize a pecking cycle if chips are not broken short at the inlet.
Tubing		1. Hole machining on the centerline of the tubing is possible. 2. Do not machine on curved surface areas. 

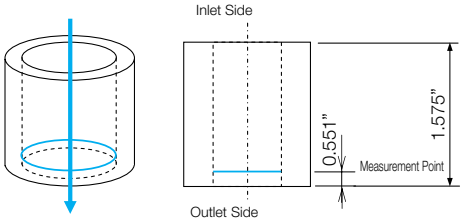
NOT Recommended Workpieces

Application	Workpiece Shape
Angled Surface	
Half Cylindrical	
Existing Hole	

Machining Precision Comparison

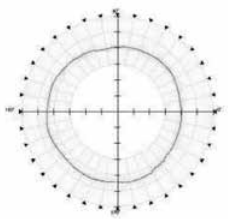
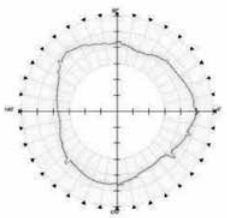
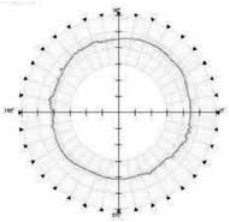
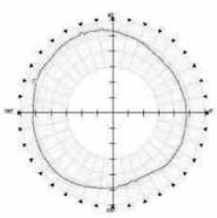
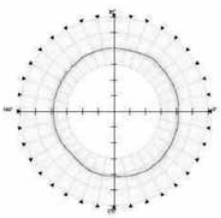
Cutting Condition and Measurement Point

Workpiece Material	1045
Vc (sfm)	330
f (mm/rev)	0.008 ipr , 0.012 ipr
Drilling Depth H (mm)	Through Hole 1.575"
Coolant	Wet (Internal Coolant)
Tool	Ø0.551" x 3D type
Machine	M/C

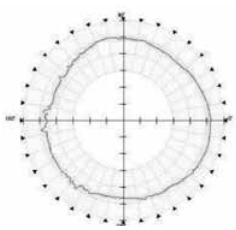
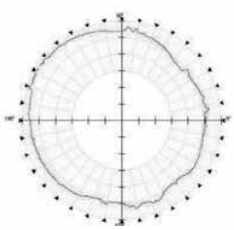
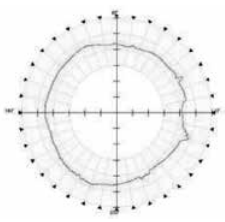
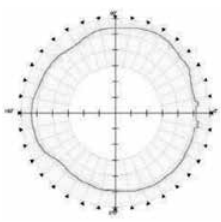
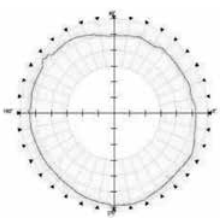


Roundness

1) Roundness (f = 0.008 ipr)

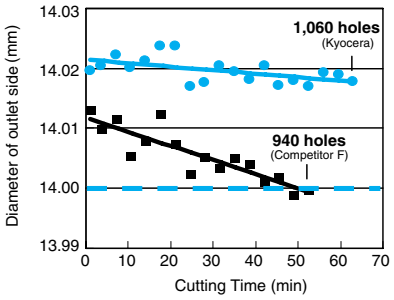
Indexable Drill		Carbide Solid Drill		
Kyocera	Competitor F	Competitor B	Competitor C	Competitor N
				
Roundness: 5.5 µm	Roundness: 22.5 µm	Roundness: 6.4 µm	Roundness: 9.8 µm	Roundness: 5.2 µm

2) Roundness (f = 0.012 ipr)

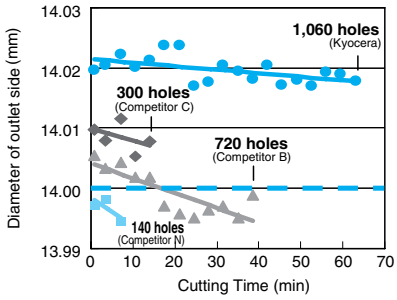
Indexable Drill		Carbide Solid Drill		
Kyocera	Competitor F	Competitor B	Competitor C	Competitor N
				
Roundness: 10.7 µm	Roundness: 22.5 µm	Roundness: 6.4 µm	Roundness: 9.8 µm	Roundness: 5.2 µm

Hole Diameter Comparison (f = 0.012 ipr)

1) Indexable Drill Comparison



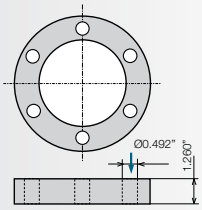
2) Carbide Solide Drill Comparison



Case Studies

1049

- Flange
- Vc = 320 sfm (n = 2,490 RPM)
- H = 1.260"
- f = 0.012 ipr (Vf = 2.283 ipm)
- Wet (Internal Coolant)
- DC1250M-SC (PR0315)



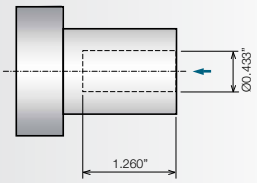
SS14-RC120M-3	3,000holes/insert
Competitor A	1,800holes/drill

Compared to competitor's drill A, MagicDrill DRC type has reduced burr and reduced more than 10% of the power required . Tool life has also improved greatly.

Customer Evaluation

4140

- Housing
- Vc = 270 sfm (n = 2,400 RPM)
- H = 1.260"
- f = 0.012 ipr (Vf = 22.677 ipm)
- Wet (Internal Coolant)
- DC1100M-SC (PR0315)



SS12-RC110M-3	more than 2,400holes/insert
Competitor B	2,000holes/drill

Compared to competitor's solid drill B, MagicDrill DRC type has greatly reduced preparation time with its easy insert replacement feature. Also, the costs of spare tools for re-grinding has been reduced, and tool life has improved.

Customer Evaluation

Q&A

Q-1 Is re-grinding available?

A-1 We don't recommend it. Grinding of edge nose chisel is not possible.

Q-2 How large would the cutting hole be to the insert diameter (ØDc)?

A-2 When drilling 4137, the hole diameter will be about 0.020 to 0.040 larger than the insert diameter.

DRV Magic Drill

Economical Inserts with 4 Cutting Edges

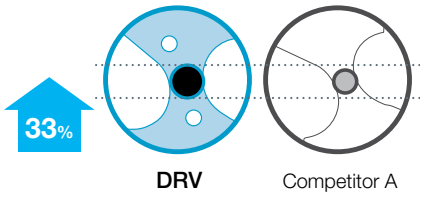
Excellent Chip Evacuation with 6D Maximum Deep-Hole Drilling

High Speed and Highly Efficient Machining with the Combination of CVD (Outer Edge) and PVD (Inner Edge) Inserts

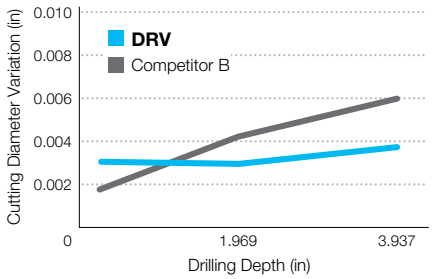
1 Excellent Drilling Precision with Less Vibration in Cutting Diameter

Optimal Web Thickness and a Low Cutting Force Design Reduces Chattering

Web Thickness Comparison
(Internal Evaluation)

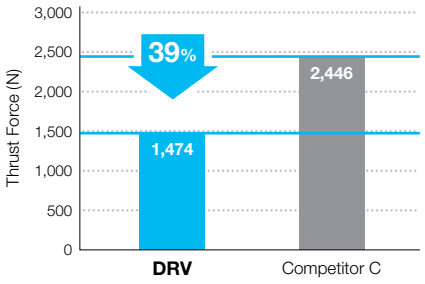


Cutting Diameter Variation Comparison
(Internal Evaluation)



Cutting Conditions : Vc = 490 sfm, f = 0.0024 ipr
Cutting Dia. Ø0.812" (5D), Wet, Workpiece : 1049

Cutting Force Comparison
(Internal Evaluation)



Cutting Conditions : Vc = 660 sfm, f = 0.0047 ipr
Cutting Dia. Ø0.812" (3D), Wet, Workpiece : 1049

2 Unique Insert Design to Control Chip Flow

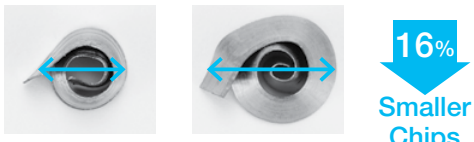
Outer Edge Insert

Unique Insert Pattern to Differentiate between Outside and Inside Inserts

Inner Edge Insert

Smooth Chip Evacuation with Compact Chips

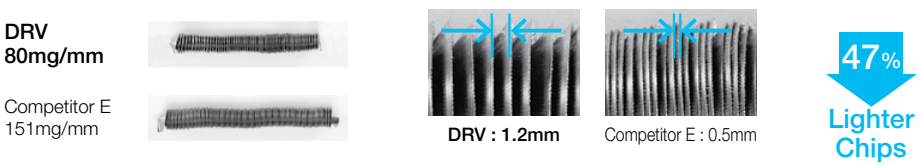
Chip Shape Comparison of Outer Insert Cutting Edge
(Internal Evaluation)



Cutting Conditions : Vc = 490 sfm, f = 0.0024 ipr, Cutting Dia. Ø0.812" (3D), Wet
Workpiece : 1049

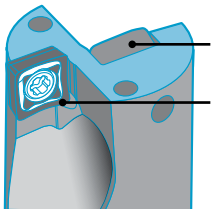
Excellent Chip Evacuation with 6xD Maximum Deep-Hole Drilling

Weight per Unit of Length for Chips Generated by the Inner Insert
(Internal Evaluation)



Cutting Conditions : Vc = 820 sfm, f = 0.0031 ipr, Cutting Dia. Ø0.812" (5D), Wet, Workpiece : 304

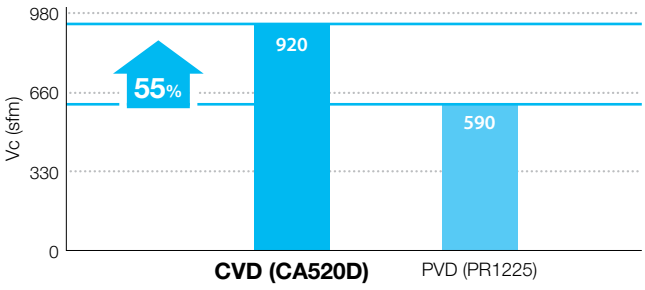
3 New Insert Grades Developed for Drilling



New Grades Developed for Drilling

High Speed and Highly Efficient Machining with the Combination of CVD (Outer Edge) and PVD (Inner Edge) Inserts

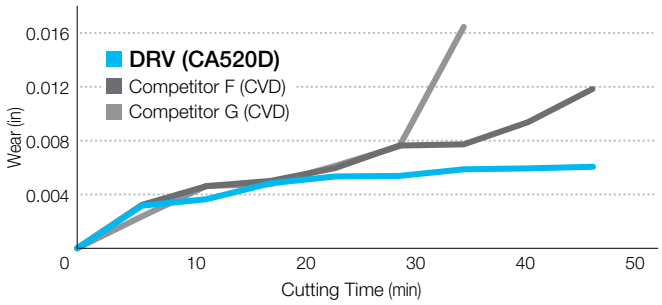
Recommended Cutting Conditions (Maximum Values)



Cutting Dia. Ø0.812" (3D) Workpiece : 1049

See Page ➔ **K67** for Insert Grade Selection Guide

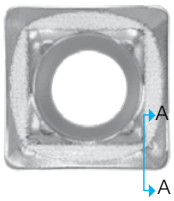
Wear Resistance Comparison (Internal Evaluation)



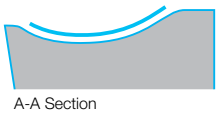
Cutting Conditions : Vc = 660 sfm, f = 0.0047 ipr, Cutting Dia. Ø0.812" (3D) , Wet
Workpiece : 4140H

4 Economical 4-Edge Inserts 4 Types of Chipbreakers for Various Machining Applications

GM Chipbreaker - General Purpose



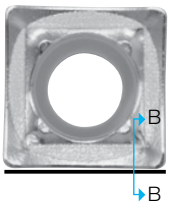
Chipbreaker for Steel Machining
Stable Deep-hole Machining with Low Cutting Force



Edge shape optimized for various machining applications

A-A Section

GH Chipbreaker - Tough Edge

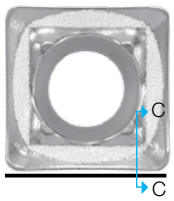


1st Recommendation for Machining Cast Iron
Good for Continuous Steel Machining
Reduced Defects Common in Through-hole Machining

Negative land with strong edge

B-B Section

SM Chipbreaker - For Stainless Steel Machining

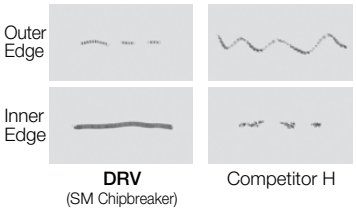


Stable Chip Control when Machining Gummy Stainless Steel
Reduces Chip Clogging in the Holder Body

Sharp cutting and large rake angle

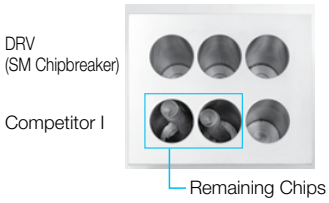
C-C Section

Chip Control Comparison
(Internal Evaluation)



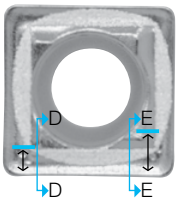
Cutting Conditions : Vc = 330 sfm, f = 0.0039 ipr
Cutting Dia. Ø0.812" (3D), Drilling Depth 2.436"
Wet, Workpiece : 304

Comparison of Remaining Chips
(Internal Evaluation)

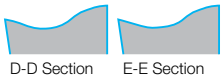


Cutting Conditions : Vc = 490 sfm, f = 0.0031 ipr
Cutting Dia. Ø0.984" (5D), Drilling Depth 3.858"
Wet, Workpiece : 304

XM Chipbreaker - For Machining Soft Steel and SS Material



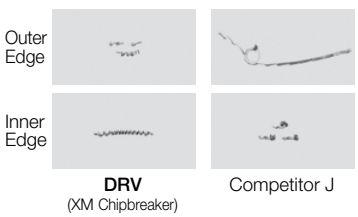
Stable Chip Control of Outer Cutting Edge



Excellent chip control with the changing width of the chipbreaker

D-D Section E-E Section

Chip Control Comparison
(Internal Evaluation)



Cutting Conditions : Vc = 660 sfm, f = 0.0047 ipr
Cutting Dia. Ø0.625" (3D), Drilling Depth 1.875"
Wet, Workpiece : A36

Chipbreaker Selection Chart ➔ K41

Applicable DRV Outside Inserts

Usage Classification							
★ : 1st Recommendation (High Speed and Highly Efficient Machining) ☆ : 2nd Recommendation (Stable Machining Oriented)	P	Carbon Steel / Alloy Steel	☆	★		★
		Tool Steel	☆	★		★
	M	Stainless Steel	☆	★		★
	K	Cast Iron	☆		★	★

Insert	Insert Pocket	Part Number	Dimensions (in)				Angle	MEGACOAT	CVD Coated Carbide		MEGACOAT NANO
			IC W1/INSL	S	D1	RE	AN	PR1225	CA520D	CA415D	PR1535
LCMT, SCMT General Purpose	Outer Edge	LCMT 030203-GM-E	0.173/0.218	0.079	0.091	0.012		●	●	●	
		SCMT 040205-GM-E	0.189	0.087	0.094	0.020		●	●	●	
		050205-GM-E	0.207	0.102	0.094	0.020		●	●	●	
		060205-GM-E	0.252	0.110	0.114	0.020		●	●	●	
		070305-GM-E	0.301	0.126	0.138	0.020	7°	●	●	●	
		090405-GM-E	0.358	0.161	0.157	0.020		●	●	●	
		110406-GM-E	0.433	0.177	0.181	0.024		●	●	●	
		140508-GM-E	0.543	0.197	0.224	0.031		●	●	●	
		170608-GM-E	0.661	0.259	0.272	0.031		●	●	●	
LCMT, SCMT Tough Edge		LCMT 030203-GH-E	0.173/0.218	0.079	0.091	0.012		●	●	●	
		SCMT 040205-GH-E	0.189	0.087	0.094	0.020		●	●	●	
		050205-GH-E	0.207	0.102	0.094	0.020		●	●	●	
		060205-GH-E	0.252	0.110	0.114	0.020		●	●	●	
		070305-GH-E	0.301	0.126	0.138	0.020	7°	●	●	●	
		090405-GH-E	0.358	0.161	0.157	0.020		●	●	●	
		110406-GH-E	0.433	0.177	0.181	0.024		●	●	●	
		140508-GH-E	0.543	0.197	0.224	0.031		●	●	●	
		170608-GH-E	0.661	0.259	0.272	0.031		●	●	●	
Soft Steel		SCMT 040205-XM-E	0.189	0.087	0.094	0.020		●	●		
		050205-XM-E	0.207	0.102	0.094	0.020		●	●		
		060205-XM-E	0.252	0.110	0.114	0.020		●	●		
		070305-XM-E	0.301	0.126	0.138	0.020		●	●		
		090405-XM-E	0.358	0.161	0.157	0.020	7°	●	●		
		110406-XM-E	0.433	0.177	0.181	0.024		●	●		
		140508-XM-E	0.543	0.197	0.224	0.031		●	●		
		170608-XM-E	0.661	0.259	0.272	0.031		●	●		
LCMT, SCMT Stainless Steel		LCMT 030203-SM-E	0.173/0.218	0.079	0.091	0.012		●	●		
		SCMT 040205-SM-E	0.189	0.087	0.094	0.020		●	●		
		050205-SM-E	0.207	0.102	0.094	0.020		●	●		
		060205-SM-E	0.252	0.110	0.114	0.020		●	●		
		070305-SM-E	0.301	0.126	0.138	0.020	7°	●	●		
		090405-SM-E	0.358	0.161	0.157	0.020		●	●		
		110406-SM-E	0.433	0.177	0.181	0.024		●	●		
		140508-SM-E	0.543	0.197	0.224	0.031		●	●		
		170608-SM-E	0.661	0.259	0.272	0.031		●	●		

-E : Outer Edge Insert
-I : Inner Edge Insert
***LCMT03... is a 2-edge Insert**

Recommended Cutting Conditions ➡ **K70~K73**

Inserts are sold in 10 piece boxes

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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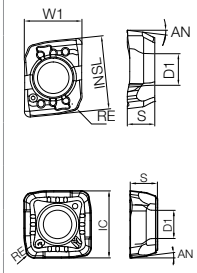
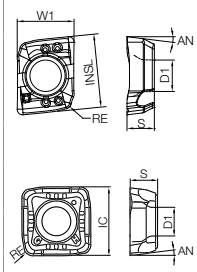
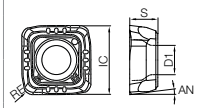
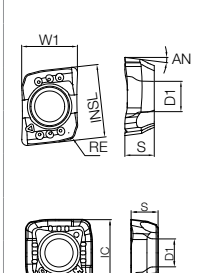
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Applicable DRV Inside Inserts

Usage Classification						
★ : 1st Recommendation (High Speed and Highly Efficient Machining) ☆ : 2nd Recommendation (Stable Machining Oriented)	P	Carbon Steel / Alloy Steel	☆	★		★
		Tool Steel	☆	★		★
	M	Stainless Steel	☆	★		★
	K	Cast Iron	☆		★	★

Insert		Insert Pocket	Part Number	Dimensions (in)				Angle	MEGACOAT	CVD Coated Carbide		MEGACOAT NANO
				IC W1/INSL	S	D1	RE	AN	PR1225	CA520D	CA415D	PR1535
LCMT SCMT General Purpose		Inner Edge	LCMT 030205-GM-I	0.164/0.211	0.079	0.091	0.020					●
			SCMT 040209-GM-I	0.197	0.087	0.094	0.035					●
			050210-GM-I	0.224	0.102	0.094	0.039					●
			060210-GM-I	0.272	0.110	0.114	0.039					●
			070310-GM-I	0.323	0.126	0.138	0.039	7°				●
			090410-GM-I	0.386	0.161	0.157	0.039					●
			110410-GM-I	0.469	0.177	0.181	0.039					●
			140510-GM-I	0.587	0.197	0.224	0.039					●
			170610-GM-I	0.705	0.259	0.272	0.039					●
LCMT SCMT Tough Edge			LCMT 030205-GH-I	0.164/0.211	0.079	0.091	0.020					●
			SCMT 040209-GH-I	0.197	0.087	0.094	0.035					●
			050210-GH-I	0.224	0.102	0.094	0.039					●
			060210-GH-I	0.272	0.110	0.114	0.039					●
			070310-GH-I	0.323	0.126	0.138	0.039	7°				●
			090410-GH-I	0.386	0.161	0.157	0.039					●
			110410-GH-I	0.469	0.177	0.181	0.039					●
			140510-GH-I	0.587	0.197	0.224	0.039					●
			170610-GH-I	0.705	0.259	0.272	0.039					●
Soft Steel			SCMT 040209-XM-I	0.197	0.087	0.094	0.035					●
			050210-XM-I	0.224	0.102	0.094	0.039					●
			060210-XM-I	0.272	0.110	0.114	0.039					●
			070310-XM-I	0.323	0.126	0.138	0.039	7°				●
			090410-XM-I	0.386	0.161	0.157	0.039					●
			110410-XM-I	0.469	0.177	0.181	0.039					●
			140510-XM-I	0.587	0.197	0.224	0.039					●
			170610-XM-I	0.705	0.259	0.272	0.039					●
LCMT SCMT Stainless Steel			LCMT 030205-SM-I	0.164/0.211	0.079	0.091	0.020					●
			SCMT 040209-SM-I	0.197	0.087	0.094	0.035					●
			050210-SM-I	0.224	0.102	0.094	0.039					●
			060210-SM-I	0.272	0.110	0.114	0.039					●
			070310-SM-I	0.323	0.126	0.138	0.039	7°				●
			090410-SM-I	0.386	0.161	0.157	0.039					●
			110410-SM-I	0.469	0.177	0.181	0.039					●
			140510-SM-I	0.587	0.197	0.224	0.039					●
			170610-SM-I	0.705	0.259	0.272	0.039					●

-E : Outer Edge Insert
-I : Inner Edge Insert
***LCMT03... is a 2-edge Insert**

Recommended Cutting Conditions ➡ **K70~K73**

Inserts are sold in 10 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

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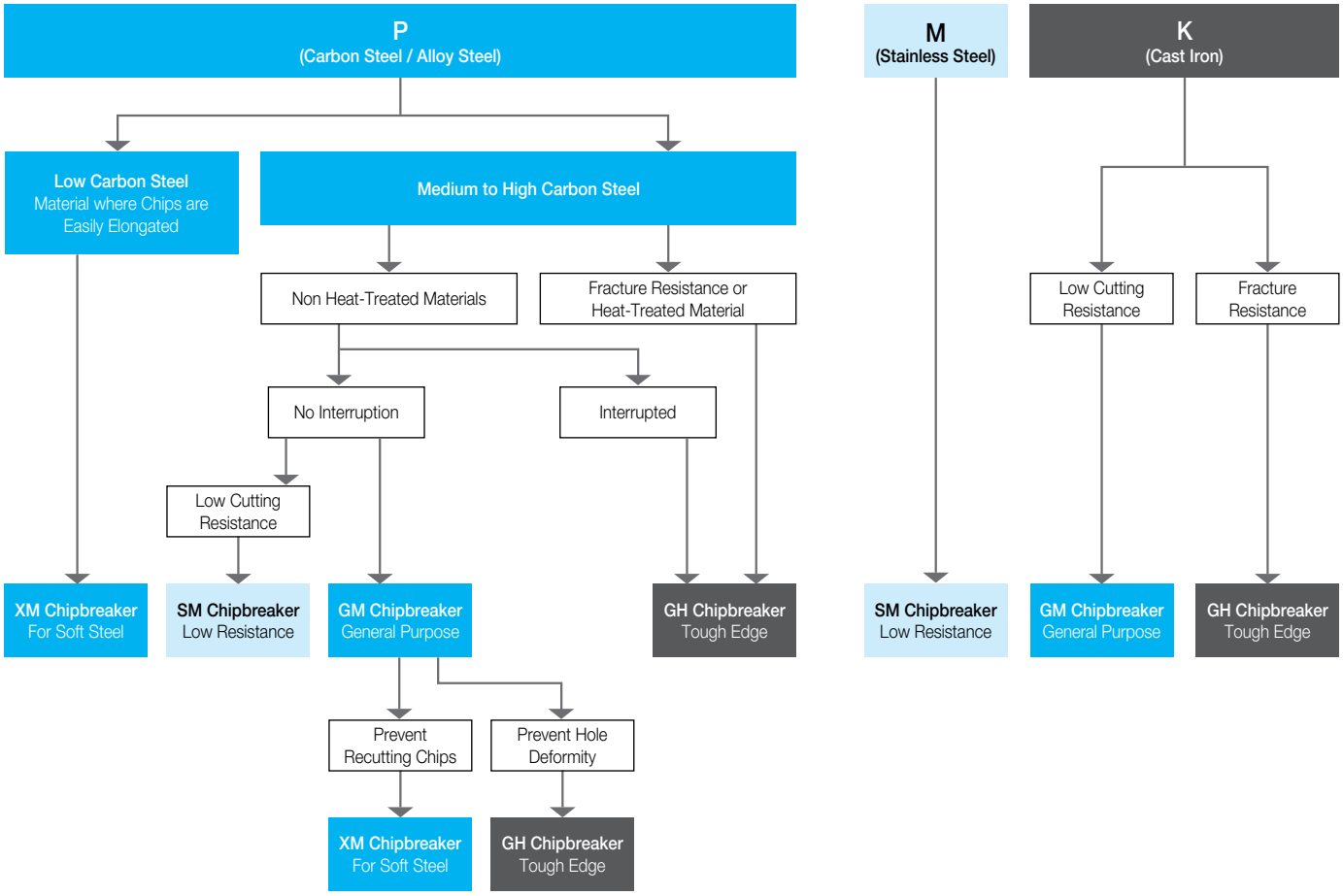
Chipbreaker Selection Chart

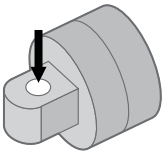


Case Studies

Case Studies

Housing - Structural Steel

Vc = 410 sfm (n = 1,660 rpm)
f = 0.003 ipr (Vf = 5.236 ipm)
Drilling Depth 1.772"
Wet (External Coolant)
S100-DRV0938-4-07
SCMT070310GM-I PR1535
SCMT070305GM-E PR1225



Cutting Time

DRV (Ø0.938" 4xD) — 16 sec

Competitor K (Ø0.938" 4xD) — 35 sec

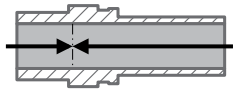
50% or More Cutting Time

Chattering and recutting chips occurred in low rigidity workpiece of Competitor K. Speed was reduced to Vc = 200 sfm. DRV provided good chip control for stable machining at Vc = 410 sfm.

(User Evaluation)

Nipple - Stainless Steel

Vc = 760 sfm (n = 3,330 rpm)
f = 0.005 ipr (Vf = 17.047 ipm)
Drilling Depth 2.362" (4xD)
1.181" (2xD)
Wet (Internal Coolant)
S100-DRV0875-4-06 (4xD)
S100-DRV0875-2-06 (2xD)
SCMT060210-GM-I PR1535
SCMT060205-GM-E PR1225



Process 2 Drilling Depth 1.181" (2D)

Process 1 Drilling Depth 2.362" (4D)

Cutting Time

DRV (Ø0.875" 4xD/2xD) — 12 sec

Competitor L (Ø0.875" 4xD/2xD) — 20 sec

40% Cutting Time

Chattering and deflection occurred with Competitor L. DRV showed stable machining and a shorter cutting time even when the cutting conditions were increased by 1.6 times or more.

(User Evaluation)

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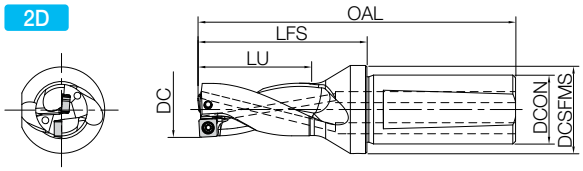
DRV (Drilling Depth: 2 x DC)



Toolholder Dimensions - 2D (Inch Size)

Part Number	Stock	No. of Inserts	Dimension (in)						Max. Radial Offset (in)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S075- DRV0500-2-03	●	2	0.500	3.299	1.606	1.000	0.750	1.063	+0.006	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
S075- DRV0562-2-04	●	2	0.563	3.661	1.969	1.125	0.750	1.063	+0.014	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
S075- DRV0625-2-05	●	2	0.625	3.866	2.173	1.250	0.750	1.063	+0.016	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV0656-2-05	●		0.656	3.929	2.236	1.313			+0.012			
S100- DRV0688-2-05	●		0.688	4.425	2.299	1.375	1.000	1.260	+0.010			
S100- DRV0750-2-06	●	2	0.750	4.469	2.343	1.500	1.000	1.260	+0.024	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV0812-2-06	●		0.813	4.594	2.469	1.625			+0.018			
DRV0875-2-06	●		0.875	4.720	2.594	1.750			+0.010			
S100- DRV0938-2-07	●	2	0.938	4.827	2.701	1.875	1.000	1.260	+0.028	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV0984-2-07	●		0.984	4.917	2.791	1.969			+0.024			
DRV1000-2-07	●		1.000	4.949	2.823	2.000			+0.020			
S125- DRV1062-2-09	●	2	1.063	5.341	3.018	2.125	1.250	1.614	+0.041	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV1125-2-09	●		1.125	5.467	3.144	2.250			+0.033			
DRV1188-2-09	●		1.188	5.593	3.270	2.375			+0.026			
S150- DRV1250-2-09	●		1.250	6.256	3.539	2.500	1.500	1.929	+0.020			
S150- DRV1312-2-11	●	2	1.313	6.380	3.663	2.625	1.500	1.929	+0.045	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV1375-2-11	●		1.375	6.506	3.789	2.750			+0.039			
DRV1438-2-11	●		1.438	6.632	3.915	2.875			+0.031			
DRV1500-2-11	●		1.500	6.756	4.039	3.000			+0.022			
S150- DRV1562-2-14	●	2	1.562	7.116	4.400	3.124	1.500	1.929	+0.070	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
DRV1625-2-14	●		1.625	7.242	4.526	3.250			+0.063			
DRV1688-2-14	●		1.688	7.368	4.652	3.376			+0.056			
NEW DRV1750-2-14	●		1.750	7.492	4.776	3.500			+0.049			
DRV1812-2-14	●		1.812	7.616	4.900	3.624		2.126	+0.041			
DRV1875-2-14	●		1.875	7.742	5.026	3.750			+0.034			
NEW DRV1938-2-14	●		1.938	7.868	5.152	3.876			+0.027			
S150- DRV2000-2-17	●		2.000	7.854	5.138	4.000		2.323	+0.079	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I

- When offset drilling, reduce feed rate to 0.0031 ipr or less

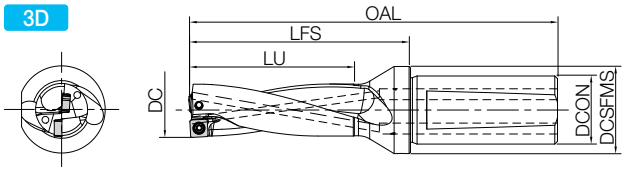
Estimated Cutting Tolerance (2D)

DC	Estimated Cutting Tolerance (in)
Ø0.500" - Ø2.000"	+0.012 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K70
Adjustable Sleeve ASL K104
Troubleshooting K103

DRV (Drilling Depth: 3 x DC)



Toolholder Dimensions - 3D (Inch Size)

Part Number	Stock	No. of Inserts	Dimension (in)						Max. Radial Offset (in)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S075- DRV0500-3-03	●	2	0.500	3.799	2.106	1.500	0.750	1.063	+0.006	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
S075- DRV0562-3-04	●	2	0.563	4.224	2.531	1.688	0.750	1.063	+0.014	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
S075- DRV0625-3-05	●	2	0.625	4.492	2.799	1.875	0.750	1.063	+0.016	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV0656-3-05	●		0.656	4.587	2.894	1.969			+0.012			
S100- DRV0688-3-05	●		0.688	5.114	2.988	2.063	1.000	1.260	+0.010			
S100- DRV0750-3-06	●	2	0.750	5.220	3.094	2.250	1.000	1.260	+0.024	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV0812-3-06	●		0.813	5.406	3.280	2.438			+0.018			
DRV0875-3-06	●		0.875	5.594	3.469	2.625			+0.010			
S100- DRV0938-3-07	●	2	0.938	5.764	3.638	2.813	1.000	1.260	+0.028	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV0984-3-07	●		0.984	5.902	3.776	2.953			+0.024			
DRV1000-3-07	●		1.000	5.949	3.823	3.000			+0.020			
S125- DRV1062-3-09	●	2	1.063	6.402	4.080	3.188	1.250	1.614	+0.041	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV1125-3-09	●		1.125	6.592	4.269	3.375			+0.033			
DRV1188-3-09	●		1.188	6.781	4.458	3.563			+0.026			
S150- DRV1250-3-09	●		1.250	7.508	4.791	3.750	1.500	1.929	+0.020			
S150- DRV1312-3-11	●	2	1.313	7.692	4.976	3.938	1.500	1.929	+0.045	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV1375-3-11	●		1.375	7.881	5.165	4.125			+0.039			
DRV1438-3-11	●		1.438	8.070	5.354	4.313			+0.031			
DRV1500-3-11	●		1.500	8.256	5.539	4.500			+0.022			
S150- DRV1562-3-14	●	2	1.562	8.678	5.962	4.686	1.500	1.929	+0.070	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
DRV1625-3-14	●		1.625	8.867	6.151	4.875			+0.063			
DRV1688-3-14	●		1.688	9.056	6.340	5.064			+0.056			
NEW DRV1750-3-14	●		1.750	9.242	6.526	5.250			+0.049			
DRV1812-3-14	●		1.812	9.428	6.712	5.436		2.126	+0.041			
DRV1875-3-14	●		1.875	9.617	6.901	5.625			+0.034			
NEW DRV1938-3-14	●		1.938	9.806	7.090	5.814			+0.027			
S150- DRV2000-3-17	●		2.000	9.854	7.138	6.000		2.323	+0.079	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I

- When offset drilling, reduce feed rate to 0.0031 ipr or less

Estimated Cutting Tolerance (3D)

DC	Estimated Cutting Tolerance (in)
Ø0.500" - Ø2.000"	+0.012 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K70
Adjustable Sleeve ASL K104
Troubleshooting K103

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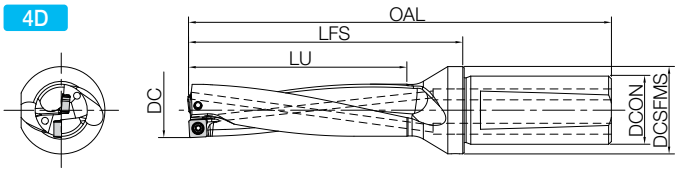
DRV (Drilling Depth: 4 x DC)



Toolholder Dimensions - 4D (Inch Size)

Part Number	Stock	No. of Inserts	Dimension (in)						Max. Radial Offset (in)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S075- DRV0500-4-03	●	2	0.500	4.299	2.606	2.000	0.750	1.063	+0.006	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
S075- DRV0562-4-04	●	2	0.563	4.787	3.094	2.250	0.750	1.063	+0.014	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
S075- DRV0625-4-05	●	2	0.625	5.118	3.425	2.500	0.750	1.063	+0.016	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV0656-4-05	●		0.656	5.240	3.551	2.625			+0.012			
S100- DRV0688-4-05	●		0.688	5.803	3.677	2.750	1.000	1.260	+0.010			
S100- DRV0750-4-06	●	2	0.750	5.969	3.843	3.000	1.000	1.260	+0.024	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV0812-4-06	●		0.813	6.217	4.091	3.250			+0.018			
DRV0875-4-06	●		0.875	6.469	4.343	3.500			+0.010			
S100- DRV0938-4-07	●	2	0.938	6.701	4.575	3.750	1.000	1.260	+0.028	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV0984-4-07	●		0.984	6.886	4.760	3.938			+0.024			
DRV1000-4-07	●		1.000	6.949	4.823	4.000			+0.020			
S125- DRV1062-4-09	●	2	1.063	7.465	5.142	4.250	1.250	1.614	+0.041	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV1125-4-09	●		1.125	7.717	5.394	4.500			+0.033			
DRV1188-4-09	●		1.188	7.969	5.646	4.750			+0.026			
S150- DRV1250-4-09	●		1.250	8.756	6.039	5.000	1.500	1.929	+0.020			
S150- DRV1312-4-11	●	2	1.313	9.004	6.287	5.250	1.500	1.929	+0.045	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV1375-4-11	●		1.375	9.256	6.539	5.500			+0.039			
DRV1438-4-11	●		1.438	9.508	6.791	5.750			+0.031			
DRV1500-4-11	●		1.500	9.756	7.039	6.000			+0.022			
S150- DRV1562-4-14	●	2	1.562	10.240	7.524	6.248	1.500	1.929	+0.070	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
DRV1625-4-14	●		1.625	10.492	7.776	6.500			+0.063			
NEW DRV1688-4-14	●		1.688	10.744	8.028	6.752			+0.056			
DRV1750-4-14	●		1.750	10.992	8.276	7.000			+0.049			
DRV1812-4-14	●		1.812	11.240	8.524	7.248		2.126	+0.041			
S200- DRV1875-4-14	●		1.875	11.492	8.776	7.500	2.000	2.520	+0.034			
NEW DRV1938-4-14	●		1.938	11.744	9.028	7.752			+0.027			
DRV2000-4-17	●		2.000	11.854	9.138	8.000			+0.079	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I

- When offset drilling, reduce feed rate to 0.0024 ipr or less

Estimated Cutting Tolerance (4D)

