KYOCERA

AHB
TOOLING & MACHINERY
COMPLETE METALWORKING SOLUTIONS

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JCT Series

Jet Coolant-Through Holders

Excellent Chip Control and Long Tool Life with High Pressure Coolant

Large Holder Lineup for Turning, External Grooving, Cut-off and Threading

Easy Connection with High Pressure Hose and Joint

Internal Coolant Provides Longer Tool Life and Excellent Chip Control

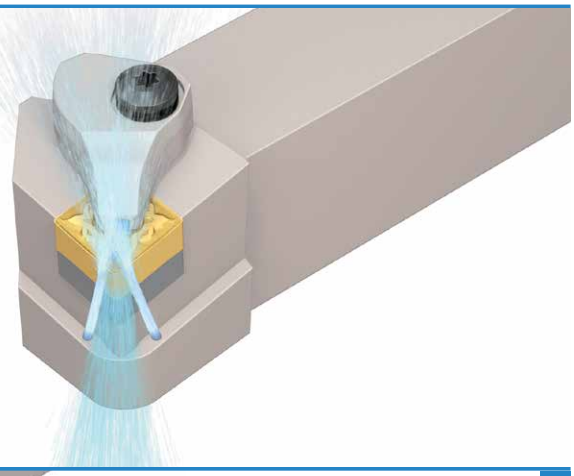
NEW *New Inch Size Holders Now Available!*

Turning	Shallow Grooving	Grooving / Cut-off	Threading
Double-Clamp JCT	**KGBA-JCT**	**KGD-JCT**	**KTN-JCT**
Small Parts Turning JCT	**KGBF-JCT**	**KTKF-JCT**	

Unique Coolant System for Various Machining Applications

Turning
Double-Clamp-JCT

Page 6

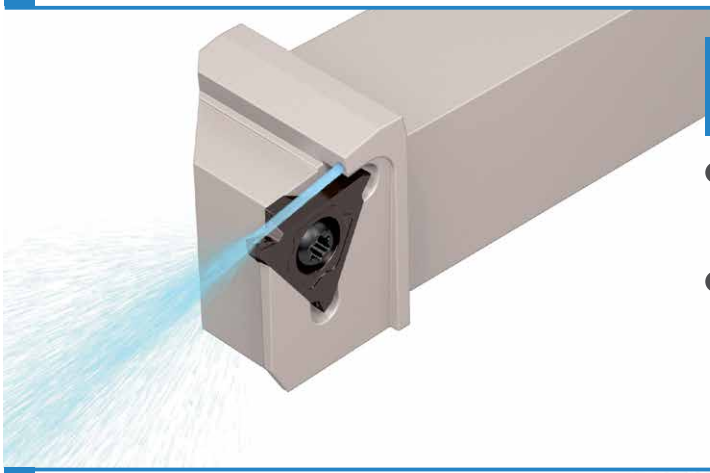


- **Three Coolant Holes**

  Coolant is directed towards the rake surface for chip control and also towards the flank face of the insert to keep the cutting edge cool for longer tool life

- **Lineup**

  DCLN-JCT
  DDJN-JCT
  DWLN-JCT



External Grooving
KGBA-JCT

NEW

Page 11

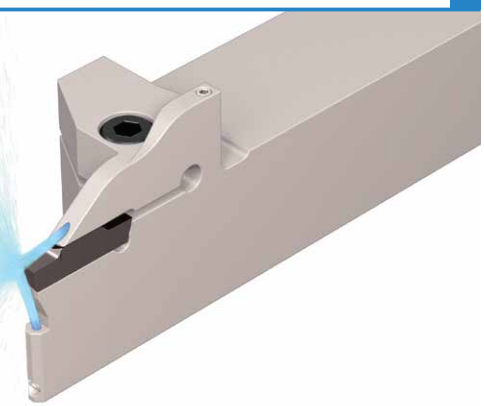
- **Provides Coolant towards the Rake Surface of Insert**

- **Lineup**

  Edge Width: 0.031" - 0.188" / 0.33mm - 4.80mm
  Maximum Depth: 0.079" - 0.197" / 0.80mm - 5.00mm

Grooving / Cut-Off
KGD-JCT

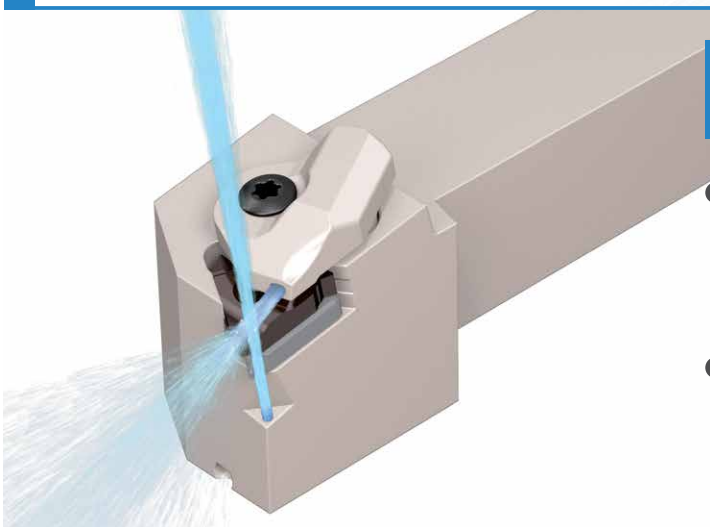
Page 16



- **Provides Coolant Towards the Flank and Rake Surface of Insert**

- **Lineup**

  Edge Width: 0.118" - 0.197" / 3mm - 5mm
  Maximum Depth: 0.787" - 1.000" / 6mm - 25mm



Threading
KTN-JCT

Page 23

- **Double Coolant Holes Reduce Defects and Lengthen Tool Life**

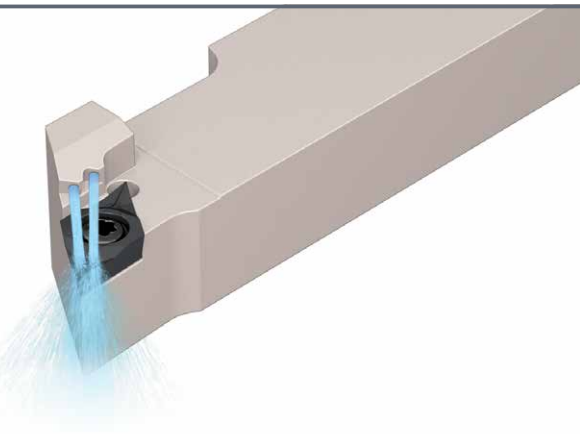
  (Two holes toward the rake face and one hole towards the flank face of the insert)

- **Lineup**

  TQ Molded Chipbreakers
  When combined with KTN-JCT holders, the TQ chipbreaker improves chip control for greater productivity

