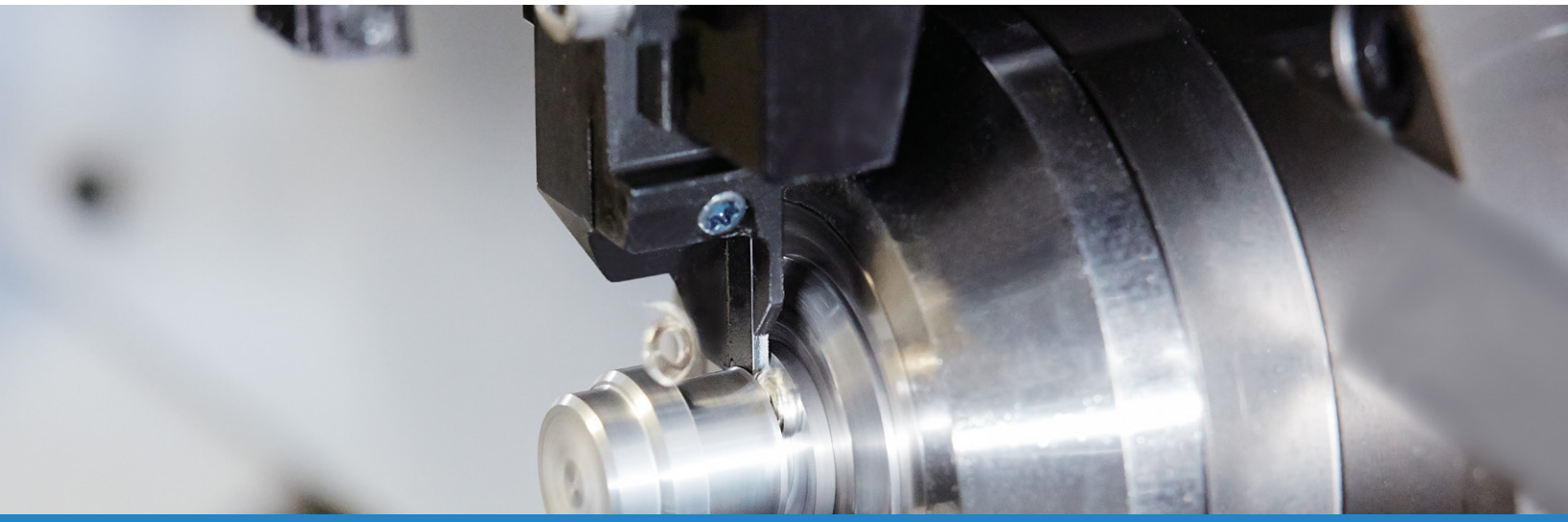
KYOCERA

KGD for Small Parts

Small Diameter Cut-off



Stable Machining and Long Tool Life for Lower Production Costs

Edge Widths Available from 0.051" (1.3mm)

Excellent Chip Control

Long Tool Life with MEGACOAT NANO PR1535

NEW

New Sub Spindle Toolholder Available

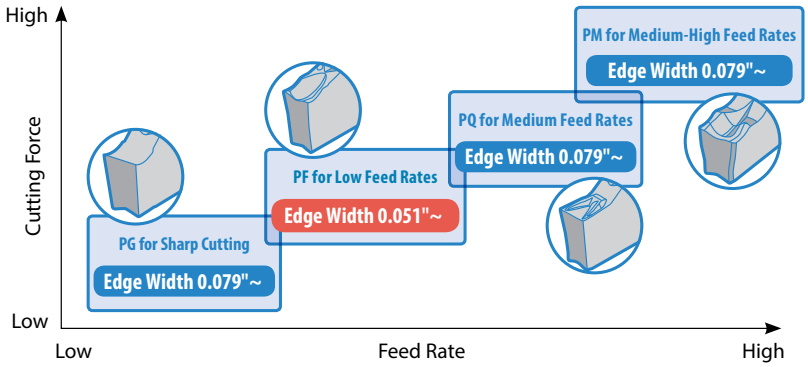
NEW

PF Chipbreaker with Corner R 0.006" is Now Available

KGD Cut-off for Small Parts

Edge Widths Available from 0.051" (1.3mm)
Excellent Chip Control and Stable Machining with Long Tool Life

1 Chipbreaker Lineup and Application



2 Excellent Chip Control with New Molded Chipbreaker

PF Chipbreaker

Depression at center of chipbreaker curls chips at low feed range (f = 0.0004 ~ 0.0020 ipr).
Small corner R (rε) = 0.0012", 0.0059" effectively reduces the boss remaining on the workpiece surface.