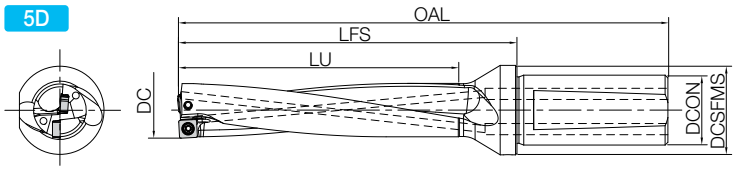
DC	Estimated Cutting Tolerance (in)	DC	Estimated Cutting Tolerance (in)
Ø0.500" - Ø1.500"	+0.014 0	Ø1.562" - Ø2.000"	+0.016 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K71
Adjustable Sleeve ASL K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 5 x DC)



Toolholder Dimensions - 5D (Inch Size)

Part Number	Stock	No. of Inserts	Dimension (in)						Max. Radial Offset (in)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S075- DRV0500-5-03	●	2	0.500	4.799	3.106	2.500	0.750	1.063	+0.006	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
S075- DRV0562-5-04	●	2	0.563	5.346	3.654	2.813	0.750	1.063	+0.014	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
S075- DRV0625-5-05	●	2	0.625	5.744	4.051	3.125	0.750	1.063	+0.016	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV0656-5-05	●		0.656	5.898	4.205	3.281			+0.012			
S100- DRV0688-5-05	●		0.688	6.492	4.366	3.438	1.000	1.260	+0.010			
S100- DRV0750-5-06	●	2	0.750	6.720	4.594	3.750	1.000	1.260	+0.024	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV0812-5-06	●		0.813	7.028	4.902	4.063			+0.018			
DRV0875-5-06	●		0.875	7.343	5.217	4.375			+0.010			
S100- DRV0938-5-07	●	2	0.938	7.638	5.512	4.688	1.000	1.260	+0.028	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV0984-5-07	●		0.984	7.870	5.744	4.922			+0.024			
DRV1000-5-07	●		1.000	7.949	5.823	5.000			+0.020			
S125- DRV1062-5-09	●	2	1.063	8.526	6.204	5.313	1.250	1.614	+0.041	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV1125-5-09	●		1.125	8.842	6.519	5.625			+0.033			
DRV1188-5-09	●		1.188	9.157	6.834	5.938			+0.026			
S150- DRV1250-5-09	●		1.250	10.008	7.291	6.250	1.500	1.929	+0.020			
S150- DRV1312-5-11	●	2	1.313	10.316	7.600	6.563	1.500	1.929	+0.045	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV1375-5-11	●		1.375	10.631	7.915	6.875			+0.039			
DRV1438-5-11	●		1.438	10.946	8.230	7.188			+0.031			
DRV1500-5-11	●		1.500	11.256	8.539	7.500			+0.022			
S150- DRV1562-5-14	●	2	1.562	11.802	9.086	7.810	1.500	1.929	+0.070	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
DRV1625-5-14	●		1.625	12.117	9.401	8.125			+0.063			
NEW DRV1688-5-14	●		1.688	12.432	9.716	8.440			+0.056			
DRV1750-5-14	●		1.750	12.742	10.026	8.750			+0.049			
DRV1812-5-14	●		1.812	13.052	10.336	9.060		2.126	+0.041			
S200- DRV1875-5-14	●		1.875	13.367	10.651	9.375	2.000	2.520	+0.034			
NEW DRV1938-5-14	●		1.938	13.682	10.966	9.690			+0.027			
DRV2000-5-17	●		2.000	13.854	11.138	10.000			+0.079	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I

- When offset drilling, reduce feed rate to 0.0020 ipr or less

Estimated Cutting Tolerance (5D)

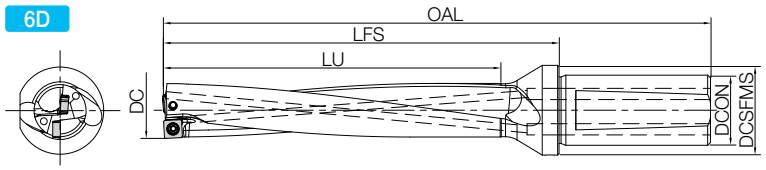
DC	Estimated Cutting Tolerance (in)	DC	Estimated Cutting Tolerance (in)
Ø0.500" - Ø1.500"	+0.014 0	Ø1.562" - Ø2.000"	+0.016 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K72
Adjustable Sleeve ASL K104
Troubleshooting K103

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

DRV (Drilling Depth: 6 x DC)



Toolholder Dimensions - 6D (Inch Size)

Part Number	Stock	No. of Inserts	Dimension (in)						Max. Radial Offset (in)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S075- DRV0500-6-03	●	2	0.500	5.299	3.606	3.000	0.750	1.063	+0.006	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
S075- DRV0562-6-04	●	2	0.563	5.909	4.217	3.375	0.750	1.063	+0.014	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
S075- DRV0625-6-05	●	2	0.625	6.370	4.677	3.750	0.750	1.063	+0.016	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV0656-6-05	●		0.656	6.555	4.862	3.938			+0.012			
S100- DRV0688-6-05	●		0.688	7.181	5.055	4.125	1.000	1.260	+0.010			
S100- DRV0750-6-06	●	2	0.750	7.469	5.343	4.500	1.000	1.260	+0.024	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV0812-6-06	●		0.813	7.843	5.717	4.875			+0.018			
DRV0875-6-06	●		0.875	8.220	6.094	5.250			+0.010			
S100- DRV0938-6-07	●	2	0.938	8.579	6.453	5.625	1.000	1.260	+0.028	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV0984-6-07	●		0.984	8.854	6.728	5.906			+0.024			
DRV1000-6-07	●		1.000	8.949	6.823	6.000			+0.020			
S125- DRV1062-6-09	●	2	1.063	9.589	7.266	6.375	1.250	1.614	+0.041	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV1125-6-09	●		1.125	9.967	7.644	6.750			+0.033			
DRV1188-6-09	●		1.188	10.344	8.022	7.125			+0.026			
S150- DRV1250-6-09	●		1.250	11.256	8.539	7.500	1.500	1.929	+0.020			
S150- DRV1312-6-11	●	2	1.313	11.628	8.911	7.875	1.500	1.929	+0.045	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV1375-6-11	●		1.375	12.006	9.289	8.250			+0.039			
DRV1438-6-11	●		1.438	12.384	9.667	8.625			+0.031			
DRV1500-6-11	●		1.500	12.756	10.039	9.000			+0.022			
S150- DRV1562-6-14	●	2	1.562	13.364	10.648	9.372	1.500	1.929	+0.070	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
DRV1625-6-14	●		1.625	13.742	11.026	9.750			+0.063			
NEW DRV1688-6-14	●		1.688	14.120	11.404	10.128			+0.056			
DRV1750-6-14	●		1.750	14.492	11.776	10.500			+0.049			
DRV1812-6-14	●		1.812	14.864	12.148	10.872		2.126	+0.041			
S200- DRV1875-6-14	●		1.875	15.242	12.526	11.250	2.000	2.520	+0.034			
NEW DRV1938-6-14	●		1.938	15.620	12.904	11.628			+0.027			
DRV2000-6-17	●		2.000	15.854	13.138	12.000			+0.079	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I

- When offset drilling, reduce feed rate to 0.0016 ipr or less

Estimated Cutting Tolerance (6D)

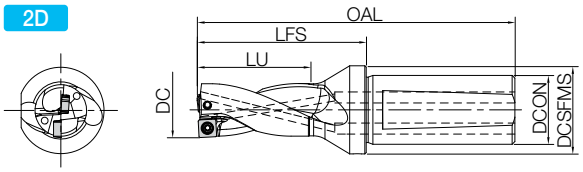
DC	Estimated Cutting Tolerance (in)	DC	Estimated Cutting Tolerance (in)
Ø0.500" - Ø1.500"	+0.018 0	Ø1.562" - Ø2.000"	+0.020 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K73
Adjustable Sleeve ASL K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 2 x DC)



Toolholder Dimensions - 2D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S20- DRV120M-2-03	●	2	12	82	39	24	20	27	+0.25	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030204-□□-I
DRV125M-2-03	●		12.5	83	40	25			+0.20			
DRV130M-2-03	●		13	84	41	26			+0.15			
DRV135M-2-03	●		13.5	85	42	27			+0.10			
S20- DRV140M-2-04	●	2	14	92	49	28	20	27	+0.40	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
DRV145M-2-04	●		14.5	93	50	29			+0.35			
DRV150M-2-04	●		15	94	51	30			+0.30			
DRV155M-2-04	●		15.5	95	52	31			+0.25			
S25- DRV160M-2-05	●	2	16	110	56	32	25	32	+0.40	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV165M-2-05	●		16.5	111	57	33			+0.35			
DRV170M-2-05	●		17	112	58	34			+0.30			
DRV175M-2-05	●		17.5	113	59	35			+0.25			
DRV180M-2-05	●		18	114	60	36			+0.20			
DRV185M-2-05	●		18.5	115	61	37			+0.15			
S25- DRV190M-2-06	●	2	19	113	59	38	25	32	+0.65	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV195M-2-06	●		19.5	114	60	39			+0.60			
DRV200M-2-06	●		20	115	61	40			+0.55			
DRV205M-2-06	●		20.5	116	62	41			+0.50			
DRV210M-2-06	●		21	117	63	42			+0.45			
DRV215M-2-06	●		21.5	118	64	43			+0.35			
DRV220M-2-06	●		22	119	65	44			+0.30			
S25- DRV225M-2-07	●	2	22.5	120	66	45	25	32	+0.90	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV230M-2-07	●		23	121	67	46			+0.80			
DRV235M-2-07	●		23.5	122	68	47			+0.75			
DRV240M-2-07	●		24	123	69	48			+0.70			
DRV245M-2-07	●		24.5	124	70	49			+0.65			
DRV250M-2-07	●		25	125	71	50			+0.60			
DRV255M-2-07	●		25.5	126	72	51			+0.50			
DRV260M-2-07	●		26	127	73	52			+0.45			
S32- DRV270M-2-09	●	2	27	136	77	54	32	41	+1.05	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV280M-2-09	●		28	138	79	56			+0.95			
DRV290M-2-09	●		29	140	81	58			+0.85			
DRV300M-2-09	●		30	142	83	60			+0.75			
DRV310M-2-09	●		31	144	85	62			+0.60			
DRV320M-2-09	●		32	146	87	64			+0.50			

- When offset drilling, reduce feed rate to 0.0031 ipr or less

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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Toolholder Dimensions - 2D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S40- DRV330M-2-11	●	2	33	161	92	66	40	49	+1.25	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV340M-2-11	●		34	163	94	68			+1.15			
DRV350M-2-11	●		35	165	96	70			+1.00			
DRV360M-2-11	●		36	167	98	72			+0.90			
DRV370M-2-11	●		37	169	100	74			+0.80			
DRV380M-2-11	●		38	171	102	76			+0.65			
DRV390M-2-11	●		39	173	104	78			+0.55			
S40- DRV400M-2-14	●	2	40	181	112	80	40	49	+1.75	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
NEW DRV410M-2-14	●		41	183	114	82			+1.60			
NEW DRV420M-2-14	●		42	185	116	84			+1.50			
DRV430M-2-14	●		43	187	118	86			+1.40			
DRV440M-2-14	●		44	189	120	88			+1.30			
DRV450M-2-14	●		45	191	122	90			+1.15			
DRV460M-2-14	●		46	193	124	92		54	+1.05			
DRV470M-2-14	●		47	195	126	94			+0.95			
DRV480M-2-14	●		48	197	128	96			+0.80			
DRV490M-2-14	●		49	199	130	98			+0.70			
S40- DRV500M-2-17	●	2	50	198	129	100	40	59	+2.10	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I
NEW DRV510M-2-17	●		51	200	131	102			+1.95			
DRV520M-2-17	●		52	202	133	104			+1.85			
DRV530M-2-17	●		53	204	135	106			+1.75			
DRV540M-2-17	●		54	206	137	108			+1.65			
DRV550M-2-17	●		55	208	139	110			+1.50			
DRV560M-2-17	●		56	210	141	112			+1.40			
DRV570M-2-17	●		57	212	143	114		64	+1.30			
DRV580M-2-17	●		58	214	145	116			+1.15			
DRV590M-2-17	●		59	216	147	118			+1.05			
DRV600M-2-17	●		60	218	149	120			+0.95			

- When offset drilling, reduce feed rate to 0.0031 ipr or less

Estimated Cutting Tolerance (2D)

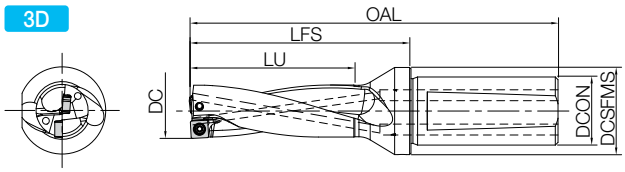
DC	Estimated Cutting Tolerance (mm)
Ø12mm - Ø60mm	+0.30 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K70
Adjustable Sleeve SHE K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 3 x DC)



Toolholder Dimensions - 3D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts Insert Screw	Wrench	Applicable Insert See Page K50~K51
S20- DRV120M-3-03	●	2	12	94	51	36	20	27	+0.25	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
DRV125M-3-03	●		12.5	96	53	37.5			+0.20			
DRV130M-3-03	●		13	97	54	39			+0.15			
DRV135M-3-03	●		13.5	99	56	40.5			+0.10			
S20- DRV140M-3-04	●	2	14	106	63	42	20	27	+0.40	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
DRV145M-3-04	●		14.5	108	65	43.5			+0.35			
DRV150M-3-04	●		15	109	66	45			+0.30			
DRV155M-3-04	●		15.5	111	68	46.5			+0.25			
S25- DRV160M-3-05	●	2	16	126	72	48	25	32	+0.40	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV165M-3-05	●		16.5	127	73	49.5			+0.35			
DRV170M-3-05	●		17	129	75	51			+0.30			
DRV175M-3-05	●		17.5	130	76	52.5			+0.25			
DRV180M-3-05	●		18	132	78	54			+0.20			
DRV185M-3-05	●		18.5	133	79	55.5			+0.15			
S25- DRV190M-3-06	●	2	19	132	78	57	25	32	+0.65	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV195M-3-06	●		19.5	134	80	58.5			+0.60			
DRV200M-3-06	●		20	135	81	60			+0.55			
DRV205M-3-06	●		20.5	137	83	61.5			+0.50			
DRV210M-3-06	●		21	138	84	63			+0.45			
DRV215M-3-06	●		21.5	140	86	64.5			+0.35			
DRV220M-3-06	●		22	141	87	66			+0.30			
S25- DRV225M-3-07	●	2	22.5	142	88	67.5	25	32	+0.90	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV230M-3-07	●		23	144	90	69			+0.80			
DRV235M-3-07	●		23.5	145	91	70.5			+0.75			
DRV240M-3-07	●		24	147	93	72			+0.70			
DRV245M-3-07	●		24.5	148	94	73.5			+0.65			
DRV250M-3-07	●		25	150	96	75			+0.60			
DRV255M-3-07	●		25.5	151	97	76.5			+0.50			
DRV260M-3-07	●		26	153	99	78			+0.45			
S32- DRV265M-3-09	●	2	26.5	161	102	79.5	32	41	+1.15	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV270M-3-09	●		27	163	104	81			+1.05			
DRV275M-3-09	●		27.5	164	105	82.5			+1.00			
DRV280M-3-09	●		28	166	107	84			+0.95			
DRV285M-3-09	●		28.5	167	108	85.5			+0.90			
DRV290M-3-09	●		29	169	110	87			+0.85			
DRV295M-3-09	●		29.5	170	111	88.5			+0.80			
DRV300M-3-09	●		30	172	113	90			+0.75			
DRV305M-3-09	●		30.5	173	114	91.5			+0.65			
DRV310M-3-09	●		31	175	116	93			+0.60			
DRV315M-3-09	●		31.5	176	117	94.5			+0.55			
DRV320M-3-09	●		32	178	119	96			+0.50			

- When offset drilling, reduce feed rate to 0.0031 ipr or less

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Toolholder Dimensions - 3D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S40- DRV330M-3-11	●	2	33	194	125	99	40	49	+1.25	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV340M-3-11	●		34	197	128	102			+1.15			
DRV350M-3-11	●		35	200	131	105			+1.00			
DRV360M-3-11	●		36	203	134	108			+0.90			
DRV370M-3-11	●		37	206	137	111			+0.80			
DRV380M-3-11	●		38	209	140	114			+0.65			
DRV390M-3-11	●		39	212	143	117			+0.55			
S40- DRV400M-3-14	●	2	40	221	152	120	40	49	+1.75	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
NEW DRV410M-3-14	●		41	224	155	123			+1.60			
DRV420M-3-14	●		42	227	158	126			+1.50			
DRV430M-3-14	●		43	230	161	129			+1.40			
DRV440M-3-14	●		44	233	164	132			+1.30			
DRV450M-3-14	●		45	236	167	135			+1.15			
DRV460M-3-14	●		46	239	170	138		54	+1.05			
DRV470M-3-14	●		47	242	173	141			+0.95			
DRV480M-3-14	●		48	245	176	144			+0.80			
DRV490M-3-14	●		49	248	179	147			+0.70			
S40- DRV500M-3-17	●	2	50	248	179	150	40	59	+2.10	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I
NEW DRV510M-3-17	●		51	251	182	153			+1.95			
DRV520M-3-17	●		52	254	185	156			+1.85			
DRV530M-3-17	●		53	257	188	159			+1.75			
DRV540M-3-17	●		54	260	191	162			+1.65			
DRV550M-3-17	●		55	263	194	165			+1.50			
DRV560M-3-17	●		56	266	197	168			+1.40			
DRV570M-3-17	●		57	269	200	171		64	+1.30			
DRV580M-3-17	●		58	272	203	174			+1.15			
DRV590M-3-17	●		59	275	206	177			+1.05			
DRV600M-3-17	●		60	278	209	180			+0.95			

- When offset drilling, reduce feed rate to 0.0031 ipr or less

Estimated Cutting Tolerance (3D)

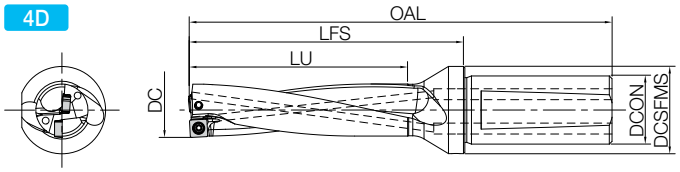
DC	Estimated Cutting Tolerance (mm)
Ø12mm - Ø60mm	+0.30 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K70
Adjustable Sleeve SHE K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 4 x DC)



Toolholder Dimensions - 4D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S20- DRV120M-4-03	●	2	12	106	63	48	20	27	+0.25	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030204-□□-I
DRV125M-4-03	●		12.5	108	65	50			+0.20			
DRV130M-4-03	●		13	110	67	52			+0.15			
DRV135M-4-03	●		13.5	112	69	54			+0.10			
S20- DRV140M-4-04	●	2	14	120	77	56	20	27	+0.40	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
DRV145M-4-04	●		14.5	122	79	58			+0.35			
DRV150M-4-04	●		15	124	81	60			+0.30			
DRV155M-4-04	●		15.5	126	83	62			+0.25			
S25- DRV160M-4-05	●	2	16	142	88	64	25	32	+0.40	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV165M-4-05	●		16.5	144	90	66			+0.35			
DRV170M-4-05	●		17	146	92	68			+0.30			
DRV175M-4-05	●		17.5	148	94	70			+0.25			
DRV180M-4-05	●		18	150	96	72			+0.20			
DRV185M-4-05	●		18.5	152	98	74			+0.15			
S25- DRV190M-4-06	●	2	19	151	97	76	25	32	+0.65	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV195M-4-06	●		19.5	153	99	78			+0.60			
DRV200M-4-06	●		20	155	101	80			+0.55			
DRV205M-4-06	●		20.5	157	103	82			+0.50			
DRV210M-4-06	●		21	159	105	84			+0.45			
DRV215M-4-06	●		21.5	161	107	86			+0.35			
DRV220M-4-06	●		22	163	109	88			+0.30			
S25- DRV225M-4-07	●	2	22.5	165	111	90	25	32	+0.90	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV230M-4-07	●		23	167	113	92			+0.80			
DRV235M-4-07	●		23.5	169	115	94			+0.75			
DRV240M-4-07	●		24	171	117	96			+0.70			
DRV245M-4-07	●		24.5	173	119	98			+0.65			
DRV250M-4-07	●		25	175	121	100			+0.60			
DRV255M-4-07	●		25.5	177	123	102			+0.50			
DRV260M-4-07	●		26	179	125	104			+0.45			
S32- DRV270M-4-09	●	2	27	190	131	108	32	41	+1.05	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV280M-4-09	●		28	194	135	112			+0.95			
DRV290M-4-09	●		29	198	139	116			+0.85			
DRV300M-4-09	●		30	202	143	120			+0.75			
DRV310M-4-09	●		31	206	147	124			+0.60			
DRV320M-4-09	●		32	210	151	128			+0.50			

- When offset drilling, reduce feed rate to 0.0024 ipr or less

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Toolholder Dimensions - 4D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S40- DRV330M-4-11	●	2	33	227	158	132	40	49	+1.25	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV340M-4-11	●		34	231	162	136			+1.15			
DRV350M-4-11	●		35	235	166	140			+1.00			
DRV360M-4-11	●		36	239	170	144			+0.90			
DRV370M-4-11	●		37	243	174	148			+0.80			
DRV380M-4-11	●		38	247	178	152			+0.65			
DRV390M-4-11	●		39	251	182	156			+0.55			
S40- DRV400M-4-14	●	2	40	261	192	160	40	49	+1.75	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
NEW DRV410M-4-14	●		41	265	196	164			+1.60			
NEW DRV420M-4-14	●		42	269	200	168			+1.50			
DRV430M-4-14	●		43	273	204	172			+1.40			
DRV440M-4-14	●		44	277	208	176			+1.30			
DRV450M-4-14	●		45	281	212	180			+1.15			
DRV460M-4-14	●		46	285	216	184		54	+1.05			
DRV470M-4-14	●		47	289	220	188			+0.95			
S50- DRV480M-4-14	●		48	293	224	192	50	59	+0.80			
DRV490M-4-14	●		49	297	228	196			+0.70			
S50- DRV500M-4-17	●	2	50	298	229	200	50	59	+2.10	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I
NEW DRV510M-4-17	●		51	302	233	204			+1.95			
NEW DRV520M-4-17	●		52	306	237	208			+1.85			
DRV530M-4-17	●		53	310	241	212			+1.75			
DRV540M-4-17	●		54	314	245	216			+1.65			
DRV550M-4-17	●		55	318	249	220			+1.50			
DRV560M-4-17	●		56	322	253	224			+1.40			
DRV570M-4-17	●		57	326	257	228		64	+1.30			
DRV580M-4-17	●		58	330	261	232			+1.15			
DRV590M-4-17	●		59	334	265	236			+1.05			
DRV600M-4-17	●		60	338	269	240			+0.95			

- When offset drilling, reduce feed rate to 0.0024 ipr or less

Estimated Cutting Tolerance (4D)

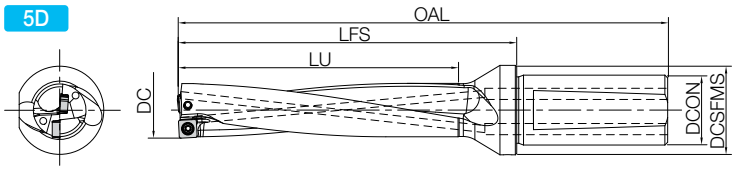
DC	Estimated Cutting Tolerance (mm)	DC	Estimated Cutting Tolerance (mm)
Ø12mm - Ø39mm	+0.35 0	Ø40mm - Ø60mm	+0.40 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K71
Adjustable Sleeve SHE K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 5 x DC)



Toolholder Dimensions - 5D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm)						Max.Radial Offset (mm)	Spare Parts		Applicable Insert See Page K50~K51
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S20- DRV120M-5-03	●	2	12	118	75	60	20	27	+0.25	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
DRV130M-5-03	●		13	123	80	65			+0.15			
S20- DRV140M-5-04	●	2	14	134	91	70	20	27	+0.40	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
DRV150M-5-04	●		15	139	96	75			+0.30			
S25- DRV160M-5-05	●	2	16	158	104	80	25	32	+0.40	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV170M-5-05	●		17	163	109	85			+0.30			
DRV180M-5-05	●		18	168	114	90			+0.20			
S25- DRV190M-5-06	●	2	19	170	116	95	25	32	+0.65	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV200M-5-06	●		20	175	121	100			+0.55			
DRV210M-5-06	●		21	180	126	105			+0.45			
DRV220M-5-06	●		22	185	131	110			+0.30			
S25- DRV230M-5-07	●	2	23	190	136	115	25	32	+0.80	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV240M-5-07	●		24	195	141	120			+0.70			
DRV250M-5-07	●		25	200	146	125			+0.60			
DRV260M-5-07	●		26	205	151	130			+0.45			
S32- DRV270M-5-09	●	2	27	217	158	135	32	41	+1.05	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV280M-5-09	●		28	222	163	140			+0.95			
DRV290M-5-09	●		29	227	168	145			+0.85			
DRV300M-5-09	●		30	232	173	150			+0.75			
DRV310M-5-09	●		31	237	178	155			+0.60			
DRV320M-5-09	●		32	242	183	160			+0.50			

- When offset drilling, reduce feed rate to 0.0020 ipr or less

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Toolholder Dimensions - 5D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max.Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Applicable Insert See Page K50~K51
S40- DRV330M-5-11	●	2	33	260	191	165	40	49	+1.25	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV340M-5-11	●		34	265	196	170			+1.15			
DRV350M-5-11	●		35	270	201	175			+1.00			
DRV360M-5-11	●		36	275	206	180			+0.90			
DRV370M-5-11	●		37	280	211	185			+0.80			
DRV380M-5-11	●		38	285	216	190			+0.65			
DRV390M-5-11	●		39	290	221	195			+0.55			
S40- DRV400M-5-14	●	2	40	301	232	200	40	49	+1.75	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
NEW DRV410M-5-14	●		41	306	237	205			+1.60			
NEW DRV420M-5-14	●		42	311	242	210			+1.50			
DRV430M-5-14	●		43	316	247	215			+1.40			
DRV440M-5-14	●		44	321	252	220			+1.30			
DRV450M-5-14	●		45	326	257	225			+1.15			
DRV460M-5-14	●		46	331	262	230		54	+1.05			
DRV470M-5-14	●		47	336	267	235			+0.95			
S50- DRV480M-5-14	●		48	341	272	240	50	59	+0.80			
DRV490M-5-14	●		49	346	277	245			+0.70			
S50- DRV500M-5-17	●	2	50	348	279	250	50	59	+2.10	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I
NEW DRV510M-5-17	●		51	353	284	255			+1.95			
NEW DRV520M-5-17	●		52	358	289	260			+1.85			
DRV530M-5-17	●		53	363	294	265			+1.75			
DRV540M-5-17	●		54	368	299	270			+1.65			
DRV550M-5-17	●		55	373	304	275			+1.50			
DRV560M-5-17	●		56	378	309	280			+1.40			
DRV570M-5-17	●		57	383	314	285		64	+1.30			
DRV580M-5-17	●		58	388	319	290			+1.15			
DRV590M-5-17	●		59	393	324	295			+1.05			
DRV600M-5-17	●		60	398	329	300			+0.95			

- When offset drilling, reduce feed rate to 0.0020 ipr or less

Estimated Cutting Tolerance (5D)

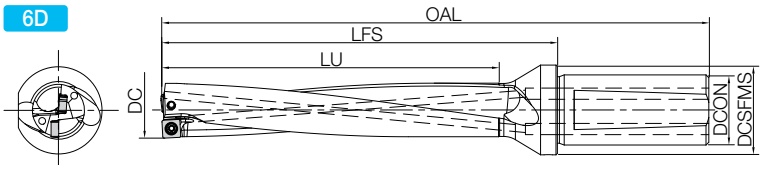
DC	Estimated Cutting Tolerance (mm)	DC	Estimated Cutting Tolerance (mm)
Ø12mm - Ø39mm	+0.35 0	Ø40mm - Ø60mm	+0.40 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K72
Adjustable Sleeve SHE K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRV (Drilling Depth: 6 x DC)



Toolholder Dimensions - 6D (Metric Size)

Part Number	Stock	No. of Inserts	Dimension (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max.Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Applicable Insert See Page K50~K51
S20- DRV120M-6-03	●	2	12	130	87	72	20	27	+0.25	SB-2037TRP	FTP-6	Outer Edge LCMT030203-□□-E Inner Edge LCMT030205-□□-I
DRV130M-6-03	●		13	136	93	78			+0.15			
S20- DRV140M-6-04	●	2	14	148	105	84	20	27	+0.40	SB-2037TRP	FTP-6	Outer Edge SCMT040205-□□-E Inner Edge SCMT040209-□□-I
DRV150M-6-04	●		15	154	111	90			+0.30			
S25- DRV160M-6-05	●	2	16	174	120	96	25	32	+0.40	SB-2041TRP	FTP-6	Outer Edge SCMT050205-□□-E Inner Edge SCMT050210-□□-I
DRV170M-6-05	●		17	180	126	102			+0.30			
DRV180M-6-05	●		18	186	132	108			+0.20			
S25- DRV190M-6-06	●	2	19	189	135	114	25	32	+0.65	SB-2555TRP	DTPM-8	Outer Edge SCMT060205-□□-E Inner Edge SCMT060210-□□-I
DRV200M-6-06	●		20	195	141	120			+0.55			
DRV210M-6-06	●		21	201	147	126			+0.45			
DRV220M-6-06	●		22	207	153	132			+0.30			
S25- DRV230M-6-07	●	2	23	213	159	138	25	32	+0.80	SB-3060TRP	DTPM-10	Outer Edge SCMT070305-□□-E Inner Edge SCMT070310-□□-I
DRV240M-6-07	●		24	219	165	144			+0.70			
DRV250M-6-07	●		25	225	171	150			+0.60			
DRV260M-6-07	●		26	231	177	156			+0.45			
S32- DRV270M-6-09	●	2	27	244	185	162	32	41	+1.05	SB-3573TRP	DTPM-10	Outer Edge SCMT090405-□□-E Inner Edge SCMT090410-□□-I
DRV280M-6-09	●		28	250	191	168			+0.95			
DRV290M-6-09	●		29	256	197	174			+0.85			
DRV300M-6-09	●		30	262	203	180			+0.75			
DRV310M-6-09	●		31	268	209	186			+0.60			
DRV320M-6-09	●		32	274	215	192			+0.50			
S40- DRV330M-6-11	●	2	33	293	224	198	40	49	+1.25	SB-4086TRP	DTPM-15	Outer Edge SCMT110406-□□-E Inner Edge SCMT110410-□□-I
DRV340M-6-11	●		34	299	230	204			+1.15			
DRV350M-6-11	●		35	305	236	210			+1.00			
DRV360M-6-11	●		36	311	242	216			+0.90			
DRV370M-6-11	●		37	317	248	222			+0.80			
DRV380M-6-11	●		38	323	254	228			+0.65			
DRV390M-6-11	●		39	329	260	234			+0.55			
S40- DRV400M-6-14	●	2	40	341	272	240	40	49	+1.75	SB-50120TRPH	TTP-20	Outer Edge SCMT140508-□□-E Inner Edge SCMT140510-□□-I
NEW DRV410M-6-14	●		41	347	278	246			+1.60			
DRV420M-6-14	●		42	353	284	252			+1.50			
DRV430M-6-14	●		43	359	290	258			+1.40			
DRV440M-6-14	●		44	365	296	264			+1.30			
DRV450M-6-14	●		45	371	302	270			+1.15			
S50- DRV500M-6-17	●	2	50	398	329	300	50	59	+2.10	SB-60130TRP	TTP-20	Outer Edge SCMT170608-□□-E Inner Edge SCMT170610-□□-I
NEW DRV550M-6-17	●		55	428	359	330			+1.50			
DRV600M-6-17	●		60	458	389	360		64	+0.95			

- When offset drilling, reduce feed rate to 0.0016 ipr or less

Estimated Cutting Tolerance (6D)

DC	Estimated Cutting Tolerance (mm)	DC	Estimated Cutting Tolerance (mm)
Ø12mm - Ø39mm	+0.45 0	Ø40mm - Ø60mm	+0.50 0

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K73
Adjustable Sleeve SHE K104
Troubleshooting K103

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

Insert Grade Selection Guide

Select CVD for the outer edge when performing high speed and high efficiency drilling and for abrasion resistance and long tool life.

Select PVD MEGACOAT for the outer edge for stable drilling and a better surface finish.

PVD MEGACOAT is recommended for the outer edge if chattering occurs, machining with lathe, or if cutting conditions cannot be increased to the recommended speed for CVD.

1st Recommendation
(High Speed and High Efficiency Drilling)

Outer Edge : CVD (CA520D / CA415D)

Inner Edge : PVD (PR1535)

Stable Machining Oriented
(1st Recommendation for Lathe Machining)

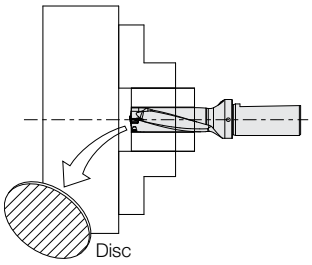
Outer Edge : PVD (PR1225)

Inner Edge : PVD (PR1535)

Machining Caution

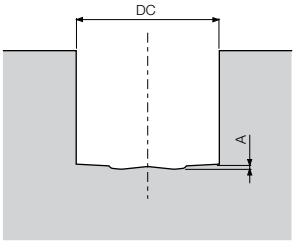
In case of through-hole machining, a disc may be generated and ejected outward when exiting the hole.

Be sure to install guards to protect against dangers if using a machine without the covers (including general-purpose lathes, etc.).



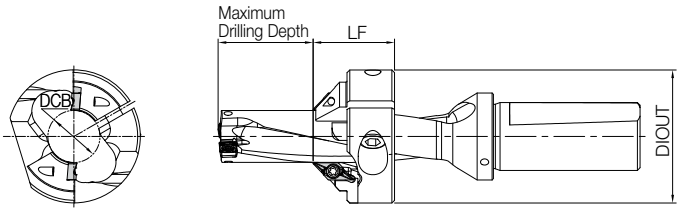
DRV Hole Bottom Shape

DRV Inch Diameters (in)			DRV Metric Diameters (mm)											
Insert Size	DC	A	Insert Size	DC	A	Insert Size	DC	A	Insert Size	DC	A	Insert Size	DC	A
03	0.500	0.028	03	12.0	0.7	06	19.0	1.2	09	26.5	1.2	14	40.0	1.9
04	0.562	0.039		12.5			19.5			27.0			41.0	
05	0.625	0.043		13.0			20.0			27.5	1.3		42.0	2.0
	0.656			13.5			20.5	1.3		28.0			43.0	
	0.688		04	14.0	1.0		21.0			28.5			44.0	
06	0.750	0.047		14.5			21.5			29.0			45.0	2.1
	0.812	0.051		15.0			22.0			29.5	1.4		46.0	
	0.875			15.5		07	22.5	1.2		30.0			47.0	
07	0.938	0.047	05	16.0	1.1		23.0			30.5			48.0	2.2
	0.984	0.051		16.5			23.5			31.0			49.0	
	1.000			17.0			24.0			31.5	1.5	17	50.0	2.0
09	1.062	0.047		17.5			24.5	1.3		32.0			51.0	2.1
	1.125	0.051		18.0	1.2		25.0		11	33.0	1.5		52.0	
	1.188	0.055		18.5			25.5			34.0			53.0	
	1.250	0.059					26.0			35.0			54.0	2.2
11	1.312	0.059								36.0	1.6		55.0	
	1.375									37.0			56.0	
	1.438	0.063								38.0			57.0	2.3
	1.500									39.0	1.7		58.0	
14	1.562	0.075											59.0	2.4
	1.625												60.0	
	1.688	0.079												
	1.750													
	1.812	0.083												
	1.875	0.087												
	1.938													
17	2.000	0.083												



Common for 2D, 3D, 4D, 5D, 6D Drills
*Above is estimated values. (varies within ±0.1mm (±0.004") depending on workpiece material and cutting conditions)

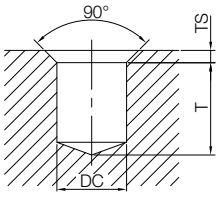
DRV Chamfering Attachment



Chamfer Attachment Dimensions

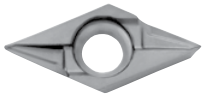
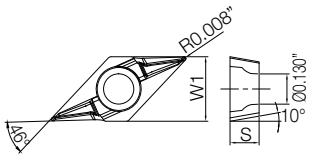
Part Number	Stock	Applicable Drill Bodies		Dimensions (mm)			Applicable Inserts	Spare Parts			
		Inch Size Bodies	Metric Size Bodies	DIOUT	DCB	LF		Insert Screw	Wrench	Clamp Screw	Wrench
DRV-CH17	●	**S075-DRV0656-...-05**	**S25-DRV165M-...-05 S25-DRV170M-...-05**	47	16.2	30	CH0503-45	SB-3080TR	FT-10	HH6X18	LW-5
DRV-CH18	●	**S100-DRV0688-...-05**	**S25-DRV175M-...-05 S25-DRV180M-...-05**	47	17.2	30					
DRV-CH19	●	-	**S25-DRV185M-...-05 S25-DRV190M-...-06**	49	18.2	30					
DRV-CH20	●	**S100-DRV0766-...-06**	**S25-DRV195M-...-06 S25-DRV200M-...-06**	49	19.2	30					
DRV-CH21	●	**S100-DRV0812-...-06**	**S25-DRV205M-...-06 S25-DRV210M-...-06**	49	20.2	30					
DRV-CH22	●	-	**S25-DRV215M-...-06 S25-DRV220M-...-06**	49	21.2	30					
DRV-CH23	●	-	**S25-DRV225M-...-07 S25-DRV230M-...-07**	51	22.2	30					
DRV-CH24	●	**S100-DRV0938-...-07**	**S25-DRV235M-...-07 S25-DRV240M-...-07**	51	23.2	30					
DRV-CH25	●	**S100-DRV0984-...-07**	**S25-DRV245M-...-07 S25-DRV250M-...-07**	53	24.2	30					
DRV-CH26	●	-	**S25-DRV255M-...-07 S25-DRV260M-...-07**	53	25.2	30					
DRV-CH27	●	**S125-DRV1062-...-09**	**S25-DRV265M-...-09 S32-DRV270M-...-09**	64	26	35				HH8X20	LW-6

Maximum Drilling Depth / Chamfering Depths

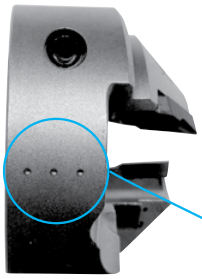


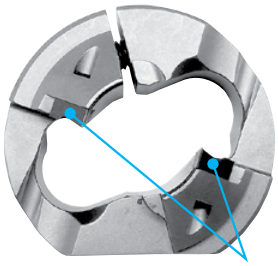
Drilling Diameter (mm)	Maximum Drilling Depth T (mm)					Max Chamfering Depth	Applicable Chamfering Attachment
DC	2D Drill	3D Drill	4D Drill	5D Drill	6D Drill	Ts (mm)	
Ø16.5	0.5	17	33.5	–	–	2.5	**DRV-CH17**
Ø17.0	1.5	18.5	35.5	52.5	69.5		
Ø17.5	2.5	20	37.5	–	–		**DRV-CH18**
Ø18.0	3.5	21.5	39.5	57.5	75.5		
Ø18.5	4.5	23	41.5	–	–		**DRV-CH19**
Ø19.0	5.5	24.5	43.5	62.5	81.5		
Ø19.5	6.5	26	45.5	–	–		**DRV-CH20**
Ø20.0	7.5	27.5	47.5	67.5	87.5		
Ø20.5	8.5	29	49.5	–	–		**DRV-CH21**
Ø21.0	9.5	30.5	51.5	72.5	93.5		
Ø21.5	10.5	32	53.5	–	–		**DRV-CH22**
Ø22.0	11.5	33.5	55.5	77.5	99.5		
Ø22.5	12.5	35	57.5	–	–		**DRV-CH23**
Ø23.0	13.5	36.5	59.5	82.5	105.5		
Ø23.5	14.5	38	61.5	–	–		**DRV-CH24**
Ø24.0	15.5	39.5	63.5	87.5	111.5		
Ø24.5	16.5	41	65.5	–	–		**DRV-CH25**
Ø25.0	17.5	42.5	67.5	92.5	117.5		
Ø25.5	18.5	44	69.5	–	–		**DRV-CH26**
Ø26.0	19.5	45.5	71.5	97.5	123.5		
Ø26.5	–	47	–	–	–		**DRV-CH27**
Ø27.0	16.5	43.5	75.5	97.5	124.5		

Applicable Chamfering Inserts

Shape		Part Number	Dimensions (mm)		MEGACOAT NANO	Applicable Chamfering Attachment
			W1	S	PR1535	
		**CH0503-45**	7.05	3.18	●	**DRV-CH○○**

How to Install Chamfering Attachment

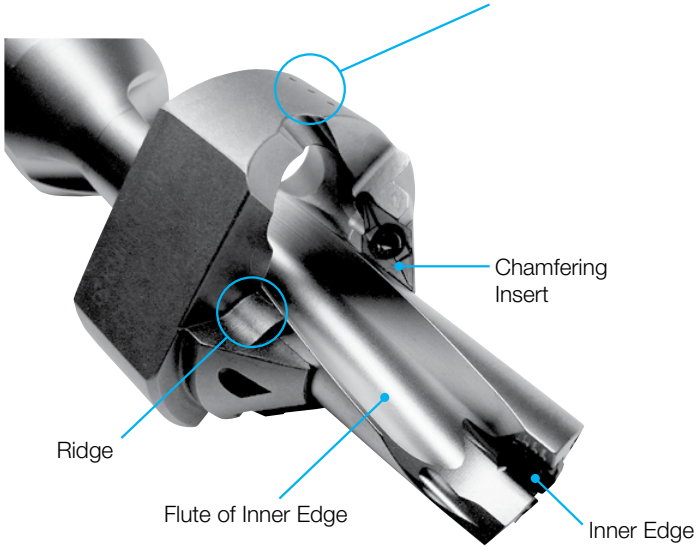




Chamfering Insert

Clamping Screw for Chamfering Attachment

Identification on Inner Edge



Chamfering Insert

Ridge

Flute of Inner Edge

Inner Edge

Instructions

1) Install the attachment over the DRV body so that "• • •" mark on the side of the attachment aligns with the inside flute edge (see image).