Coolant Through Holders for Small Parts Machining - Page 29

Small Parts Turning
Screw-Clamp-JCT
Page 32

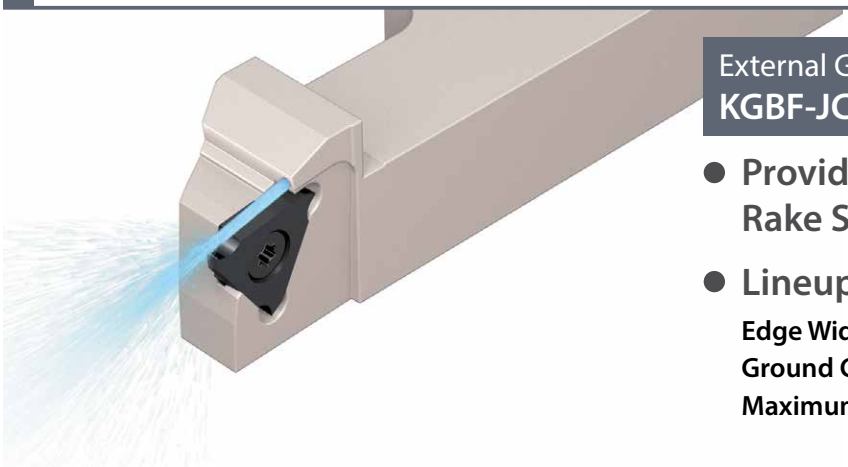


- **Double Coolant Holes**

  Double coolant holes provide coolant toward the cutting edge surface of the insert

- **Lineup**

  SCLC-JCT
  SDJC-JCT
  SVJB-JCT
  SVJP-JCT



External Grooving
KGBF-JCT
Page 36

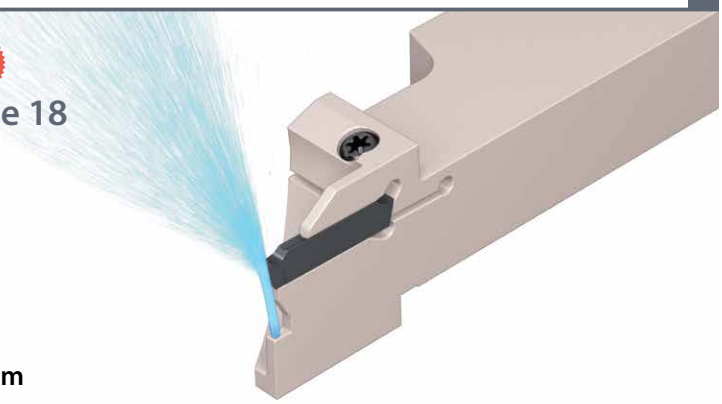
- **Provides Coolant towards the Rake Surface of Insert**
- **Lineup**

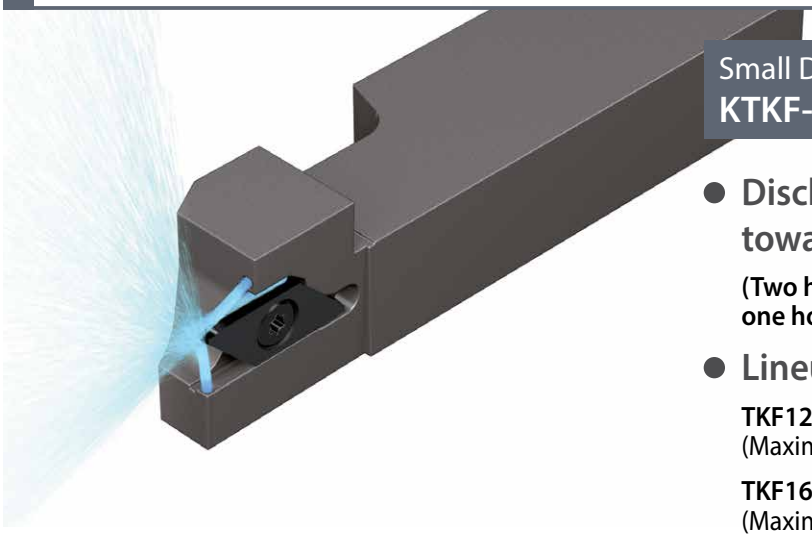
  Edge Width: 0.25mm - 3mm
  Ground Chipbreaker / GL Chipbreaker
  Maximum Depth: 3mm

Small Diameter Grooving / Cut-Off
KGD-JCT
NEW
Page 18

- **Provides Coolant towards the Flank Surface of Insert**
- **Lineup**

  Edge Width: 2mm - 4mm
  Maximum Cut-Off Diameter: Ø24mm - Ø32mm





Small Diameter Cut-Off
KTKF-JCT
Page 40

- **Discharges Coolant in Three Directions toward Rake Surface of Insert**

  (Two holes toward the rake face and one hole towards the flank face of the insert)

- **Lineup**

  TKF12 Type
  (Maximum Cut-Off: Ø0.197" - Ø0.472" / Ø5mm - Ø12mm)

  TKF16 Type
  (Maximum Cut-Off: Ø0.630" / Ø16mm)

JCT Series

Coolant-Through Holders

Product Video

View Online

Excellent Chip Control and Long Tool Life with High Pressure Coolant
Large Holder Lineup for Turning, External Grooving, Cut-off and Threading

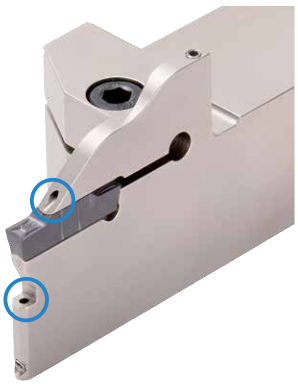
Special Coolant Hole Design

Unique Coolant System for Various Machining Applications

○ : Coolant Hole

Turning: Double-Clamp-JCT ➡ Page 6

External Shallow Grooving: KGBA-JCT ➡ Page 11



External Grooving: KGD-JCT ➡ Page 16

Threading: KTN-JCT ➡ Page 23

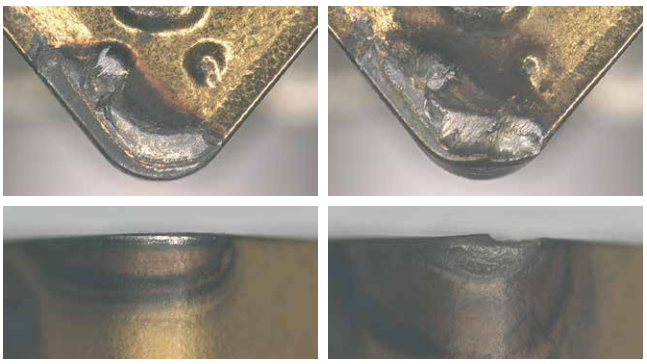
Advantages of Internal Coolant

Discharges Coolant towards the Cutting Edge
Internal Coolant Provides Longer Tool Life and Excellent Chip Control

Extended Tool Life

Wear Resistance Comparison (Internal Evaluation)

Internal Coolant (1,015 psi) External Coolant (58 psi)

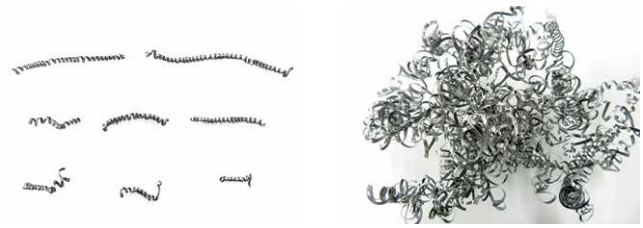


Cutting Conditions: Vc = 820 sfm, f = 0.079 ipr, D.O.C. = 0.079", Wet
CNMG432 Insert Workpiece: 4137
External Turning After Machining 42.2 min