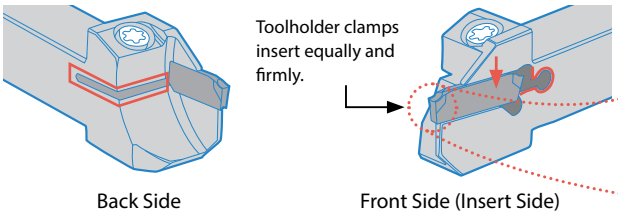
PQ Chipbreaker

Chipbreaker finely breaks chips with double the projection at medium feed range (f = 0.0016 ~ 0.0039 ipr).
Corner R (rε) = 0.0039" combines both sharpness and fracture resistance.

3 Strong Insert Clamping Force

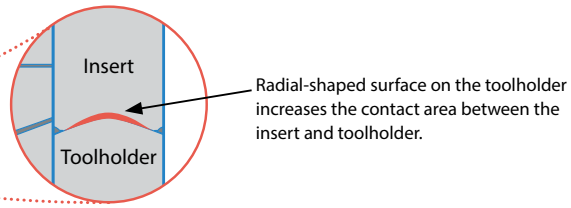
New Slit Design

Insert clamping force is improved by firmly fastening the front side (insert side) of the toolholder.



Radial-shaped Surface on Toolholder

Insert clamping force and installation are improved by increasing contact area between the insert and toolholder.



Clamping Force Comparison (Traversing)

(In-house Evaluation)

Cutting Conditions: Vc = 260 sfm, f = ~ 0.012 ipr, D.O.C. = 0.039" ~ 0.118", wet (Oil Base) Workpiece: W1-9 (Ø0.394")

Depth of Cut (D.O.C.)	0.039"		0.059"		0.079"		0.118"	
Feed Rate (f)	0.010 ipr	0.012 ipr	0.010 ipr	0.012 ipr	0.010 ipr	0.012 ipr	0.010 ipr	0.012 ipr
KGD							×	Stable Machining
Competitor A			×					
Competitor B			×					

MEGACOAT NANO **PR1535**

The combination of a tough substrate and special nano layer coating enables long tool life and stable machining of stainless steel.

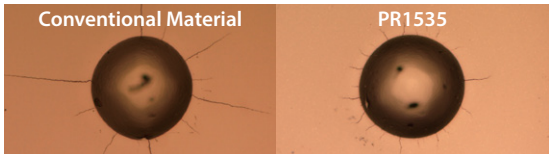
1 Toughening with a New Cobalt Mixing Ratio
* Comparison with Kyocera's Conventional Grade

23% Fracture Toughness*

2 Improved Stability by Optimization and Homogenization of the Particle Matrix

3 Long Tool Life and Stable Machining with MEGACOAT NANO

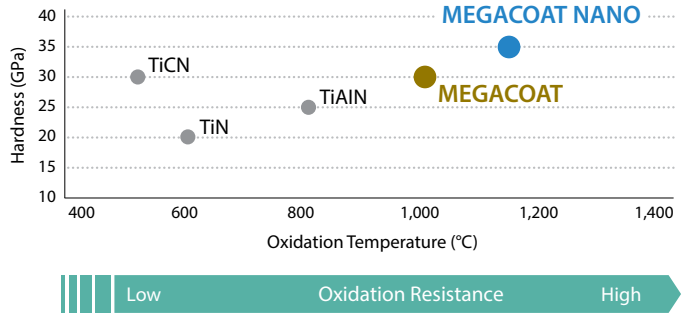
Cracking Comparison by Diamond Indenter (In-house Evaluation)

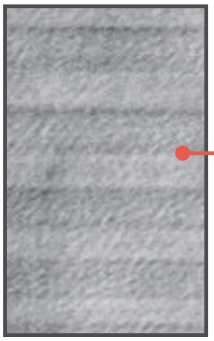


Long Cracks Short Cracks

Shock Resistance

Coating Property

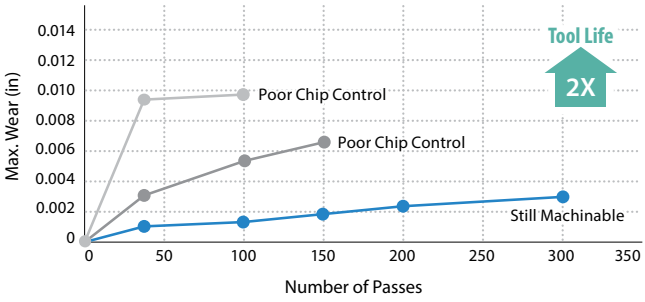




MEGACOAT Base Layer Structure

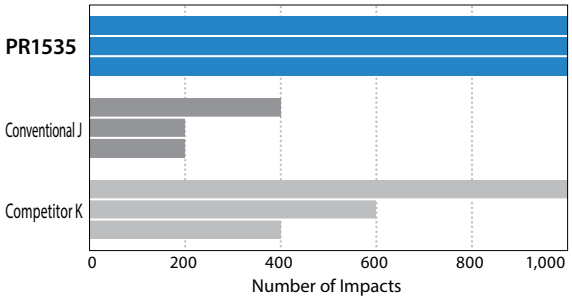
PR1535 is a good solution for unstable conditions such as early fracturing and variable tool life during steel machining.