2) Adjust the position to avoid interference between the chamfering inserts, chamfering attachment ridges, and drill body flutes. Then fasten the clamp screw with the recommended torque below.

Recommended Torque

Chamfering Attachment Part Number	Torque (Nm)	Clamping Screw	Wrench
DRV-CH17 ~ DRV-CH26	10	HH6X18	LW-5
DRV-CH27	14	HH8X20	LW-6

DRV 2D/3D - Recommended Cutting Conditions (with Coolant)

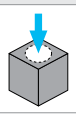
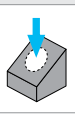
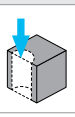
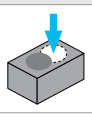
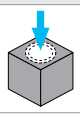
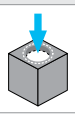
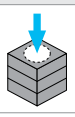
Drilling Depth: 2D / 3D

Workpiece Material	Recommended Insert Grade / Cutting Speed (sfm)										Inch Drill Dia. DC (in)	Metric Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)			
	PVD Coated Carbide				CVD Coated Carbide								2D~3D			
	PR1225				CA520D				CA415D							
	GM	GH	XM	SM	GM	GH	XM	SM	GM	GH			GM	GH	XM	SM
Low Carbon Steel	-	-	★ 390-660	☆ 390-660	-	-	★ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	–	–	–	0.0016 ~ 0.0024
											0.562 - 0.578	14.0 - 15.5	–	–	0.0016 ~ 0.0035	0.0016 ~ 0.0028
											0.625 - 0.688	16.0 - 18.5	–	–	0.0016 ~ 0.0039	0.0016 ~ 0.0031
											0.750 - 0.875	19.0 - 22.0	–	–	0.0016 ~ 0.0047	0.0016 ~ 0.0031
											0.922 - 1.000	22.5 - 26.0	–	–	0.0016 ~ 0.0055	0.0024 ~ 0.0039
											1.062 - 1.250	26.5 - 32.0	–	–	0.0024 ~ 0.0055	0.0024 ~ 0.0039
											1.312 - 1.500	33.0 - 39.0	–	–	0.0024 ~ 0.0055	0.0024 ~ 0.0039
											1.562 - 2.000	40.0 - 60.0	–	–	0.0024 ~ 0.0063	0.0031 ~ 0.0047
Carbon Steel	★ 330-590	☆ 330-590	☆ 330-590	☆ 330-590	★ 490-920	☆ 490-920	☆ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0055	0.0016 ~ 0.0055	–	0.0016 ~ 0.0039
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0055	0.0016 ~ 0.0055	0.0016 ~ 0.0039	0.0016 ~ 0.0039
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0063	0.0024 ~ 0.0063	0.0024 ~ 0.0047	0.0024 ~ 0.0047
											0.750 - 1.000	19.0 - 26.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	0.0024 ~ 0.0055	0.0024 ~ 0.0055
											1.062 - 1.250	26.5 - 32.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	0.0024 ~ 0.0055	0.0024 ~ 0.0055
											1.312 - 1.500	33.0 - 39.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	0.0028 ~ 0.0063	0.0024 ~ 0.0055
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	0.0024 ~ 0.0071	0.0024 ~ 0.0055
Alloy Steel	★ 330-525	☆ 330-525	☆ 330-525	-	★ 460-720	☆ 460-720	☆ 460-720	-	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0047	0.0016 ~ 0.0047	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0055	0.0016 ~ 0.0055	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0063	0.0024 ~ 0.0063	–	–
											0.750 - 1.500	19.0 - 39.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	–	–
Tool Steel	☆ 260-490	★ 260-490	-	-	☆ 425-690	★ 425-690	-	-	-	-	0.500 - 0.578	12.0 - 15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											0.750 - 1.250	19.0 - 32.0	0.0031 ~ 0.0059	0.0031 ~ 0.0059	–	–
											1.312 - 1.500	33.0 - 39.0	0.0031 ~ 0.0059	0.0031 ~ 0.0059	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0059	0.0031 ~ 0.0059	–	–
Stainless Steel (Austenitic)	-	-	-	★ 230-460	-	-	-	★ 460-660	-	-	0.500 - 0.578	12.0 - 15.5	–	–	–	0.0016 ~ 0.0039
											0.625 - 0.688	16.0 - 18.5	–	–	–	0.0024 ~ 0.0047
											0.750 - 2.000	19.0 - 60.0	–	–	–	0.0024 ~ 0.0055
Gray Cast Iron	☆ 330-490	★ 330-490	-	-	-	-	-	-	☆ 490-720	★ 490-720	0.500	12.0 - 13.5	0.0031 ~ 0.0055	0.0031 ~ 0.0055	–	–
											0.562 - 0.578	14.0 - 15.5	0.0031 ~ 0.0055	0.0031 ~ 0.0055	–	–
											0.625 - 0.688	16.0 - 18.5	0.0031 ~ 0.0071	0.0031 ~ 0.0071	–	–
											0.750 - 1.500	19.0 - 39.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0079	0.0031 ~ 0.0079	–	–
Nodular Cast Iron	☆ 260-390	★ 260-390	-	-	-	-	-	-	☆ 390-590	★ 390-590	0.500 - 0.578	12.0 - 15.5	0.0031 ~ 0.0047	0.0031 ~ 0.0047	–	–
											0.625 - 0.688	16.0 - 18.5	0.0031 ~ 0.0063	0.0031 ~ 0.0063	–	–
											0.750 - 1.500	19.0 - 39.0	0.0031 ~ 0.0071	0.0031 ~ 0.0071	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0071	0.0031 ~ 0.0071	–	–

• Internal Coolant is Recommended

★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Existing Hole	Concave Surface	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	See recommended cutting conditions above	390 (PVD insert is recommended for outer edge)					Not Recommended
f (ipr)	See recommended cutting conditions above	50% of above recommendation				50% of above recommendation initially. See recommendations above once drill is fully engaged.	Not Available
Internal Coolant	Yes						Not Recommended

DRV 4D - Recommended Cutting Conditions (with Coolant)

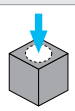
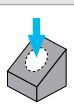
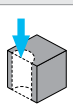
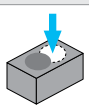
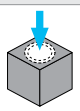
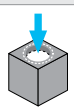
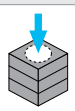
Drilling Depth: 4D

Workpiece Material	Recommended Insert Grade / Cutting Speed (sfm)										Inch Drill Dia. DC (in)	Metric Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)			
	PVD Coated Carbide				CVD Coated Carbide								4D			
	PR1225				CA520D				CA415D							
	GM	GH	XM	SM	GM	GH	XM	SM	GM	GH			GM	GH	XM	SM
Low Carbon Steel	-	-	★ 390-660	☆ 390-660	-	-	★ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	–	–	–	0.0016 ~ 0.0024
											0.562 - 0.578	14.0 - 15.5	–	–	0.0016 ~ 0.0031	0.0016 ~ 0.0028
											0.625 - 0.688	16.0 - 18.5	–	–	0.0016 ~ 0.0031	0.0016 ~ 0.0031
											0.750 - 0.875	19.0 - 22.0	–	–	0.0016 ~ 0.0039	0.0016 ~ 0.0031
											0.922 - 1.000	22.5 - 26.0	–	–	0.0016 ~ 0.0047	0.0020 ~ 0.0039
											1.062 - 1.250	26.5 - 32.0	–	–	0.0016 ~ 0.0047	0.0020 ~ 0.0039
											1.312 - 1.500	33.0 - 39.0	–	–	0.0024 ~ 0.0047	0.0020 ~ 0.0039
											1.562 - 2.000	40.0 - 60.0	–	–	0.0024 ~ 0.0063	0.0020 ~ 0.0039
Carbon Steel	★ 330-590	☆ 330-590	☆ 330-590	☆ 330-590	★ 490-920	☆ 490-920	☆ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0039	0.0016 ~ 0.0039	–	0.0016 ~ 0.0031
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0039	0.0016 ~ 0.0039	0.0016 ~ 0.0031	0.0016 ~ 0.0031
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0047	0.0020 ~ 0.0047	0.0016 ~ 0.0039	0.0020 ~ 0.0039
											0.750 - 1.000	19.0 - 26.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	0.0016 ~ 0.0047	0.0020 ~ 0.0047
											1.062 - 1.250	26.5 - 32.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	0.0016 ~ 0.0047	0.0020 ~ 0.0047
											1.312 - 1.500	33.0 - 39.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	0.0024 ~ 0.0055	0.0020 ~ 0.0047
											1.562 - 2.000	40.0 - 60.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	0.0024 ~ 0.0063	0.0020 ~ 0.0047
Alloy Steel	★ 330-525	☆ 330-525	☆ 330-525	-	★ 460-720	☆ 460-720	☆ 460-720	-	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0039	0.0016 ~ 0.0039	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0039	0.0016 ~ 0.0039	–	–
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0047	0.0020 ~ 0.0047	–	–
											0.750 - 1.500	19.0 - 39.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	–	–
											1.562 - 2.000	40.0 - 60.0	0.0028 ~ 0.0063	0.0028 ~ 0.0063	–	–
Tool Steel	☆ 260-490	★ 260-490	-	-	☆ 425-690	★ 425-690	-	-	-	-	0.500 - 0.578	12.0 - 15.5	0.0016 ~ 0.0028	0.0016 ~ 0.0028	–	–
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0039	0.0020 ~ 0.0039	–	–
											0.750 - 1.250	19.0 - 32.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											1.312 - 1.500	33.0 - 39.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
Stainless Steel (Austenitic)	-	-	-	★ 230-460	-	-	-	★ 460-660	-	-	0.500 - 0.578	12.0 - 15.5	–	–	–	0.0016 ~ 0.0031
											0.625 - 0.688	16.0 - 18.5	–	–	–	0.0020 ~ 0.0043
											0.750 - 2.000	19.0 - 60.0	–	–	–	0.0024 ~ 0.0047
Gray Cast Iron	☆ 330-490	★ 330-490	-	-	-	-	-	-	☆ 490-720	★ 490-720	0.500	12.0 - 13.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											0.562 - 0.578	14.0 - 15.5	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											0.625 - 0.688	16.0 - 18.5	0.0031 ~ 0.0063	0.0031 ~ 0.0063	–	–
											0.750 - 1.500	19.0 - 39.0	0.0031 ~ 0.0071	0.0031 ~ 0.0071	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0071	0.0031 ~ 0.0071	–	–
Nodular Cast Iron	☆ 260-390	★ 260-390	-	-	-	-	-	-	☆ 390-590	★ 390-590	0.500 - 0.578	12.0 - 15.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											0.625 - 0.688	16.0 - 18.5	0.0031 ~ 0.0055	0.0031 ~ 0.0055	–	–
											0.750 - 1.500	19.0 - 39.0	0.0031 ~ 0.0063	0.0031 ~ 0.0063	–	–
											1.562 - 2.000	40.0 - 60.0	0.0031 ~ 0.0063	0.0031 ~ 0.0063	–	–

• Internal Coolant is Recommended

★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Existing Hole	Concave Surface	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	See recommended cutting conditions above	390 (PVD insert is recommended for outer edge)					Not Recommended
f (ipr)	See recommended cutting conditions above	50% of above recommendation				50% of above recommendation initially. See recommendations above once drill is fully engaged.	Not Available
Internal Coolant	Yes						Not Recommended

DRV 5D - Recommended Cutting Conditions (with Coolant)

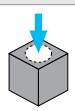
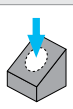
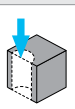
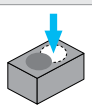
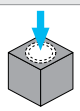
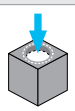
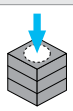
Drilling Depth: 5D

Workpiece Material	Recommended Insert Grade / Cutting Speed (sfm)										Inch Drill Dia. DC (in)	Metric Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)			
	PVD Coated Carbide				CVD Coated Carbide								5D			
	PR1225				CA520D				CA415D							
	GM	GH	XM	SM	GM	GH	XM	SM	GM	GH			GM	GH	XM	SM
Low Carbon Steel	-	-	★ 390-660	☆ 390-660	-	-	★ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	–	–	–	0.0012 ~ 0.0020
											0.562 - 0.578	14.0 - 15.5	–	–	0.0016 ~ 0.0028	0.0016 ~ 0.0024
											0.625 - 0.688	16.0 - 18.5	–	–	0.0016 ~ 0.0031	0.0016 ~ 0.0024
											0.750 - 0.875	19.0 - 22.0	–	–	0.0016 ~ 0.0039	0.0016 ~ 0.0028
											0.922 - 1.000	22.5 - 26.0	–	–	0.0016 ~ 0.0047	0.0016 ~ 0.0031
											1.062 - 1.250	26.5 - 32.0	–	–	0.0016 ~ 0.0047	0.0016 ~ 0.0031
											1.312 - 1.500	33.0 - 39.0	–	–	0.0020 ~ 0.0047	0.0016 ~ 0.0039
											1.562 - 2.000	40.0 - 60.0	–	–	0.0020 ~ 0.0055	0.0016 ~ 0.0039
Carbon Steel	★ 330-590	☆ 330-590	☆ 330-590	☆ 330-590	★ 490-920	☆ 490-920	☆ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	0.0016 ~ 0.0028
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	0.0016 ~ 0.0028	0.0016 ~ 0.0028
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0039	0.0020 ~ 0.0039	0.0020 ~ 0.0031	0.0020 ~ 0.0031
											0.750 - 1.000	19.0 - 26.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0020 ~ 0.0039	0.0020 ~ 0.0039
											1.062 - 1.250	26.5 - 32.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0020 ~ 0.0047	0.0020 ~ 0.0039
											1.312 - 1.500	33.0 - 39.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0020 ~ 0.0047	0.0020 ~ 0.0039
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0020 ~ 0.0039
Alloy Steel	★ 330-525	☆ 330-525	☆ 330-525	-	★ 460-720	☆ 460-720	☆ 460-720	-	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0039	0.0020 ~ 0.0039	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
Tool Steel	☆ 260-490	★ 260-490	-	-	☆ 425-690	★ 425-690	-	-	-	-	0.500	12.0 - 13.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	–	–
											0.625 - 0.688	16.0 - 18.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.750 - 1.500	19.0 - 39.0	0.0020 ~ 0.0039	0.0020 ~ 0.0039	–	–
											1.562 - 2.000	40.0 - 60.0	0.0020 ~ 0.0039	0.0020 ~ 0.0039	–	–
Stainless Steel (Austenitic)	-	-	-	★ 230-460	-	-	-	★ 460-660	-	-	0.500	12.0 - 13.5	–	–	–	0.0016 ~ 0.0031
											0.562 - 0.578	14.0 - 15.5	–	–	–	0.0016 ~ 0.0031
											0.625 - 0.688	16.0 - 18.5	–	–	–	0.0016 ~ 0.0039
											0.750 - 2.000	19.0 - 60.0	–	–	–	0.0024 ~ 0.0047
Gray Cast Iron	☆ 330-490	★ 330-490	-	-	-	-	-	-	☆ 490-720	★ 490-720	0.500 - 0.578	12.0 - 15.5	0.0016 ~ 0.0039	0.0016 ~ 0.0039	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0055	0.0024 ~ 0.0055	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0055	0.0024 ~ 0.0055	–	–
Nodular Cast Iron	☆ 260-390	★ 260-390	-	-	-	-	-	-	☆ 390-590	★ 390-590	0.500	12.0 - 13.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–

• Internal Coolant is Recommended

★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Existing Hole	Concave Surface	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	See recommended cutting conditions above	390 (PVD insert is recommended for outer edge)					Not Recommended
f (ipr)	See recommended cutting conditions above	50% of above recommendation				50% of above recommendation initially. See recommendations above once drill is fully engaged.	Not Available
Internal Coolant	Yes						Not Recommended

DRV 6D - Recommended Cutting Conditions (with Coolant)

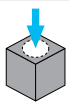
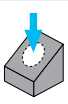
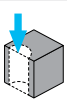
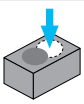
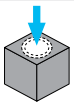
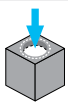
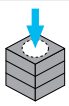
Drilling Depth: 6D

Workpiece Material	Recommended Insert Grade / Cutting Speed (sfm)										Inch Drill Dia. DC (in)	Metric Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)			
	PVD Coated Carbide				CVD Coated Carbide								6D			
	PR1225				CA520D				CA415D							
	GM	GH	XM	SM	GM	GH	XM	SM	GM	GH			GM	GH	XM	SM
Low Carbon Steel	-	-	★ 390-660	☆ 390-660	-	-	★ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	–	–	–	0.0012 ~ 0.0020
											0.562 - 0.578	14.0 - 15.5	–	–	0.0016 ~ 0.0024	0.0016 ~ 0.0024
											0.625 - 0.688	16.0 - 18.5	–	–	0.0016 ~ 0.0024	0.0016 ~ 0.0024
											0.750 - 0.875	19.0 - 22.0	–	–	0.0016 ~ 0.0028	0.0016 ~ 0.0028
											0.922 - 1.000	22.5 - 26.0	–	–	0.0016 ~ 0.0031	0.0016 ~ 0.0028
											1.062 - 1.250	26.5 - 32.0	–	–	0.0016 ~ 0.0031	0.0016 ~ 0.0028
											1.312 - 1.500	33.0 - 39.0	–	–	0.0016 ~ 0.0035	0.0016 ~ 0.0031
											1.562 - 2.000	40.0 - 60.0	–	–	0.0024 ~ 0.0047	0.0016 ~ 0.0031
Carbon Steel	★ 330-590	☆ 330-590	☆ 330-590	☆ 330-590	★ 490-920	☆ 490-920	☆ 490-920	☆ 490-920	-	-	0.500	12.0 - 13.5	0.0012 ~ 0.0020	0.0012 ~ 0.0020	–	0.0012 ~ 0.0020
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	0.0016 ~ 0.0024	0.0016 ~ 0.0024
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0031	0.0020 ~ 0.0031	0.0020 ~ 0.0028	0.0020 ~ 0.0028
											0.750 - 1.000	19.0 - 26.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0020 ~ 0.0031	0.0020 ~ 0.0031
											1.062 - 1.250	26.5 - 32.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0020 ~ 0.0031	0.0020 ~ 0.0031
											1.312 - 1.500	33.0 - 39.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0020 ~ 0.0031	0.0020 ~ 0.0031
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0020 ~ 0.0031
Alloy Steel	★ 330-525	☆ 330-525	☆ 330-525	-	★ 460-720	☆ 460-720	☆ 460-720	-	-	-	0.500	12.0 - 13.5	0.0012 ~ 0.0020	0.0012 ~ 0.0020	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	–	–
											0.625 - 0.688	16.0 - 18.5	0.0020 ~ 0.0031	0.0020 ~ 0.0031	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
Tool Steel	☆ 260-490	★ 260-490	-	-	☆ 425-690	★ 425-690	-	-	-	-	0.500	12.0 - 13.5	0.0012 ~ 0.0020	0.0012 ~ 0.0020	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0020	0.0016 ~ 0.0020	–	–
											0.625 - 0.688	16.0 - 18.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	–	–
											0.750 - 1.500	19.0 - 39.0	0.0020 ~ 0.0031	0.0020 ~ 0.0031	–	–
											1.562 - 2.000	40.0 - 60.0	0.0020 ~ 0.0031	0.0020 ~ 0.0031	–	–
Stainless Steel (Austenitic)	-	-	-	★ 230-460	-	-	-	★ 460-660	-	-	0.500	12.0 - 13.5	–	–	–	0.0012 ~ 0.0020
											0.562 - 0.578	14.0 - 15.5	–	–	–	0.0016 ~ 0.0024
											0.625 - 0.688	16.0 - 18.5	–	–	–	0.0016 ~ 0.0035
											0.750 - 2.000	19.0 - 60.0	–	–	–	0.0024 ~ 0.0039
Gray Cast Iron	☆ 330-490	★ 330-490	-	-	-	-	-	-	☆ 490-720	★ 490-720	0.500 - 0.578	12.0 - 15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0047	0.0024 ~ 0.0047	–	–
Nodular Cast Iron	☆ 260-390	★ 260-390	-	-	-	-	-	-	☆ 390-590	★ 390-590	0.500	12.0 - 13.5	0.0012 ~ 0.0020	0.0012 ~ 0.0020	–	–
											0.562 - 0.578	14.0 - 15.5	0.0016 ~ 0.0024	0.0016 ~ 0.0024	–	–
											0.625 - 0.688	16.0 - 18.5	0.0024 ~ 0.0031	0.0024 ~ 0.0031	–	–
											0.750 - 1.500	19.0 - 39.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–
											1.562 - 2.000	40.0 - 60.0	0.0024 ~ 0.0039	0.0024 ~ 0.0039	–	–

• Internal Coolant is Recommended

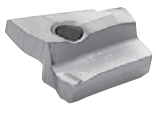
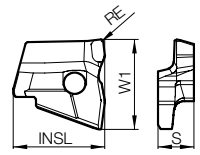
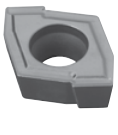
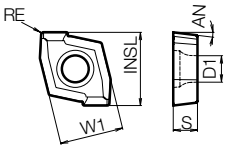
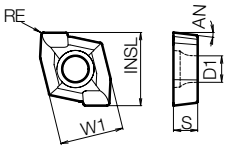
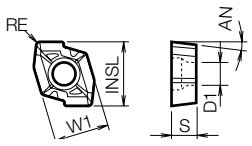
★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Existing Hole	Concave Surface	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	See recommended cutting conditions above	390 (PVD insert is recommended for outer edge)					Not Recommended
f (ipr)	See recommended cutting conditions above	50% of above recommendation				50% of above recommendation initially. See recommendations above once drill is fully engaged.	Not Available
Internal Coolant	Yes						Not Recommended

Applicable DRS & DRZ Inserts

Usage Classification						
★ : 1st Recommendation ☆ : 2nd Recommendation (Steel; Non Heat Treated)	P	Carbon Steel / Alloy Steel	★	☆		
		Tool Steel	★			
	M	Stainless Steel	☆	★		
	K	Cast Iron			★	
	N	Non-ferrous Metals				☆

Insert		Part Number		Dimensions (in)					Angle	MEGACOAT			Carbide
				INSL	S	D1	W1	RE	AN	PR1230	PR1225	PR1210	KW10
		DS	100	0.346	0.138		0.354			△		△	
			105	0.366	0.146		0.382	0.008		△		△	
			110	0.386	0.154	-	0.394		-	△		△	
			115	0.402	0.161		0.406			△		△	
			120	0.425	0.169		0.429	0.010		△		△	
		ZCMT	050203	0.232	0.094	0.091	0.197	0.012		●	●	●	●
			06T204	0.276	0.110	0.098	0.236	0.016		●	●	●	●
			080304	0.382	0.125	0.114	0.323			●	●	●	●
			10T304	0.472	0.156	0.173	0.409		7°	●	●	●	●
			12T306	0.563	0.156	0.220	0.504	0.024		●	●	●	●
			150408	0.701	0.187	0.220	0.622	0.031		●	●	●	●
			200608	0.898	0.250	0.256	0.799			●			●
 Low Cutting Force / Deep Drilling		ZCMT	050203SP	0.232	0.094	0.091	0.197	0.012		●	●		●
			06T204SP	0.276	0.110	0.098	0.236	0.016	7°	●	●		●
			080304SP	0.382	0.125	0.114	0.323			●	●		●
			10T304SP	0.472	0.156	0.173	0.409			●	●		●
			12T304SP	0.563	0.156	0.220	0.504			●	●		●
			150406SP	0.701	0.187	0.220	0.622	0.024		●	●		●
 For Stainless Steel		ZCMT	050203SU	0.232	0.094	0.091	0.197	0.012	7°	●	●		
			06T204SU	0.276	0.110	0.098	0.236	0.016		●	●		

Recommended Cutting Conditions ➔ K75

Chipbreaker Selection Guide (ZCMT)

★ : 1st Recommendation ☆ : 2nd Recommendation

Workpiece Material	Insert Size	ZCMT05									ZCMT06									ZCMT08					
	Chipbreaker	Standard			SP			SU			Standard			SP			SU			Standard			SP		
	Cutting Depth	2D	3D	4D	2D	3D	4D	2D	3D	4D	2D	3D	4D	2D	3D	4D	2D	3D	4D	2D	3D	4D	2D	3D	4D
Low Carbon Steel		☆	☆	-	★	★	★	-	-	-	☆	☆	-	★	★	★	☆	☆	☆	☆	☆	-	★	★	★
Carbon Steel		★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★
Alloy Steel		★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★
Tool Steel		★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★	-	-	-	★	★	☆	☆	☆	★
Stainless Steel		☆	☆	-	★	★	★	☆	☆	-	-	-	-	☆	☆	☆	★	★	★	☆	☆	-	★	★	★
Cast Iron		★	★	★	☆	☆	☆	-	-	-	★	★	★	☆	☆	☆	-	-	-	★	★	★	☆	☆	☆
Aluminum Alloy		☆	☆	☆	★	★	★	-	-	-	☆	☆	☆	★	★	★	-	-	-	☆	☆	☆	★	★	★
Brass		★	★	★	☆	☆	☆	-	-	-	★	★	★	☆	☆	☆	-	-	-	★	★	★	☆	☆	☆
Titanium Alloy		☆	☆	☆	★	★	★	-	-	-	☆	☆	☆	★	★	★	-	-	-	☆	☆	☆	★	★	★

Workpiece Material	Insert Size	ZCMT10								ZCMT12								ZCMT15								ZCMT20		
	Chipbreaker	Standard				SP				Standard				SP				Standard				SP				Standard		
	Cutting Depth	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D
Low Carbon Steel		☆	☆	-	-	★	★	★	★	☆	☆	-	-	★	★	★	★	☆	☆	-	-	★	★	★	★	★	★	★
Carbon Steel		★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	★
Alloy Steel		★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	★
Tool Steel		★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	★
Stainless Steel		☆	☆	-	-	★	★	★	★	☆	☆	-	-	★	★	★	★	☆	☆	-	-	★	★	★	★	★	★	★
Cast Iron		★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★
Aluminum Alloy		☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	★	★	★
Brass		★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★
Titanium Alloy		☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	☆	☆	☆	☆	★	★	★	★	★	★	★

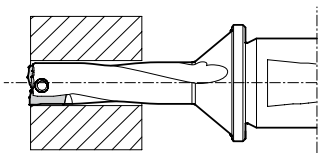
- Standard chipbreakers (without symbol) may function better with interrupted cutting.
- When machining aluminum, chips become long and difficult to discharge at depths over 2D.

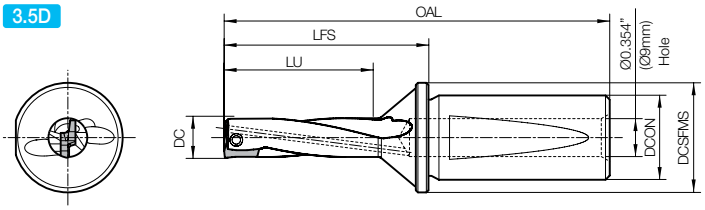
Inserts are sold in 10 piece boxes

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRS (Drilling Depth: 3.5 x DC)





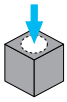
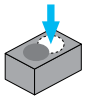
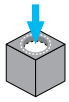
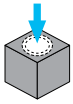
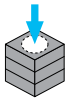
Toolholder Dimensions - 3.5D (Metric Size / Inch Shank Size)

Part Number		Stock	No. of Inserts	Unit	Dimensions DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench		Applicable Insert See Page K74
S75	-DRS11038	△	1	inch	0.433 (11.0mm)	3.759	2.066	1.516	0.75	1.023	+0.008	SB-2290TR	FT-6	-	DS110
	-DRS11540	△			0.453 (11.5mm)	3.828	2.135	1.594	0.75	1.023	+0.008				DS115
	-DRS12042	△			0.472 (12.0mm)	3.898	2.205	1.654	0.75	1.023	+0.016	SB-25100TR	-	DT-7	DS120
	-DRS12544	△			0.492 (12.5mm)	3.967	2.274	1.732	0.75	1.023	+0.008				
S20	-DRS10035	△	1	mm	10.0	92	49	35.0	20	26	+0.2	SB-2080TR	FT-6	-	DS100
	-DRS10336	△			10.3	92	49	36.0			+0.1				
	-DRS10537	△			10.5	93	50	37.0			+0.2				DS105
	-DRS11038	△			11.0	96	53	38.5			+0.2	SB-2290TR			DS110
	-DRS11540	△			11.5	97	54	40.5			+0.2				DS115
	-DRS12042	△			12.0	99	56	42.0			+0.4	SB-25100TR	-	DT-7	DS120
	-DRS12544	△			12.5	101	58	44.0			+0.2				

Adjustable Sleeve SHEM K105 Troubleshooting K103

Cutting Conditions by Application

(Workpiece Material: 1049)

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Concave Surface	Existing Hole	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	260	260	Not Recommended	Not Recommended	260	Not Recommended	Not Available
f (ipr)	0.0031	0.0016	Not Recommended	Not Recommended	Concave Surface: 0.0016 Once drill is fully engaged: 0.0031	Not Recommended	Not Available
Internal Coolant	Yes	Yes	-	-	Yes	-	-

DRS - Recommended Cutting Conditions (with Coolant)

Workpiece Material	Recommended Grade (sfm) MEGACOAT PR1230	PR1210	Feed Rate (ipr)
Low Carbon Steel	★ 270~330	-	0.0024
Carbon Steel	★ 270~330	-	0.003~0.004
Alloy Steel	★ 270	-	0.0016~0.0024
Mold Steel	★ 270	-	0.0016~0.0024
Stainless Steel (Austenitic)	★ 230~270	-	0.002~0.0024
Gray Cast Iron	-	★ 80~100	0.003~0.004

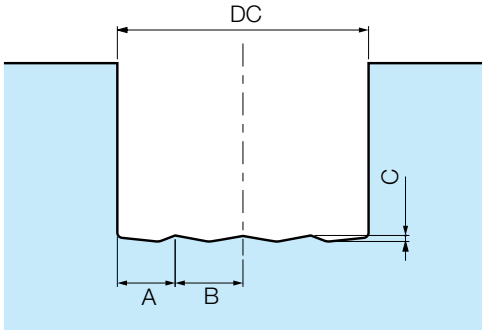
★ : 1st Recommendation ☆ : 2nd Recommendation

1. Apply a sufficient amount of coolant.
2. If cutting speed is decreased too much from above condition, chip evacuation will deteriorate.
   If the feed rate is increased too much from above condition,inner edge chip evacuation will deteriorate.
   If the feed rate is decreased too much from above condition, outer edge chip evacuation will deteriorate.
3. If chips become long and are entangled with the tool when low carbon steel cutting, increase the cutting speed to 400-500 SFM.
   If this doesn't solve the problem, try peck feeding.
   [How to peck feed]
   (1) Cut .04-.08 in (2) Return .004 in (3) Repeat (1) and (2)

DRS - Hole Bottom Shape

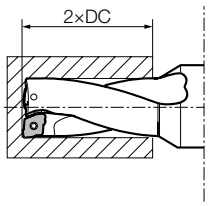
(inch)

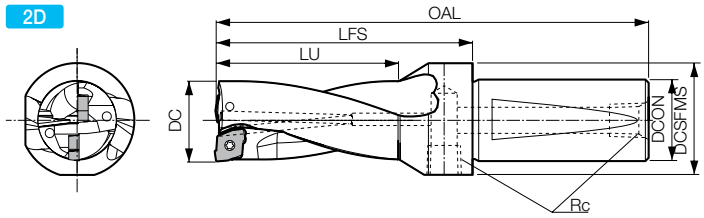
DC	A	B	C
0.394	0.087	0.110	0.008
0.402	0.087	0.114	0.008
0.406	0.091	0.114	0.008
0.413	0.091	0.118	0.008
0.433	0.094	0.122	0.008
0.453	0.098	0.126	0.008
0.472	0.110	0.126	0.012
0.492	0.114	0.130	0.016



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRZ (Drilling Depth: 2 x DC)





Toolholder Dimensions - 2D (Inch Diameter / Inch Shank)

Part Number	Stock	No. of Inserts	Dimensions (in) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (in)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S75 -DRZ5621125-05G	●	2	0.562	3.87	2.18	1.125	0.75	1.06	1/8 NPT	+0.020	SB-2045TR	FT-6	GP-1N	ZCMT050203 ZCMT050203SP ZCMT050203SU
S100 -DRZ6251250-06G	●		0.625	4.52	2.39	1.250				+0.043				
-DRZ6561312-06G	●		0.656	4.52	2.39	1.312				+0.034				
-DRZ6881375-06G	●	2	0.688	4.56	2.43	1.375		1.26	1/8 NPT	+0.027	SB-2260TR	DT-7	GP-1N	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
-DRZ7501500-06G	●		0.750	4.73	2.61	1.500				+0.020				
-DRZ8121625-06G	●		0.812	4.93	2.81	1.625				+0.014				
-DRZ8751750-08G	●		0.875	5.02	2.90	1.750		1.30		+0.055				
-DRZ9381875-08G	●	2	0.938	5.17	3.05	1.875	1.00	1.30	1/8 NPT	+0.043	SB-2570TR	DT-8	GP-1N	ZCMT080304 ZCMT080304SP
-DRZ10002000-08G	●		1.000	5.24	3.11	2.000		1.38		+0.028				
-DRZ10622125-10G	●		1.062	5.67	3.54	2.125		1.65		+0.098				
-DRZ11252250-10G	●	2	1.125	5.74	3.62	2.250		1.65	1/4 NPT	+0.073	SB-4085TR	DT-15	GP-2N	ZCMT10T304 ZCMT10T304SP
-DRZ11882375-10G	●		1.188	5.86	3.74	2.375		1.77		+0.067				
-DRZ12502500-10G	●		1.250	5.92	3.79	2.500		1.77		+0.047				
S125 -DRZ13122625-12G	●		1.312	6.82	4.10	2.625				+0.110				
-DRZ13752750-12G	●		1.375	6.98	4.27	2.750				+0.094				
-DRZ14382875-12G	●	2	1.438	7.07	4.35	2.875		2.17	1/4 NPT	+0.078	SB-5085TR	DT-20	GP-2N	ZCMT12T306 ZCMT12T304SP
-DRZ15003000-12G	●		1.500	7.19	4.47	3.000				+0.067				
-DRZ15623125-12G	●		1.562	7.29	4.57	3.125				+0.047				
-DRZ16253250-15G	●		1.625	7.34	4.62	3.250	1.25			+0.150				
-DRZ16883375-15G	●		1.688	7.49	4.78	3.375		2.17		+0.138				
-DRZ17503500-15G	●		1.750	7.57	4.85	3.500				+0.122				
-DRZ18123625-15G	●	2	1.812	7.78	5.06	3.625			1/4 NPT	+0.106	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
-DRZ18753750-15G	●		1.875	7.97	5.26	3.750		2.36		+0.087				
-DRZ19383875-15G	●		1.938	8.05	5.34	3.875				+0.070				
-DRZ20004000-15G	●		2.000	8.05	5.34	4.000				+0.055				