Improved Chip Control

Chip Control Comparison (Internal Evaluation)

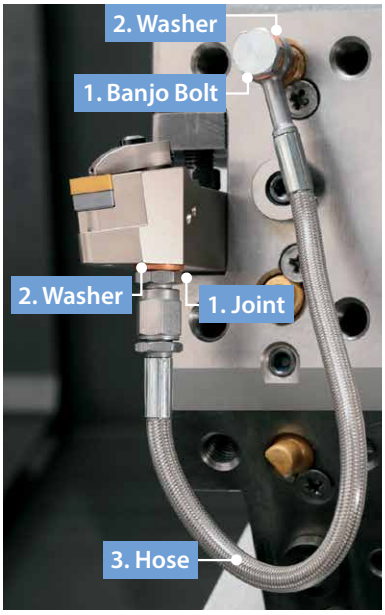
Internal Coolant (1,015 psi) External Coolant (58 psi)



Cutting Conditions: Vc = 660 sfm, f = 0.002 ipr, D.O.C. = 0.020", Wet
DNMG432 Insert Workpiece: 4131 External Turning

Easy Coolant Connections

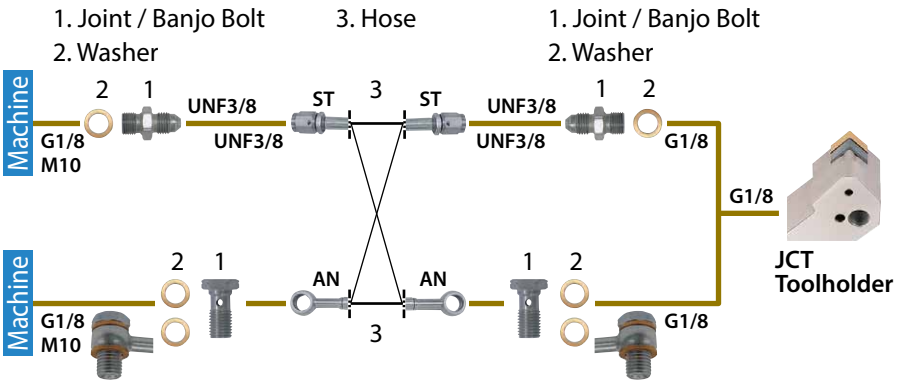
Easy Connection with High Pressure Hose and Joint



· Even without a high pressure pump, internal coolant can be used at a normal pressure

· Banjo bolt available for angled hose connection and can be used in a variety of machines

Piping Installation Guide



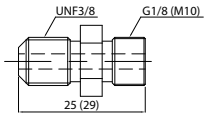
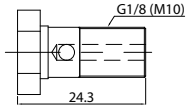
Piping Parts

Optional Piping Parts Available
Choose from parts below to match your machine specifications

1. <u>Joint / Banjo bolt</u> × 2
2. <u>Washer</u> × 2-4
3. <u>Hose</u> × 1

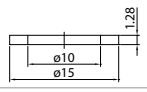
1. Joint / Banjo Bolt

Pressure Resistance: up to 4,350 psi

Shape		Part Number	Stock	Thread Standard
		**J-G1/8-UNF3/8**	●	G1/8
		J-10X1.5-UNF3/8	●	M10X1.5
Banjo Bolt (for Angle Hose) 		**BB-G1/8**	●	G1/8
		BB-M10X1.5	●	M10X1.5

2. Washer

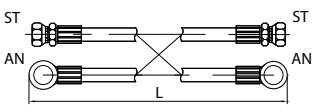
Pressure Resistance: up to 4,350 psi

Shape		Part Number	Stock
		**WS-10**	●

* Use 2 washers for a banjo bolt

3. Hose

Pressure Resistance: up to 4,350 psi

Shape		Part Number	Stock	Thread Standard		Dimensions (mm) L
		**HS-ST-ST-200**	●	UNF3/8	UNF3/8	200
		HS-ST-ST-250	●			250
		HS-ST-AN-200	●	UNF3/8	- (Banjo Bolt)	200
		HS-ST-AN-250	●			250
		HS-AN-AN-200	●	- (Banjo Bolt)	- (Banjo Bolt)	200
		HS-AN-AN-250	●			250

● : Standard Item

<u>Precautions</u>

1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure. Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may cause leakage but will have no effect on the performance.
5. Commercial piping parts can be used if the thread standards are the same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.

Double-Clamp-JCT

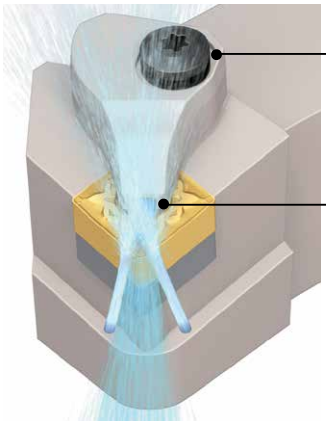
Turning

Coolant-Through Holders for Turning

Discharges Coolant in Three Directions to Improve Chip Control and Lengthen Tool Life for a Wide Variety of Workpieces Including Steel, Hardened Material and Difficult-to-Cut Material

1 Superior Chip Control Performance

Special coolant-through structure designed by careful simulation and analysis technology



Double-Clamp

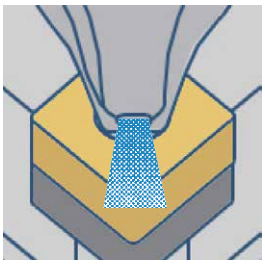
Firm insert clamp and easy to use in single operations
High-density coolant supply close to the cutting edge