Wear Resistance Evaluation (In-house Evaluation)



Cutting Conditions: n = 1,273 rpm (Vc = 260 sfm), f = 0.001 ipr, wet (oil base)
Workpiece: 304 (Ø0.787")

Fracture Resistance Comparison (In-house Evaluation)

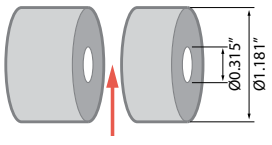


Cutting Conditions: Vc = 260 sfm, f = 0.005 ipr, wet (water soluble)
Workpiece: 304 (Ø1.969, width: 0.394" 4 slots)

Case Studies

Machine Part 304

Vc = 430 sfm
f = 0.0016 ipr
Wet
GDM3020R-025PM-6D PR1535



Number of Workpieces

PR1535 **400 pcs/edge** Tool Life 2X

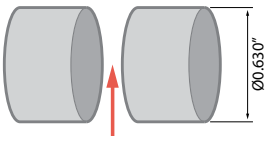
Competitor E **200 pcs/edge**

Compared to Competitor E, PR1535 showed good edge condition and doubled the tool life even at higher feed rates. (f = 0.0012 ipr ⇒ 0.0016 ipr)

(User Evaluation)

Joint 304L

Vc = 260 sfm
f = 0.020 ipr
Wet
GDM2020N-010PQ PR1535



Number of Workpieces

PR1535 **1,000 pcs/edge** Tool Life 25%

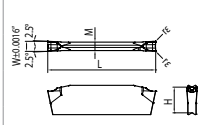
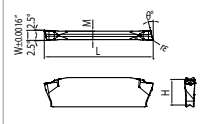
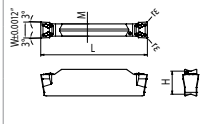
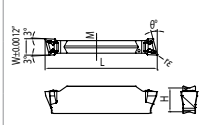
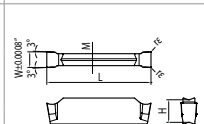
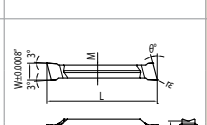
Competitor F **800 pcs/edge**

PR1535 extended the tool life by 25% compared to Competitor F. PQ chipbreaker showed smooth chip control and cutting edge condition was good without sudden fracturing.

(User Evaluation)

GDM / GDG Inserts

Usage Classification			NEW			NEW	
	P	Carbon Steel / Alloy Steel	○	●	○		
● : Continuous to Light Interruption / 1st Choice ○ : Continuous to Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	M	Stainless Steel	●	○	○		
	N	Non-ferrous Metals				●	○