- When offset machining, reduce feed rate to 0.0031 ipr or less

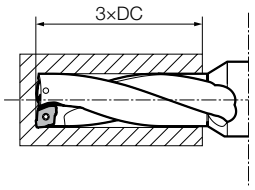
Hole Diameter Tolerance (2D)

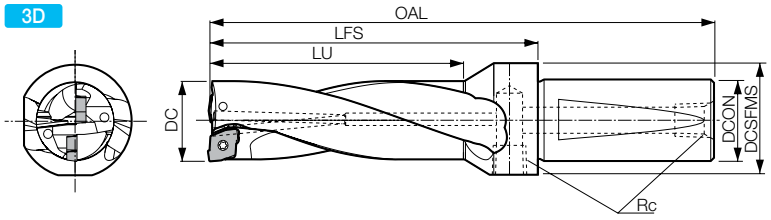
DC	Hole Diameter Tolerance (in)
Ø0.562" - Ø1.000"	+0.008 / -0.004
Ø1.062" - Ø1.562"	+0.010 / -0.006
Ø1.625 - Ø2.000"	+0.012 / -0.008

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

DRZ (Drilling Depth: 3 x DC)





Toolholder Dimensions - 3D (Inch Diameter / Inch Shank)

Part Number		Stock	No. of Inserts	Dimensions (in) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (in)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S75	-DRZ5621687-05G	●	2	0.562	4.42	2.72	1.687	0.75	1.06	1/8 NPT	+0.020	SB-2045TR	FT-6	GP-1N	ZCMT050203 ZCMT050203SP ZCMT050203SU
S100	-DRZ6251875-06G	●		0.625	5.15	3.02	1.875				+0.043				
	-DRZ6561969-06G	●		0.656	5.15	3.02	1.969				+0.034				
	-DRZ6882062-06G	●	2	0.688	5.23	3.10	2.062		1.26	1/8 NPT	+0.027	SB-2260TR	DT-7	GP-1N	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
	-DRZ7502250-06G	●		0.750	5.48	3.35	2.250				+0.020				
	-DRZ8122438-06G	●		0.812	5.76	3.64	2.438				+0.014				
	-DRZ8752625-08G	●		0.875	5.77	3.65	2.625		1.30		+0.055				
	-DRZ9382814-08G	●	2	0.938	5.89	3.76	2.814	1.00	1.30	1/8 NPT	+0.043	SB-2570TR	DT-8	GP-1N	ZCMT080304 ZCMT080304SP
	-DRZ10003000-08G	●		1.000	6.11	3.98	3.000		1.38		+0.028				
	-DRZ10623187-10G	●		1.062	6.81	4.49	3.187		1.65		+0.098				
	-DRZ11253375-10G	●	2	1.125	6.92	4.60	3.375		1.65	1/4 NPT	+0.073	SB-4085TR	DT-15	GP-2N	ZCMT10T304 ZCMT10T304SP
	-DRZ11883562-10G	●		1.188	7.12	4.80	3.562		1.77		+0.067				
	-DRZ12503750-10G	●		1.250	7.22	4.89	3.750		1.77		+0.047				
S125	-DRZ13123938-12G	●		1.312	8.00	5.28	3.938				+0.110				
	-DRZ13754125-12G	●		1.375	8.24	5.53	4.125				+0.094				
	-DRZ14384312-12G	●	2	1.438	8.37	5.65	4.312		2.17	1/4 NPT	+0.078	SB-5085TR	DT-20	GP-2N	ZCMT12T306 ZCMT12T304SP
	-DRZ15004500-12G	●		1.500	8.57	5.85	4.500				+0.067				
	-DRZ15624688-12G	●		1.562	8.69	5.97	4.688				+0.047				
	-DRZ16254875-15G	●		1.625	8.83	6.11	4.875	1.25			+0.150				
	-DRZ16885062-15G	●		1.688	8.93	6.21	5.062		2.17		+0.138				
	-DRZ17505250-15G	●		1.750	9.18	6.47	5.250				+0.122				
	-DRZ18125438-15G	●	2	1.812	9.47	6.75	5.438			1/4 NPT	+0.106	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
	-DRZ18755625-15G	●		1.875	9.65	6.93	5.625		2.36		+0.087				
	-DRZ19385812-15G	●		1.938	9.86	7.15	5.812				+0.070				
	-DRZ20006000-15G	●		2.000	9.88	7.17	6.000				+0.055				

- When offset machining, reduce feed rate to 0.0031 ipr or less

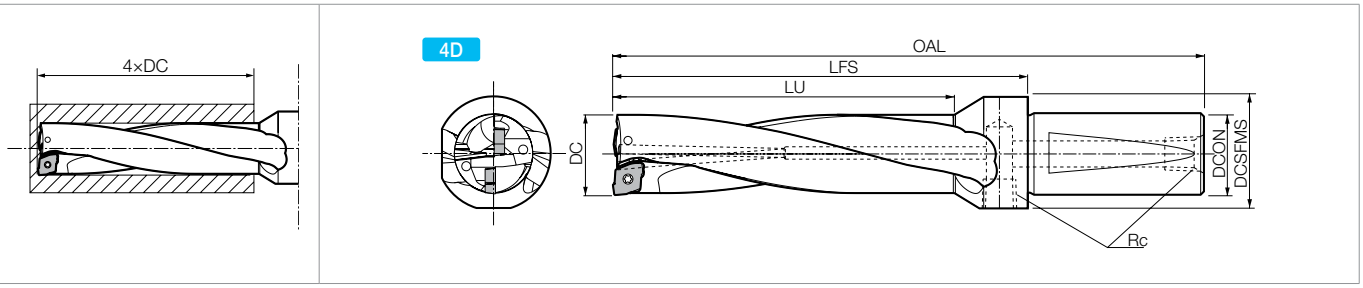
Hole Diameter Tolerance (3D)

DC	Hole Diameter Tolerance (in)
Ø0.562" - Ø1.000"	+0.008 / -0.004
Ø1.062" - Ø1.562"	+0.010 / -0.006
Ø1.625 - Ø2.000"	+0.012 / -0.008

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

DRZ (Drilling Depth: 4 x DC)



Toolholder Dimensions - 4D (Inch Diameter / Inch Shank)

Part Number	Stock	No. of Inserts	Dimensions (in) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (in)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S75 -DRZ5622250-05G	●	2	0.562	5.77	3.27	2.25	0.75	1.06	1/8 NPT	+0.020	SB-2045TR	FT-6	GP-1N	ZCMT050203 ZCMT050203SP ZCMT050203SU
S100 -DRZ6252500-06G	●	2	0.625	6.65	3.65	2.50	1.00	1.26	1/8 NPT	+0.043	SB-2260TR	DT-7	GP-1N	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
-DRZ6882750-06G	●		0.688	6.74	3.74	2.75				+0.027				
-DRZ7503000-06G	●		0.750	7.07	4.07	3.00				+0.020				
-DRZ8123250-06G	●		0.812	7.39	4.39	3.25				+0.014				
-DRZ8753500-08G	●	2	0.875	7.56	4.56	3.50	1.00	1.30	1/8 NPT	+0.055	SB-2570TR	DT-8	GP-1N	ZCMT080304 ZCMT080304SP
-DRZ9383750-08G	●		0.938	7.77	4.77	3.75		1.38		+0.043				
-DRZ10004000-08G	●		1.000	8.06	5.06	4.00		1.38		+0.028				
S125 -DRZ10624250-10G	●	2	1.062	8.55	5.55	4.25	1.25	1.65	1/4 NPT	+0.098	SB-4085TR	DT-15	GP-2N	ZCMT10T304 ZCMT10T304SP
-DRZ11254500-10G	●		1.125	8.84	5.84	4.50		1.65		+0.073				
-DRZ11884750-10G	●		1.188	8.98	5.98	4.75		1.77		+0.067				
-DRZ12505000-10G	●		1.250	9.30	6.30	5.00		1.77		+0.047				
S125 -DRZ13125250-12G	●	2	1.312	9.58	6.58	5.25	1.25	2.17	1/4 NPT	+0.110	SB-5085TR	DT-20	GP-2N	ZCMT12T306 ZCMT12T304SP
-DRZ13755500-12G	●		1.375	9.91	6.91	5.50				+0.094				
-DRZ14385750-12G	●		1.438	10.07	7.07	5.75				+0.078				
-DRZ15006000-12G	●		1.500	10.35	7.35	6.00				+0.067				
-DRZ15626250-12G	●		1.562	10.50	7.50	6.25				+0.047				
S125 -DRZ16256500-15G	●	2	1.625	10.73	7.73	6.50	1.25	2.17	1/4 NPT	+0.150	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
S150 -DRZ16886750-15G	●	2	1.688	11.37	7.87	6.75	1.50	2.17	1/4 NPT	+0.138	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
-DRZ17507000-15G	●		1.750	11.70	8.20	7.00		2.17		+0.122				
-DRZ18127250-15G	●		1.812	12.06	8.56	7.25		2.36		+0.106				
-DRZ18757500-15G	●		1.875	12.28	8.78	7.50		2.36		+0.087				
-DRZ19387750-15G	●		1.938	12.58	9.08	7.75		2.36		+0.070				
-DRZ20008000-15G	●		2.000	12.63	9.13	8.00		2.36		+0.055				

- When offset machining, reduce feed rate to 0.0024 ipr or less

Hole Diameter Tolerance (4D)

DC	Hole Diameter Tolerance (in)
Ø0.562" - Ø1.000"	+0.010 / -0.004
Ø1.062" - Ø1.562"	+0.012 / -0.006
Ø1.625 - Ø2.000"	+0.014 / -0.008

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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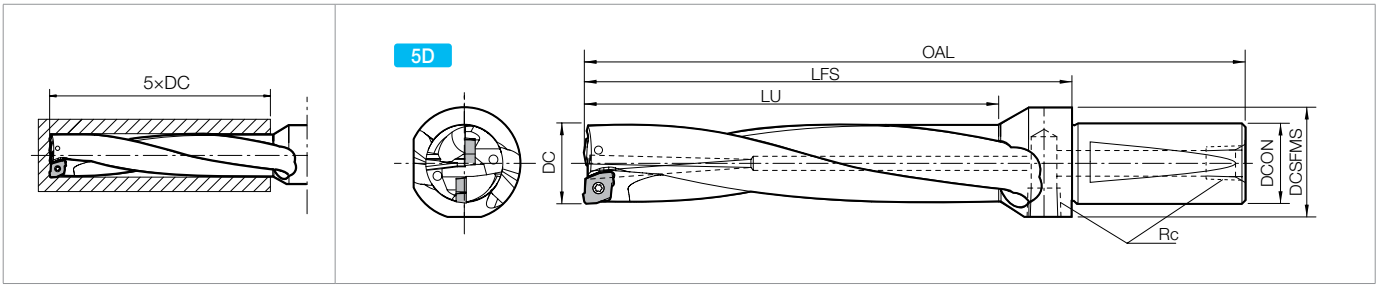
DRZ (Drilling Depth: 5 x DC)



Toolholder Dimensions - 5D (Inch Diameter / Inch Shank)

Part Number		Stock	No. of Inserts	Dimensions (in)							Max. Radial Offset (in)	Spare Parts			Applicable Insert See Page K74
				DC	OAL	LFS	LU	DCON	DCSFMS	Rc		Insert Screw	Wrench	Plug	
S125	-DRZ10625310-10G	●	2	1.062	9.61	6.61	5.31	1.25	1.65	1/4 NPT	+0.098	SB-4085TR	DT-15	GP-2N	ZCMT10T304 ZCMT10T304SP
	-DRZ11255625-10G	●		1.125	9.97	6.97	5.63				+0.073				
	-DRZ11885940-10G	●		1.188	10.17	7.17	5.94		1.77		+0.067				
	-DRZ12506250-10G	●		1.250	10.55	7.55	6.25				+0.047				
	-DRZ13126560-12G	●		1.312	10.89	7.89	6.56	1.25	2.17	1/4 NPT	+0.110	SB-5085TR	DT-20	GP-2N	ZCMT12T306 ZCMT12T304SP
	-DRZ13756875-12G	●		1.375	11.28	8.28	6.88				+0.094				
	-DRZ14387190-12G	●		1.438	11.51	8.51	7.19				+0.078				
	-DRZ15007500-12G	●		1.500	11.85	8.85	7.50				+0.067				
	-DRZ15627810-12G	●		1.562	12.07	9.07	7.81				+0.047				
	-DRZ16258125-15G	●		1.625	12.35	9.35	8.13	1.25	2.17	1/4 NPT	+0.150	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
S150	-DRZ16888440-15G	●	2	1.688	13.05	9.55	8.44	1.50	2.17	1/4 NPT	+0.138	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
	-DRZ17508750-15G	●		1.750	13.45	9.95	8.75				+0.122				
	-DRZ18129060-15G	●		1.812	13.87	10.37	9.06		2.36		+0.106				
	-DRZ18759375-15G	●		1.875	14.15	10.65	9.38				+0.087				
	-DRZ19389690-15G	●		1.938	14.51	11.01	9.69				+0.070				
	-DRZ200010000-15G	●		2.000	14.63	11.13	10.00				+0.055				

- When offset machining, reduce feed rate to 0.0020 ipr or less

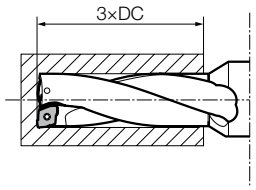
Hole Diameter Tolerance (5D)

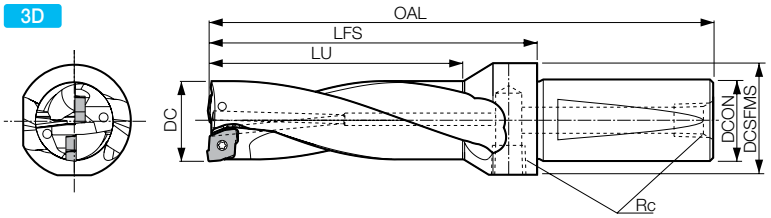
DC	Hole Diameter Tolerance (in)
Ø1.062" - Ø1.562"	+0.014 / -0.006
Ø1.625 - Ø2.000"	+0.016 / -0.008

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

DRZ (Drilling Depth: 3xDC)





Toolholder Dimensions - 3D (Metric Diameter / Inch Shank)

Part Number		Stock	No. of Inserts	Dimensions (in)								Max. Radial Offset (in)	Spare Parts			Applicable Insert See Page K74
				DC		OAL	LFS	LU	DCON	DCSFMS	Rc		Insert Screw	Wrench	Plug	
				inch	mm									FT / DT		
S75	-DRZ1339-05G	●	2	0.512	13.0	4.27	2.58	1.54	0.75	1.06	1/8 NPT	+0.020	SB-2045TR	FT-6	GP-1N	ZCMT050203 ZCMT050203SP ZCMT050203SU
	-DRZ135405-05G	●		0.531	13.5	4.27	2.58	1.59				+0.020				
	-DRZ1442-05G	●		0.551	14.0	4.42	2.72	1.65				+0.020				
	-DRZ145435-05G	●		0.571	14.5	4.42	2.72	1.71				+0.020				
	-DRZ1545-05G	●		0.591	15.0	4.52	2.83	1.77				+0.020				
	-DRZ155465-05G	●		0.610	15.5	4.52	2.83	1.83				+0.020				
S100	-DRZ1648-06G	●	2	0.630	16.0	5.15	3.02	1.89	1.00	1.26	1/8 NPT	+0.043	SB-2260TR	DT-7	GP-1N	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
	-DRZ165495-06G	●		0.650	16.5	5.15	3.02	1.95				+0.035				
	-DRZ1751-06G	●		0.669	17.0	5.23	3.10	2.01				+0.031				
	-DRZ1854-06G	●		0.709	18.0	5.36	3.23	2.13				+0.024				
	-DRZ185555-06G	●		0.728	18.5	5.36	3.23	2.19				+0.024				
	-DRZ1957-06G	●		0.748	19.0	5.48	3.35	2.24				+0.020				
	-DRZ195585-06G	●		0.768	19.5	5.48	3.35	2.30				+0.020				
	-DRZ2060-06G	●		0.787	20.0	5.61	3.49	2.36				+0.020				
	-DRZ2163-06G	●		0.827	21.0	5.76	3.64	2.48				+0.008				
	-DRZ215645-08G	●	2	0.846	21.5	5.77	3.65	2.54	1.00	1.30	1/8 NPT	+0.071	SB-2570TR	DT-8	GP-1N	ZCMT080304 ZCMT080304SP
	-DRZ2266-08G	●		0.866	22.0	5.77	3.65	2.60				+0.063				
	-DRZ225675-08G	●		0.886	22.5	5.77	3.65	2.66				+0.055				
	-DRZ2369-08G	●		0.906	23.0	5.89	3.76	2.72				+0.051				
	-DRZ2472-08G	●		0.945	24.0	6.00	3.87	2.84		1.38		+0.043				
	-DRZ2575-08G	●		0.984	25.0	6.11	3.98	2.95				+0.031				
	-DRZ2678-08G	●		1.024	26.0	6.23	4.10	3.07				+0.024				

- When offset machining, reduce feed rate to 0.0031 ipr or less

Hole Diameter Tolerance (3D)

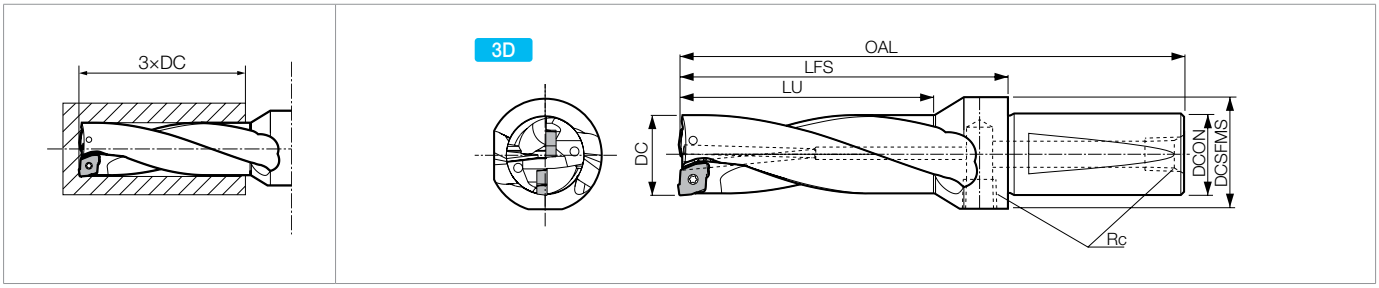
DC	Hole Diameter Tolerance (in)
Ø13mm - Ø26.0mm (Ø0.512" - Ø1.024")	+0.008 / -0.004

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

DRZ (Drilling Depth: 3xDC)

Continued...



Toolholder Dimensions - 3D (Metric Diameter / Inch Shank)

Part Number		Stock	No. of Inserts	Dimensions (in)								Max. Radial Offset (in)	Spare Parts			Applicable Insert See Page K74
				DC		OAL	LFS	LU	DCON	DCSFMS	Rc		Insert Screw	Wrench	Plug	
				inch	mm											
S100	-DRZ2781-10G	●	2	1.063	27.0	6.81	4.49	3.19	1.00	1.65	1/4 NPT	+0.098	SB-4085TR	DT-15	GP-1N	ZCMT10T304 ZCMT10T304SP
	-DRZ2884-10G	●		1.102	28.0	6.92	4.60	3.31				+0.087				
	-DRZ2987-10G	●		1.142	29.0	7.04	4.72	3.43				+0.079				
	-DRZ3090-10G	●		1.181	30.0	7.12	4.80	3.54		1.77		+0.067				
	-DRZ3193-10G	●		1.220	31.0	7.22	4.89	3.66				+0.059				
	-DRZ3296-10G	●		1.260	32.0	7.36	5.04	3.78				+0.047				
S125	-DRZ3399-12G	●	2	1.299	33.0	8.00	5.28	3.90	1.25	2.17	1/4 NPT	+0.114	SB-5085TR	DT-20	GP-2N	ZCMT12T306 ZCMT12T304SP
	-DRZ34102-12G	●		1.338	34.0	8.15	5.44	4.02				+0.106				
	-DRZ36108-12G	●		1.418	36.0	8.37	5.65	4.25				+0.087				
	-DRZ37111-12G	●		1.457	37.0	8.46	5.74	4.37				+0.075				
	-DRZ38114-12G	●		1.496	38.0	8.57	5.85	4.49				+0.067				
	-DRZ39117-12G	●		1.535	39.0	8.69	5.97	4.61				+0.055				
	-DRZ40120-12G	●		1.575	40.0	8.74	6.03	4.72				+0.047				
	-DRZ41123-15G	●	2	1.614	41.0	8.83	6.11	4.84	1.25	2.17	1/4 NPT	+0.157	SB-5085TR	DT-20	GP-2N	ZCMT150408 ZCMT150406SP
	-DRZ42126-15G	●		1.654	42.0	8.93	6.21	4.96				+0.146				
	-DRZ43129-15G	●		1.693	43.0	9.07	6.35	5.08				+0.138				
	-DRZ44132-15G	●		1.732	44.0	9.18	6.47	5.20				+0.126				
	-DRZ46138-15G	●		1.811	46.0	9.47	6.75	5.43		2.36		+0.106				
	-DRZ48144-15G	●		1.890	48.0	9.74	7.03	5.67				+0.087				

- When offset machining, reduce feed rate to 0.0031 ipr or less

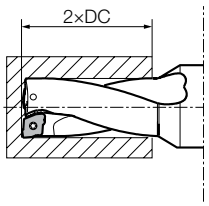
Hole Diameter Tolerance (3D)

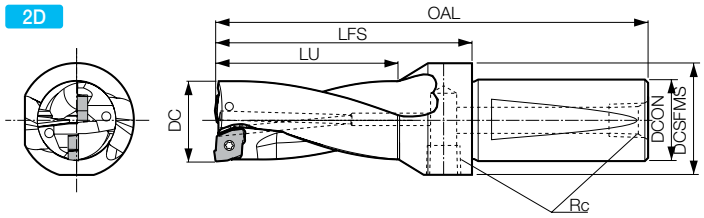
DC	Hole Diameter Tolerance (in)
Ø27mm - Ø40mm (Ø0.1.063" - Ø1.575")	+0.010 / -0.006
Ø41mm - Ø50mm (Ø1.614" - Ø1.968")	+0.012 / -0.008

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve ASL K104
Troubleshooting K103

DRZ (Drilling Depth: 2 x DC)





Toolholder Dimensions - 2D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S20	-DRZ1326-05	●	2	13	95	52	26	20	27	Rc1/8	+0.5	SB-2045TR	FT-6	GP-1	ZCMT050203 ZCMT050203SP ZCMT050203SU
	-DRZ135270-05	●		13.5	95	52	27				+0.5				
	-DRZ1428-05	●		14	98	55	28				+0.5				
	-DRZ145290-05	●		14.5	98	55	29				+0.5				
	-DRZ1530-05	●		15	100	57	30				+0.5				
	-DRZ155310-05	●		15.5	100	57	31				+0.5				
S25	-DRZ1632-06	●	2	16	115	61	32	25	32	Rc1/8	+1.1	SB-2260TR	DT-7	GP-1	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
	-DRZ165330-06	●		16.5	115	61	33				+0.9				
	-DRZ1734-06	●		17	116	62	34				+0.8				
	-DRZ175350-06	●		17.5	116	62	35				+0.7				
	-DRZ1836-06	●		18	118	64	36				+0.6				
	-DRZ185370-06	●		18.5	118	64	37				+0.6				
	-DRZ1938-06	●		19	120	66	38				+0.5				
	-DRZ195390-06	●		19.5	120	66	39				+0.5				
	-DRZ2040-06	●		20	123	69	40				+0.5				
	-DRZ205410-06	●		20.5	125	71	41				+0.3				
	-DRZ2142-06	●		21	125	71	42				+0.2				
	-DRZ215430-08	●	2	21.5	128	74	43	25	33	Rc1/8	+1.8	SB-2570TR	DT-8	GP-1	ZCMT080304 ZCMT080304SP
	-DRZ2244-08	●		22	128	74	44				+1.6				
	-DRZ225450-08	●		22.5	128	74	45				+1.4				
	-DRZ2346-08	●		23	130	76	46				+1.3				
	-DRZ235470-08	●		23.5	130	76	47				+1.2				
	-DRZ2448-08	●		24	131	77	48		35		+1.1				
	-DRZ245490-08	●		24.5	131	77	49				+0.9				
	-DRZ2550-08	●		25	133	79	50				+0.8				
	-DRZ255510-08	●		25.5	133	79	51				+0.7				
	-DRZ2652-08	●		26	135	81	52				+0.6				
	-DRZ265530-08	●		26.5	135	81	53				+0.5				
S32	-DRZ2754-10	●	2	27	149	90	54	32	42	Rc1/4	+2.5	SB-4085TR	DT-15	GP-2	ZCMT10T304 ZCMT10T304SP
	-DRZ275550-10	●		27.5	149	90	55				+2.3				
	-DRZ2856-10	●		28	151	92	56				+2.2				
	-DRZ285570-10	●		28.5	151	92	57				+2.1				
	-DRZ2958-10	●		29	153	94	58				+2.0				
	-DRZ295590-10	●		29.5	153	94	59				+1.8				
	-DRZ3060-10	●		30	154	95	60		45		+1.7				
	-DRZ305610-10	●		30.5	154	95	61				+1.5				
	-DRZ3162-10	●		31	155	96	62				+1.5				
	-DRZ315630-10	●		31.5	155	96	63				+1.3				
	-DRZ3264-10	●		32	158	99	64				+1.2				
	-DRZ325650-10	●		32.5	158	99	65				+1.0				

- When offset machining, reduce feed rate to 0.0031 ipr or less

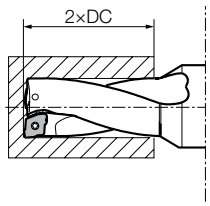
Hole Diameter Tolerance (2D)

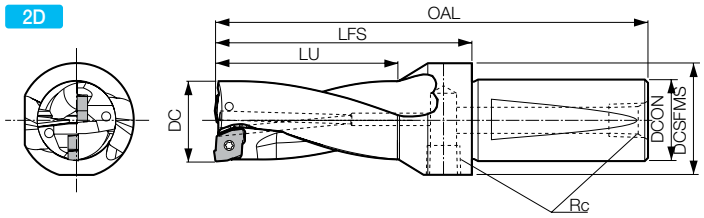
DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.20 / -0.10
Ø27mm - Ø40mm	+0.25 / -0.15
Ø41mm - Ø59mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions **K90**
Adjustable Sleeve SHE **K104**
Troubleshooting **K103**

DRZ (Drilling Depth: 2 x DC) Continued...





Toolholder Dimensions - 2D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm)							Max. Radial Offset (mm)	Spare Parts			Applicable Insert See Page K74
				DC	OAL	LFS	LU	DCON	DCSFMS	Rc		Insert Screw	Wrench	Plug	
S40	-DRZ3366-12	●	2	33	173	104	66	40	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	ZCMT12T306 ZCMT12T304SP
	-DRZ3468-12	●		34	176	107	68				+2.7				
	-DRZ3570-12	●		35	177	108	70				+2.4				
	-DRZ3672-12	●		36	180	111	72				+2.2				
	-DRZ3774-12	●		37	181	112	74				+1.9				
	-DRZ3876-12	●		38	183	114	76				+1.7				
	-DRZ3978-12	●		39	185	116	78				+1.4				
	-DRZ4080-12	●		40	185	116	80				+1.2				
	-DRZ4182-15	●	2	41	186	117	82	40	55	Rc1/4	+4.0	SB-5085TR	DT-20	GP-2	ZCMT150408 ZCMT150406SP
	-DRZ4284-15	●		42	188	119	84				+3.7				
	-DRZ4386-15	●		43	190	121	86				+3.5				
	-DRZ4488-15	●		44	192	123	88				+3.2				
	-DRZ4590-15	●		45	192	123	90				+3.0				
	-DRZ4692-15	●		46	198	129	92		60		+2.7				
	-DRZ4794-15	●		47	201	132	94				+2.5				
	-DRZ4896-15	●		48	203	134	96				+2.2				
	-DRZ4998-15	●		49	204	135	98				+2.0				
	-DRZ50100-15	●		50	204	135	100				+1.7				
	-DRZ51102-15	●		51	205	136	102				+1.2				
	-DRZ52104-15	●		52	205	136	104				+1.0				
	-DRZ53106-15	●		53	208	139	106				+0.7				
	-DRZ54108-20	●	2	54	214	145	108	40	65	Rc1/4	+5.0	SB-60120TR	DT-25	GP-2	ZCMT200608
	-DRZ55110-20	●		55	215	146	110				+4.7				
	-DRZ56112-20	●		56	217	148	112				+4.4				
	-DRZ57114-20	●		57	219	150	114				+4.1				
	-DRZ58116-20	●		58	221	152	116				+3.8				
	-DRZ59118-20	●		59	223	154	118				+3.5				

- When offset machining, reduce feed rate to 0.0031 ipr or less

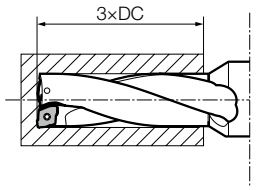
Hole Diameter Tolerance (2D)

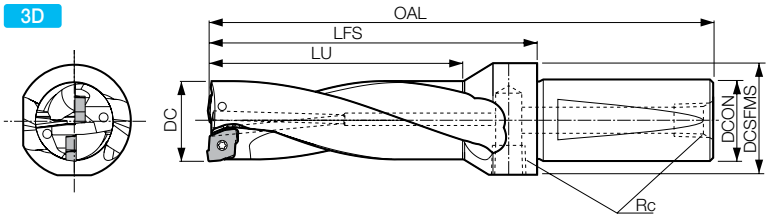
DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.20 / -0.10
Ø27mm - Ø40mm	+0.25 / -0.15
Ø41mm - Ø59mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve SHE K104
Troubleshooting K103

DRZ (Drilling Depth: 3 x DC)





Toolholder Dimensions - 3D (Metric Diameter / Metric Shank)

	Part Number	Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S20	-DRZ1339-05	●	2	13	108	65	39	20	27	Rc1/8	+0.5	SB-2045TR	FT-6	GP-1	ZCMT050203 ZCMT050203SP ZCMT050203SU
	-DRZ135405-05	●		13.5	108	65	40.5				+0.5				
	-DRZ1442-05	●		14	112	69	42				+0.5				
	-DRZ145435-05	●		14.5	112	69	43.5				+0.5				
	-DRZ1545-05	●		15	115	72	45				+0.5				
	-DRZ155465-05	●		15.5	115	72	46.5				+0.5				
S25	-DRZ1648-06	●	2	16	131	77	48	25	32	Rc1/8	+1.1	SB-2260TR	DT-7	GP-1	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
	-DRZ165495-06	●		16.5	131	77	49.5				+0.9				
	-DRZ1751-06	●		17	133	79	51				+0.8				
	-DRZ175525-06	●		17.5	133	79	52.5				+0.7				
	-DRZ1854-06	●		18	136	82	54				+0.6				
	-DRZ185555-06	●		18.5	136	82	55.5				+0.6				
	-DRZ1957-06	●		19	139	85	57				+0.5				
	-DRZ195585-06	●		19.5	139	85	58.5				+0.5				
	-DRZ2060-06	●		20	143	89	60				+0.5				
	-DRZ205615-06	●		20.5	146	92	61.5				+0.3				
	-DRZ2163-06	●		21	146	92	63				+0.2				
	-DRZ215645-08	●	2	21.5	147	93	64.5	25	33	Rc1/8	+1.8	SB-2570TR	DT-8	GP-1	ZCMT080304 ZCMT080304SP
	-DRZ2266-08	●		22	147	93	66				+1.6				
	-DRZ225675-08	●		22.5	147	93	67.5				+1.4				
	-DRZ2369-08	●		23	150	96	69				+1.3				
	-DRZ235705-08	●		23.5	150	96	70.5				+1.2				
	-DRZ2472-08	●		24	152	98	72		35		+1.1				
	-DRZ245735-08	●		24.5	152	98	73.5				+0.9				
	-DRZ2575-08	●		25	155	101	75				+0.8				
	-DRZ255765-08	●		25.5	155	101	76.5				+0.7				
	-DRZ2678-08	●		26	158	104	78				+0.6				
	-DRZ265795-08	●		26.5	158	104	79.5				+0.5				

- When offset machining, reduce feed rate to 0.0031 ipr or less

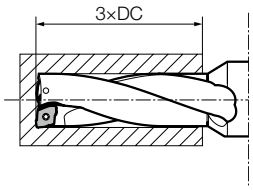
Hole Diameter Tolerance (3D)

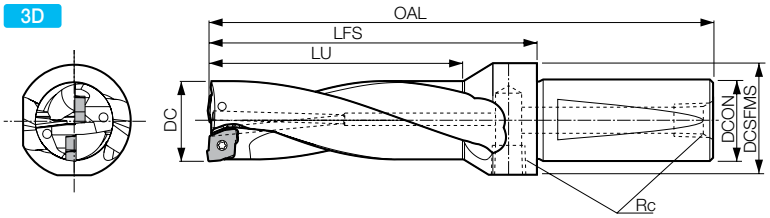
DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.20 / -0.10
Ø27mm - Ø40mm	+0.25 / -0.15
Ø41mm - Ø59mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve SHE K104
Troubleshooting K103

DRZ (Drilling Depth: 3 x DC) Continued...