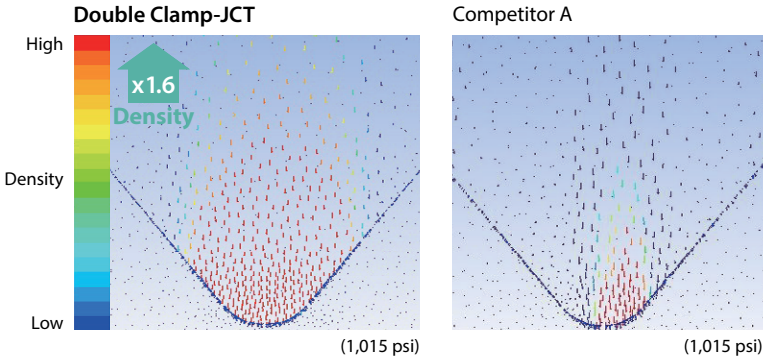
Unique Nozzle Shape

Provides coolant to a wide area of the insert surface

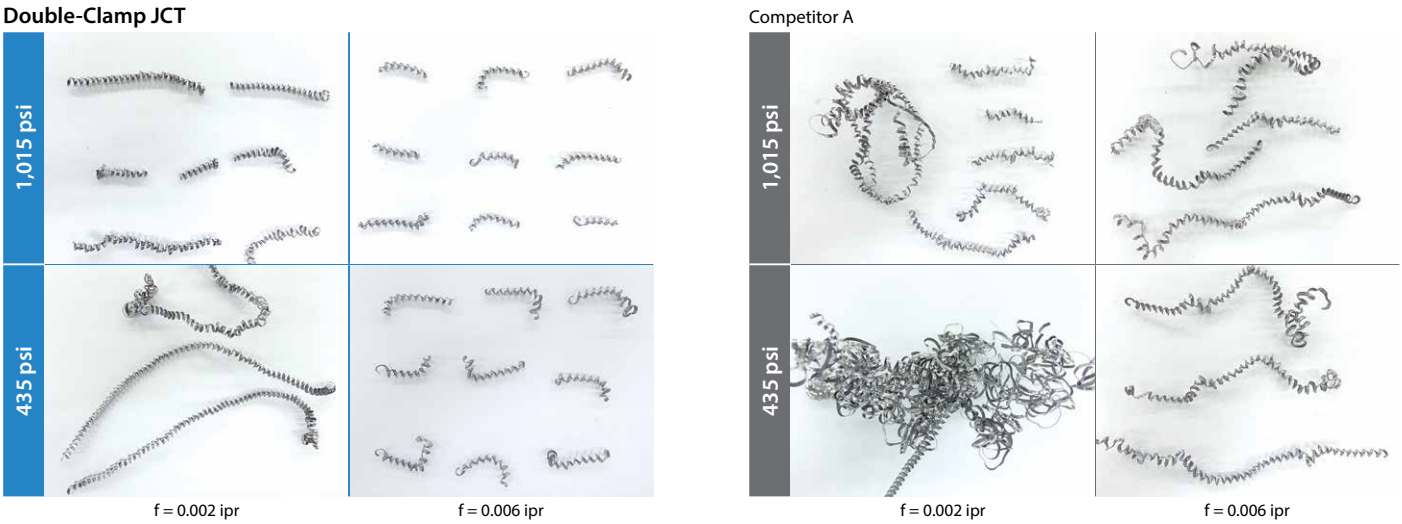
Coolant Supply Simulation Comparison (Internal Evaluation)

Discharges a wide stream of high-density coolant towards the rake surface of the insert





Chip Control Comparison (Internal Evaluation)



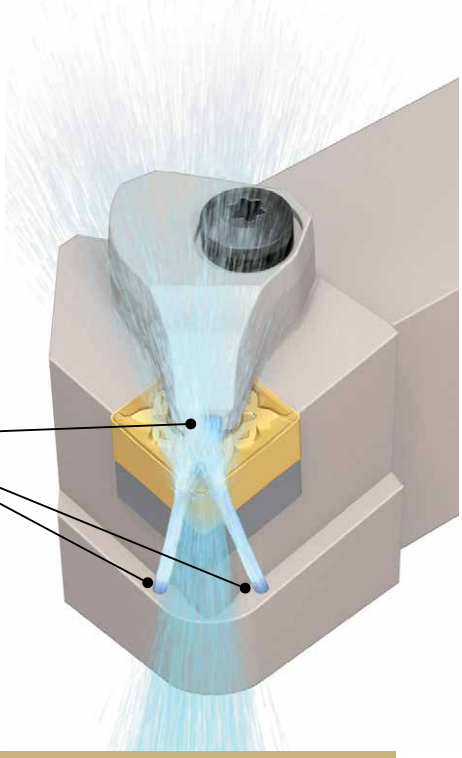
Cutting Conditions: Vc = 490 sfm, D.O.C. = 0.020", Wet, CNMG432 Insert Workpiece: 4131 External Turning

2 Longer Tool Life and High-Speed Machining

Coolant is also directed from two directions towards the flank face of the insert to ensure even cooling action

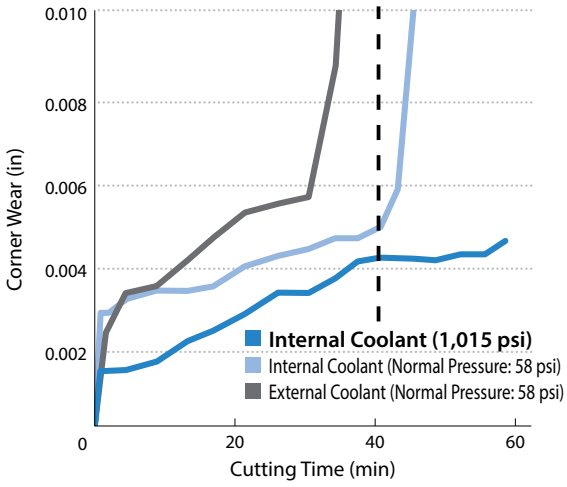
Longer tool life and high-speed machining with improved wear resistance

Discharges Coolant in Three Directions
The Cutting Edge Stays Cool

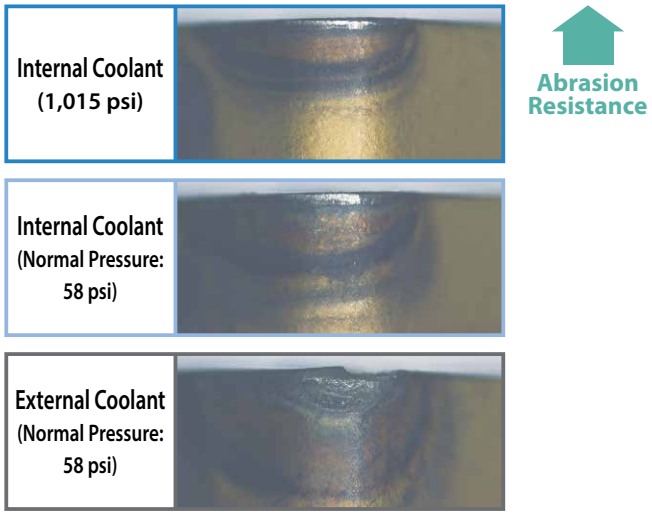


Wear Resistance Comparison (Internal Evaluation)

Alloy Steel (4137)