Insert Right-handed Insert Shown			Part Number	Dimensions (in)								Angle	MEGA COAT NANO	MEGACOAT			DLC	Carbide
				Edge Width (W)			Corner R (rε)	M	L	H	θ	PR1535	PR1225	PR1215	PDL025	GW15		
				inch	mm	Tolerance												
Cut-off	Low Feed Rate 2-Edge		GDM 1316N-003PF	0.051	1.3	±0.0016	0.0012	0.039	0.630	0.146	-	○	○	○				
			1316N-015PF	0.051	1.3	±0.0016	0.0059	0.039	0.630	0.146	-	○	○	○				
			1516N-003PF	0.059	1.5	±0.0016	0.0012	0.047	0.630	0.146	-	●	●	○				
			1516N-015PF	0.059	1.5	±0.0016	0.0059	0.047	0.630	0.146	-	●	●	○				
			2020N-003PF	0.079	2.0	±0.0016	0.0012	0.067	0.787	0.169	-	●	●					
			2020N-015PF	0.079	2.0	±0.0016	0.0059	0.067	0.787	0.169	-	●	●	○				
			2520N-003PF	0.098	2.5	±0.0016	0.0012	0.083	0.787	0.169	-	●	○					
			2520N-015PF	0.098	2.5	±0.0016	0.0059	0.083	0.787	0.169	-	●	●	○				
			3020N-003PF	0.118	3.0	±0.0016	0.0012	0.091	0.787	0.169	-	●	●					
			3020N-015PF	0.118	3.0	±0.0016	0.0059	0.091	0.787	0.169	-	●	●	○				
	15° Lead Angle Low Feed Rate 2-Edge		GDM 1316R/L-003PF-15D	0.051	1.3	±0.0016	0.0012	0.039	0.630	0.146	15°	○	○	○				
			1516R/L-003PF-15D	0.059	1.5	±0.0016	0.0012	0.047	0.630	0.146	15°	●	Ⓡ	○				
			1516R/L-015PF-15D	0.059	1.5	±0.0016	0.0059	0.047	0.630	0.146	15°	Ⓡ	Ⓡ	Ⓡ				
			2020R/L-003PF-15D	0.079	2.0	±0.0016	0.0012	0.067	0.787	0.169	15°	●	●					
			2020R/L-015PF-15D	0.079	2.0	±0.0016	0.0059	0.067	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ				
			2520R/L-003PF-15D	0.098	2.5	±0.0016	0.0012	0.083	0.787	0.169	15°	●	Ⓡ					
			2520R/L-015PF-15D	0.098	2.5	±0.0016	0.0059	0.083	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ				
			3020R/L-003PF-15D	0.118	3.0	±0.0016	0.0012	0.091	0.787	0.169	15°	●	●					
			3020R/L-015PF-15D	0.118	3.0	±0.0016	0.0059	0.091	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ				
	Medium Feed Rate 2-Edge		GDM 2020N-010PQ	0.079	2.0	±0.0012	0.0039	0.067	0.787	0.169	-	●	●					
			2520N-010PQ	0.098	2.5	±0.0012	0.0039	0.083	0.787	0.169	-	●	●					
			3020N-010PQ	0.118	3.0	±0.0012	0.0039	0.091	0.787	0.169	-	●	●					
	15° Lead Angle Medium Feed Rate 2-Edge		GDM 2020R/L-010PQ-15D	0.079	2.0	±0.0012	0.0039	0.067	0.787	0.169	15°	Ⓡ	Ⓡ					
			2520R/L-010PQ-15D	0.098	2.5	±0.0012	0.0039	0.083	0.787	0.169	15°	Ⓡ	Ⓡ					
			3020R/L-010PQ-15D	0.118	3.0	±0.0012	0.0039	0.091	0.787	0.169	15°	Ⓡ	Ⓡ					
	Low Cutting Force 2-Edge		GDG 2020N-005PG	0.079	2.0	±0.0008	0.0020	0.067	0.787	0.169	-	○	○		○	○		
			2520N-005PG	0.098	2.5	±0.0008	0.0020	0.083	0.787	0.169	-	○	○		○	○		
			3020N-005PG	0.118	3.0	±0.0008	0.0020	0.091	0.787	0.169	-	○	○		○	○		
	15° Lead Angle Low Cutting Force 2-Edge		GDG 2020R/L-005PG-15D	0.079	2.0	±0.0008	0.0020	0.067	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ		
			2520R/L-005PG-15D	0.098	2.5	±0.0008	0.0020	0.083	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ		
			3020R/L-005PG-15D	0.118	3.0	±0.0008	0.0020	0.091	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ		

· Corner R (rε) of PQ chipbreakers are small enough for small parts machining.
· PF chipbreaker has a large corner R (rε).
◆ For Recommended Cutting Conditions, see back cover.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only)
Inserts Sold in 10 Piece Boxes

Note:
When grooving, PF/PM chipbreaker (for cut-off) cannot create a flat bottom (see right figure).

Bottom Cutting Shape of PF/PM Chipbreaker

GDM / GDMS Inserts

Usage Classification						
● : Continuous to Light Interruption / 1st Choice ○ : Continuous to Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel	●	○	●	○
	M	Stainless Steel		●	○	○
	N	Non-ferrous Metals				●

NEW

	Insert Right-handed Insert Shown		Part Number		Dimensions (in) W inch	W mm	W Tolerance	rε	M	L	H	Angle θ	Cermet TN90	MEGA COAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215
Cut-off	2-Edge		GDM	2020N-020PM	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-		●	●	●
				2520N-020PM	0.098	2.5	±0.0012	0.008	0.077	0.787	0.169	-		●	●	●
				3020N-025PM	0.118	3.0	±0.0012	0.010	0.091	0.787	0.169	-		●	●	●
				4020N-030PM	0.158	4.0	±0.0012	0.012	0.130	0.787	0.169	-		●	●	●
	6° Lead Angle 2-Edge		GDM	2020 R/L -020PM-6D	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	6°		Ⓡ	Ⓡ	Ⓡ
				2520 R/L -020PM-6D	0.098	2.5	±0.0012	0.008	0.077	0.787	0.169	6°		Ⓡ	Ⓡ	®
				3020 R/L -025PM-6D	0.118	3.0	±0.0012	0.010	0.091	0.787	0.169	6°		Ⓡ	Ⓡ	Ⓡ
	1-Edge		GDMS	2020N-020PM	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-		○	●	●
				3020N-025PM	0.118	3.0	±0.0012	0.010	0.091	0.787	0.169	-		○	○	○
				4020N-030PM	0.158	4.0	±0.0012	0.012	0.130	0.787	0.169	-		○	○	○
	6° Lead Angle 1-Edge		GDMS	2020 R/L -020PM-6D	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	6°		®	Ⓡ	Ⓡ
				3020 R/L -025PM-6D	0.118	3.0	±0.0012	0.010	0.091	0.787	0.169	6°		®	Ⓡ	Ⓡ
				4020 R/L -030PM-6D	0.158	4.0	±0.0012	0.012	0.130	0.787	0.169	6°		®	Ⓡ	®
Grooving and Cut-off	General Purpose 2-Edge		GDM	2420N-020GM	0.094	2.4	±0.0012	0.008	0.077	0.787	0.169	-	○	●	●	●
				3020N-020GM	0.118	3.0	±0.0012	0.008	0.091	0.787	0.169	-	○	●	●	●
				3020N-040GM	0.118	3.0	±0.0012	0.016	0.091	0.787	0.169	-	○	●	●	●
				4020N-020GM	0.157	4.0	±0.0012	0.008	0.130	0.787	0.169	-	○	●	●	●
				4020N-040GM	0.157	4.0	±0.0012	0.016	0.130	0.787	0.169	-	○	●	●	●
				4020N-080GM	0.157	4.0	±0.0012	0.032	0.130	0.787	0.169	-	○	●	●	●
	General Purpose 1-Edge		GDMS	2220N-020GM	0.087	2.2	±0.0012	0.008	0.069	0.787	0.169	-	○	○	●	○
				3020N-040GM	0.118	3.0	±0.0012	0.016	0.091	0.787	0.169	-	○	○	●	○
				4020N-040GM	0.157	4.0	±0.0012	0.016	0.130	0.787	0.169	-	○	○	○	○