Toolholder Dimensions - 3D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S32	-DRZ2781-10	●	2	27	173	114	81	32	42	Rc1/4	+2.5	SB-4085TR	DT-15	GP-2	ZCMT10T304 ZCMT10T304SP
	-DRZ275825-10	●		27.5	173	114	82.5				+2.3				
	-DRZ2884-10	●		28	176	117	84				+2.2				
	-DRZ285855-10	●		28.5	176	117	85.5				+2.1				
	-DRZ2987-10	●		29	179	120	87				+2.0				
	-DRZ295885-10	●		29.5	179	120	88.5				+1.8				
	-DRZ3090-10	●		30	181	122	90		45		+1.7				
	-DRZ305915-10	●		30.5	181	122	91.5				+1.5				
	-DRZ3193-10	●		31	183	124	93				+1.5				
	-DRZ315945-10	●		31.5	183	124	94.5				+1.3				
	-DRZ3296-10	●		32	187	128	96				+1.2				
	-DRZ325975-10	●		32.5	187	128	97.5				+1.0				
	-DRZ3399-12	●	2	33	193	134	99	32	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	ZCMT12T306 ZCMT12T304SP
	-DRZ34102-12	●		34	197	138	102				+2.7				
	-DRZ35105-12	●		35	199	140	105				+2.4				
	-DRZ36108-12	●		36	203	144	108				+2.2				
	-DRZ37111-12	●		37	205	146	111				+1.9				
	-DRZ38114-12	●		38	208	149	114				+1.7				
	-DRZ39117-12	●		39	211	152	117				+1.4				
	-DRZ40120-12	●		40	212	153	120				+1.2				
S40	-DRZ3399-12	●	2	33	203	134	99	40	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	
	-DRZ34102-12	●		34	207	138	102				+2.7				
	-DRZ35105-12	●		35	209	140	105				+2.4				
	-DRZ36108-12	●		36	213	144	108				+2.2				
	-DRZ37111-12	●		37	215	146	111				+1.9				
	-DRZ38114-12	●		38	218	149	114				+1.7				
	-DRZ39117-12	●		39	221	152	117				+1.4				
	-DRZ40120-12	●		40	222	153	120				+1.2				
	-DRZ41123-15	●	2	41	224	155	123	40	55	Rc1/4	+4.0	SB-5085TR	DT-20	GP-2	ZCMT150408 ZCMT150406SP
	-DRZ42126-15	●		42	227	158	126				+3.7				
	-DRZ43129-15	●		43	230	161	129				+3.5				
	-DRZ44132-15	●		44	233	164	132				+3.2				
	-DRZ45135-15	●		45	234	165	135				+3.0				
	-DRZ46138-15	●		46	241	172	138		60		+2.7				
	-DRZ47141-15	●		47	245	176	141				+2.5				
	-DRZ48144-15	●		48	248	179	144				+2.2				
	-DRZ49147-15	●		49	250	181	147				+2.0				
	-DRZ50150-15	●		50	251	182	150				+1.7				
	-DRZ51153-15	●		51	254	185	153				+1.2				
	-DRZ52156-15	●		52	257	188	156				+1.0				
	-DRZ53159-15	●		53	260	191	159				+0.7				
	-DRZ54162-20	●	2	54	266	197	162	40	65	Rc1/4	+5.0	SB-60120TR	DT-25	GP-2	ZCMT200608
	-DRZ55165-20	●		55	269	200	165				+4.7				
	-DRZ56168-20	●		56	272	203	168				+4.4				
	-DRZ57171-20	●		57	275	206	171				+4.1				
	-DRZ58174-20	●		58	278	209	174				+3.8				
	-DRZ59177-20	●		59	281	212	177				+3.5				

- When offset machining, reduce feed rate to 0.0031 ipr or less

Hole Diameter Tolerance (3D)

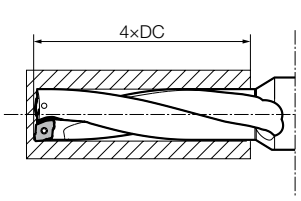
DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.20 / -0.10
Ø27mm - Ø40mm	+0.25 / -0.15
Ø41mm - Ø59mm	+0.30 / -0.20

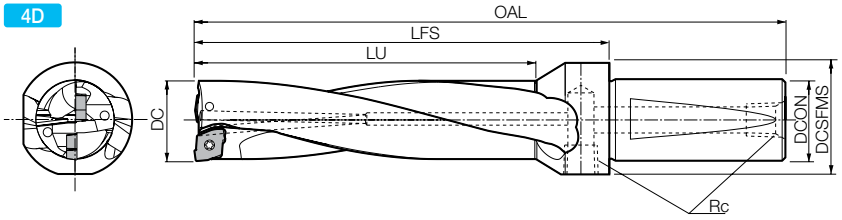
The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve SHE K104
Troubleshooting K103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

DRZ (Drilling Depth: 4 x DC)





Toolholder Dimensions - 4D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S20	-DRZ1352-05	●	2	13	121	78	52	20	27	Rc1/8	+0.5	SB-2045TR	FT-6	GP-1	ZCMT050203 ZCMT050203SP ZCMT050203SU
	-DRZ135540-05	●		13.5	121	78	54				+0.5				
	-DRZ1456-05	●		14	126	83	56				+0.5				
	-DRZ145580-05	●		14.5	126	83	58				+0.5				
	-DRZ1560-05	●		15	130	87	60				+0.5				
	-DRZ155620-05	●		15.5	130	87	62				+0.5				
S25	-DRZ1664-06	●	2	16	147	93	64	25	32	Rc1/8	+1.1	SB-2260TR	DT-7	GP-1	ZCMT06T204 ZCMT06T204SP ZCMT06T204SU
	-DRZ165660-06	●		16.5	147	93	66				+0.9				
	-DRZ1768-06	●		17	149	95	68				+0.8				
	-DRZ175700-06	●		17.5	149	95	70				+0.7				
	-DRZ1872-06	●		18	153	99	72				+0.6				
	-DRZ185740-06	●		18.5	153	99	74				+0.6				
	-DRZ1976-06	●		19	157	103	76				+0.5				
	-DRZ195780-06	●		19.5	157	103	78				+0.5				
	-DRZ2080-06	●		20	156	102	80				+0.5				
	-DRZ205820-06	●		20.5	161	107	82				+0.3				
	-DRZ2184-06	●		21	161	107	84				+0.2				
	-DRZ215860-08	●	2	21.5	169	115	86	25	33	Rc1/8	+1.8	SB-2570TR	DT-8	GP-1	ZCMT080304 ZCMT080304SP
	-DRZ2288-08	●		22	169	115	88				+1.6				
	-DRZ225900-08	●		22.5	169	115	90				+1.4				
	-DRZ2392-08	●		23	173	119	92				+1.3				
	-DRZ235940-08	●		23.5	173	119	94				+1.2				
	-DRZ2496-08	●		24	176	122	96		35		+1.1				
	-DRZ245980-08	●		24.5	176	122	98				+0.9				
	-DRZ25100-08	●		25	180	126	100				+0.8				
	-DRZ2551020-08	●		25.5	180	126	102				+0.7				
	-DRZ26104-08	●		26	184	130	104				+0.6				
	-DRZ2651060-08	●		26.5	184	130	106				+0.5				

- When offset machining, reduce feed rate to 0.0024 ipr or less

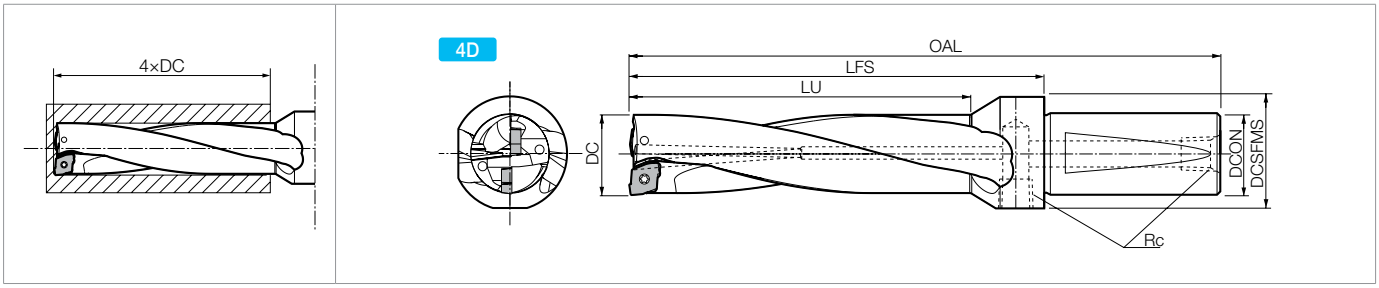
● Hole Diameter Tolerance (4D)

DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.25 / -0.10
Ø27mm - Ø40mm	+0.30 / -0.15
Ø41mm - Ø50mm	+0.35 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions ➔ **K90**
Adjustable Sleeve SHE ➔ **K104**
Troubleshooting ➔ **K103**

DRZ (Drilling Depth: 4 x DC) Continued...



Toolholder Dimensions - 4D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm)							Max. Radial Offset (mm)	Spare Parts			Applicable Insert See Page K74
				DC	OAL	LFS	LU	DCON	DCSFMS	Rc		Insert Screw	Wrench	Plug	
S32	-DRZ27108-10	●	2	27	200	141	108	32	42	Rc1/4	+2.5	SB-4085TR	DT-15	GP-2	ZCMT10T304 ZCMT10T304SP
	-DRZ2751100-10	●		27.5	200	141	110				+2.3				
	-DRZ28112-10	●		28	204	145	112				+2.2				
	-DRZ2851140-10	●		28.5	204	145	114				+2.1				
	-DRZ29116-10	●		29	208	149	116				+2.0				
	-DRZ2951180-10	●		29.5	208	149	118				+1.8				
	-DRZ30120-10	●		30	211	152	120		45		+1.7				
	-DRZ3051220-10	●		30.5	211	152	122				+1.5				
	-DRZ31124-10	●		31	214	155	124				+1.5				
	-DRZ3151260-10	●		31.5	214	155	126				+1.3				
	-DRZ32128-10	●		32	219	160	128				+1.2				
	-DRZ3251300-10	●		32.5	219	160	130				+1.0				
	-DRZ33132-12	●	2	33	226	167	132	32	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	ZCMT12T306 ZCMT12T304SP
	-DRZ34136-12	●		34	231	172	136				+2.7				
	-DRZ35140-12	●		35	234	175	140				+2.4				
	-DRZ36144-12	●		36	239	180	144				+2.2				
	-DRZ37148-12	●		37	242	183	148				+1.9				
	-DRZ38152-12	●		38	246	187	152				+1.7				
	-DRZ39156-12	●		39	250	191	156				+1.4				
	-DRZ40160-12	●		40	252	193	160				+1.2				
S40	-DRZ33132-12	●	2	33	236	167	132	40	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	
	-DRZ34136-12	●		34	241	172	136				+2.7				
	-DRZ35140-12	●		35	244	175	140				+2.4				
	-DRZ36144-12	●		36	249	180	144				+2.2				
	-DRZ37148-12	●		37	252	183	148				+1.9				
	-DRZ38152-12	●		38	256	187	152				+1.7				
	-DRZ39156-12	●		39	260	191	156				+1.4				
	-DRZ40160-12	●		40	262	193	160				+1.2				
	-DRZ41164-15	●	2	41	265	196	164	40	55	Rc1/4	+4.0	SB-5085TR	DT-20	GP-2	ZCMT150408 ZCMT150406SP
	-DRZ42168-15	●		42	269	200	168				+3.7				
	-DRZ43172-15	●		43	273	204	172				+3.5				
	-DRZ44176-15	●		44	277	208	176				+3.2				
	-DRZ45180-15	●		45	279	210	180				+3.0				
	-DRZ46184-15	●		46	287	218	184		60		+2.7				
	-DRZ47188-15	●		47	292	223	188				+2.5				
	-DRZ48192-15	●		48	296	227	192				+2.2				
	-DRZ49196-15	●		49	300	231	196				+2.0				
	-DRZ50200-15	●		50	301	232	200				+1.7				

- When offset machining, reduce feed rate to 0.0024 ipr or less

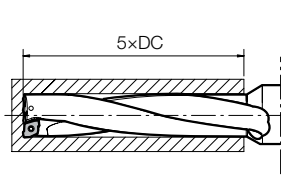
Hole Diameter Tolerance (4D)

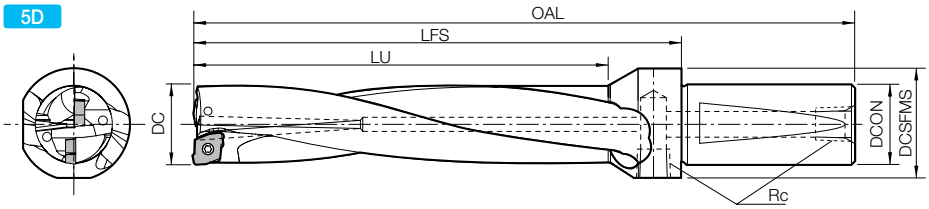
DC	Hole Diameter Tolerance (mm)
Ø13mm - Ø26.5mm	+0.25 / -0.10
Ø27mm - Ø40mm	+0.30 / -0.15
Ø41mm - Ø50mm	+0.35 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve SHE K104
Troubleshooting K103

DRZ (Drilling Depth: 5 x DC)





Toolholder Dimensions - 5D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Rc	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Wrench	Plug	Applicable Insert See Page K74
S32	-DRZ27135-10	●	2	27	227	168	135	32	42	Rc1/4	+2.5	SB-4085TR	DT-15	GP-2	ZCMT10T304 ZCMT10T304SP
	-DRZ28140-10	●		28	232	173	140				+2.2				
	-DRZ29145-10	●		29	237	178	145				+2.0				
	-DRZ30150-10	●		30	241	182	150		45		+1.7				
	-DRZ31155-10	●		31	245	186	155				+1.5				
	-DRZ32160-10	●		32	251	192	160				+1.2				
S40	-DRZ33165-12	●	2	33	269	200	165	40	55	Rc1/4	+2.9	SB-5085TR	DT-20	GP-2	ZCMT12T306 ZCMT12T304SP
	-DRZ34170-12	●		34	275	206	170				+2.7				
	-DRZ35175-12	●		35	279	210	175				+2.4				
	-DRZ36180-12	●		36	285	216	180				+2.2				
	-DRZ37185-12	●		37	289	220	185				+1.9				
	-DRZ38190-12	●		38	294	225	190				+1.7				
	-DRZ39195-12	●		39	299	230	195				+1.4				
	-DRZ40200-12	●		40	302	233	200				+1.2				
	-DRZ41205-15	●	2	41	306	237	205	40	55	Rc1/4	+4.0	SB-5085TR	DT-20	GP-2	ZCMT150408 ZCMT150406SP
	-DRZ42210-15	●		42	311	242	210				+3.7				
	-DRZ43215-15	●		43	316	247	215				+3.5				
	-DRZ44220-15	□		44	321	252	220				+3.2				
	-DRZ45225-15	●		45	324	255	225				+3.0				
	-DRZ46230-15	●		46	333	264	230		60		+2.7				
	-DRZ47235-15	●		47	339	270	235				+2.5				
	-DRZ48240-15	●		48	344	275	240				+2.2				
	-DRZ49245-15	●		49	349	280	245				+2.0				
	-DRZ50250-15	●		50	351	282	250				+1.7				

- When offset machining, reduce feed rate to 0.0020 ipr or less

Hole Diameter Tolerance (5D)

DC	Hole Diameter Tolerance (mm)
Ø27mm - Ø40mm	+0.35 / -0.15
Ø41mm - Ø50mm	+0.40 / -0.20

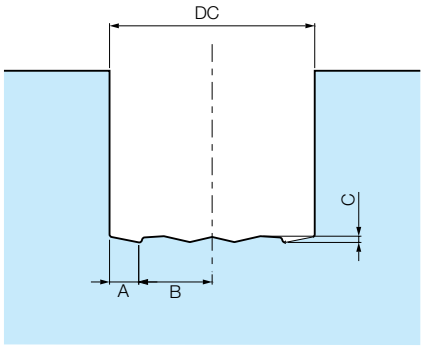
The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K90
Adjustable Sleeve SHE K104
Troubleshooting K103

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

DRZ Hole Bottom Shape (Common for 2D, 3D, 4D, and 5D Lengths)

DRZ Inch Diameters (in)				DRZ Metric Diameters (mm)							
DC	A	B	C	DC	A	B	C	DC	A	B	C
0.562	0.083	0.198	0.016	13.0	2.1	4.4	0.4	27.0	4.0	9.5	0.7
0.625	0.106	0.207	0.024	13.5		4.7		27.5		9.8	
0.656		0.222		14.0		4.9		28.0		10.0	
0.688		0.238		14.5		5.2		28.5		10.3	
0.750		0.269	0.028	15.0		5.4	0.5	29.0		10.5	
0.812		0.300		15.5		5.7		29.5		10.8	
0.875	0.122	0.316	0.024	16.0	2.7	5.3	0.6	30.0		11.0	
0.938		0.347	0.028	16.5		5.6		30.5		11.3	
1.000		0.378		17.0		5.8		31.0		11.5	0.8
1.062	0.157	0.374		17.5		6.1		31.5		11.8	
1.125		0.406		18.0		6.3		32.0		12.0	
1.188		0.437		18.5		6.6	0.7	32.5		12.3	
1.250		0.468	0.031	19.0		6.8		33.0	5.7	10.8	0.8
1.312	0.224	0.432		19.5		7.1		34.0		11.3	
1.375		0.464		20.0		7.3		35.0		11.8	
1.438		0.495		20.5		7.6		36.0		12.3	
1.500		0.526	0.035	21.0		7.8	0.8	37.0		12.8	
1.562		0.557		21.5	3.1	7.7	0.6	38.0		13.3	0.9
1.625	0.256	0.557	0.039	22.0		7.9		39.0		13.8	
1.688		0.588		22.5		8.2		40.0		14.3	
1.750		0.619		23.0		8.4		41.0	6.5	14.0	1.0
1.812		0.650		23.5		8.7		42.0		14.5	
1.875		0.682	0.043	24.0		8.9	0.7	43.0		15.0	
1.938		0.713		24.5		9.2		44.0		15.5	
2.000		0.744		25.0		9.4		45.0		16.0	
				25.5		9.7		46.0		16.5	
				26.0		9.9		47.0		17.0	
				26.5		10.2		48.0		17.5	1.1
								49.0		18.0	
								50.0		18.5	
								51.0		19.0	
								52.0		19.5	
								53.0		20.0	
								54.0	8.5	18.5	1.2
								55.0		19.0	
								56.0		19.5	
								57.0		20.0	
								58.0		20.5	
								59.0		21.0	



- Figures in chart are nominal sizes.
- (Varies from -0.004" (-0.1mm) to +0.004" (+0.1mm) depending on work material and cutting conditions)

DRZ - Recommended Cutting Conditions (with Coolant)

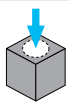
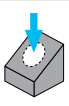
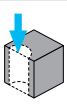
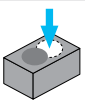
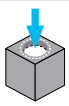
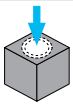
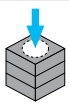
Workpiece Material	Recommended Insert Grade / Cutting Speed (sfm)						Drill Dia. DC (in)	Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)			
	MEGACOAT			PVD Coated Carbide		Carbide						
	PR1230	PR1225	PR1210	PR660	PR830	KW10			2D	3D	4D	5D
	Standard, SP, SU	Standard, SP, SU	Standard	Standard, SP, SU	Standard, SP	Standard, SP						
Low Carbon Steel	★ 390 ~ 720	☆ 390 ~ 720	-	☆ 390 ~ 720	☆ 390 ~ 790	-	0.512~0.610	13~15.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0016 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0031 ~ 0.0059	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
							1.063~1.969	27~50	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	0.0020 ~ 0.0035
							1.969~	50~	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
Carbon Steel	★ 330 ~ 520	☆ 330 ~ 520	-	☆ 330 ~ 520	☆ 390 ~ 590	-	0.512~0.610	13~15.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0016 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0031 ~ 0.0059	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
							1.063~1.969	27~50	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	0.0020 ~ 0.0035
							1.969~	50~	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
Alloy Steel	★ 260 ~ 460	☆ 260 ~ 460	-	☆ 260 ~ 460	☆ 330 ~ 520	-	0.512~0.610	13~15.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0016 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0031 ~ 0.0059	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
							1.063~1.969	27~50	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	0.0020 ~ 0.0035
							1.969~	50~	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0047	-
Tool Steel	★ 230 ~ 430	☆ 230 ~ 430	-	☆ 230 ~ 430	☆ 260 ~ 490	-	0.512~0.610	13~15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	0.0012 ~ 0.0028	-
							0.630~1.043	16~26.5	0.0031 ~ 0.0047	0.0024 ~ 0.0039	0.0024 ~ 0.0031	-
							1.063~1.969	27~50	0.0031 ~ 0.0059	0.0024 ~ 0.0047	0.0024 ~ 0.0039	0.0016 ~ 0.0028
							1.969~	50~	0.0031 ~ 0.0059	0.0024 ~ 0.0047	0.0024 ~ 0.0039	-
Stainless Steel (Austenitic)	☆ 200 ~ 390	★ 200 ~ 390	-	☆ 200 ~ 390	☆ 230 ~ 460	-	0.512~0.610	13~15.5	0.0016 ~ 0.0031	0.0016 ~ 0.0031	0.0012 ~ 0.0024	-
							0.630~1.043	16~26.5	0.0024 ~ 0.0039	0.0024 ~ 0.0039	0.0016 ~ 0.0031	-
							1.063~1.969	27~50	0.0024 ~ 0.0039	0.0024 ~ 0.0047	0.0016 ~ 0.0039	0.0016 ~ 0.0028
							1.969~	50~	0.0024 ~ 0.0047	0.0024 ~ 0.0047	0.0016 ~ 0.0039	-
Gray Cast Iron	-	-	★ 330 ~ 490	-	-	☆ 330 ~ 390	0.512~0.610	13~15.5	0.0031 ~ 0.0047	0.0031 ~ 0.0039	0.0024 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0039 ~ 0.0071	0.0039 ~ 0.0059	0.0031 ~ 0.0047	-
							1.063~1.969	27~50	0.0039 ~ 0.0079	0.0039 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0039
							1.969~	50~	0.0039 ~ 0.0079	0.0039 ~ 0.0071	0.0031 ~ 0.0059	-
Nodular Cast Iron	-	-	★ 260 ~ 390	-	-	☆ 260 ~ 330	0.512~0.610	13~15.5	0.0031 ~ 0.0047	0.0031 ~ 0.0039	0.0024 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0039 ~ 0.0071	0.0039 ~ 0.0059	0.0031 ~ 0.0047	-
							1.063~1.969	27~50	0.0039 ~ 0.0079	0.0039 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0039
							1.969~	50~	0.0039 ~ 0.0079	0.0039 ~ 0.0071	0.0031 ~ 0.0059	-
Non-ferrous Metals	-	-	-	-	-	★ 660 ~ 1970	0.512~0.610	13~15.5	0.0024 ~ 0.0047	0.0024 ~ 0.0039	0.0016 ~ 0.0031	-
							0.630~1.043	16~26.5	0.0031 ~ 0.0071	0.0031 ~ 0.0059	0.0024 ~ 0.0059	-
							1.063~1.969	27~50	0.0031 ~ 0.0079	0.0031 ~ 0.0071	0.0024 ~ 0.0059	0.0020 ~ 0.0039
							1.969~	50~	0.0031 ~ 0.0079	0.0031 ~ 0.0071	0.0024 ~ 0.0059	-
Titanium Alloys	-	-	-	-	-	★ 130 ~ 230	0.512~0.610	13~15.5	0.0020 ~ 0.0024	0.0020 ~ 0.0024	0.0020 ~ 0.0024	-
							0.630~1.043	16~26.5	0.0020 ~ 0.0028	0.0020 ~ 0.0028	0.0020 ~ 0.0028	-
							1.063~1.969	27~50	0.0024 ~ 0.0031	0.0024 ~ 0.0031	0.0024 ~ 0.0031	0.0016 ~ 0.0020
							1.969~	50~	0.0024 ~ 0.0031	0.0024 ~ 0.0031	0.0024 ~ 0.0031	-

• Apply a sufficient amount of coolant

★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

(Workpiece Material: 1049)

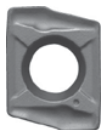
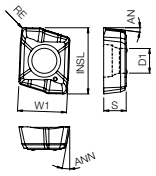
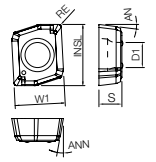
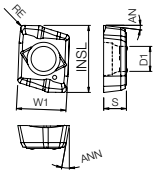
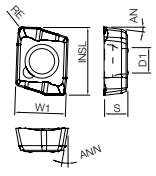
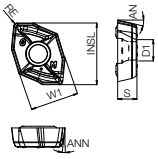
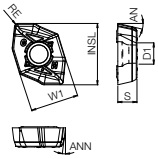
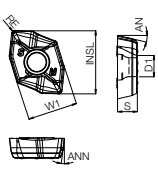
Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Concave Surface	Existing Hole	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	390	390	390	390	390	390	Not Available
f (ipr)	0.004	0.002	0.002	0.002	Concave Surface: 0.002 Once drill is fully engaged: 0.004	*0.002	Not Available
Internal Coolant	Yes	Yes	Yes	Yes	Yes	Yes	Not Available

Max. Depth for Drilling with External Coolant

In case of using external coolant system, chip evacuation will be bad.
Therefore D.O.C. should be measured within 1.5 times (1.5 x DC) of drill diameter (DC).

Applicable DRX Inserts

Usage Classification						
★ : 1st Recommendation ☆ : 2nd Recommendation (Steel; Non Heat Treated)	P	Carbon Steel / Alloy Steel	★	☆		
		Tool Steel	★			
	M	Stainless Steel	☆	★		
	K	Cast Iron			★	
	N	Non-ferrous Metals				★

Insert		Part Number	Dimensions (in)					Angle		MEGACOAT			Carbide
			INSL	S	D1	W1	RE	AN	ANN	PR1230	PR1225	PR1210	GW15
 For Outer Edge / General Purpose		**ZXMT 030203GM-E**	0.252	0.091	0.094	0.189	0.012	7°	10°	△		△	
 For Inner Edge / General Purpose		**ZXMT 030203GM-I**	0.232	0.091	0.094	0.189	0.012	7°	10°	△	△	△	△
 For Outer Edge / Tough Edge		**ZXMT 030203GH-E**	0.252	0.091	0.094	0.189	0.012	7°	10°	△			
 For Outer Edge / Low Cutting Force		**ZXMT 030203SM-E**	0.252	0.091	0.094	0.189	0.012	7°	10°		△		△
 General Purpose		**ZXMT 040203GM**	0.244	0.102	0.094	0.201	0.012	13°	10°	△		△	
		05T203GM	0.287	0.109	0.098	0.217	0.012		7°	△		△	
		06T204GM	0.339	0.114	0.110	0.252	0.016			△		△	
		070305GM	0.402	0.128	0.118	0.315	0.020			△		△	
		09T306GM	0.480	0.159	0.142	0.378	0.024			△		△	
		11T306GM	0.571	0.160	0.181	0.457	0.024			△		△	
		140408GM	0.709	0.192	0.224	0.567	0.031			△		△	
		170608GM	0.870	0.259	0.268	0.697	0.031			△		△	
 Tough Edge		**ZXMT 040203GH**	0.244	0.102	0.094	0.201	0.012	13°	10°	△			
		05T203GH	0.287	0.109	0.098	0.217	0.012		7°	△			
		06T204GH	0.339	0.114	0.110	0.252	0.016			△			
		070305GH	0.402	0.128	0.118	0.315	0.020			△			
		09T306GH	0.480	0.159	0.142	0.378	0.024			△			
		11T306GH	0.571	0.160	0.181	0.457	0.024			△			
		140408GH	0.709	0.192	0.224	0.567	0.031			△			
		170608GH	0.870	0.259	0.268	0.697	0.031			△			
 Low Cutting Force / for Deep Drilling		**ZXMT 040203SM**	0.244	0.102	0.094	0.201	0.012	13°	10°		△		△
		05T203SM	0.287	0.109	0.098	0.217	0.012		7°		△		△
		06T204SM	0.339	0.114	0.110	0.252	0.016				△		△
		070305SM	0.402	0.128	0.118	0.315	0.020				△		△
		09T306SM	0.480	0.159	0.142	0.378	0.024				△		△
		11T306SM	0.571	0.160	0.181	0.457	0.024				△		△
		140408SM	0.709	0.192	0.224	0.567	0.031				△		△
		170608SM	0.870	0.259	0.268	0.697	0.031				△		△

Recommended Cutting Conditions ➔ **K102**

Inserts are sold in 10 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

Chipbreaker Selection Guide (ZXMT)

Workpiece Material	Insert Type	ZXMT											
	Chipbreaker	GM				GH				SM			
	Cutting Depth	2D	3D	4D	5D	2D	3D	4D	5D	2D	3D	4D	5D
Low Carbon Steel		☆	☆	☆	☆					★	★	★	★
Carbon Steel		★	★	★	☆	☆	☆	☆	☆	☆	☆	☆	★
Alloy Steel		★	★	★	☆	☆	☆	☆	☆	☆	☆	☆	★
Tool Steel		☆	☆	☆	☆	★	★	★	★				
Stainless Steel										★	★	★	★
Cast Iron		★	★	★	★								
Aluminum Alloy										★	★	★	★
Brass										★	★	★	★
Titanium Alloy										★	★	★	★

★ : 1st Recommendation ☆ : 2nd Recommendation

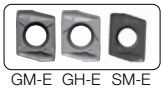
How to Select ZXMT03

ZXMT03 type (Cutting Dia.: Ø12mm~Ø13mm)

1) For outer edge, please select "-E" insert from three different chipbreakers for each application.
2) For inner edge, please select "-I" insert (GM chipbreaker only).

· Outer edge

ZXMT030203○○-E



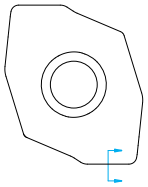
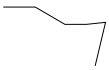
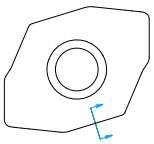
GM-E GH-E SM-E

· Inner Edge

ZXMT030203GM-I

GM-I

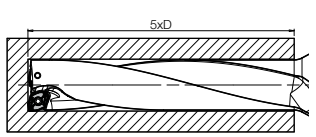
Chipbreaker Advantages

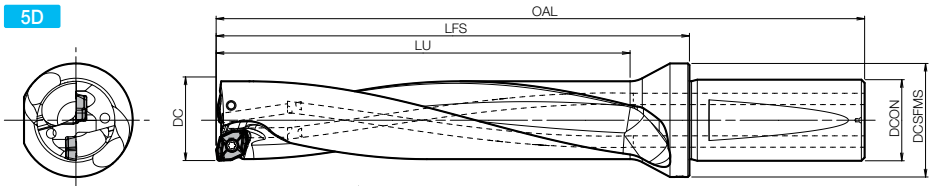
Chipbreaker			GM	GH	SM
Insert					
Advantages			1st. recommendation for carbon steel and alloy steel, 1st. recommendation for cast iron.	1st. recommendation for interrupted machining and hard materials. Cutting edge strength oriented design.	Suitable for sticky materials such as stainless steel and low carbon steel.
			Good balance of sharp cutting and cutting edge strength.	Middle to high feed rates of steel machining, GM Chipbreaker alternative.	Sharp cutting, prevents chattering. For low to medium feed rates of steel.
Outer Edge	 Wide Chipbreaker	Chipbreaker Cross-section			
		Chips from Outer Edge			
Inner Edge	 Flat Chipbreaker	Chipbreaker Cross-section			
		Chips from Inner Edge			
Workpiece Material			1049	1049	304

Identifying Magic Drill Tool Life

How to Judge Tool Life	Tool Life Indications
Tool Condition and Insert Wear	· When an insert is new, the holder is slightly bent to the side during cutting. (Therefore, the cutting diameter is slightly bigger during cutting). Once cutting is finished, the holder will return back to normal size. No tool marks will appear on the finished surface. (Although this depends on workpiece and cutting condition: during external machining slight tool mark might appear.)
	· When an insert is at the end of its tool life, Gradually the external corner part gets worn out, the holder does not bend slightly outwards - it starts to bend inwards. After the cutting is finished, the holder returns to the normal position. When taking off a holder under this condition the cutting edge of the insert creates external tool marks on the finished surface of the workpiece.
Checking Cutting Diameter	When cutting diameter is measured, suddenly it shows small diameter. In this case, a worn out insert can be the cause.
Checking the Surface on the Exit Side	If insert wear progresses, the burrs of penetrated hole entrance become bigger. This is a clear indication that the tool must be exchanged.
Variation of Cutting Noise	Light cutting noise at the beginning turns to vibration noise.
Variation of Vibration	As the end of tool life is getting closer, there is more vibration and the cutting noise changes. However, when machining smaller diameters these factors are difficult to detect.

DRX (Drilling Depth: 5 x DC





Toolholder Dimensions - 5D (Inch Diameter / Inch Shank)

Part Number	Stock	No. of Inserts	Dimensions (in)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K91
			DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S100 -DRX0625-5-05	△	2	0.625	6.18	4.05	3.13	1.00	1.26	+0.028	SB-2045TR	DTM-6	ZXMT05T203□□
-DRX0750-5-06	△	2	0.750	6.72	4.59	3.75	1.00	1.26	+0.031	SB-2250TR	DTM-7	ZXMT06T204□□
-DRX0812-5-06	△		0.812	7.03	4.90	4.06			+0.016			
-DRX0875-5-07	△	2	0.875	7.32	5.20	4.38	1.00	1.38	+0.043	SB-2570TR	DTM-8	ZXMT070305□□
-DRX0906-5-07	△		0.906	7.48	5.36	4.53			+0.035			

- When offset machining, reduce feed rate to 0.0020 ipr or less

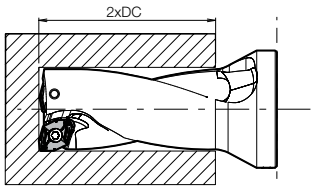
Hole Diameter Tolerance (5D)

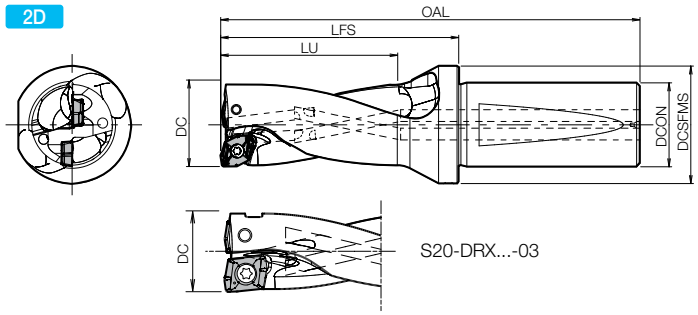
DC	Hole Diameter Tolerance (in)
Ø0.562" - Ø1.000"	+0.012" / -0.004"

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

DRX (Drilling Depth: 2 x DC)





Toolholder Dimensions - 2D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S20	-DRX120M-2-03	△		12	88	45	24			+0.5			
	-DRX125M-2-03	△	2	12.5	89	46	25	20	27	+0.4	SB-2042TRG	DTM-6	Outer Edge ZXMT030203□□-E Inner Edge ZXMT030203GM-I
	-DRX130M-2-03	△		13	90	47	26			+0.3			
	-DRX135M-2-04	△		13.5	91	48	27			+0.5			
	-DRX140M-2-04	△		14	92	49	28			+0.4			
	-DRX145M-2-04	△	2	14.5	93	50	29	20	27	+0.3	SB-2042TRG	DTM-6	ZXMT040203□□
	-DRX150M-2-04	△		15	94	51	30			+0.2			
S25	-DRX155M-2-05	△		15.5	109	55	31			+0.8			
	-DRX160M-2-05	△		16	110	56	32			+0.7			
	-DRX165M-2-05	△	2	16.5	111	57	33	25	32	+0.5	SB-2045TR	DTM-6	ZXMT05T203□□
	-DRX170M-2-05	△		17	112	58	34			+0.4			
	-DRX175M-2-05	△		17.5	113	59	35			+0.3			
	-DRX185M-2-06	△		18.5	112	58	37			+0.9			
	-DRX190M-2-06	△		19	113	59	38			+0.8			
	-DRX195M-2-06	△		19.5	114	60	39			+0.7			
	-DRX200M-2-06	△	2	20	115	61	40	25	32	+0.5	SB-2250TR	DTM-7	ZXMT06T204□□
	-DRX205M-2-06	△		20.5	116	62	41			+0.4			
	-DRX210M-2-06	△		21	117	63	42			+0.3			
	-DRX215M-2-06	△		21.5	118	64	43			+0.2			
	-DRX220M-2-07	△		22	119	65	44			+1.2			
	-DRX225M-2-07	△		22.5	120	66	45			+1.0			
	-DRX230M-2-07	△		23	121	67	46			+0.9			
	-DRX235M-2-07	△	2	23.5	122	68	47	25	33	+0.8	SB-2570TR	DTM-8	ZXMT070305□□
	-DRX240M-2-07	△		24	123	69	48			+0.7			
	-DRX250M-2-07	△		25	125	71	50			+0.4			
	-DRX255M-2-07	△		25.5	126	72	51			+0.3			
S32	-DRX270M-2-09	△		27	136	77	54			+1.6			
	-DRX280M-2-09	△		28	138	79	56		41	+1.3			
	-DRX290M-2-09	△	2	29	140	81	58	32		+1.1	SB-3080TR	DTM-10	ZXMT09T306□□
	-DRX300M-2-09	△		30	142	83	60		43	+0.8			
	-DRX310M-2-09	△		31	144	85	62			+0.6			

- When offset machining, reduce feed rate to 0.0031 ipr or less

Hole Diameter Tolerance (2D)

DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.20 / -0.10
Ø27mm - Ø38mm	+0.25 / -0.15
Ø39mm - Ø60mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

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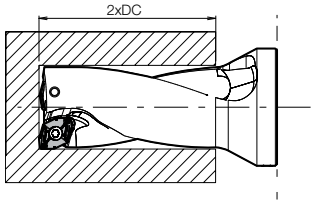
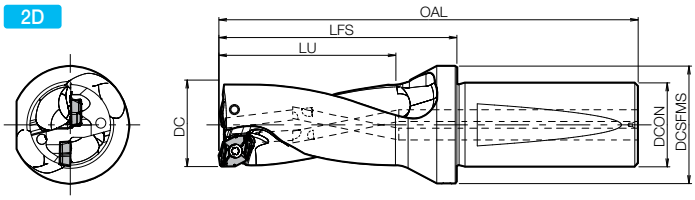
DRX (Drilling Depth: 2 x DC) Continued...