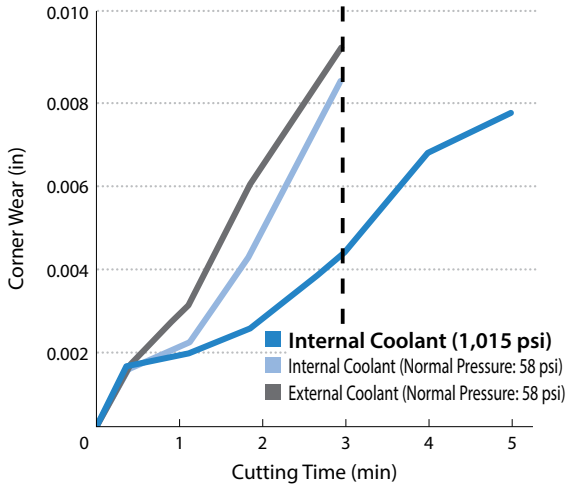
After Machining 42.2 min



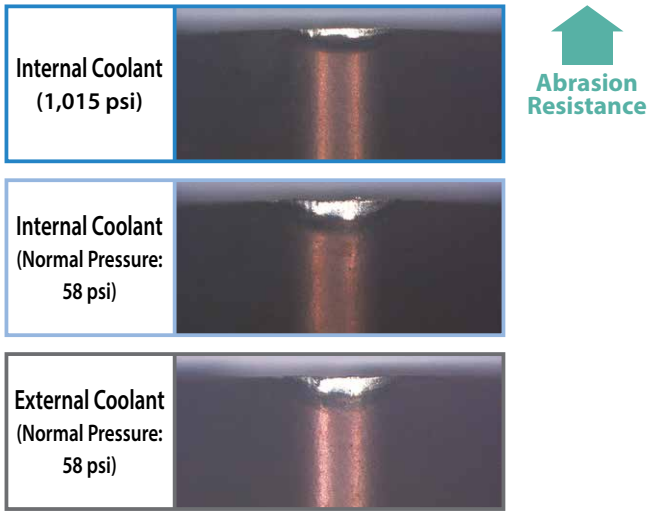
Abrasion Resistance

Cutting Conditions: Vc = 820 sfm, f = 0.012 ipr, D.O.C. = 0.079", Wet
CNMG432 Insert External Turning

Heat-resistant Alloys (Inconel®718)



After Machining 3 min



Abrasion Resistance

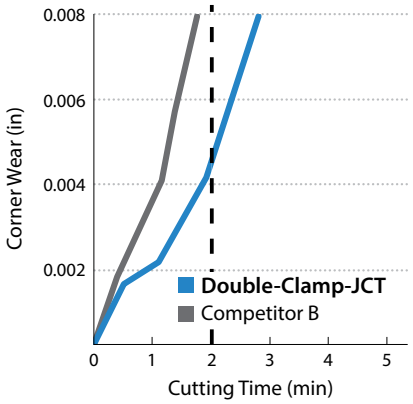
Cutting Conditions: Vc = 260 sfm, f = 0.006 ipr, D.O.C. = 0.020", Wet
CNMG432 Insert External Turning

Using internal coolant improves wear resistance in alloy steel and heat-resistant alloys
High-pressure coolant is more effective

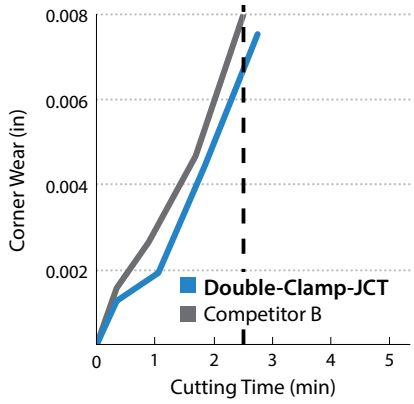
Wear Resistance Comparison (Internal Evaluation)

Double-Clamp JCT maintains better wear resistance than competitors

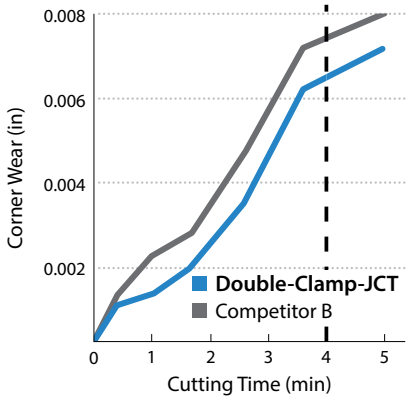
Internal Coolant (Normal Pressure: 60 psi)



Internal Coolant (580 psi)

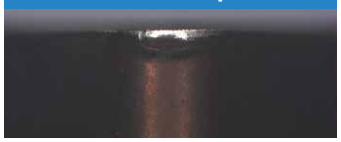


Internal Coolant (1,015 psi)



After Machining 2 min

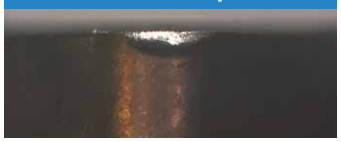
Double-Clamp-JCT



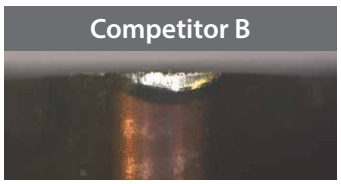
Competitor B

After Machining 2.5 min

Double-Clamp-JCT

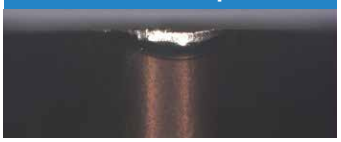


Competitor B

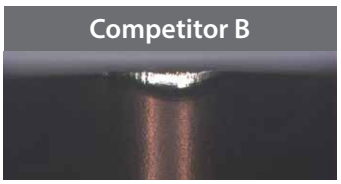


After Machining 4 min

Double-Clamp-JCT



Competitor B

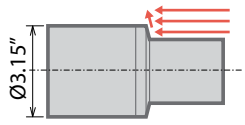


Cutting Conditions: Vc = 260 sfm, f = 0.006 ipr, D.O.C. = 0.020", Wet, CNMG432 Insert Workpiece: Inconel®718 (Equivalent) External Turning

Case Studies

Mechanical Parts - Carbon Steel

Vc = 820 sfm
D.O.C. = 0.118"
f = 0.014 ipr
Wet (Water Soluble)
DCLNR2525M-12JCT
CNMG432PT Insert (CA510)



Tool Life

DCLN-JCT Toolholder
(Internal Coolant: 580 psi) **100 pcs / edge**

Tool Life x1.25

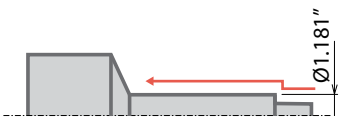
Conventional Toolholder
(External Coolant) **80 pcs / edge**

The DCLN-JCT internal coolant improved tool life by 1.5 times when compared to using external coolant

(User Evaluation)

Shaft - 5120 (Hardened Steel Over 55HRC)

Vc = 590 sfm
D.O.C. = 0.004"
f = 0.0028 ipr
Wet
DDJNR2525M-15JCT
DNGA432 Insert (CBN)



Tool Life

DDJN-JCT Toolholder
(Internal Coolant) **100 pcs / edge**

Tool Life x1.4

Competitor C
(Internal Coolant) **70 pcs / edge (Unstable)**

Competitor D
(External Coolant) **60 pcs / edge (Unstable)**

Cutting Edge

DDJN-JCT Toolholder

Competitor C

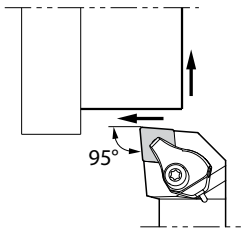
Competitor D

The DDJN-JCT toolholder reduced sudden fracturing and defects with stable machining and maintained 1.4 times longer tool life

(User Evaluation)

Double-Clamp-JCT (Turning)