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only)
Inserts Sold in 10 Piece Boxes

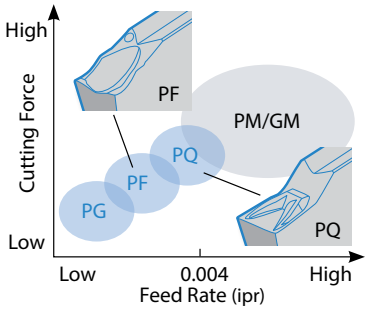
Insert Identification System

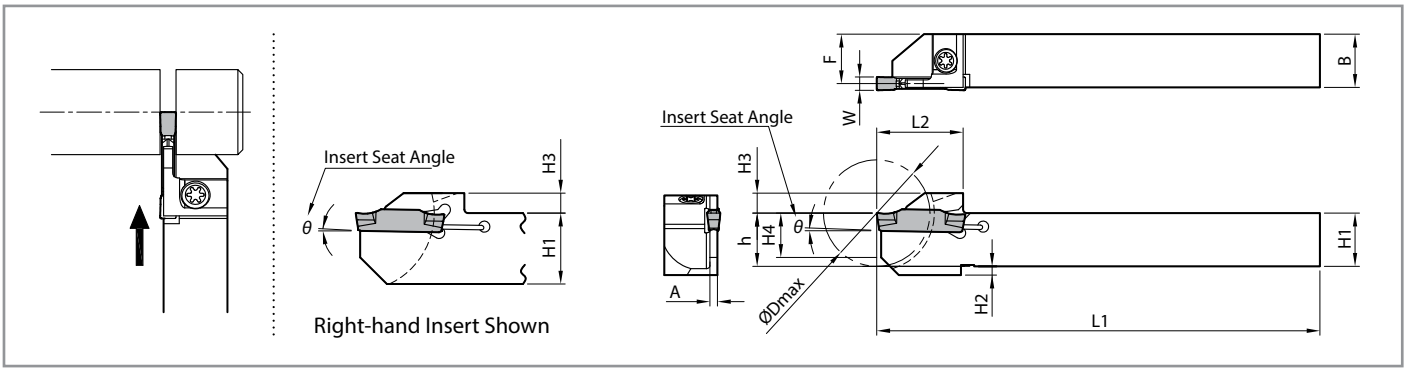
Accuracy	Width		Hand of Tool	Chipbreaker Symbol	
G: Class G M: Class M	13: 1.3mm 15: 1.5mm 20: 2.0mm	25: 2.5mm 30: 3.0mm 40: 4.0mm	R: Right-hand L: Left-hand N: Neutral	PF: Cut-off (Low Feed) PQ: Cut-off (Medium Feed) PG: Cut-off (Low Cutting Force)	PM: Cut-off GM: Grooving

GD	M	S	30	20	R	-	025	PM	-	6D

Series	No. of Edges	Insert length	Corner-R (rε)		Lead angle
Cut-off GD series	No Indication: 2-Edge S: 1-Edge	16: 16mm 20: 20mm	003: 0.03mm 005: 0.05mm 010: 0.10mm 015: 0.15mm	020: 0.20mm 025: 0.25mm 030: 0.30mm	No Indication: 0° 6D: 6°