Toolholder Dimensions - 2D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S40	-DRX320M-2-11	△		32	169	100	64			+2.2			
	-DRX330M-2-11	△		33	171	102	66			+1.9			
	-DRX340M-2-11	△		34	173	104	68			+1.7			
	-DRX350M-2-11	△	2	35	175	106	70	40	54	+1.4	SB-4085TR	DTM-15	ZXMT11T306□□
	-DRX360M-2-11	△		36	177	108	72			+1.2			
	-DRX370M-2-11	△		37	179	110	74			+0.9			
	-DRX380M-2-11	△		38	181	112	76			+0.7			
	-DRX390M-2-14	△		39	179	110	78			+2.8			
	-DRX400M-2-14	△		40	181	112	80		54	+2.5			
	-DRX410M-2-14	△		41	183	114	82			+2.3			
	-DRX420M-2-14	△	2	42	185	116	84	40		+2.0	SB-5090TR	DT-20	ZXMT140408□□
	-DRX450M-2-14	△		45	191	122	90			+1.3			
	-DRX460M-2-14	△		46	193	124	92		59	+1.0			
	-DRX470M-2-14	△		47	195	126	94			+0.8			
	-DRX480M-2-17	△		48	194	125	96			+3.8			
	-DRX490M-2-17	△		49	196	127	98			+3.5			
	-DRX500M-2-17	△		50	198	129	100		59	+3.3			
	-DRX510M-2-17	△		51	200	131	102			+3.0			
	-DRX520M-2-17	△		52	202	133	104			+2.8			
	-DRX530M-2-17	△		53	204	135	106			+2.5			
	-DRX540M-2-17	△	2	54	206	137	108	40		+2.3	SB-60120TR	DT-25	ZXMT170608□□
	-DRX550M-2-17	△		55	208	139	110			+2.0			
	-DRX560M-2-17	△		56	210	141	112			+1.8			
	-DRX570M-2-17	△		57	212	143	114		64	+1.5			
	-DRX580M-2-17	△		58	214	145	116			+1.3			
	-DRX590M-2-17	△		59	216	147	118			+1.0			
	-DRX600M-2-17	△		60	218	149	120			+0.8			

- When offset machining, reduce feed rate to 0.0031 ipr or less

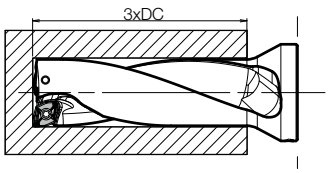
Hole Diameter Tolerance (2D)

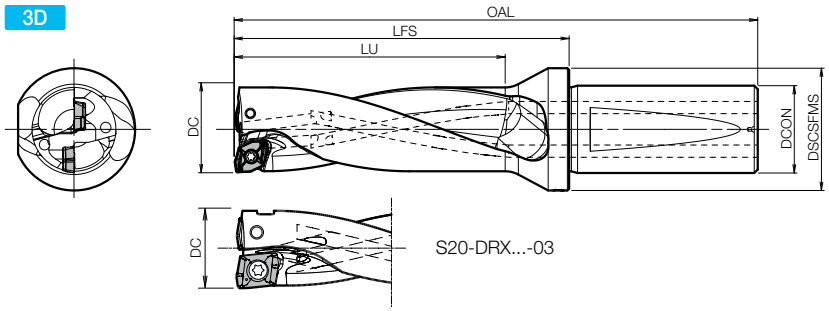
DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.20 / -0.10
Ø27mm - Ø38mm	+0.25 / -0.15
Ø39mm - Ø60mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

DRX (Drilling Depth: 3 x DC)





Toolholder Dimensions - 3D (Metric Diameter / Metric Shank)

Part Number	Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S20 -DRX120M-3-03	△		12	100	57	36			+0.5			
-DRX125M-3-03	△	2	12.5	102	59	37.5	20	27	+0.4	SB-2042TRG	DTM-6	Outer Edge ZXMT030203□□-E Inner Edge ZXMT030203GM-I
-DRX130M-3-03	△		13	103	60	39			+0.3			
-DRX135M-3-04	△		13.5	105	62	40.5			+0.5			
-DRX145M-3-04	△	2	14.5	108	65	43.5	20	27	+0.3	SB-2042TRG	DTM-6	ZXMT040203□□
-DRX150M-3-04	△		15	109	66	45			+0.2			
S25 -DRX155M-3-05	△		15.5	124	70	46.5			+0.8			
-DRX160M-3-05	△		16	126	72	48			+0.7			
-DRX165M-3-05	△		16.5	127	73	49.5			+0.5			
-DRX170M-3-05	△	2	17	129	75	51	25	32	+0.4	SB-2045TR	DTM-6	ZXMT05T203□□
-DRX175M-3-05	△		17.5	130	76	52.5			+0.3			
-DRX180M-3-05	△		18	132	78	54			+0.2			
-DRX185M-3-06	△		18.5	131	77	55.5			+0.9			
-DRX195M-3-06	△		19.5	134	80	58.5			+0.7			
-DRX200M-3-06	△		20	135	81	60			+0.5			
-DRX205M-3-06	△	2	20.5	137	83	61.5	25	32	+0.4	SB-2250TR	DTM-7	ZXMT06T204□□
-DRX210M-3-06	△		21	138	84	63			+0.3			
-DRX215M-3-06	△		21.5	140	86	64.5			+0.2			
-DRX225M-3-07	△		22.5	142	88	67.5			+1.0			
-DRX230M-3-07	△		23	144	90	69			+0.9			
-DRX235M-3-07	△		23.5	145	91	70.5			+0.8			
-DRX240M-3-07	△		24	147	93	72			+0.7			
-DRX245M-3-07	△		24.5	148	94	73.5	25	33	+0.5	SB-2570TR	DTM-8	ZXMT070305□□
-DRX250M-3-07	△		25	150	96	75			+0.4			
-DRX255M-3-07	△		25.5	151	97	76.5			+0.3			
-DRX260M-3-07	△		26	153	99	78			+0.2			
S32 -DRX265M-3-09	△		26.5	161	102	79.5			+1.7			
-DRX270M-3-09	△		27	163	104	81			+1.6			
-DRX275M-3-09	△		27.5	164	105	82.5		41	+1.5			
-DRX280M-3-09	△		28	166	107	84			+1.3			
-DRX285M-3-09	△		28.5	167	108	85.5			+1.2			
-DRX290M-3-09	△	2	29	169	110	87	32		+1.1	SB-3080TR	DTM-10	ZXMT09T306□□
-DRX295M-3-09	△		29.5	170	111	88.5			+1.1			
-DRX300M-3-09	△		30	172	113	90		43	+0.8			
-DRX305M-3-09	△		30.5	173	114	91.5			+0.7			
-DRX315M-3-09	△		31.5	176	117	94.5			+0.5			

- When offset machining, reduce feed rate to 0.0031 ipr or less

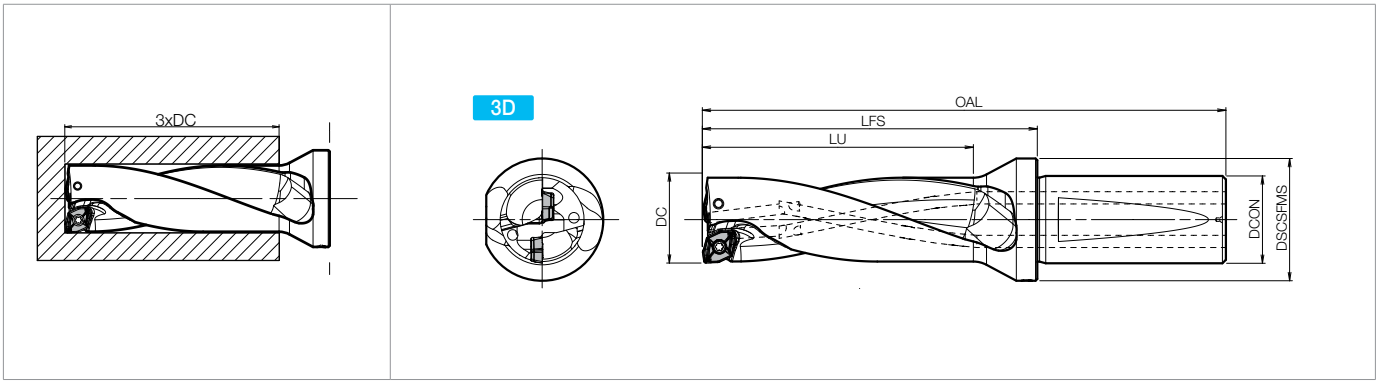
Hole Diameter Tolerance (3D)

DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.20 / -0.10
Ø26.5mm - Ø38mm	+0.25 / -0.15
Ø39mm - Ø60mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

DRX (Drilling Depth: 3 x DC) Continued...



Toolholder Dimensions - 3D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm)						Max. Radial Offset (mm)	Spare Parts		Applicable Insert See Page K91
				DC	OAL	LFS	LU	DCON	DCSFMS		Insert Screw	Wrench	
S40	-DRX320M-3-11	△	2	32	201	132	96	40	54	+2.2	SB-4085TR	DTM-15	ZXMT11T306□□
	-DRX330M-3-11	△		33	204	135	99			+1.9			
	-DRX340M-3-11	△		34	207	138	102			+1.7			
	-DRX350M-3-11	△		35	210	141	105			+1.4			
	-DRX360M-3-11	△		36	213	144	108			+1.2			
	-DRX380M-3-11	△		38	219	150	114			+0.7			
	-DRX390M-3-14	△	2	39	218	149	117	40	54	+2.8	SB-5090TR	DT-20	ZXMT140408□□
	-DRX400M-3-14	△		40	221	152	120			+2.5			
	-DRX410M-3-14	△		41	224	155	123			+2.3			
	-DRX430M-3-14	△		43	230	161	129		59	+1.8			
	-DRX450M-3-14	△		45	236	167	135			+1.3			
	-DRX460M-3-14	△		46	239	170	138			+1.0			
	-DRX470M-3-14	△		47	242	173	141			+0.8			
	-DRX480M-3-17	△	2	48	242	173	144	40	59	+3.8	SB-60120TR	DT-25	ZXMT170608□□
	-DRX490M-3-17	△		49	245	176	147			+3.5			
	-DRX510M-3-17	△		51	251	182	153			+3.0			
	-DRX520M-3-17	△		52	254	185	156			+2.8			
	-DRX530M-3-17	△		53	257	188	159			+2.5			
	-DRX540M-3-17	△		54	260	191	162		64	+2.3			
	-DRX550M-3-17	△		55	263	194	165			+2.0			
	-DRX560M-3-17	△		56	266	197	168			+1.8			
	-DRX570M-3-17	△		57	269	200	171			+1.5			
	-DRX580M-3-17	△		58	272	203	174			+1.3			
	-DRX590M-3-17	△		59	275	206	177			+1.0			
	-DRX600M-3-17	△		60	278	209	180			+0.8			

- When offset machining, reduce feed rate to 0.0031 ipr or less

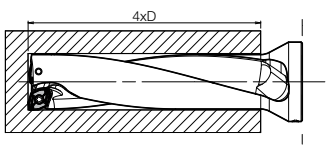
Hole Diameter Tolerance (3D)

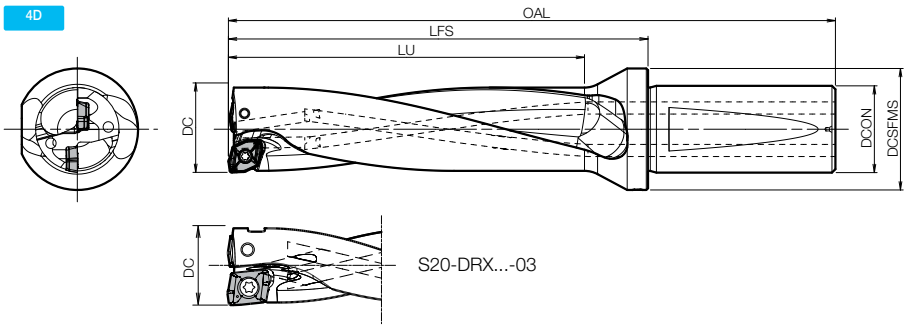
DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.20 / -0.10
Ø26.5mm - Ø38mm	+0.25 / -0.15
Ø39mm - Ø60mm	+0.30 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

DRX (Drilling Depth: 4 x DC)





Toolholder Dimensions - 4D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S20	-DRX120M-4-03	△	2	12	112	69	48	20	27	+0.5	SB-2042TRG	DTM-6	Outer Edge ZXMT030203□□-E Inner Edge ZXMT030203GM-I
	-DRX125M-4-03	△		12.5	114	71	50			+0.4			
	-DRX130M-4-03	△		13	116	73	52			+0.3			
	-DRX135M-4-04	△	2	13.5	118	75	54	20	27	+0.5	SB-2042TRG	DTM-6	ZXMT040203□□
	-DRX145M-4-04	△		14.5	122	79	58			+0.3			
	-DRX150M-4-04	△		15	124	81	60			+0.2			
S25	-DRX155M-4-05	△	2	15.5	140	86	62	25	32	+0.8	SB-2045TR	DTM-6	ZXMT05T203□□
	-DRX160M-4-05	△		16	142	88	64			+0.7			
	-DRX165M-4-05	△		16.5	144	90	66			+0.5			
	-DRX170M-4-05	△		17	146	92	68			+0.4			
	-DRX175M-4-05	△		17.5	148	94	70			+0.3			
	-DRX180M-4-05	△		18	150	96	72			+0.2			
	-DRX185M-4-06	△	2	18.5	149	95	74	25	32	+0.9	SB-2250TR	DTM-7	ZXMT06T204□□
	-DRX190M-4-06	△		19	151	97	76			+0.8			
	-DRX195M-4-06	△		19.5	153	99	78			+0.7			
	-DRX200M-4-06	△		20	155	101	80			+0.5			
	-DRX205M-4-06	△		20.5	157	103	82			+0.4			
	-DRX210M-4-06	△		21	159	105	84			+0.3			
	-DRX215M-4-06	△		21.5	161	107	86			+0.2			
	-DRX220M-4-07	△	2	22	163	109	88	25	33	+1.2	SB-2570TR	DTM-8	ZXMT070305□□
	-DRX225M-4-07	△		22.5	165	111	90			+1.0			
	-DRX230M-4-07	△		23	167	113	92			+0.9			
	-DRX235M-4-07	△		23.5	169	115	94			+0.8			
	-DRX240M-4-07	△		24	171	117	96			+0.7			
	-DRX245M-4-07	△		24.5	173	119	98			+0.5			
	-DRX255M-4-07	△		25.5	177	123	102			+0.3			
S32	-DRX270M-4-09	△	2	27	190	131	108	32	41	+1.6	SB-3080TR	DTM-10	ZXMT09T306□□
	-DRX280M-4-09	△		28	194	135	112			+1.3			
	-DRX290M-4-09	△		29	198	139	116			+1.1			
	-DRX300M-4-09	△		30	202	143	120		43	+0.8			

- When offset machining, reduce feed rate to 0.0024 ipr or less

Hole Diameter Tolerance (4D)

DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.25 / -0.10
Ø27mm - Ø38mm	+0.30 / -0.15
Ø39mm - Ø60mm	+0.35 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

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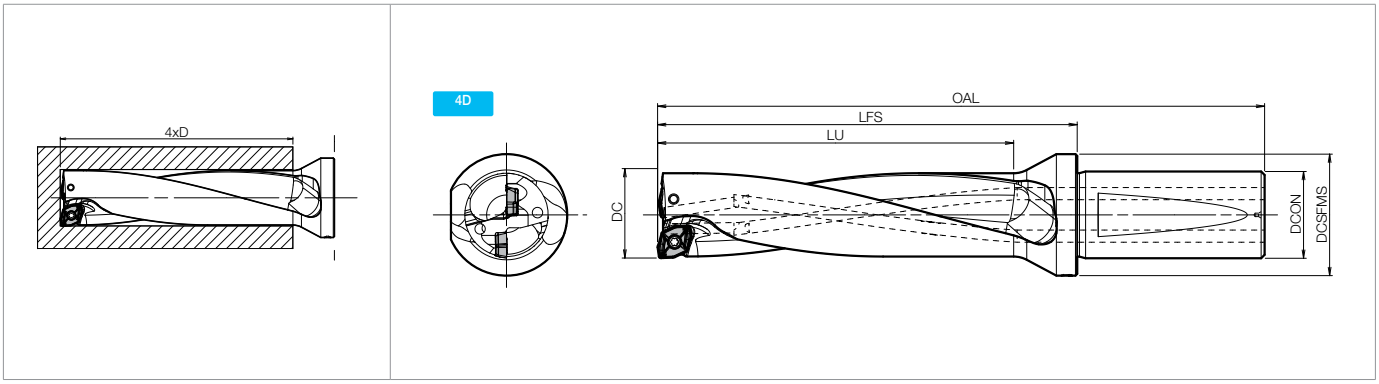
DRX (Drilling Depth: 4 x DC) Continued...



Toolholder Dimensions - 4D (Metric Diameter / Metric Shank)

Part Number		Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S40	-DRX330M-4-11	△	2	33	227	158	132	40	49	+1.9	SB-4085TR	DTM-15	ZXMT11T306□□
	-DRX340M-4-11	△		34	231	162	136			+1.7			
	-DRX350M-4-11	△		35	235	166	140			+1.4			
	-DRX360M-4-11	△		36	239	170	144			+1.2			
	-DRX370M-4-11	△		37	243	174	148			+0.9			
	-DRX380M-4-11	△		38	247	178	152			+0.7			
	-DRX390M-4-14	△	2	39	257	188	156	40	54	+2.8	SB-5090TR	DT-20	ZXMT140408□□
	-DRX400M-4-14	△		40	261	192	160			+2.5			
	-DRX410M-4-14	△		41	265	196	164			+2.3			
	-DRX420M-4-14	△		42	269	200	168			+2.0			
	-DRX430M-4-14	△		43	273	204	172		59	+1.8			
	-DRX440M-4-14	△		44	277	208	176			+1.5			
	-DRX450M-4-14	△		45	281	212	180			+1.3			
	-DRX460M-4-14	△		46	285	216	184			+1.0			
S50	-DRX480M-4-17	△	2	48	290	221	192	50	59	+3.8	SB-60120TR	DT-25	ZXMT170608□□
	-DRX490M-4-17	△		49	294	225	196			+3.5			
	-DRX500M-4-17	△		50	298	229	200			+3.3			
	-DRX510M-4-17	△		51	302	233	204			+3.0			
	-DRX520M-4-17	△		52	306	237	208			+2.8			
	-DRX530M-4-17	△		53	310	241	212			+2.5			
	-DRX540M-4-17	△		54	314	245	216		64	+2.3			
	-DRX550M-4-17	△		55	318	249	220			+2.0			
	-DRX560M-4-17	△		56	322	253	224			+1.8			
	-DRX570M-4-17	△		57	326	257	228			+1.5			
	-DRX580M-4-17	△		58	330	261	232			+1.3			
	-DRX600M-4-17	△		60	338	269	240			+0.8			

- When offset machining, reduce feed rate to 0.0024 ipr or less

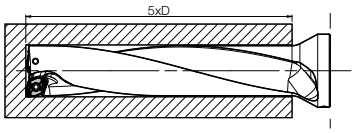
Hole Diameter Tolerance (4D)

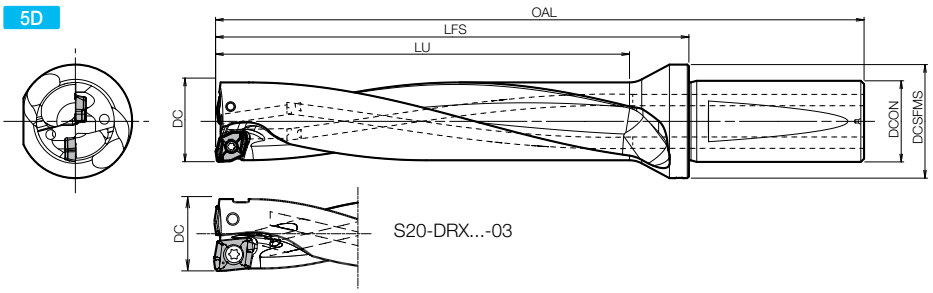
DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.25 / -0.10
Ø27mm - Ø38mm	+0.30 / -0.15
Ø39mm - Ø60mm	+0.35 / -0.20

The above values are estimates.
These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

DRX (Drilling Depth: 5 x DC)





Toolholder Dimensions - 5D (Metric Diameter / Metric Shank)

Part Number	Stock	No. of Inserts	Dimensions (mm) DC	OAL	LFS	LU	DCON	DCSFMS	Max. Radial Offset (mm)	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K91
S20 -DRX120M-5-03	△	2	12	120	77	60	20	27	+0.5	SB-2042TRG	DTM-6	Outer Edge ZXMT030203□□-E Inner Edge ZXMT030203GM-I
-DRX130M-5-03	△		13	125	82	65			+0.3			
-DRX140M-5-04	△	2	14	134	91	70	20	27	+0.4	SB-2042TRG	DTM-6	ZXMT040203□□
-DRX150M-5-04	△		15	139	96	75			+0.2			
S25 -DRX160M-5-05	△		16	158	104	80			+0.7			
-DRX170M-5-05	△	2	17	163	109	85	25	32	+0.4	SB-2045TR	DTM-6	ZXMT05T203□□
-DRX180M-5-05	△		18	168	114	90			+0.2			
-DRX200M-5-06	△	2	20	175	121	100	25	32	+0.5	SB-2250TR	DTM-7	ZXMT06T204□□
-DRX210M-5-06	△		21	180	126	105			+0.3			
-DRX230M-5-07	△		23	190	136	115	25	33	+0.9			
-DRX240M-5-07	△	2	24	195	141	120			+0.7	SB-2570TR	DTM-8	ZXMT070305□□
-DRX250M-5-07	△		25	200	146	125			+0.4			
S32 -DRX280M-5-09	△		28	222	163	140		41	+1.3			
-DRX290M-5-09	△	2	29	227	168	145	32		+1.1	SB-3080TR	DTM-10	ZXMT09T306□□
-DRX300M-5-09	△		30	232	173	150		43	+0.8			
-DRX310M-5-09	△		31	237	178	155			+0.6			
S40 -DRX320M-5-11	△		32	255	186	160	40	49	+2.2			
-DRX330M-5-11	△		33	260	191	165			+1.9			
-DRX340M-5-11	△		34	265	196	170			+1.7			
-DRX350M-5-11	△	2	35	270	201	175			+1.4	SB-4085TR	DTM-15	ZXMT11T306□□
-DRX360M-5-11	△		36	275	206	180			+1.2			
-DRX370M-5-11	△		37	280	211	185			+0.9			
-DRX380M-5-11	△		38	285	216	190			+0.7			
-DRX390M-5-14	△		39	296	227	195		54	+2.8			
-DRX400M-5-14	△		40	301	232	200			+2.5			
-DRX410M-5-14	△		41	306	237	205			+2.3			
-DRX430M-5-14	△	2	43	316	247	215		59	+1.8	SB-5090TR	DT-20	ZXMT140408□□
-DRX440M-5-14	△		44	321	252	220			+1.5			
-DRX450M-5-14	△		45	326	257	225			+1.3			
-DRX470M-5-14	△		47	336	267	235			+0.8			
S50 -DRX480M-5-17	△		48	338	269	240	50	59	+3.8			
-DRX490M-5-17	△		49	343	274	245			+3.5			
-DRX500M-5-17	△		50	348	279	250			+3.3			
-DRX510M-5-17	△		51	353	284	255			+3.0			
-DRX520M-5-17	△		52	358	289	260			+2.8			
-DRX530M-5-17	△		53	363	294	265			+2.5			
-DRX540M-5-17	△	2	54	368	299	270		64	+2.3	SB-60120TR	DT-25	ZXMT170608□□
-DRX550M-5-17	△		55	373	304	275			+2.0			
-DRX560M-5-17	△		56	378	309	280			+1.8			
-DRX570M-5-17	△		57	383	314	285			+1.5			
-DRX580M-5-17	△		58	388	319	290			+1.3			
-DRX590M-5-17	△		59	393	324	295			+1.0			
-DRX600M-5-17	△		60	398	329	300			+0.8			

- When offset machining, reduce feed rate to 0.0020 ipr or less

Hole Diameter Tolerance (5D)

DC	Hole Diameter Tolerance (mm)
Ø12mm - Ø26mm	+0.30 / -0.10
Ø27mm - Ø38mm	+0.35 / -0.15
Ø39mm - Ø60mm	+0.40 / -0.20

The values are estimates. These values may change due to machine, workpiece, clamping power, and cutting conditions

Recommended Cutting Conditions K102
Adjustable Sleeve ASL K104
Troubleshooting K103

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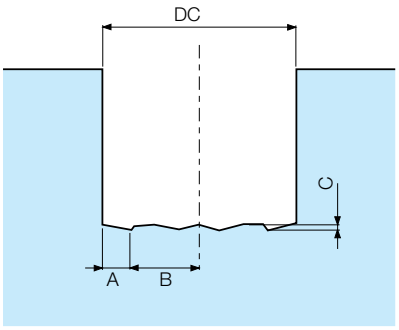
DRX Hole Bottom Shape (Common for 2D, 3D, 4D, and 5D Lengths)

DRZ Inch Diameters (in)				DRZ Metric Diameters (mm)							
DC	A	B	C	DC	A	B	C	DC	A	B	C
0.562	0.079	0.202	0.020	12.0	1.8	4.2	0.5	26.5	3.9	9.4	1.0
0.625		0.234	0.024	12.5		4.5		27.0		9.6	
0.656		0.249		13.0		4.7		27.5		9.9	
0.688		0.265		13.5	2	4.8	0.5	28.0		10.1	
0.750	0.094	0.281	0.028	14.0		5.0		28.5		10.4	
0.812		0.312		14.5		5.3		29.0		10.6	
0.875	0.126	0.312	0.031	15.0		5.5		29.5		10.9	
0.906		0.327		15.5		5.8	0.6	30.0		11.1	1.1
0.938		0.343		16.0		6.0		30.5		11.4	
0.984		0.366	0.035	16.5		6.3		31.0		11.6	
1.000		0.374		17.0		6.5		31.5		11.9	1.2
				17.5		6.8		32.0	4.7	11.3	1.1
				18.0		7.0	0.7	33.0		11.8	
				18.5	2.4	6.9	0.7	34.0		12.3	
				19.0		7.1		35.0		12.8	
				19.5		7.4		36.0		13.3	1.2
				20.0		7.6		37.0		13.8	1.3
				20.5		7.9		38.0		14.3	
				21.0		8.1	0.8	39.0	5.8	13.7	1.5
				21.5		8.4		40.0		14.2	
				22.0	3.2	7.8	0.8	41.0		14.7	
				22.5		8.1		42.0		15.2	
				23.0		8.3		43.0		15.7	
				23.5		8.6		44.0		16.2	
				24.0		8.8		45.0		16.7	
				24.5	3.2	9.1	0.8	46.0		17.2	
				25.0		9.3		47.0		17.7	1.6
				25.5		9.6	0.9	48.0	7.1	16.9	1.7
				26.0		9.8		49.0		17.4	
								50.0		17.9	
								51.0		18.4	
								52.0		18.9	
								53.0		19.4	
								54.0		19.9	
								55.0		20.4	1.8
								56.0		20.9	
								57.0		21.4	1.9
								58.0		21.9	2.0
								59.0		22.4	
								60.0		22.9	2.1



- Figures in chart are nominal sizes.
- (Varies from -0.004" (-0.1mm) to +0.004" (+0.1mm) depending on work material and cutting conditions)

DRX - Recommended Cutting Conditions (with Coolant)

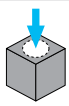
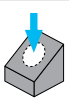
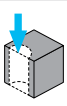
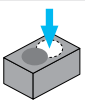
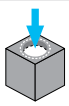
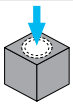
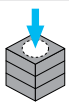
Workpiece Material	Recommended Insert Grade Cutting Speed (sfm)				Drill Dia. DC (in)	Drill Dia. DC (mm)	Drill Depth / Feed Rate (ipr)								
	MEGACOAT			Carbide			2D / 3D			4D			5D		
	PR1230	PR1225	PR1210	GW10			GM	GH	SM	GM	GH	SM	GM	GH	SM
	GM, GH	SM	GM	SM											
Low Carbon Steel	☆ 400~800	★ 400~800	-	-	0.432-0.591	12-15	0.0024~0.0039	0.0024~0.0039	0.0016~0.0039	0.0020~0.0031	0.0020~0.0031	0.0016~0.0031	0.0016~0.0028	0.0016~0.0028	0.0016~0.0031
					0.630-0.709	15.5-18	0.0024~0.0047	0.0024~0.0047	0.0024~0.0047	0.0020~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031	0.0020~0.0031	0.0016~0.0035
					0.748-1.024	18.5-26	0.0031~0.0055	0.0031~0.0055	0.0024~0.0055	0.0024~0.0047	0.0031~0.0047	0.0020~0.0047	0.0024~0.0039	0.0024~0.0039	0.0016~0.0039
					1.063-2.362	26.5-60	0.0031~0.0055	0.0031~0.0055	0.0024~0.0055	0.0024~0.0047	0.0031~0.0047	0.0020~0.0047	0.0024~0.0039	0.0024~0.0039	0.0016~0.0039
Carbon Steel	★ 330~600	☆ 330~600	-	-	0.432-0.591	12-15	0.0016~0.0055	0.0016~0.0055	0.0016~0.0039	0.0016~0.0039	0.0016~0.0039	0.0016~0.0031	0.0016~0.0031	0.0016~0.0031	0.0016~0.0028
					0.630-0.709	15.5-18	0.0024~0.0063	0.0024~0.0063	0.0024~0.0047	0.0020~0.0047	0.0020~0.0047	0.0020~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031
					0.748-1.024	18.5-26	0.0031~0.0079	0.0031~0.0079	0.0024~0.0055	0.0028~0.0063	0.0028~0.0063	0.0020~0.0047	0.0024~0.0047	0.0024~0.0047	0.0020~0.0039
					1.063-2.362	26.5-60	0.0031~0.0079	0.0031~0.0079	0.0024~0.0055	0.0028~0.0063	0.0028~0.0063	0.0020~0.0047	0.0024~0.0047	0.0024~0.0047	0.0020~0.0039
Alloy Steel	★ 330~530	☆ 330~530	-	-	0.432-0.591	12-15	0.0016~0.0055	0.0016~0.0055	0.0016~0.0039	0.0016~0.0039	0.0016~0.0039	0.0016~0.0031	0.0016~0.0031	0.0016~0.0031	0.0016~0.0028
					0.630-0.709	15.5-18	0.0024~0.0063	0.0024~0.0063	0.0024~0.0047	0.0020~0.0047	0.0020~0.0047	0.0020~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031
					0.748-1.024	18.5-26	0.0031~0.0079	0.0031~0.0079	0.0024~0.0055	0.0028~0.0063	0.0028~0.0063	0.0020~0.0047	0.0024~0.0047	0.0024~0.0047	0.0020~0.0039
					1.063-2.362	26.5-60	0.0031~0.0079	0.0031~0.0079	0.0024~0.0055	0.0028~0.0063	0.0028~0.0063	0.0020~0.0047	0.0024~0.0047	0.0024~0.0047	0.0020~0.0039
Tool Steel	★ 270~500	☆ 270~500	-	-	0.432-0.591	12-15	0.0016~0.0031	0.0016~0.0031	0.0016~0.0031	0.0016~0.0028	0.0016~0.0028	0.0016~0.0028	0.0016~0.0024	0.0016~0.0024	0.0016~0.0024
					0.630-0.709	15.5-18	0.0024~0.0047	0.0024~0.0047	0.0024~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031	0.0016~0.0031	0.0016~0.0031	0.0016~0.0028
					0.748-1.024	18.5-26	0.0031~0.0059	0.0031~0.0059	0.0024~0.0047	0.0024~0.0047	0.0024~0.0047	0.0024~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031
					1.063-2.362	26.5-60	0.0031~0.0059	0.0031~0.0059	0.0024~0.0047	0.0024~0.0047	0.0024~0.0047	0.0024~0.0039	0.0020~0.0039	0.0020~0.0039	0.0020~0.0031
Stainless Steel (Austenitic)	☆ 240~470	★ 240~470	-	-	0.432-0.591	12-15	0.0024~0.0039	0.0024~0.0039	0.0016~0.0039	0.0020~0.0031	0.0020~0.0031	0.0016~0.0031	0.0016~0.0028	0.0016~0.0031	0.0016~0.0031
					0.630-0.709	15.5-18	0.0024~0.0039	0.0024~0.0039	0.0024~0.0047	0.0020~0.0031	0.0020~0.0031	0.0020~0.0043	0.0016~0.0028	0.0016~0.0028	0.0016~0.0039
					0.748-1.024	18.5-26	0.0031~0.0047	0.0031~0.0047	0.0024~0.0055	0.0028~0.0039	0.0028~0.0039	0.0024~0.0047	0.0028~0.0039	0.0028~0.0039	0.0024~0.0047
					1.063-2.362	26.5-60	0.0031~0.0047	0.0031~0.0047	0.0024~0.0055	0.0028~0.0039	0.0028~0.0039	0.0024~0.0047	0.0028~0.0039	0.0028~0.0039	0.0024~0.0047
Gray Cast Iron	-	-	★ 330~500	-	0.432-0.591	12-15	0.0031~0.0055	-	-	0.0024~0.0047	-	-	0.0016~0.0039	-	-
					0.630-0.709	15.5-18	0.0031~0.0071	-	-	0.0031~0.0063	-	-	0.0024~0.0047	-	-
					0.748-1.024	18.5-26	0.0031~0.0079	-	-	0.0031~0.0071	-	-	0.0024~0.0055	-	-
					1.063-2.362	26.5-60	0.0031~0.0079	-	-	0.0031~0.0071	-	-	0.0024~0.0055	-	-
Nodular Cast Iron	-	-	★ 270~400	-	0.432-0.591	12-15	0.0031~0.0047	-	-	0.0024~0.0039	-	-	0.0016~0.0031	-	-
					0.630-0.709	15.5-18	0.0031~0.0063	-	-	0.0031~0.0055	-	-	0.0024~0.0039	-	-
					0.748-1.024	18.5-26	0.0031~0.0071	-	-	0.0031~0.0063	-	-	0.0024~0.0047	-	-
					1.063-2.362	26.5-60	0.0031~0.0071	-	-	0.0031~0.0063	-	-	0.0024~0.0047	-	-
Non-ferrous Metals	-	-	-	★ 660~1980	0.432-0.591	12-15	-	-	0.0024~0.0047	-	-	0.0020~0.0039	-	-	0.0016~0.0031
					0.630-0.709	15.5-18	-	-	0.0031~0.0055	-	-	0.0024~0.0047	-	-	0.0020~0.0039
					0.748-1.024	18.5-26	-	-	0.0031~0.0063	-	-	0.0024~0.0055	-	-	0.0020~0.0047
					1.063-2.362	26.5-60	-	-	0.0031~0.0079	-	-	0.0031~0.0063	-	-	0.0028~0.0055
Titanium Alloys	-	-	-	★ 140~240	0.432-0.591	12-15	-	-	0.0020~0.0031	-	-	0.0016~0.0028	-	-	0.0016~0.0024
					0.630-0.709	15.5-18	-	-	0.0020~0.0031	-	-	0.0016~0.0028	-	-	0.0016~0.0024
					0.748-1.024	18.5-26	-	-	0.0024~0.0039	-	-	0.0024~0.0031	-	-	0.0020~0.0028
					1.063-2.362	26.5-60	-	-	0.0024~0.0039	-	-	0.0024~0.0031	-	-	0.0020~0.0028

- Apply a sufficient amount of coolant

★ : 1st Recommendation ☆ : 2nd Recommendation

Cutting Conditions by Application

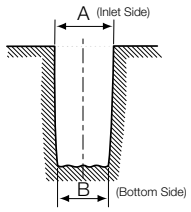
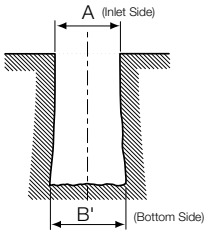
(Workpiece Material: 1049)

Applications	Plain Surface	Angled Surface	Half Cylindrical	Hole Expansion	Concave Surface	Existing Hole	Stacked Plates
Workpiece Shape							
Cutting Speed Vc (sfm)	390	390	390	390	390	390	Not Available
f (ipr)	0.004	0.002	0.002	0.002	Concave Surface: 0.002 Once drill is fully engaged: 0.004	*0.002	Not Available
Internal Coolant	Yes	Yes	Yes	Yes	Yes	Yes	Not Available

Max. Depth for Drilling with External Coolant

In case of using external coolant system, chip evacuation will be bad.
Therefore, D.O.C. should be measured within 1.5 times (1.5 x DC) of drill diameter (DC).

Troubleshooting (DRV / DRZ / DRX / DRS)

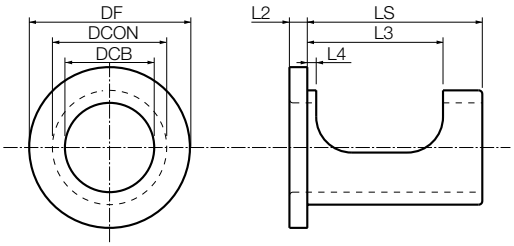
Problems	Conditions		Cause	Countermeasures
Hole Diameter is Smaller at the Bottom of the Hole		There is no problem for inlet, however gradually hole diameter is getting smaller at the bottom. A>B	Chip jam (External or Internal edge chip stuck)	Change the cutting conditions · Increase the cutting speed · Lower the feed rate See ➡ **K70~K73, K90, K102** for "Recommended Cutting Conditions".
Hole Diameter is Larger at the Bottom of the Hole		There is no problem for inlet, however gradually hole diameter is getting larger at the bottom. A<B	Internal edge chip jam.	Change the cutting conditions · Increase the cutting speed · Lower the feed rate See ➡ **K70~K73, K90, K102** for "Recommended Cutting Conditions". · Check the core height ➡ **K106~K107** (DRV) ➡ **K108~K109** (DRZ / DRX)
Hole Diameter is Small at the Hole Inlet			Incorrect adjustment of hole diameter.	In case of using lathe machine, use X-axis and adjustment hole diameter. ➡ **K106** (DRV) ➡ **K108** (DRZ / DRX)
			No core at internal edge. (No core remains)	Adjust the center height. ➡ **K106~K107** (DRV) ➡ **K108~K109** (DRZ / DRX)

Identifying Tool Life of Magic Drill (DRV / DRZ / DRX / DRS)

How to Judge Tool Life	Tool Life Indications
Tool Condition and Insert Wear	· When an insert is new, the holder is slightly bent to the side during cutting. (Therefore, the cutting diameter is slightly bigger during cutting). Once cutting is finished, the holder will return back to normal size. No tool marks will appear on the finished surface. (Although this depends on workpiece and cutting condition: during external machining slight tool mark might appear.)
	· When an insert is at the end of its tool life, Gradually the external corner part gets worn out, the holder does not bend slightly outwards - it starts to bend inwards. After the cutting is finished, the holder returns to the normal position. When taking off a holder under this condition the cutting edge of the insert creates external tool marks on the finished surface of the workpiece.
Checking Cutting Diameter	When cutting diameter is measured, suddenly it shows small diameter. In this case, a worn out insert can be the cause.
Checking the Surface on the Exit Side	If insert wear progresses, the burrs of penetrated hole entrance become bigger. This is a clear indication that the tool must be exchanged.
Variation of Cutting Noise	DRV / DRZ / DRX → Light drilling noise at the beginning turns to dull noise with vibration. DRS → Light drilling noise at the beginning turns to a whir-like noise. Although, it is difficult to recognize DRV / DRZ / DRX type's smaller drill diameters or DRS type's variation of drilling noise because of main motor noise or coolant discharge.
Variation of Vibration	As the end of tool life is getting closer, there is more vibration and the cutting noise changes. However, when machining smaller diameters these factors are difficult to detect.

ASL / SHE for **DRV**, **DRZ**, and **DRX** Magic Drills

Diameter Adjustment / Center Height Adjustment



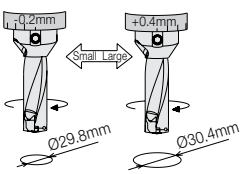
Sleeve Dimensions (Use ASL for inch size drills and SHE for metric size drills)

Part Number		Stock	Unit	Dimensions							Dia. Adjustment Range	Center Height Adjustment Range
				DCB	DCON	DF	LS	L2	L3	L4		
ASL	**75100-175**	●	inch	0.750	1.000	1.614	1.750	0.157	1.417	0.118	+0.016 ~ -0.008	+0.008 ~ -0.006
	100125-212	●		1.000	1.250	1.929	2.125	0.236	1.496	0.098	+0.016 ~ -0.008	+0.008 ~ -0.006
	125150-238	●		1.250	1.500	2.283	2.375	0.236	1.693	0.098	+0.016 ~ -0.008	+0.008 ~ -0.006
SHE	**2025-43**	●	mm	20	25	41	43	4	36	3.0	+0.4 ~ -0.2	+0.2 ~ -0.15
	2532-48	●		25	32	49	48	6	38	2.5	+0.4 ~ -0.2	+0.2 ~ -0.15
	3240-53	●		32	40	58	53	6	43	2.5	+0.4 ~ -0.2	+0.2 ~ -0.15
	4050-63	●		40	50	74	63	6	49	3.0	+0.4 ~ -0.2	+0.3 ~ -0.2

- Diameter adjustment range refers to the cutting diameter.
- ASL and SHE should only be used with the **DRV**, **DRX**, or **DRZ** Magic Drills. They are NOT recommended for the small diameter **DRS** Magic Drill because the adjustment range is too large.