DCLN-JCT



Side Rake Angle: -6°
Angle of Inclination: -6°

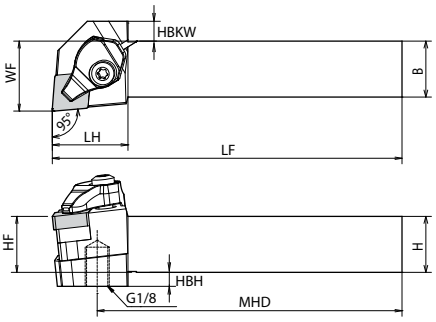


Fig.1

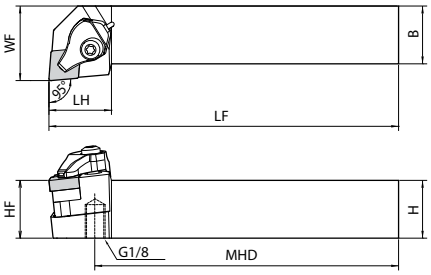


Fig.2

Right-hand (R) Shown

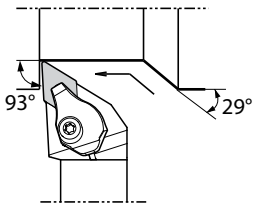
Toolholder Dimensions

Pressure Resistance: up to 4,350 psi

Part Number		Stock R	Stock L	Unit	Dimensions H	HF	HBH	B	HBKW	LF	LH	WF	MHD	Standard Corner-R (RE)	Drawing	Spare Parts: Clamp	Pipe Connection (*1 with O-Ring)	Screw	Spring	Wrench	Shim	Shim Screw	Applicable Inserts
NEW	DCLN[R/L] 12-4BJCT	●	●	inch	0.750	0.750	0.234	0.750	0.260	4.500	1.063	1.000	3.870	1/32	Fig.1	CP-3D-[R/L]-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	*2 DC-44 *3 DC-44-C	SB-4085TR	CN..43...
	16-4DJCT	●	●		1.000	1.000	-	1.000	-	6.000	1.063	1.250	5.370		Fig.2								
	DCLN[R/L] 2020K-12JCT	●	●	mm	25	25	5	20	7	125	27	25	109	0.8	Fig.1	CP-3D-[R/L]-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	*2 DC-44 *3 DC-44-C	SB-4085TR	
	2525M-12JCT	●	●		25	25	-	25	-	150	27	32	134		Fig.2								

● : Standard Item

DDJN-JCT



Side Rake Angle: -6°
Angle of Inclination: -7°

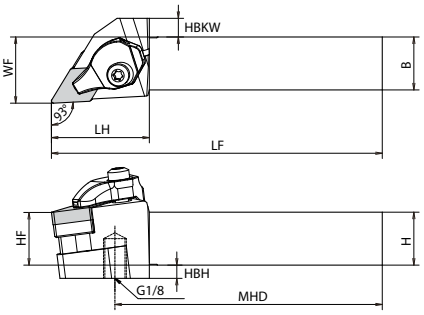


Fig.1

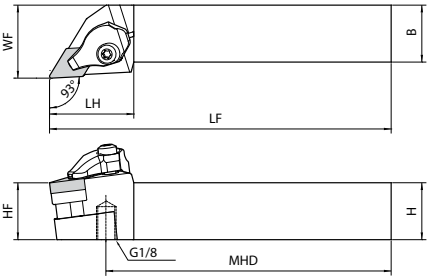


Fig.2

Right-hand (R) Shown

Toolholder Dimensions

Pressure Resistance: up to 4,350 psi

Part Number		Stock R	Stock L	Unit	Dimensions H	HF	HBH	B	HBKW	LF	LH	WF	MHD	Standard Corner-R (RE)	Drawing	Spare Parts: Clamp	Pipe Connection (*1 with O-Ring)	Screw	Spring	Wrench	Shim	Shim Screw	Applicable Inserts
NEW	DDJN[R/L] 12-4BJCT	●	●	inch	0.750	0.750	0.234	0.750	0.260	4.500	1.456	1.000	3.555	1/32	Fig.1	CP-3D-[R/L]-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	*2 DC-44 (DC-43)	SB-4085TR	DN..43... (DN..44...)
	16-4DJCT	●	●		1.000	1.000	-	1.000	-	6.000	1.456	1.250	5.055		Fig.2								
	DDJN[R/L] 2020K-15JCT	●	●	mm	20	20	5	20	7	125	37	25	101	0.8	Fig.1	CP-3D-[R/L]-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	*2 DC-44 (DC-43)	SB-4085TR	
	2525M-15JCT	●	●		25	25	-	25	-	150	37	32	126		Fig.2								

Shims in ( ) are not included with the holder. Please purchase separately when a change in insert thickness is needed.

● : Standard Item

*1. O-ring (SS-035) is available to order separately

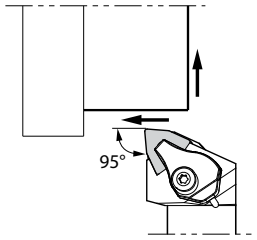
*2. When using inserts with a corner-R (RE) greater than 1/16", additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering with each other.

*3. SX chipbreaker inserts require a different shim (sold separately)

See ➔ **Page 5** for piping parts

Double-Clamp-JCT (Turning)

DWLN-JCT NEW



Side Rake Angle: -6°
Angle of Inclination: -6°

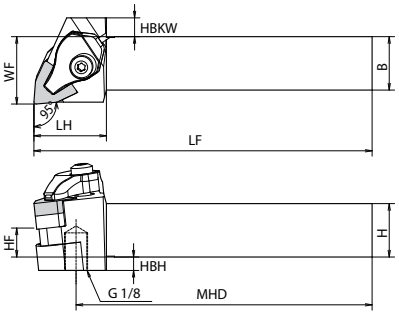


Fig.1

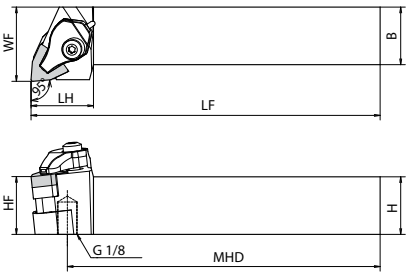


Fig.2

Right-hand (R) Shown

Toolholder Dimensions

Pressure Resistance: up to 4,350 psi

Part Number	Stock		Unit	Dimensions									Standard Corner-R (RE)	Drawing	Spare Parts							Applicable Inserts
															Clamp	Pipe Connection (*1 with O-Ring)	Screw	Spring	Wrench	Shim	Shim Screw	
	R	L		H	HF	HBH	B	HBKW	LF	LH	WF	MHD										
DWLN R/L 12-4BJCT	●	●	in	0.750	0.750	0.234	0.750	0.260	4.500	1.063	1.000		1/32	Fig.1	CP-3D-R/L-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	DW-44	SB-4085TR	WN..43...
16-4DJCT	●	●		1.000	1.000	-	1.000	-	6.000	1.063	1.250			Fig.2								
DWLN R/L 2020K-08JCT	●	●	mm	20	20	5	20	7	125	27	25	109	0.8	Fig.1	CP-3D-R/L-JCT	FP-12	CS-3D-TR	SP-3D	FT-15	DW-44	SB-4085TR	WN..43...
2525M-08JCT	●	●		25	25	-	25	-	150	27	32	134		Fig.2								

● : Standard Item

Internal Coolant Advantages (Reference)