Applicable range





Part Number	Stock R	Stock L	Unit	Cutting Dia. ØDmax	Dimensions H1 = h	H2	H3	H4	B	L1	L2	F	A	θ	Edge Width W MIN.	Edge Width W MAX.	Spare Parts Screw	Spare Parts Wrench
KGDR/L 6-1.5JX	●	●	inch	0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.351	0.047	1°	-	0.059	SB-40120TR	LTW-15S
8-1.5JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.476	0.047	1°	-	0.059	SB-40120TR	LTW-15S
KGDR/L 6-2JX	●	●		0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.342	0.067	1°	0.078	0.118	SB-40120TR	LTW-15S
8-2JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.467	0.067	1°	0.078	0.118	SB-40120TR	LTW-15S
10-2JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.592	0.067	1°	0.078	0.118	SB-40120TR	LTW-15S
KGDR/L 6-2.4JX	●	●		0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.336	0.079	1°	0.094	0.118	SB-40120TR	LTW-15S
8-2.4JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.461	0.079	1°	0.094	0.118	SB-40120TR	LTW-15S
10-2.4JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.586	0.079	1°	0.094	0.118	SB-40120TR	LTW-15S
KGDR/L 8-3JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.453	0.094	1°	0.118	0.118	SB-40120TR	LTW-15S
10-3JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.578	0.094	1°	0.118	0.157	SB-40120TR	LTW-15S
KGDR/L 10-3D38JX	●	●		1.496	0.625	-	0.236	0.394	0.625	4.75	1.142	0.578	0.094	1°	0.118	0.157	SE-50125TR	LTW-20
12-3D42JX	●	●		1.653	0.750	-	0.236	0.551	0.750	4.75	1.220	0.703	0.094	1°	0.118	0.157	SE-50125TR	LTW-20
43-3D42JX	●	●		1.653	0.750	-	0.236	0.551	0.500	4.75	1.220	0.453	0.094	1°	0.118	0.157	SE-50125TR	LTW-20
KGDR/L 1010JX-1.3	○	○	mm	20	10	2	4.5	8	10	120	18.0	9.5	1.0	5°	1.3	1.3	SB-40120TR	LTW-15S
1212JX-1.3	○	○		24	12	2	4.5	10	12	120	19.5	11.5	1.0	5°	1.3	1.3	SB-40120TR	LTW-15S
KGDR/L 1010JX-1.5	○	○		20	10	2	4.5	8	10	120	18.0	9.4	1.2	5°	1.5	1.5	SB-40120TR	LTW-15S
1212JX-1.5	○	○		24	12	2	4.5	10	12	120	19.5	11.4	1.2	5°	1.5	1.5	SB-40120TR	LTW-15S
KGDR/L 1212F-1.3	○	○		24	12	2	4.5	10	12	85	19.5	11.5	1.0	5°	1.3	1.3	SB-40120TR	LTW-15S
1212F-1.5	○	○		24	12	2	4.5	10	12	85	19.5	11.4	1.2	5°	1.5	1.5	SB-40120TR	LTW-15S
KGDR/L 1010JX-2	○	○		20	10	2	4.5	8	10	120	18.0	9.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
1212JX-2	○	○		24	12	2	4.5	10	12	120	19.5	11.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
1616JX-2	○	●		32	16	-	4.5	10	16	120	24.5	15.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
KGDR/L 1010JX-2.4	○	○		20	10	2	4.5	8	10	120	18.0	9.0	2.0	1°	2.4	3.0	SB-40120TR	LTW-15S
1212JX-2.4	○	○		24	12	2	4.5	10	12	120	19.5	11.0	2.0	1°	2.4	3.0	SB-40120TR	LTW-15S
1616JX-2.4	○	○		32	16	-	4.5	10	16	120	24.5	15.0	2.0	1°	2.4	3.0	SB-40120TR	LTW-15S
KGDR/L 1212JX-3	○	○		24	12	2	4.5	10	12	120	19.5	10.8	2.4	1°	3.0	3.0	SB-40120TR	LTW-15S
1616JX-3	●	○		32	16	-	4.5	10	16	120	24.5	14.8	2.4	1°	3.0	4.0	SB-40120TR	LTW-15S
KGDR/L 1212F-2	○	○		24	12	2	4.5	10	12	85	19.5	11.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
1212F-2.4	○	○		24	12	2	4.5	10	12	85	19.5	11.0	2.0	1°	2.4	3.0	SB-40120TR	LTW-15S
KGDR/L 1616JX-3D38	○	○		38	16	-	6.0	10	16	120	29.0	14.8	2.4	1°	3.0	4.0	SE-50125TR	LTW-20
2012JX-3D42	○	○		42	20	-	6.0	14	12	120	31.0	10.8	2.4	1°	3.0	4.0	SE-50125TR	LTW-20
2020JX-3D42	○	○		42	20	-	6.0	14	20	120	31.0	18.8	2.4	1°	3.0	4.0	SE-50125TR	LTW-20

Note) 0.157" (1.4mm) width insert can be installed in KGDR/L 212JX-3, it is not recommended due to the toolholder's rigidity.
When machining large cutting dia. (over 1.417" or 36mm) with KGDR/L ....-3D38 or KGDR/L ...-3D42, use 1-edge inserts.
Maximum workpiece diameter for 2-edge inserts is Ø1.417" (36mm).