1. Diameter Adjustment (for Machining Center)

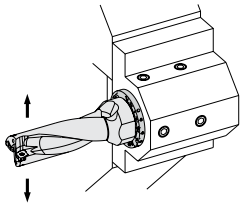
e.g.) Ø30mm Drill



● Diameter Adjustment

ASL (in)		**SHE** (mm)	
Shank Dia.	Adjustment Range	Shank Dia.	Adjustment Range
Ø0.750"	+0.016 ~ -0.008	Ø20	+0.4 ~ -0.2
Ø1.000"		Ø25	
Ø1.250"		Ø32	
-		Ø40	+0.6 ~ -0.2

2. Center Height Adjustment (for Lathe Operations)



● Center Height Adjustment

ASL (in)		**SHE** (mm)	
Shank Dia.	Adjustment Range	Shank Dia.	Adjustment Range
Ø0.750"	+0.008 ~ -0.006	Ø20	+0.2 ~ -0.15
Ø1.000"		Ø25	
Ø1.250"		Ø32	
-		Ø40	+0.3 ~ -0.2

How to Use the Adjustable Sleeve

1. Hole Diameter Adjustment when Drilling

(1) Adjust the scale at the flange periphery of the sleeve to the center of the drill coolant plug. (Fig.1)
(2) When making the hole diameter larger, rotate the sleeve in (+) direction and to make it smaller, rotate the sleeve in (-) direction.
(3) When rotating the sleeve, insert the wrench supplied with the drill into the hole on the flange periphery to rotate the sleeve.
(4) Using the bottom screw of the side-lock arbor, firmly tighten on the drill directly through the sleeve's window.
The upper screw should be tightened slightly so that the sleeve will not be damaged.

Caution:
· Not applicable with
Collet Chuck type Arbor.
· Scale on the sleeve is the reference value.
Check the actual hole diameter after adjusting.

DRV (DRX)

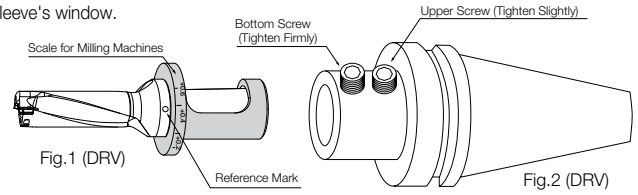


Fig.1 (DRV)
Fig.2 (DRV)

DRZ

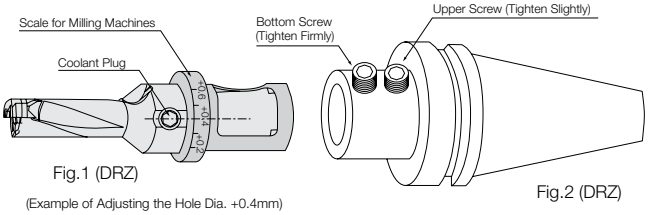


Fig.1 (DRZ)
Fig.2 (DRZ)
(Example of Adjusting the Hole Dia. +0.4mm)

2. Center-Height Adjustment for Lathes

Most Lathe problems occur due to Center Height Deviation.
The Center Height is appropriate if a core approximately 0.5mm diameter remains at the center of the end face. (Fig.3)
Center-height adjustment is necessary if:

◆ No core remains or ◆ Core diameter is more than 1mm

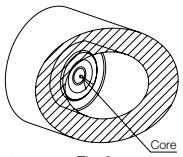


Fig.3

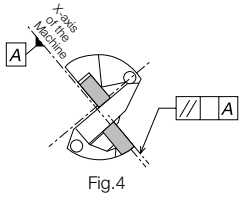


Fig.4

(1) Align the drill with the outer insert face parallel to the X-axis of the tool turret. (Fig.4)
(2) Align the scale (for the lathe) on the flange face of the sleeve to the center of the drill coolant plug.
(3) When no core remains, rotate the sleeve to (+) direction to make the core larger, and when the core diameter is more than 1mm, rotate the sleeve to (-) direction to make the core smaller.
(4) When rotating the sleeve, insert the wrench supplied with the drill into the hole on the flange periphery to rotate the sleeve.
(5) After Completing the adjustment, firmly tighten on the drill directly through the sleeve's window.
Note: Depending on amount of the center height adjustment, the hole diameter may change. It is recommended that the hole diameter is checked after the center height adjustment.

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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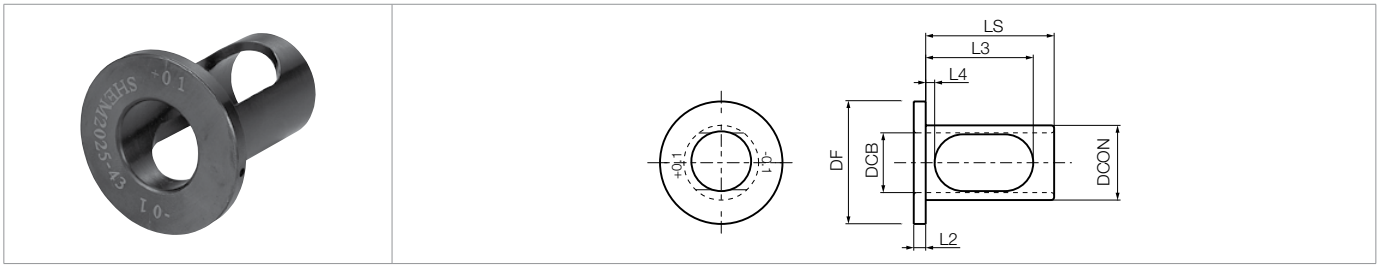
SHEM for **DRS** Mini Magic Drills

Diameter Adjustment



Sleeve Dimensions

Part Number		Stock	Unit	Dimensions							Dia. Adjustment Range
				DCB	DCON	DF	LS	L2	L3	L4	
SHEM	**2025-43**	●	mm	20	25	41	43	4	36	3.0	+ 0.1 ~ - 0.1
	2032-43	●			32	49		6		2.5	+ 0.1 ~ - 0.1

- Diameter adjustment range refers to the cutting diameter.

How to Use the Adjustable Sleeve

· SHEM is designed for only MagicDrill Mini (DRS type)
· SHEM is for drill diameter adjustment only. (up to +0.1mm or -0.1mm)
SHEM is not for center height adjustment like conventional adjustable sleeve (SHE type)
· Apply SHEM when adjusting the hole diameter for pre-drilling before threading.

(1) Set the outer edge horizontally with 90° to making line on the sleeve. (Fig.1)
(2) When making the hole diameter larger, align the +0.1 mark on the sleeve with the flat on the drill shank.
To adjust to smaller diameter, align the -0.1 mark on the sleeve with the flat on the drill shank. (Fig.1)
(3) Using the bottom screw of the side-lock arbor, firmly tighten on the drill directly through the sleeve's window.
The upper screw should be tightened slightly so that the sleeve will not be damage. (Fig.2.)

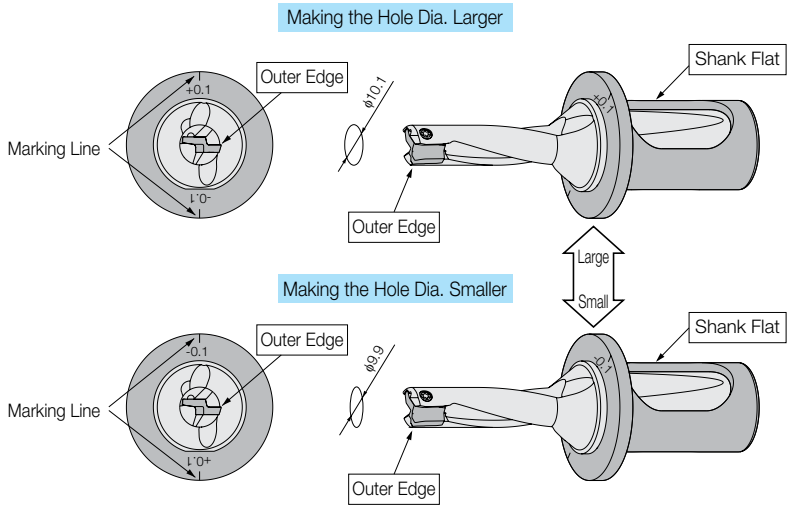


Fig.1 Diameter Adjustment Method (e.g.) Ø10mm Drill

Caution: Not applicable for Collet Chuck type Arbor.

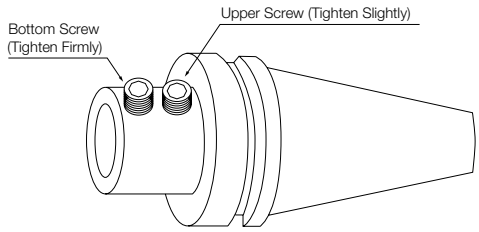


Fig.2

Magic Drill Setup for Lathes

● Installation

1. The top face of the outer insert should be parallel to the X-axis to allow for offset cutting.
   (Cutting diameter can be changed by moving in the X-axis.)
2. It is recommended to set the outer insert as shown in Fig.1 with the outer insert facing the operator. (Fig.1)
   (It is also possible to use it by setting it in 180° reverse position)
   If the lathe has two turrets, when installing the drill into the lower turret, the outer insert should be set to face the operator.
   (It is also possible to use it by setting at 180° reverse position)

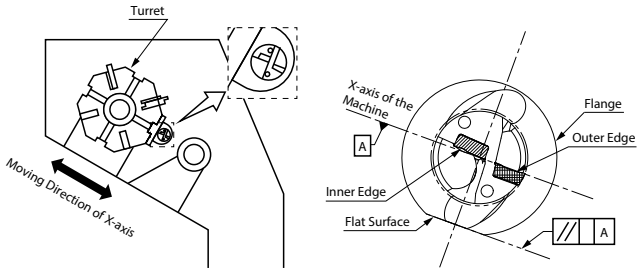


Fig.1 Installed into the Lathe

● Cutting Diameter Adjustment

1 Cutting Diameter Adjustment

1. Cutting diameter is adjusted by moving X-axis.
   The moving direction of the X-axis depends on the position of the toolholder.
2. For making the hole diameter larger, slide the tool along the X-axis toward the outer insert side. (Fig.2, Fig.3)
   For making the hole diameter smaller, slide the tool along the X-axis in the opposite direction.
   (This movement of the axis is called an "Offset")
   Be sure not to make the hole diameter smaller than the drill diameter by more than 0.2mm (0.008"). Otherwise, the toolholder will interfere with the drilled hole. (Fig.4)

Ex.) When using Ø20mm drill, the hole diameter must not be smaller than 19.8m (0.780")

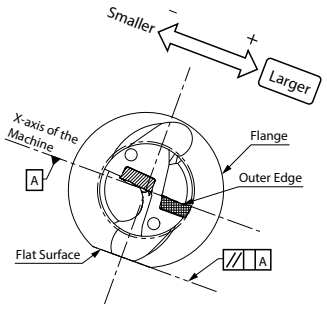


Fig.2 Outer Insert Facing Up

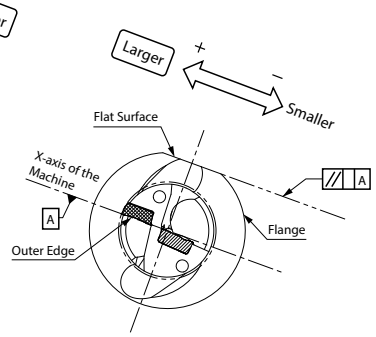


Fig.3 Outer Insert Facing Down

2 Offset Limit of the Cutting Diameter

For the maximum limit of the cutting diameter, refer to "Max. Offset (Radial)" in the Toolholder Dimensions table.
(The figure in the Toolholder Dimensions table shows how much it is possible to offset the drill in the radial direction.)

Ex.) When using Ø20mm (Ø0.787") drill, for example, it is possible to make a hole up to Ø21.1mm (0.831") since "Max. Offset (Radial)" is +0.55mm (+0.022").

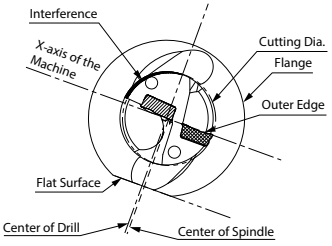


Fig.4 Excessive Offset (For Smaller Hole Diameter)

● Center Height Adjustment

1 Center Height of the Inner Insert

When installing inner insert as shown in Fig.1, it will be set around 0.05mm (0.002") below the Center of Spindle. (Fig.5)
This is the normal position of the center height.
However, in case that the turret of the lathe is out of alignment with the Center of Spindle, sometimes the inner insert may be above or below center.
For stable machining, it is essential to check the Center Height of the inner insert carefully

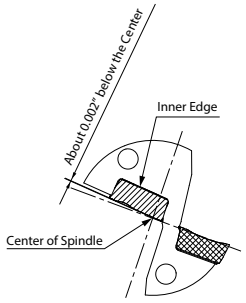


Fig.5 Front View of the Drill

2 How to Check the Center Height

For checking the center height of the inner insert, see the core which remains at the center of the bottom of the drilled hole.
If the center height is in the normal position, a core of about 0.5mm (0.020") in diameter, will remain after machining. (Fig.6)
Adjustment of center height is required if no core is present or a large core diameter of 1mm (0.039") or more remains.

* The drilled hole for verification purposes needs to be machined at approximately 10mm (0.375") in depth and at a feed rate of 0.004 ipr or lower.

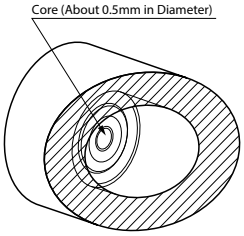


Fig.6 Center Core

3 Center Height Adjustment

1. When there is no remaining core and the inner insert is chipping

This occurs when the inner insert is set above center. (Fig.7)

How to Adjust

A.Install the drill rotated by 180˚
Most problems will be solved by this method (Fig.8)

B.If the core diameter becomes too large after the above adjustment, install the drill by rotating 90° counter-clockwise as shown in Fig.9 (outer edge is positioned lower) and adjust the center height by moving the tool in the X-axis direction.
(However, this will make it impossible to adjust the cutting diameter)
Caution: When installing the drill in the opposite direction
(outer insert is positioned above), the cutting diameter will become smaller, which may cause the drill body to interfere with the drilled hole.
The best solution is to readjust the center position of the turret itself.

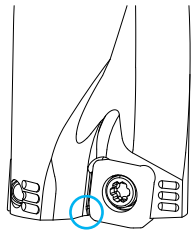


Fig.7 Insert breakage near the center of the drill

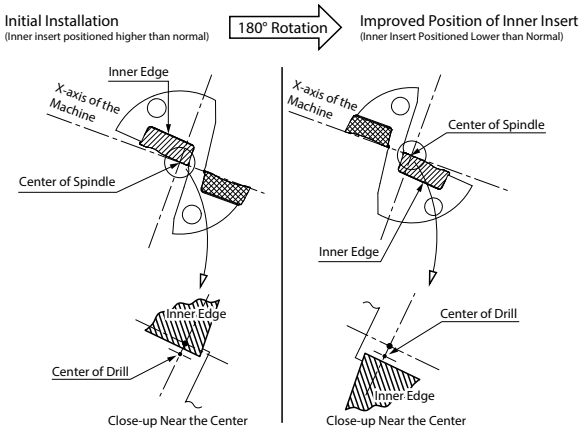


Fig.8

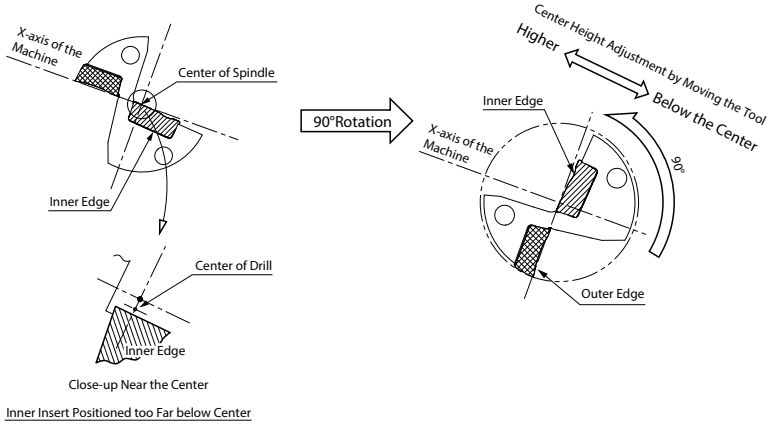


Fig.9

2. Core with Excessively Large Diameter More than 1mm (0.039")

This occurs when the inner insert is below center
This condition causes poor chip evacuation and an adjustment is required.

How to Adjust

Install the drill rotated 90˚ as shown in Fig.10. (outer insert is positioned on the upper side) and adjust the center height by moving tool in the X-axis direction.
(However, this will make it impossible to adjust the cutting diameter)
Caution: When installing the drill in the opposite direction
(outer insert is positioned lower), the cutting diameter will become smaller, which may cause the drill body to interfere with the drilled hole.
The best solution is to readjust the center position of the turret itself.

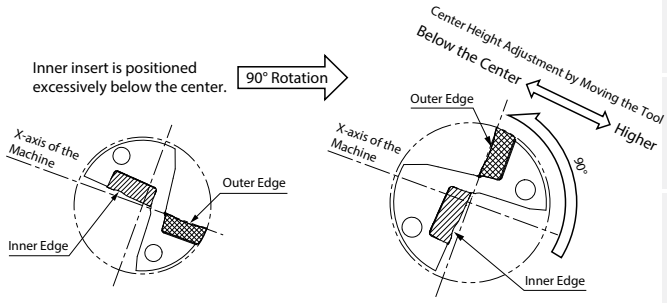


Fig.10

Magic Drill Setup for Lathes

● Installation

① The top face of the outer insert should be parallel to the X-axis to allow for offset cutting. (Cutting diameter can be changed by moving in the X-axis.)
② It is recommended to set the outer insert as shown in Fig.1 with the outer insert facing the operator.
(It is also possible to use it by setting 180° reverse position.)
In case of the lathe with two turrets, when installing the drill to the lower turret, the outer insert should be set so as to face the operator.
(It is also possible to use it by setting at 180° reverse position)

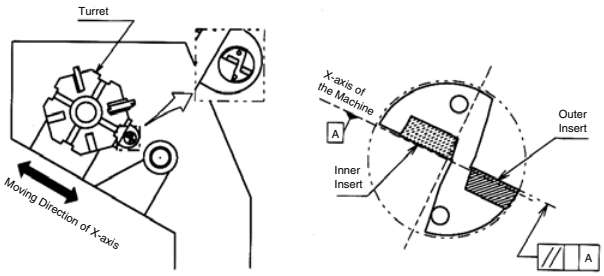


Fig.1 Installation to the Turning Lathe

● Cutting Diameter Adjustment

1. Cutting Diameter Adjustment

① Cutting diameter is adjusted by moving the tool in the X-axis direction.
The moving direction of the X-axis movement depends on the position of the toolholder.
② For making the hole diameter larger, slide the tool along the X-axis toward the outer insert side. (Fig. 2, Fig. 3)
For making the hole diameter smaller, slide the tool along the X-axis in the opposite direction.
(This movement of the axis is called an "Offset")
However, be sure not to make the hole diameter smaller than the drill diameter by more than 0.2mm (.008").
Otherwise, the toolholder will interfere with the drilled hole. (Fig. 4)
e.g.) when using Ø20 (Ø.787") drill, the hole diameter must not be smaller than 19.8mm (.780") .

2. Offset Limit of the Cutting Diameter

For the maximum limit of the cutting diameter, refer to "Max. Offset (Radial)" in the Toolholder Dimension table.
(The figure in the table shows how much it is possible the offset the drill in the radial direction.)
e.g.) In case of using Ø20 (Ø.787") drill, it is possible to make a hole up to Ø2 (Ø.827") 1 since "Max. Offset (Radial)" is +0.5mm (.02") .

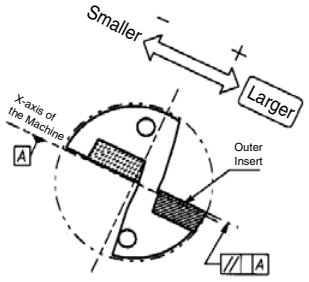


Fig. 2 Outer Insert Facing Up

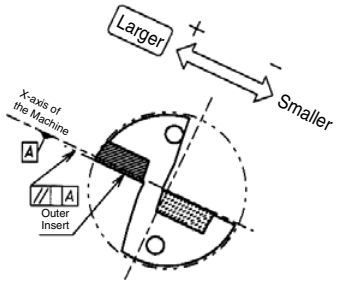


Fig. 3 Outer Insert Facing Down

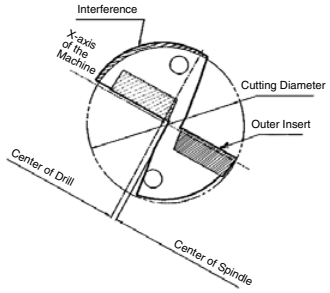


Fig. 4 Excessive Offset (For Smaller Hole Diameter)

● Center Height Adjustment

1. Center Height of the Inner Insert

When installing inner insert as shown in Fig. 1, it will be set around 0.2mm (.008") below the Center line of the Spindle. (Fig. 5)
This is the normal position of the center height and the inner insert is designed to be set at this position.
However, in case that the turret of the lathe is out of alignment with the center of spindle, sometimes the inner insert may be above or below center.
For stable machining, it is essential to check the center height of the inner insert carefully.

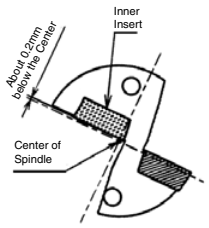


Fig. 5 Front View of the Drill

2. How to Check the Center Height of Inner Insert

For checking the center height of the inner insert, see the core which remains at the center of the drilled hole. (Fig. 6)
If the center height is in the normal condition, a core of about 0.5mm (.020") in diameter will remain after machining.

In the following case, it is necessary to adjust the center height.
- No core remains
- Core diameter is more than 1mm (.039")

The drilled hole for verification purposes needs to be machined at approximately 10mm (0.375") in depth and at a feed rate of 0.004 ipr or lower.

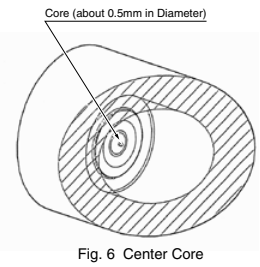


Fig. 6 Center Core

3. Center Height Adjustment

a) No Core or Cores with Small Diameter

This occurs when the inner insert is set above center.
In this case, adjustment is necessary since insert breakage is likely at the center of the drill. (Fig. 7)

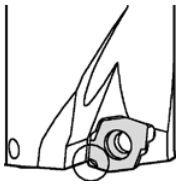


Fig. 7 Insert Breakage near the Center of Drill

Adjustments

① Install the drill rotated at the 180°. Most problems will be solved by this method.

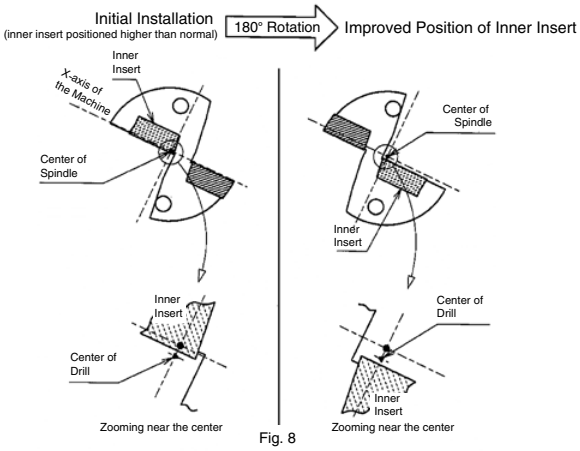


Fig. 8

② If the core diameter becomes too large after the above adjustment, install the drill rotated 90° counter-clockwise as shown in Fig.9 (outer insert is positioned lower) and adjust the center height by moving the tool in the X-axis direction. (However, this makes it impossible to adjust the cutting diameter.)

Caution: In case of installing the drill in the opposite direction (outer insert is positioned upper), the cutting diameter will become smaller, which may cause the drill body to interfere with the drilled hole.
The fundamental solution is to readjust the center position of the turret itself.

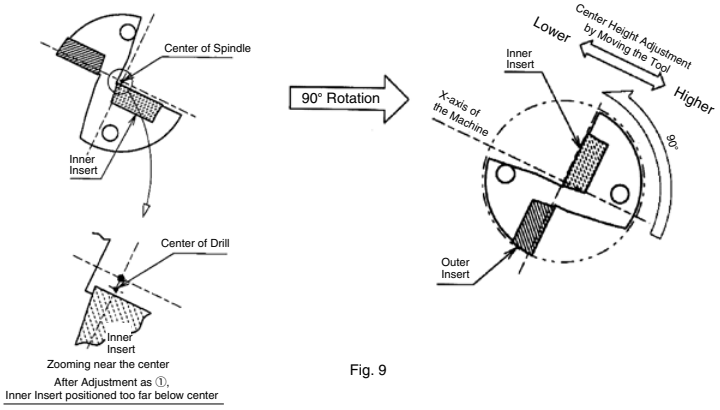


Fig. 9

b) Core with Excessively Large Diameter (More than 1mm/.04")

This occurs when the inner insert is below center.
This condition causes poor chip evacuation and on adjustment is required.

Adjustments

Install the drill rotated 90° counter-clockwise as shown in Fig.10 (outer insert is positioned upper), and adjust the center height by moving the tool in the X-axis direction.
(However, this makes it impossible to adjust the cutting diameter.)
Caution: When installing the drill in the opposite direction (outer insert is positioned lower), the cutting diameter will become smaller, which may cause the drill body to interfere with the drilled hole.
The fundamental solution is to readjust the center position of the turret itself.

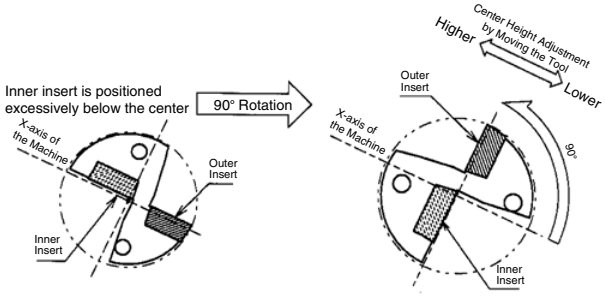


Fig. 10

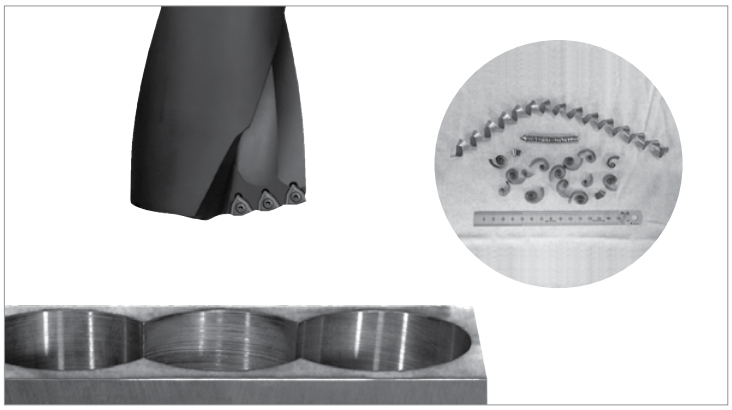
HOLESHOT™ Drill

Sharp Cutting with Enhanced Chip Evacuation

Superior Fracture Resistance and Long Tool Life with MEGACOAT NANO Coating Technology

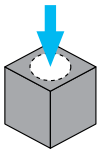
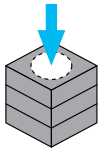
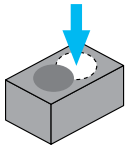
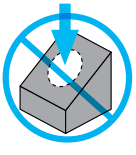
1. Drill Diameters from 0.688" to 4.000"
2. Flute Designs Optimized for Maximum Rigidity and Good Chip Evacuation
3. WCMX Inserts Available in MEGACOAT Grade PR1230

Patented Swept Back Design



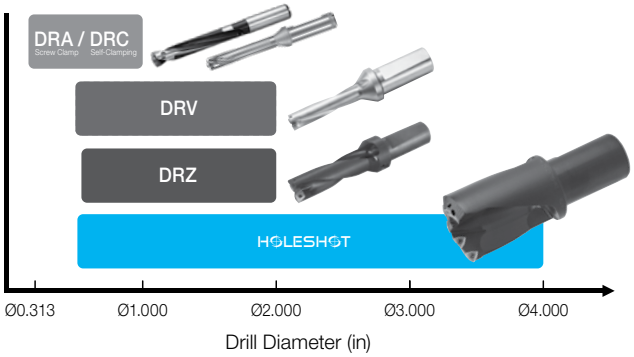
- Enables Drilling of Stacked Plates and Welded Assemblies
- Reduces Slug Formation
- Provides Excellent Chip Control

Applicable Workpieces

Plain Surface	Stacked Plates	Hole Expansion	Angled Surface
			

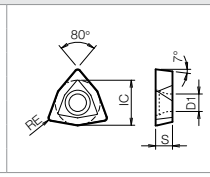
- Hole Expansion: Overlap amount of through hole must be 1/5DC (0.2 x DC) or less. Expansion of blind holes is not possible because chips are built up in the next hole and will cause chip recutting issues

● HOLESHOT™ Drill Diameter Range



Applicable HOLESHOT™ Inserts

Usage Classification			MEGACOAT NANO		MEGA COAT	CVD Carbide	Cermet	PVD Cermet			Carbide
★ : 1st Recommendation ☆ : 2nd Recommendation	P	Carbon Steel / Alloy Steel	☆		★						
		Tool Steel			★				☆		
	M	Stainless Steel	★		★	★			☆		
	K	Cast Iron		★						★	☆
	N	Non-ferrous Metals									★
	S	Heat-resistant Alloy	★		★	★			☆		

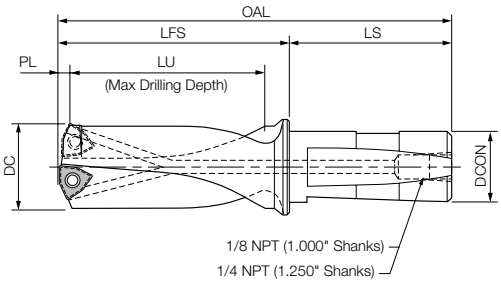
Insert	Part Number	Dimensions (in) IC	S	D1	RE	PR1535	PR1510	PR1230	CA6535	TN60	PV90	PR830	PR905	KW10
	WCMT 050308	5/16	1/8	0.125	1/32			●						
	06T308	3/8	5/32	0.146		●		●	●					
	WCMX 040204-M1A	1/4	0.094	0.084	1/64		●	●	●		●			●
	050308-M1	5/16	1/8	0.125	1/32		●	●	●	●				●
	050308-M1A							●	●		●			●
	06T308-M1	3/8	5/32	0.146			●	●	●				●	●
	06T308-M1A							●	●				●	●

WCMX…M1 & WCMT Inserts:
General purpose drilling insert; First choice for Med-High Carbon Steel, Tool Steels, and Cast Iron; also available for general purpose drilling in Stainless Steel. Tougher edge than M1A chipbreaker.

WCMX…M1A:
First choice for Low-carbon Steel, Aluminum, and other "sticky" materials. Freer cutting than M1 chipbreaker.

Inserts are sold in 10 piece boxes

HOLESHOT™ Drills (DR)



Toolholder Dimensions

Part Number	Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	PL	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K111
DR -0688-X3N	●	2	0.688	0.750	2.06	4.87	2.84	2.03	0.090	SCR-01	T7	WCMX 040204-M1A
-0719-X3N	●		0.719	0.750	2.15	5.00	2.97	2.03	0.093			
-0750-X3N	●		0.750	0.750	2.25	5.13	3.10	2.03	0.102			
-0781-X3N	●		0.781	0.750	2.34	5.26	3.23	2.03	0.106			
-0813-X3N	●		0.813	0.750	2.44	5.39	3.36	2.03	0.110			
-0844-X3N	●		0.844	0.750	2.53	5.52	3.49	2.03	0.114			
DR -0866	●	2	0.866 (22mm)	1.000	1.75	4.78	2.50	2.28	0.130	SCR-03	T9	WCMX 050308-M1 WCMX 050308-M1A
-0866-X3N	●				2.60	5.80	3.52					
-0875	●		0.875	1.000	1.75	4.78	2.50	2.28	0.131			
-0875-X3N	●				2.63	5.79	3.51					
-0906	●		0.906 (23mm)	1.000	1.75	4.78	2.50	2.28	0.135			
-0906-X3N	●				2.71	5.88	3.60					
-0937	●		0.937	1.000	1.75	4.78	2.50	2.28	0.139			
-0937-X3N	●				2.81	5.98	3.70					
-0945	●		0.945 (24mm)	1.000	1.75	4.78	2.50	2.28	0.140			
-0945-X3N	●				2.83	6.04	3.76					
-0969-X3N	●		0.969	1.000	2.91	6.08	3.80	2.28	0.143			
-0984	●		0.984 (25mm)	1.000	1.75	4.78	2.50	2.28	0.145			
-0984-X3N	●				2.95	6.17	3.89					

Recommended Cutting Conditions K116

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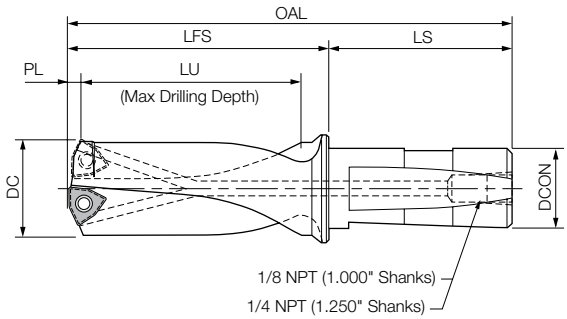
HOLESHOT™ Drills (DR)



Toolholder Dimensions

Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	PL	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K111
DR	-1000	●	2	1.000	1.000	1.75	4.78	2.50	2.28	0.147	SCR-03	T9	WCMX 050308-M1 WCMX 050308-M1A
	-1000-X3N	●				3.00	6.18	3.90					
	-1024-X3N	●		1.024 (26mm)	1.000	3.07	6.29	4.01	2.28	0.150			
	-1031	●		1.031	1.000	2.13	5.16	2.88	2.28	0.151			
	-1031-X3N	●				3.09	6.27	3.99					
	-1062	●		1.062 (27mm)	1.000	2.13	5.16	2.88	2.28	0.155			
	-1062-X3N	●				3.18	6.37	4.09					
	-1094	●		1.094	1.000	2.13	5.16	2.88	2.28	0.159			
	-1102	●		1.102 (28mm)	1.000	2.13	5.16	2.88	2.28	0.160			
	-1102-X3N	●				3.31	6.53	4.25					
	-1125	●		1.125	1.000	2.13	5.16	2.88	2.28	0.163			
	-1125-X3N	●				3.37	6.56	4.28					
	-1142	●		1.142 (29mm)	1.000	2.13	5.16	2.88	2.28	0.165			
	-1142-X3N	●				3.43	6.66	4.38					
	-1156	●		1.156	1.000	2.13	5.16	2.88	2.28	0.167			
	-1156-X3N	●				3.47	6.67	4.39					
DR	-1181-X3N	●	2	1.181 (30mm)	1.000	3.54	6.78	4.50	2.28	0.169	SCR-30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
	-1187	●		1.187	1.000	2.13	5.16	2.88	2.28	0.169			
	-1187-X3N	●			1.250	3.56	6.76	4.48					
	-1250	●		1.250	1.000	2.50	5.53	3.25	2.28	0.177			
	-1250-X3N	●			1.250	3.75	6.96	4.68					
	-1299	●		1.299 (33mm)	1.000	2.50	5.53	3.25	2.28	0.184			
	-1312	●		1.312	1.000	2.50	5.53	3.25	2.28	0.185			
	-1312-X3N	●			1.250	3.94	7.16	4.88					
	-1339	●		1.339 (34mm)	1.000	2.50	5.53	3.25	2.28	0.189			
	-1339-X3N	●			1.250	4.02	7.27	4.99					
	-1375	●		1.375	1.000	2.50	5.53	3.25	2.28	0.193			
	-1375-X3N	●			1.250	4.12	7.34	5.06					
	-1406	●		1.406	1.000	2.75	5.78	3.50	2.28	0.197			
	-1406-X3N	●			1.250	4.22	7.45	5.17					
	-1417	●		1.417 (36mm)	1.000	2.75	5.78	3.50	2.28	0.199			
	-1437	●		1.437	1.000	2.75	5.78	3.50	2.28	0.196			
	-1437-X3N	●			1.250	4.31	7.54	5.26					
	-1457	●		1.457 (37mm)	1.000	2.75	5.78	3.50	2.28	0.199			
	-1469	●		1.469	1.000	2.75	5.78	3.50	2.28	0.200			
	-1469-X3N	●			1.250	4.40	7.63	5.35					
	-1496	●		1.496 (38mm)	1.000	2.75	5.78	3.50	2.28	0.204			

Recommended Cutting Conditions K116

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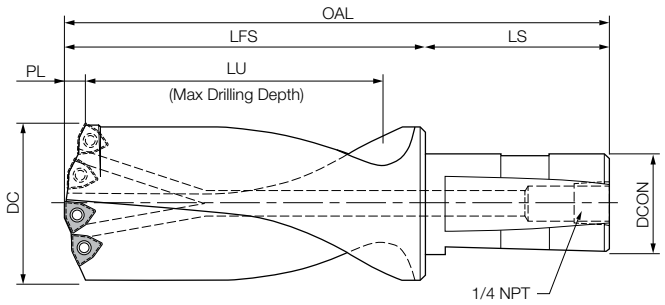
HOLESHOT™ Drills (DR)