Coolant Pressure (psi)	Tool Life	Chip Control	Advantages
Normal Pressure ~290 (Low Pressure)	Good	-	Longer tool life under 145 psi
290~1,015 (Medium Pressure)	Excellent	Good	Longer tool life and excellent chip control
1,015~2,175 (High Pressure)	Excellent	Excellent	Fine chip breaking
2,175~4,350 (Extra-high Pressure)	Excellent	Excellent	Fine chip breaking and high speed machining for heat-resistant alloys

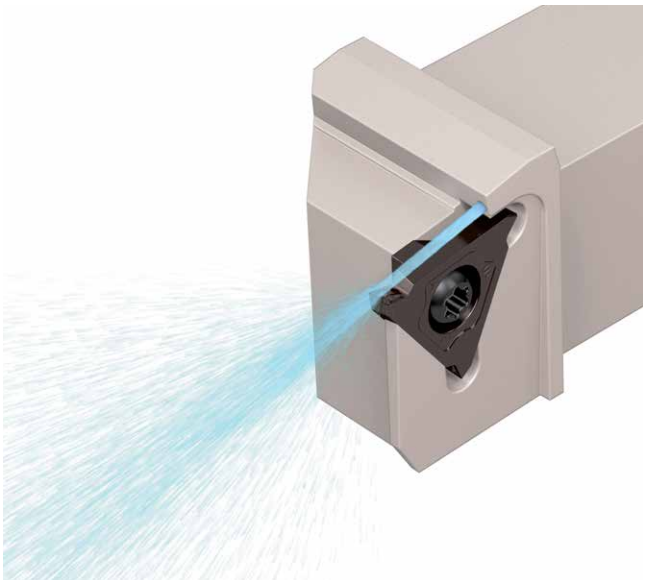
Internal coolant under low pressure provides improved performance and stable machining

KGBA-JCT NEW

External Grooving

Coolant-Through Holders for External Shallow Grooving

KGBA-JCT can Direct Coolant Closer to the Cutting Edge from the Top of the Insert
Excellent Chip Control and Longer Tool Life

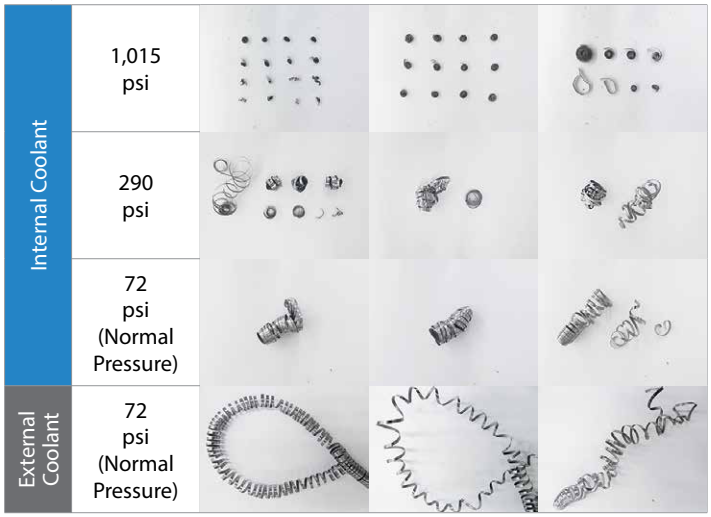


1 Excellent Chip Control

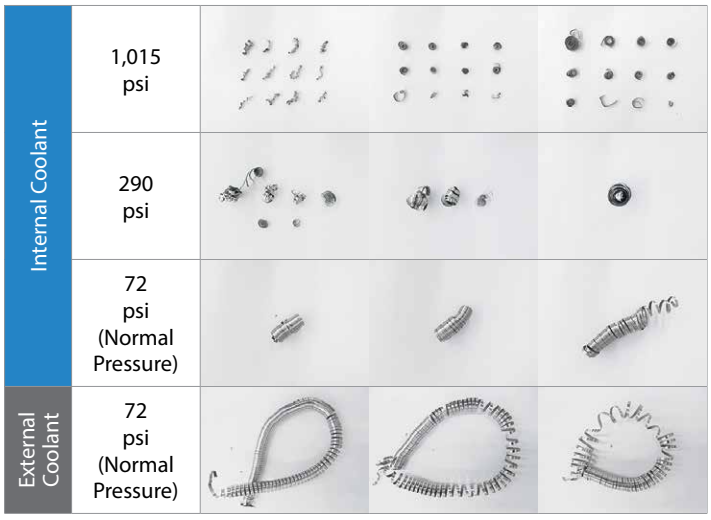
Ground Chipbreaker
Chip Control Comparison (Internal Evaluation)

Internal Coolant Provides Excellent Chip Control
High-pressure coolant is more effective

Alloy Steel (5120)



Stainless Steel (304)



Cutting Conditions: Vc = 150 m/min (Alloy Steel) / 100 m/min (Stainless Steel),
f = 0.05~0.1 mm/rev, Groove depth = 2 mm, Wet
KGBAR2525K22-15JCT, GBA43R200-020 (PR1215)

Coolant Hole

Coolant is discharged to the cutting edge
Prevents coolant stream spreading which slows the coolant flow

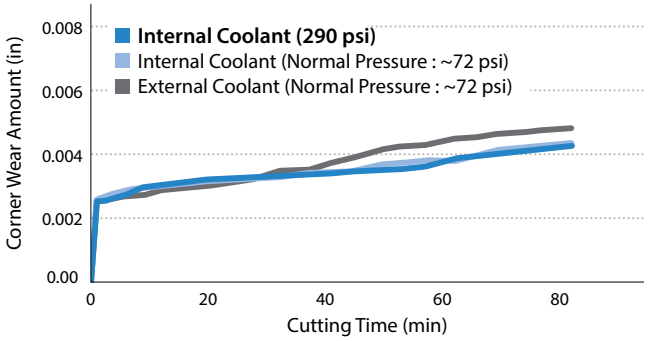
Coolant Direction

Sufficient coolant between the chipbreaker and the chips
Stable chip curls and sufficient cooling of the insert

2 Superior Cooling Action Improves Tool Life

Internal Coolant Provides Better Corner Wear Resistance

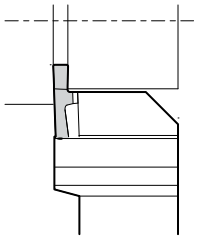
Wear Resistance Comparison (Internal Evaluation)

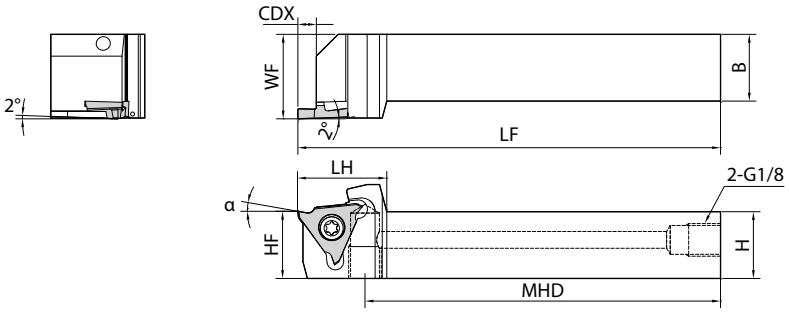


Cutting Conditions: Vc = 150 m/min, f = 0.07 mm/rev, Groove depth = 2 mm, Wet
KGBAR2525K22-15JCT, GBA43R200-020 (PR1215) Workpiece: SCM435