● : U.S. Stock ○ : World Express (Shipping: 7-10 Business Days)

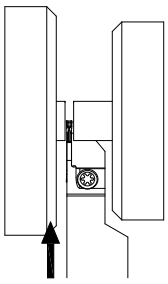
Toolholder Identification System

K G D
KGDS

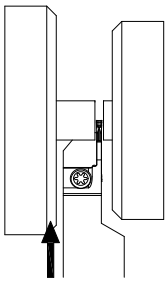
R	1616	JX	-	3 / 1.3	D38 / B
Toolholder Hand: R: Right-hand, L: Left-hand	Shank Size: 16 × 16mm	Toolholder Overhang Length: JX: 120mm		Applicable Inserts: GDM/GDMS Edge Width 3 ~ 4mm / GDM/GDMS Edge Width 1.3mm	Others: D38: ØDmax 38mm / B: for Sub Spindle Tooling

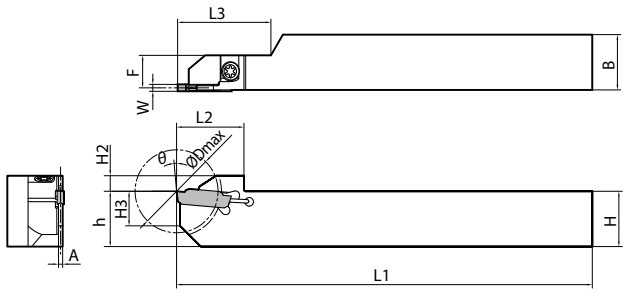
KGDS (for Cut-Off Operation Near Sub Spindle Side)

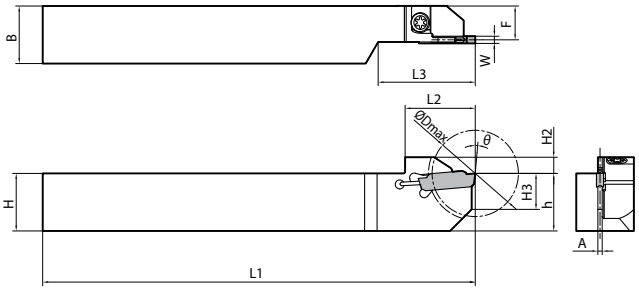
Right-hand



Left-hand







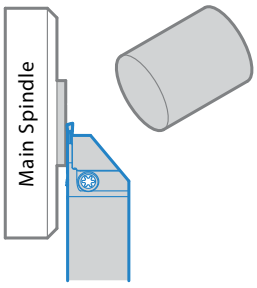
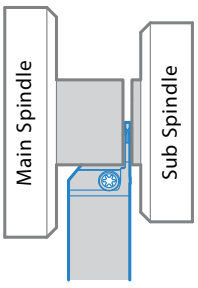
Part Number	Stock		Unit	Cutting Dia.	Dimensions											Edge Width W		Spare Parts	
																		Screw	Wrench
	R	L		ØDmax	H1 = h	H2	H3	H4	B	L1	L2	F	A	θ		MIN.	MAX.		
KGDSR/L 1616JX-1.3B	○	○	mm	24	16	4.5	10	16	120	19.5	27	9.50	1.0	5.0		1.3	1.3	SB-40120TR	LTW-15S
KGDSR/L 1616JX-1.5B	○	○		24	16	4.5	10	16	120	19.5	27	9.40	1.2	5.0		1.5	1.5	SB-40120TR	LTW-15S
KGDSR/L 1616JX-2B	○	○		24	16	4.5	10	16	120	19.5	27	9.15	1.7	1.0		2.0	3.0	SB-40120TR	LTW-15S

○ : World Express (Shipping: 7-10 Business Days)

KGD / KGDS Selection Reference

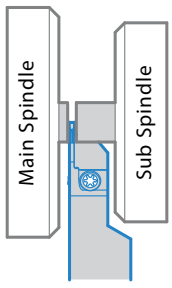
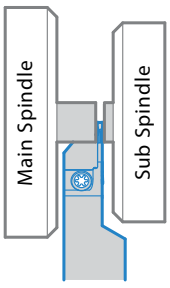
KGD Standard Type

Both Right-hand and Left-hand types are applicable to gang tool post. Left-hand type is recommended for cut-off operations when using a sub-spindle.