Toolholder Dimensions

Part Number	Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	PL	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K111
DR -1500	●	2	1.500	1.000	2.75	5.78	3.50	2.28	0.204	SCR-30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
-1500-X3N	●			1.250	4.50	7.73	5.45	2.28				
-1531-X3N	●		1.531	1.250	4.59	8.08	5.80	2.28	0.208			
-1562	●		1.562	1.250	2.88	6.16	3.88	2.28	0.212			
-1562-X3N	●			1.250	4.68	8.17	5.89	2.28				
DR -1575	●	3	1.575 (40mm)	1.250	2.88	6.16	3.88	2.28	0.208	SCR-03	T9	WCMX 050308-M1 WCMX 050308-M1A
-1575-X3N	●			1.500	4.72	8.61	5.92	2.69				
-1594-X3N	●		1.594	1.500	4.78	8.68	5.99	2.69	0.210			
-1614	●		1.614 (41mm)	1.250	2.88	6.16	3.88	2.28	0.212			
-1614-X3N	●			1.500	4.84	8.73	6.04	2.69				
-1625	●		1.625	1.250	2.88	6.16	3.88	2.28	0.214			
-1625-X3N	●			1.500	4.87	8.77	6.08	2.69				
-1656	●		1.656	1.250	2.88	6.16	3.88	2.28	0.218			
-1687	●		1.687	1.250	2.88	6.16	3.88	2.28	0.221			
-1719	●		1.719	1.250	3.00	6.41	4.13	2.28	0.225			
DR -1732	●	4	1.732 (44mm)	1.250	3.00	6.41	4.13	2.28	0.224			
-1732-X3N	●			1.500	5.20	9.29	6.60	2.69				
-1750	●		1.750	1.250	3.00	6.41	4.13	2.28	0.225			
-1750-X3N	●			1.500	5.25	9.30	6.61	2.69				
-1772	●		1.772 (45mm)	1.250	3.00	6.41	4.13	2.28	0.231			
-1772-X3N	●			1.500	5.31	9.42	6.73	2.69				
-1781	●		1.781	1.250	3.00	6.41	4.13	2.28	0.223			
-1781-X3N	●			1.500	5.34	9.38	6.69	2.69				
-1812	●		1.812	1.250	3.00	6.41	4.13	2.28	0.230			
-1812-X3N	●			1.500	5.43	9.48	6.79	2.69				
-1844	●		1.844	1.250	3.38	6.78	4.50	2.28	0.233			
-1850-X3N	●		1.850 (47mm)	1.500	5.55	9.66	6.97	2.69	0.233			
-1875	●		1.875	1.250	3.38	6.78	4.50	2.28	0.240			
-1875-X3N	●			1.500	5.62	9.68	6.99	2.69				
-1890-X3N	●		1.890 (48mm)	1.500	5.67	9.79	7.10	2.69	0.246			
-1906-X3N	●		1.906	1.500	5.72	9.79	7.10	2.69	0.254			
-1929	●		1.929 (49mm)	1.250	3.38	6.78	4.50	2.28	0.259			
-1929-X3N	●			1.500	5.79	9.92	7.23	2.69				
-1937	●		1.937	1.250	3.38	6.78	4.50	2.28	0.259			
-1937-X3N	●			1.500	5.81	9.89	7.20	2.69				
-1969	●		1.969 (50mm)	1.250	3.38	6.78	4.50	2.28	0.260			
-1969-X3N	●			1.500	5.91	9.99	7.30	2.69				

Recommended Cutting Conditions K116

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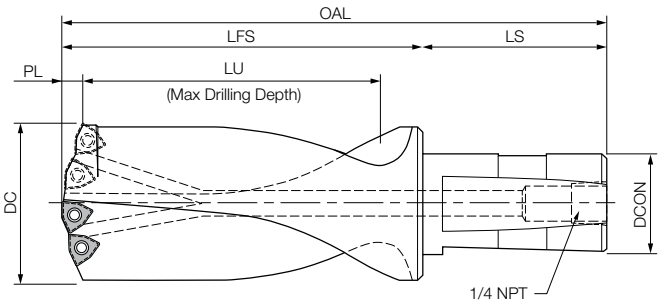
HOLESHOT™ Drills (DR)



Toolholder Dimensions

Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	PL	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K111
DR	-2000	●	4	2.000	1.250	3.38	6.78	4.50	2.28	0.267	SCR-03	T9	WCMX 050308-M1 WCMX 050308-M1A
	-2000-X1	●			1.250	2.13	6.06	3.38	2.28				
	-2000-X3N	●			1.500	6.00	10.09	7.40	2.69				
	-2008-X3N	●		2.008 (51mm)	1.500	6.02	10.16	7.47	2.69	0.267			
	-2031	●		2.031	1.500	3.50	7.44	4.75	2.69	0.268			
	-2031-X3N	●			1.500	6.09	10.30	7.61	2.69				
DR	-2062	●	4	2.062	1.500	3.50	7.44	4.75	2.69	0.260	SCR-30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
	-2062-X1	●			1.500	2.13	6.06	3.38	2.69				
	-2062-X3N	●			2.000	6.18	10.94	7.69	3.25				
	-2094	●		2.094	1.500	3.50	7.44	4.75	2.69	0.267			
	-2094-X1	●			1.500	2.13	6.06	3.38	2.69				
	-2094-X3N	●			2.000	6.28	11.05	7.80	3.25				
	-2125	●		2.125 (54mm)	1.500	3.50	7.44	4.75	2.69	0.266			
	-2125-X3N	●			2.000	6.37	11.14	7.89	3.25				
	-2187	●		2.187	1.500	3.88	7.81	5.13	2.69	0.273			
	-2187-X1	●			1.500	2.31	6.25	3.56	2.69				
	-2187-X3N	●			2.000	6.56	11.33	8.08	3.25				
	-2219	●		2.219	1.500	3.88	7.81	5.13	2.69	0.277			
	-2219-X1	●			1.500	2.31	6.25	3.56	2.69				
	-2219-X3N	●			2.000	6.66	11.44	8.19	3.25				
	-2250	●		2.250	1.500	3.88	7.81	5.13	2.69	0.281			
	-2250-X1	●			1.500	2.31	6.25	3.56	2.69				
	-2250-X3N	●			2.000	6.75	11.53	8.28	3.25				
	-2281	●		2.281	1.500	3.88	7.81	5.13	2.69	0.283			
	-2312	●		2.312	1.500	3.88	7.81	5.13	2.69	0.287			
	-2312-X3N	●			2.000	6.93	11.72	8.47	3.25				
	-2323	●		2.323 (59mm)	1.500	3.88	7.81	5.13	2.69	0.290			
	-2344-X3N	●		2.344	2.000	7.03	11.95	8.70	3.25	0.289			

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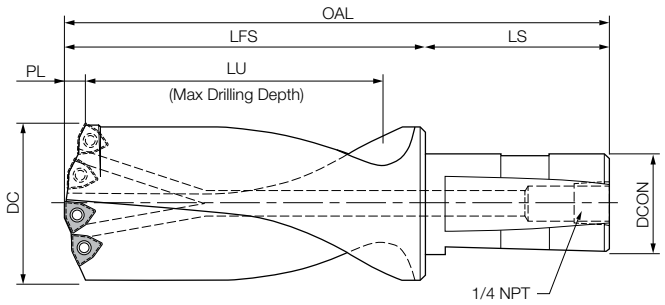
HOLESHOT™ Drills (DR)



Toolholder Dimensions

Part Number	Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	PL	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K111
DR -2362	●	4	2.362 (60mm)	1.500	4.13	8.19	5.50	2.69	0.301	SCR-30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
-2375	●		2.375	1.500	4.13	8.19	5.50	2.69	0.298			
-2375-X1	●			1.500	2.50	6.56	3.88	2.69				
-2375-X3N	●			2.000	7.12	12.05	8.80	3.25				
-2406-X1	●		2.406	1.500	2.50	6.56	3.88	2.69	0.304			
-2437	●		2.437	1.500	4.13	8.19	5.50	2.69	0.309			
-2437-X1	●			1.500	2.50	6.56	3.88	2.69				
-2437-X3N	●			2.000	7.31	12.25	9.00	3.25				
-2469	●		2.469	1.500	4.13	8.19	5.50	2.69	0.319			
-2469-X1	●			1.500	2.50	6.56	3.88	2.69				
-2500	●		2.500	1.500	4.13	8.19	5.50	2.69	0.329			
-2500-X1	●			1.500	2.50	6.56	3.88	2.69				
-2500-X3N	●			2.000	7.50	12.46	9.21	3.25				
-2625	●		2.625	2.000	6.50	11.25	8.00	3.25	0.326			
-2625-X1	●			2.000	2.75	7.50	4.25	3.25				
-2750	●		2.750	2.000	6.50	11.25	8.00	3.25	0.340			
-2750-X1	●			2.000	2.75	7.50	4.25	3.25				
-2875	●		2.875	2.000	6.50	11.25	8.00	3.25	0.357			
-2875-X1	●			2.000	3.00	7.75	4.50	3.25				
-3000-X1	●	6	3.000	2.000	3.00	7.75	4.50	3.25	0.369			
-3000	●			2.000	6.50	11.25	8.00	3.25				
-3125	●		3.125	2.000	7.63	12.50	9.25	3.25	0.393			
-3125-X1	●			2.000	3.25	8.13	4.88	3.25				
-3250	●		3.250	2.000	7.63	12.50	9.25	3.25	0.387			
-3250-X1	●			2.000	3.25	8.13	4.88	3.25				
-3375	●		3.375	2.000	7.63	12.50	9.25	3.25	0.393			
-3375-X1	●			2.000	3.50	8.38	5.13	3.25				
-3500	●		3.500	2.000	7.63	12.50	9.25	3.25	0.440			
-3500-X1	●			2.000	3.50	8.38	5.13	3.25				
-3625	●		3.625	2.000	7.94	12.67	9.42	3.25	0.441			
-3750	●		3.750	2.000	8.00	13.00	9.75	3.25	0.459			
-3750-X1	●			2.000	3.75	8.75	5.50	3.25				
-3875	●		3.875	2.000	8.44	13.44	10.19	3.25	0.470			
-4000	●		4.000	2.000	8.56	13.88	10.63	3.25	0.482			
-4000-X1	●			2.000	4.00	9.38	6.13	3.25				

Recommended Cutting Conditions K116

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HOLESHOT™ - Recommended Cutting Conditions (with Coolant)

Workpiece Material	Feed Rate (ipr)	Recommended Insert Grade / Cutting Speed (sfm)									Notes
		MEGACOAT NANO		MEGACOAT	CVD Carbide	Cermet	PVD Cermet	PVD Coated Carbide		Carbide	
		PR1535	**PR1510**	**PR1230**	**CA6535**	**TN60**	**PV90**	**PR830**	**PR905**	**KW10**	
Low Carbon Steel	0.0015~0.0035	☆ 250~650	-	★ 800~900	-	-	-	☆ 800~900	-	-	Coolant
Carbon Steel	0.005~0.009	☆ 250~550	-	★ 400~800	-	-	-	☆ 400~800	-	-	
Alloy Steel	0.004~0.010	☆ 225~500	-	★ 250~750	-	-	-	☆ 250~750	-	-	
Tool Steel	0.004~0.010	-	-	★ 250~750	-	-	-	☆ 250~750	-	-	
Stainless Steel (Austenitic)	0.0025~0.006	★ 200~600	-	★ 200~600	☆ 250~650	-	-	☆ 200~600	-	-	
Gray Cast Iron	0.005~0.011	-	★ 400~800	-	-	-	-	-	☆ 400~800	☆ 400~800	
Nodular Cast Iron	0.004~0.010	-	★ 300~500	-	-	-	-	-	☆ 300~500	☆ 300~500	
Non-ferrous Metals	0.008~0.010	-	-	-	-	★ 1,800~2,000	-	-	-	★ 1,800~2,000	
Heat-resistant Alloy	0.0010~0.0015	☆ 75~150	-	★ 75~150	★ 75~200	-	-	☆ 75~150	-	-	
Titanium Alloys	0.0025~0.0030	★ 100~200	-	-	-	-	-	-	☆ 100~210	☆ 150~250	

- Apply a sufficient amount of coolant

★ : 1st Recommendation ☆ : 2nd Recommendation

HOLESHOT™ Applications

DRILL APPLICATION HOLESHOT INDEXABLE DRILL

Stationary

For stationary (lathe) applications the drill should be mounted in a toolholder that is concentric within 0.003 TIR and parallel to the machine centerline. Flats on the shank should be precisely aligned so that the cutting edges are parallel to the x-axis, which will help chip flow.

A disc is normally produced as the drill breaks through the hole. Although the disc is usually minimal with holeshot, adequate guarding should be provided for and in place.

holeshot drills can be used to back bore an existing hole to a desired size. The drill can be offset by up to 0.015" for back boring.

Rotating

Make certain the spindle is rigid with minimal runout. Since both machine and fixture rigidity are key factors, make sure the workpiece is fixed rigidly and secured. Mount drill for the least possible overhang and make sure the drill flange is flush against the face of the adapter.

Coolant - Chip removal and tool life are enhanced by feeding coolant through the drill. 30 P.S.I. minimum coolant pressure is recommended for horizontal applications. Vertical position requires a higher coolant pressure (40 to 60 P.S.I.) to flush chips properly.

Through the tool coolant is preferred for holeshot drilling, but due to the unique flute design, coolant deficiencies can be overcome. Especially in smaller, lower horsepower machine tools, strong flood coolant can be utilized with excellent results. When flooding the cut, direct coolant directly into the drilling area.

Coremaster Coredrill

Fast and Effective way to Expand Pre-Existing Holes

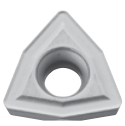
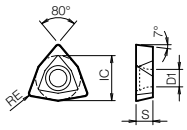
Superior Fracture Resistance and Long Tool Life with MEGACOAT Coating Technology

1. Two Effective Flutes Allow High Feed Rates for Improved Productivity
2. WCMX Inserts Available in MEGACOAT Grade PR1230
3. Deeper Drilling Depths Available in XL Series

Coremaster Coredrill available in both **Fixed Pocket** and **Adjustable Cartridge**
Adjustable cartridges can be adjusted 0.075" per side, providing 0.150" adjustment capability on diameter

Applicable Coremaster Coredrill Inserts

Usage Classification			PR1535	PR1510	PR1230	CA6535	TN60	PV90	PR830	PR905	KW10
★ : 1st Recommendation ☆ : 2nd Recommendation	P	Carbon Steel / Alloy Steel	☆		★			☆			
		Tool Steel			★		☆	☆	☆		
	M	Stainless Steel	★		★	★	☆	☆	☆		
	K	Cast Iron		★						★	☆
	N	Non-ferrous Metals									★
	S	Heat-resistant Alloy	★		★	★			☆		

Insert	Part Number	Dimensions (in) IC	S	D1	RE	PR1535	PR1510	PR1230	CA6535	TN60	PV90	PR830	PR905	KW10
		**WCMT 050308**	5/16	1/8	0.125	1/32			●						
		06T308	3/8	5/32	0.146		●		●	●					
		WCMX 050308-M1	5/16	1/8	0.125	1/32		●	●	●	●				●
		050308-M1A							●	●		●			●
		06T308-M1	3/8	5/32	0.146			●	●	●				●	●
		06T308-M1A							●	●				●	●

WCMX…M1 & WCMT Inserts:
General purpose drilling insert; First choice for Med-High Carbon Steel, Tool Steels, and Cast Iron; also available for general purpose drilling in Stainless Steel. Tougher edge than M1A chipbreaker.

WCMX…M1A:
First choice for Low-carbon Steel, Aluminum, and other "sticky" materials. Freer cutting than M1 chipbreaker.

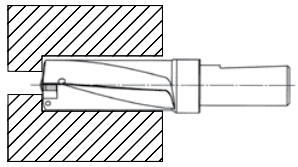
Applicable Toolholders ➔ **K118~K119**

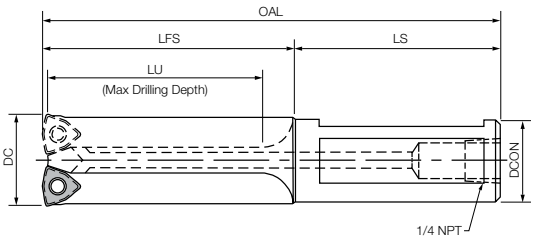
Inserts are sold in 10 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Coremaster Coredrills (CD)

Fixed Pocket





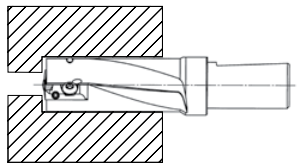
Toolholder Dimensions

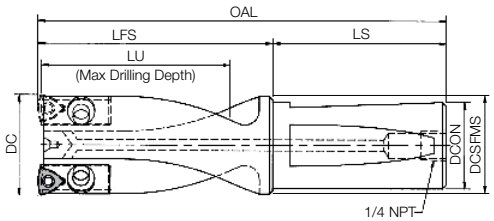
Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K117
CD	-0825	●	2	0.825	1.000	1.750	4.750	2.250	2.500	SCR03	T9	WCMX 050308-M1 WCMX 050308-M1A
	-0865	●		0.865								
	-0938	●		0.938								
	-0990	●		0.990		2.000	5.000	2.500				
	-1052	●		1.052								
	-1115	●	2	1.115	1.000	2.500	5.500	3.000	2.500	SCR30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
	-1178	●		1.178								
	-1240	●		1.240								
	-1303	●		1.303								

- Maximum material removal: WCMX 050308 – 5/16" per side, WCMX 06T308 – 3/8" per side.

Coremaster Coredrills (CD)

Adjustable Cartridge





Toolholder Dimensions

Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	DCSFMS	LU	OAL	LFS	LS	Spare Parts: Insert Screw	Spare Parts: Wrench	Spare Parts: Cartridge	Spare Parts: Cartridge Screw	Applicable Insert See Page K117
CD	-1360-C	●	2	1.36-1.46	1.250	1.27	2.750	6.250	3.500	2.750	SCR30	T10	02-03	01-01	WCMX 06T308-M1 WCMX 06T308-M1A
	-1460-C	●		1.46-1.56		1.37									
	-1560-C	●		1.56-1.66		1.47									
	-1660-C	●		1.66-1.76		1.57								01-02	
	-1760-C	●		1.76-1.86	1.500	1.67	3.125	7.000	4.000	3.000					
	-1860-C	●		1.86-1.96		1.77									
	-1960-C	●		1.96-2.06		1.87									
	-2060-C	●		2.06-2.16		1.97									
	-2160-C	●		2.16-2.26		2.07									
	-2260-C	●		2.26-2.36		2.17									
	-2360-C	●		2.36-2.46		2.27									
	-2460-C	●		2.46-2.56		2.37									
	-2560-C	●		2.56-2.66		-									
	-2660-C	●		2.66-2.76											
	-2760-C	●		2.76-2.86											
	-2860-C	●		2.86-2.96											
	-2960-C	●		2.96-3.06											

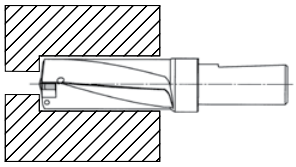
- Maximum material removal: WCMX 050308 – 5/16" per side, WCMX 06T308 – 3/8" per side.

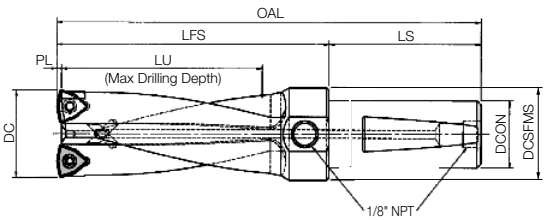
Recommended Cutting Conditions K120

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

Coremaster Coredrills (CD-XL)

Extended Length - Fixed Pocket





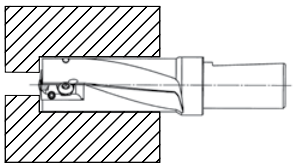
Toolholder Dimensions

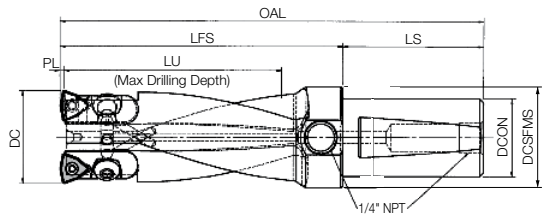
Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	DCSFMS	LU	OAL	LFS	LS	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K117
CD	-0825-XL	●	2	0.825	1.000	1.375	2.250	5.530	3.250	2.280	SCR03	T9	WCMX 050308-M1 WCMX 050308-M1A
	-0865-XL	●		0.865	1.000	1.375	2.250	5.530	3.250	2.280			
	-0938-XL	●		0.938	1.000	1.375	2.500	5.780	3.500	2.280			
	-0990-XL	●		0.990	1.000	1.375	2.500	5.780	3.500	2.280			
	-1052-XL	●		1.052	1.000	1.375	2.500	5.780	3.500	2.280			
	-1115-XL	●		1.115	1.000	1.375	3.000	6.280	4.000	2.280	SCR30	T10	WCMX 06T308-M1 WCMX 06T308-M1A
	-1178-XL	●		1.178	1.000	1.375	3.000	6.280	4.000	2.280			
	-1240-XL	●		1.240	1.000	1.375	3.000	6.280	4.000	2.280			
	-1303-XL	●		1.303	1.000	1.375	3.000	6.280	4.000	2.280			

- Maximum material removal: WCMX 050308 – 5/16" per side, WCMX 06T308 – 3/8" per side.

Coremaster Coredrills (CD-LC)

Extended Length - Adjustable Cartridge





Toolholder Dimensions

Part Number		Stock	No. of Inserts	Dimensions (in) DC	DCON	DCSFMS	LU	OAL	LFS	LS	Spare Parts: Insert Screw	Spare Parts: Wrench	Spare Parts: Cartridge	Spare Parts: Cartridge Screw	Applicable Insert See Page K117
CD	-1350-LC	●	2	1.35-1.50	1.250	1.63	3.500	6.780	4.500	2.280	SCR30	T10	02-03	01-01	WCMX 06T308-M1 WCMX 06T308-M1A
	-1500-LC	●		1.50-1.65											
	-1650-LC	●		1.65-1.80	1.500	1.88	4.500	8.190	5.500	2.690				01-02	
	-1800-LC	●		1.80-1.95											
	-1950-LC	●		1.95-2.10	1.500	-	4.500	8.190	5.500	2.690					
	-2100-LC	●		2.10-2.25											
	-2250-LC	●		2.25-2.40	2.000	2.38	5.500	9.750	6.500	3.250					
	-2400-LC	●		2.40-2.55	2.000	-	5.500	9.750	6.500	3.250					
	-2550-LC	●		2.55-2.70											
	-2700-LC	●		2.70-2.85	2.000	-	6.000	10.250	7.000	3.250					
	-2850-LC	●		2.85-3.00											
	-3000-LC	●		3.00-3.15											

- Maximum material removal: WCMX 050308 – 5/16" per side, WCMX 06T308 – 3/8" per side.

Recommended Cutting Conditions K120

Coremaster Coredrills (CD) - Recommended Cutting Conditions

Workpiece Material	Feed Rate (ipr)	Recommended Insert Grade / Cutting Speed (sfm)									Notes
		MEGACOAT NANO		MEGACOAT	CVD Carbide	Cermet	PVD Cermet	PVD Coated Carbide		Uncoated Carbide	
		PR1535	**PR1510**	**PR1230**	**CA6535**	**TN60**	**PV90**	**PR830**	**PR905**	**KW10**	
Low Carbon Steel	0.003~0.007	☆ 250~650	-	★ 800~900	-	-	☆ 300~1,000	☆ 800~900	-	-	Coolant
Carbon Steel	0.010~0.018	☆ 250~550	-	★ 400~800	-	-	☆ 300~900	☆ 400~800	-	-	
Alloy Steel	0.008~0.020	☆ 225~500	-	★ 250~750	-	-	☆ 250~800	☆ 250~750	-	-	
Tool Steel	0.008~0.020	-	-	★ 250~750	-	-	☆ 200~750	☆ 250~750	-	-	
Stainless Steel (Austenitic)	0.005~0.012	★ 200~600	-	★ 200~600	☆ 250~650	-	-	☆ 200~600	-	-	
Gray Cast Iron	0.010~0.022	-	★ 400~800	-	-	-	-	-	☆ 400~800	☆ 400~800	
Nodular Cast Iron	0.008~0.020	-	★ 300~500	-	-	-	-	-	☆ 300~500	☆ 300~500	
Non-ferrous Metals	0.016~0.020	-	-	-	-	★ 1,800~2,000	-	-	-	★ 1,800~2,000	
Heat-resistant Alloy	0.002~0.005	☆ 75~150	-	★ 75~150	★ 75~200	-	-	☆ 75~150	-	-	
Titanium Alloys	0.005~0.006	★ 100~200	-	-	-	-	-	-	☆ 100~210	☆ 150~250	

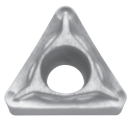
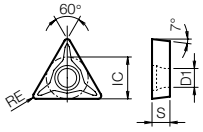
★ : 1st Recommendation ☆ : 2nd Recommendation

Stinger Drills

1. Economic Alternative to the Magic Drill
2. Perfect for Job Shop or Small Quantity Production
3. Ideal for Low Horsepower Machines
4. Cermet and Coated Carbide Inserts Available

Applicable Stinger Drill Inserts

Usage Classification								
★ : 1st Recommendation ☆ : 2nd Recommendation	P	Carbon Steel / Alloy Steel	☆	☆			
		Tool Steel	☆	☆			
	M	Stainless Steel			★		
	K	Cast Iron					★
	N	Non-ferrous Metals	☆	☆			★
	S	Heat-resistant Alloy			★		☆

Insert		Part Number	Dimensions (in)				Cermet	PVD Cermet	CVD Coated Carbide	PVD Coated Carbide	Carbide
			IC	S	D1	RE	TN60	PV90	CA6535	PR830	KW10
		**TCMT 12122HP**	5/32	0.078	0.087	1/32	●	●	●		●
		18152HP	7/32	3/32	0.094	1/32	●	●	●		●

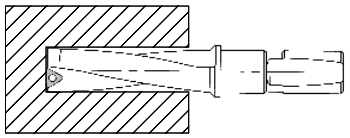
*Unless noted, use the same grade insert in all pockets

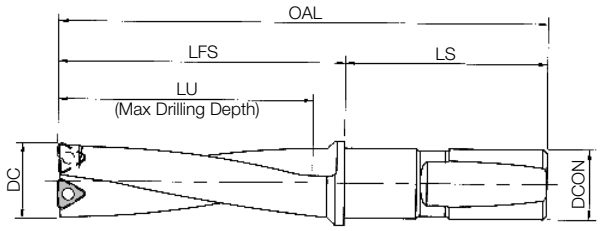
Applicable Toolholders ➔ K122

Inserts are sold in 10 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Stinger Drills (SDR)





Toolholder Dimensions

Part Number	Stock	No. of Inserts	Dimensions (in) DC	DCON	LU	OAL	LFS	LS	Spare Parts: Insert Screw	Spare Parts: Wrench	Applicable Insert See Page K121
SDR -0484	△	2	0.484	0.500	1.45	3.45	1.95	1.50	SCR07	T6	TCMT 12122HP
-0492	△		0.492 (12.5mm)								
-0500	△		0.500								
-0516	△		0.516								
-0531	△		0.531								
-0547	△		0.547								
-0563	△		0.563								
-0578	△		0.578	0.500	1.63	3.63	2.13	1.50			
-0594	△		0.594								
-0609	△		0.609								
-0625	△		0.625								
SDR -0641	△	2	0.641	0.500	1.80	3.80	2.30	1.50	SCR07	T6	
-0656	△		0.656								
-0688	△		0.688	0.500	1.97	3.97	2.47	1.50			
-0703	△		0.703								
SDR -0734	△	2	0.734	0.625	2.16	4.41	2.66	1.75	SCR-05	T7	TCMT 18152HP
-0748	△		0.748 (19mm)								
-0750	△		0.750								
-0766	△		0.766	0.625	2.25	4.63	2.75	1.88			
-0781	△		0.781								
-0813	△		0.813	0.750	2.50	5.03	3.00	2.03			

*Unless noted, use the same grade insert in all pockets

Recommended Cutting Conditions K123

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

Stinger Drills (SDR) - Recommended Cutting Conditions

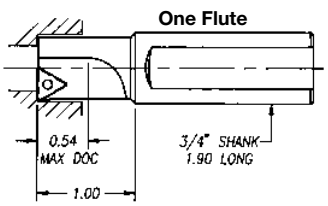
Workpiece Material	Feed Rate (ipr)	Recommended Insert Grade / Cutting Speed (sfm)					Notes
		Cermet	PVD Cermet	CVD Coated Carbide	PVD Coated Carbide	Carbide	
		TN60	**PV90**	**CA6535**	**PR830**	**KW10**	
Low Carbon Steel	0.001~0.002	☆ 300~900	☆ 250~900	-	★ 250~700	-	Coolant
Carbon Steel	0.001~0.003	☆ 450~700	☆ 400~700	-	★ 400~600	-	
Alloy Steel	0.001~0.003	☆ 450~700	☆ 400~700	-	★ 400~600	-	
Tool Steel	0.001~0.002	☆ 300~450	☆ 250~450	-	★ 200~400	-	
Stainless Steel (Austenitic)	0.001~0.002	-	-	★ 350~600	★ 300~550	-	
Gray Cast Iron	0.001~0.003	☆ 500~900	-	-	★ 300~500	★ 250~450	
Nodular Cast Iron	0.001~0.003	☆ 400~700	-	-	★ 300~450	★ 250~400	
Non-ferrous Metals	0.001~0.006	☆ 500~1,200	-	-	-	★ 400~1,100	
Heat-resistant Alloy	0.0005~0.0015	-	-	★ 75~200	☆ 75~125	-	
Titanium Alloys	0.0008~0.0015	-	-	-	-	☆ 50~125	

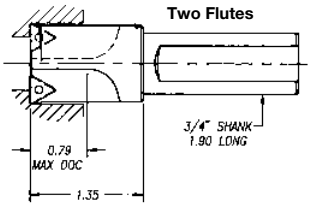
*Unless noted, use the same grade insert in all pockets

★ : 1st Recommendation ☆ : 2nd Recommendation

Counterbores

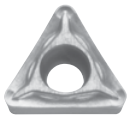
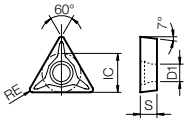
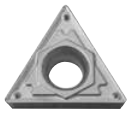
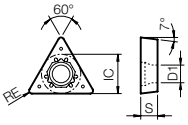
For Socket Head Cap Screw Sizes 1/4"~3/4" and 6mm~16mm





Applicable Counterbore Inserts

Usage Classification											
★ : 1st Recommendation ☆ : 2nd Recommendation	P	Carbon Steel / Alloy Steel	☆	☆	☆	☆		★	☆	
		Tool Steel	☆	☆	☆	☆		★	☆	
	M	Stainless Steel					★		☆	
	K	Cast Iron		☆				☆		☆
	N	Non-ferrous Metals	☆							★
	S	Heat-resistant Alloy					★		☆	

Insert		Part Number	Dimensions (in)				Cermet	PVD Cermet			CVD Carbide		PVD Carbide	Carbide
			IC	S	D1	RE	TN60	PV7010	PV7025	PV90	CA6535	CA525	PR830	KW10
		**TCMT 18151HP**	7/32	3/32	0.094	1/64	●			●	●		●	●
		**TCMT 18151HQ**	7/32	3/32	0.098	1/64	●		△			●		

Counterbores (SHCS-CB)

Inserts are sold in 10 piece boxes

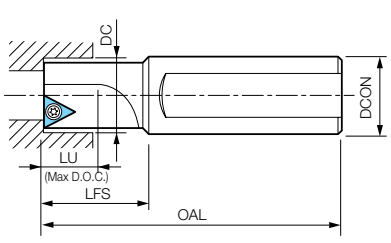


Fig.1

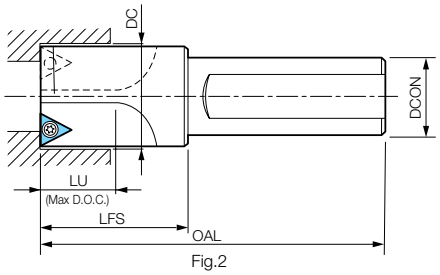


Fig.2

Toolholder Dimensions (Inch & Metric Sizes)

Part Number	Stock	Unit	No. of Inserts	Dimensions						Drawing	Spare Parts		Applicable Insert See Table Above
				SHCS Size	DC	DCON	LU	OAL	LFS		Insert Screw	Wrench	
1/4-SHCS-CB	●	inch	1	1/4	0.422	0.750	0.54	2.90	1.00	Fig.1	SCR-05	FT-7	**TCMT 18151HP** **TCMT 18151HQ**
5/16-SHCS-CB	●			5/16	0.515								
3/8-SHCS-CB	●			3/8	0.609								
7/16-SHCS-CB	●			7/16	0.703								
1/2-SHCS-CB	●		2	1/2	0.797		0.79	3.25	1.35	Fig.2			
5/8-SHCS-CB	●			5/8	1.000								
3/4-SHCS-CB	●			3/4	1.187								
M6-SHCS-CB	●	mm	1	M6	0.440	0.750	0.54	2.90	1.00	Fig.1	SCR-05	FT-7	**TCMT 18151HP** **TCMT 18151HQ**
M8-SHCS-CB	●			M8	0.558								
M10-SHCS-CB	●			M10	0.676								
M12-SHCS-CB	●		2	M12	0.755		0.79	3.25	1.35	Fig.1			
M16-SHCS-CB	●			M16	1.00								

• Maximum material removal per side is 1/4"

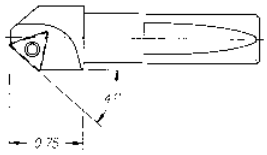
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

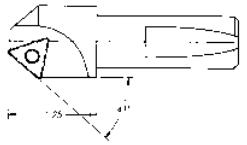
Countersinks

For Flat Head Cap Screw Sizes #10 ~ 3/4"

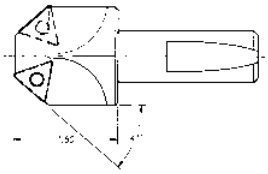
CS-82-177



CS-82-362

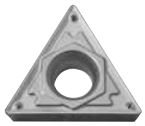
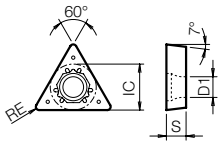


CS-82-612



Applicable Countersink Inserts

Usage Classification										
★ : 1st Recommendation ☆ : 2nd Recommendation	P	Carbon Steel / Alloy Steel	☆	☆	☆	★	★	☆	
		Tool Steel	☆	☆	☆	★	★	☆	
	M	Stainless Steel					★	☆	
	K	Cast Iron		☆		☆			☆
	N	Non-ferrous Metals	☆						☆
	S	Heat-resistant Alloy					☆		

Insert		Part Number	Dimensions (in)				Cermet	PVD Cermet		CVD Carbide	PVD Coated Carbide		Carbide
			IC	S	D1	RE	TN60	PV7010	PV720	CA525	PR830	PR930	KW10
		**TCMT 2151HQ**	1/4	3/32	0.110	1/64	●		●	●	●	●	●
		3252HQ	3/8	5/32	0.173	1/32	●		●	●	●		

Countersinks (CS)

Inserts are sold in 10 piece boxes

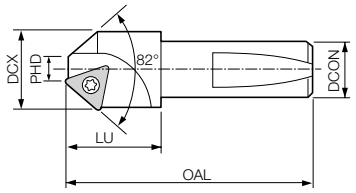


Fig.1

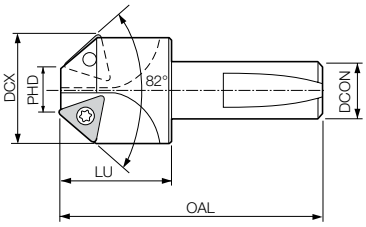


Fig.2

Toolholder Dimensions (Inch Sizes)

Part Number		Stock	No. of Inserts	Dimensions (in)					Rake Angle		Drawing	FHCS Size	Spare Parts		Applicable Insert See Table Above
				DCX	PHD	DCON	OAL	LU	A.R.	R.R.			Insert Screw	Wrench	
CS	**82-177**	●	1	0.673	0.177	0.500	2.530	0.750	0°	0°	Fig.1	#10, 1/4", 5/16"	SCR-01	FT-7	**TCMT2151**
	82-362	●	1	1.073	0.362	0.750	3.280	1.250				3/8", 7/16", 1/2"	SCR-02	FT-15	**TCMT3252**
	82-612	●	2	1.464	0.612	0.750	3.530	1.500			Fig.2	5/8", 3/4"			

• CS82-612 is one flute effective with staggered inserts.

Custom Drills

Several customization options available for your specific drilling applications

Add Multiple Counterbores, Countersinks, or Chamfer Inserts

Custom Shanks Available

CAT
ABS
BT
HSK
Metric
Special Diameters & Lengths

Custom Diameters and Lengths Available

Customized Drill Ordering Procedure

To request a quote for a custom drill, please follow the steps below:

1. Photocopy and fill out the Special Tool Design Worksheet on adjacent page.
2. Fax the completed form along with any necessary prints and drawings to the Kyocera Quotations Department at 828-692-1344.
3. Contact the Kyocera Quotations Department at 800-823-7284 with any questions regarding the custom drill quotation procedure.

Kyocera Precision Tools
Ph: 800-823-7284
Fax: 828-692-1344
Email: cuttingtools@kyocerapti.com
www.kyoceraprecisiontools.com

SPECIAL TOOL DESIGN WORKSHEET

DATE: _____

CUSTOMER INFORMATION

Company Name: _____ Phone: _____
Contact: _____ Fax: _____
Address: _____ Email: _____
City, State, Zip: _____
Kyocera Distributor Name: _____

PART INFORMATION

Part Number or Description: _____
Material: _____ Hardness (Rc): _____
Current problem or objective: _____

MACHINE INFORMATION

Machine being tooled: _____ Machine condition, age: _____
Spindle Hp: _____ Max RPM: _____ Max IPM: _____
Circle one of each: Horizontal or vertical spindle? Stationary or rotating tooling?

TOOL INFORMATION

Describe the tool (drill, mill, combo tool?) _____
Quantity to quote: _____ Shank size/description: _____
Right or left hand cutting: _____ Thru coolant? (and inlet type/location): _____
Size or weight restrictions (if applicable): _____

Prints and Drawings	Supplied information should include:
Finished part	Tolerance requirements, raw stock tolerances
Raw stock or casting	Surface finish requirements (witness lines ok?)
Fixturing	Depth(s) of cut
Special inserts, hardware, etc.	Fillets, inside corner radii (insert nose radii)
Process sheet	Allowable overtravel on thru cuts
Existing tooling	Amount of finish stock to leave