KGDR (Right-hand)	KGDL (Left-hand)
	
Recommendations (Right-hand) · Use insert with lead angle to remove boss · Not using sub-spindle · Cut-off close to main spindle side	Recommendations (Left-hand) · Insert without lead angle · Sub-spindle use · Cut-off close to sub-spindle side

KGDS Sub Spindle Type

The KGDS can be used to reduce overhang distance from the main spindle when cutting off small diameter workpieces.

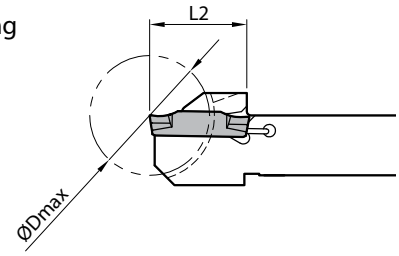
KGDSR (Right-hand)	KGDSL (Left-hand)
	
Recommendations (Right-hand) · Long workpiece · Good rigidity · Cut-off near main spindle side	Recommendations (Left-hand) · Short workpiece · Poor rigidity · Cut-off near sub-spindle side

Machining Tips

Minimum Overhand Length (L2) of the Toolholder

Advantage 1 Compatible with any machine setups regardless of overhang length specifications

Advantage 2 Minimum and optimal overhang length helps to reduce chattering



Product Lineup with a Maximum Cutting Diameter of 1.654" (42mm)

Note :
When machining large diameter workpeices (over 1.417" or 36mm) with KGD□□....-3D38 or KGD□□...-3D42, use 1-edge inserts
Maximum workpiece diameter for 2-edge inserts is Ø1.417" (36mm)

Recommended Cutting Conditions of PF / PQ / PG Chipbreaker ★ 1st Recommendation ☆ 2nd Recommendation

Workpiece	Cutting Conditions (Vc: sfm)					Feed Rate (f: ipr)										Notes
	Recommended Insert Grade					PF (Corner R 0.0012")			PF (Corner R 0.0059")			PQ		PG		
	MEGACOAT NANO	MEGACOAT		DLC	Carbide	Edge Width W (in)			Edge Width W (in)			Edge Width W (in)		Edge Width W (in)		
	PR1535	PR1225	PR1215	PDL025	GW15	0.051-0.059	0.079	0.098-0.118	0.051-0.059	0.079	0.098/0.118	0.079	0.098-0.118	0.079	0.098/0.118	
Carbon Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-	-	0.0004 - 0.0016	0.0008 - 0.0024	0.0008 - 0.0031	0.0004 - 0.0020	0.0012 - 0.0031	0.0016 - 0.0039	0.0012 - 0.0039	0.0016 - 0.0047	0.0004 - 0.0016	0.0004 - 0.0020	Wet
Alloy Steel	☆ 230 - 490	★ 230 - 490	☆ 230 - 590	-	-											
Stainless Steel	★ 200 - 390	☆ 200 - 390	☆ 200 - 490	-	-	0.0004 - 0.0012	0.0004 - 0.0016	0.0004 - 0.0020	0.0004 - 0.0016	0.0012 - 0.0028	0.0016 - 0.0031	0.0008 - 0.0028	0.0008 - 0.0031	0.0004 - 0.0012	0.0004 - 0.0016	
Cast Iron	-	-	★ 260 - 660	-	☆ 160 - 330	0.0004 - 0.0020	0.0008 - 0.0028	0.0012 - 0.0031	0.0004 - 0.0024	0.0012 - 0.0035	0.0016 - 0.0039	0.0016 - 0.0039	0.0016 - 0.0047	0.0004 - 0.0016	0.0004 - 0.0020	
Aluminum	-	-	-	★ 660 - 1,640	☆ 660 - 1,480	-	-	-	-	-	-	-	-	0.0004 - 0.0020	0.0004 - 0.0024	
Brass	-	-	-	-	★ 330 - 660	-	-	-	-	-	-	-	-	0.0004 - 0.0028	0.0004 - 0.0031	

Recommended Cutting Conditions of PM / GM Chipbreaker ★ 1st Recommendation ☆ 2nd Recommendation

Workpiece	Cutting Conditions (Vc: sfm)			Feed Rate (f: ipr)			Notes
	Recommended Insert Grade			PM	GM		
	MEGACOAT NANO	MEGACOAT		Edge Width W (in)	Edge Width W (mm)		
	PR1535	PR1225	PR1215	0.079-0.157	0.087-0.094	0.118-0.157	
Carbon Steel	☆ 260 - 660	★ 260 - 660	☆ 330 - 660	0.003 - 0.007	0.002 - 0.007	0.003 - 0.008	Wet
Alloy Steel	☆ 230 - 590	★ 230 - 590	☆ 260 - 590				
Stainless Steel	★ 200 - 490	☆ 200 - 490	☆ 200 - 490	0.002 - 0.005	0.002 - 0.005	0.003 - 0.006	
Cast Iron	-	-	★ 330 - 660	0.003 - 0.007	0.002 - 0.008	0.003 - 0.009	

KYOCERA

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