KGBA-JCT (Shallow Grooving)

KGBA-JCT NEW





Right-hand (R) Shown

R-Hand Insert for R-Hand Toolholder

Toolholder Dimensions

Pressure Resistance: up to 4,350 psi

Part Number		Stock		Unit	Dimensions								Spare Parts				Applicable Inserts
													Clamp Screw	Wrench		Plug	
		R	L		H	HF	B	LF	LH	WF	CDX	MHD					
KGBA型	2020K-16JCT	●	●	mm	20	20	20	125	24.0	25	2.5	107.5	SB-4085TR	FT-15	-	HSG1/8x8.0	GBA32型 Type
	2525K-16JCT	●	●		25	25	25			30							
	2020K22-15JCT	●	●		20	20	20		26.5	25	4	105	SB-5085TR	-	LTW-20		GBA43型 Type
	2525K22-15JCT	●	●		25	25	25			30							
	2020K22-25JCT	●	●		20	20	20			25	5.5						
	2525K22-25JCT	●	●		25	25	25			30							
	2020K22-35JCT	●	●		20	20	20			25							
	2525K22-35JCT	●	●		25	25	25			30							

Please see **P2** for piping parts.

● : Standard Item

CDX shows the distance from the toolholder to the cutting edge. For available groove depth, see "CDX" dimension of Insert.

KGBA-JCT Toolholder is Screw Clamp Type

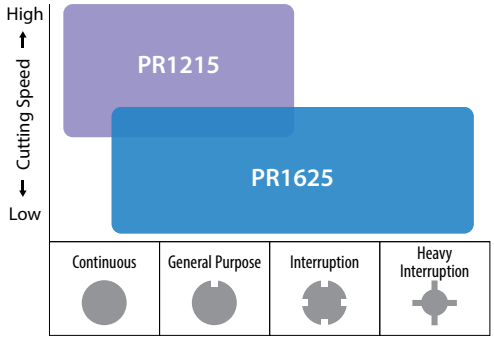
Regarding Rake Angle after Installment of GBA (α), please see the KYOCERA general product catalog or GBA brochure

Recommended Grade for Steel

General Purpose : PR1215

(Surface Finish Oriented) : TN620

for Stable Machining : PR1625



PR1625 NEW

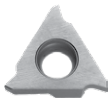
Cemented carbide grade with high stability and MEGACOAT NANO with excellent adhesion resistance provides high toughness and high hardness

Long tool life is achieved in interrupted grooving applications like drums and shafts of transmission engine parts.

KGBA-JCT Applicable Inserts (Inch)

Ground Chipbreaker

Ground Chipbreaker

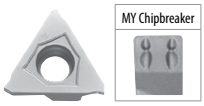


P	Carbon Steel / Alloy Steel	●	●
M	Stainless Steel		●
K	Cast Iron		
N	Non-ferrous Material		
S	Titanium Alloy		●
H	Hardened Material (~40HRC)		●

Part Number		Dimensions (in)			MEGACOAT Cermet	MEGACOAT	Applicable Toolholders
		CW	CDX	RE	PV7040	PR1215	
		Edge Width (W)	Available Grooving Depth	Corner-R			
GBA32R/L	031N	0.031	0.079	0.002	●	●	1
	041N	0.041	0.079	0.002	●	●	
	047N	0.047	0.079	0.008	●	●	
	058N	0.058	0.079	0.008	●	●	
	062N	0.062	0.079	0.008	●	●	
	078N	0.078	0.098	0.008	●	●	
	094N	0.094	0.098	0.008	●	●	
GBA43R/L	031N	0.031	0.079	0.008	●	●	2
	047N	0.047	0.079	0.008	●	●	
	062N	0.062	0.138	0.008	●	●	
	072N	0.072	0.138	0.008	●	●	
	078N	0.078	0.138	0.008	●	●	
	088N	0.088	0.138	0.008	●	●	
	094N	0.094	0.157	0.012	●	●	3
	097N	0.097	0.157	0.012	●	●	
	105N	0.105	0.157	0.012	●	●	
	109N	0.109	0.157	0.012		●	
	110N	0.110	0.157	0.012	●	●	
	125N	0.125	0.157	0.012	●	●	
	141N	0.141	0.197	0.012		●	4
	142N	0.142	0.197	0.012	●	●	
	156N	0.156	0.197	0.016	●	●	
	172N	0.172	0.197	0.016		●	
	178N	0.178	0.197	0.016	●	●	
	188N	0.188	0.197	0.016		●	

Molded Chipbreaker

Molded
MY Chipbreaker

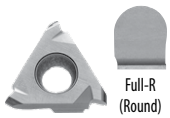


P	Carbon Steel / Alloy Steel	●	
M	Stainless Steel	●	
S	Titanium Alloy	●	
H	Hardened Material (~40HRC)	●	

Part Number		Dimensions (in)			MEGACOAT	Applicable Toolholders
		CW	CDX	RE	PR1215	
		Edge Width (W)	Available Grooving Depth	Corner-R		
GBA43R/L	078MYN	0.078	0.138	0.008	●	2
	094MYN	0.094	0.157	0.012	●	3
	125MYN	0.125	0.157	0.012	●	
	156MYN	0.156	0.197	0.016	●	4

Full-R

Full-R



P	Carbon Steel / Alloy Steel	●	
M	Stainless Steel	●	
S	Titanium Alloy	●	
H	Hardened Material (~40HRC)	●	

Part Number		Dimensions (in)			MEGACOAT	Applicable Toolholders
		CW	CDX	RE	PR1215	
		Edge Width (W)	Available Grooving Depth	Corner-R		
GBA32R	031R	0.062	0.079	0.031	●	1
	047R	0.094	0.098	0.047	●	
GBA43R/L	031R	0.062	0.138	0.031	●	2
	047R	0.094	0.157	0.047	●	3
	062R	0.125	0.157	0.062	●	
	078R	0.156	0.197	0.078	●	4
	094R	0.188	0.197	0.094	●	

Applicable JCT Toolholders

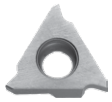
1: KGBAR ···16 JCT Type
2: KGBA R/L ···22-15 JCT Type
3: KGBA R/L ···22-25 JCT Type
4: KGBA R/L ···22-35 JCT Type

For more details on cutting conditions, please see the KYOCERA General Product Catalog or GBA brochure

● : Standard Item Ⓡ : Right-Hand Only

KGBA-JCT Applicable Inserts (Metric)

Ground Chipbreaker

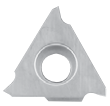
Ground Chipbreaker						NEW						
	P	Carbon Steel / Alloy Steel	●	○		●	●	◔		◔	
	M	Stainless Steel				●	●	◔		◔	
	K	Cast Iron							●		◔
	N	Non-ferrous Material									●
	S	Titanium Alloy									●
	H	Hardened Material (~40HRC)					●	○		○	

Part Number		Dimensions (mm)			MEGACOAT Cermet	Cermet		MEGACOAT NANO	MEGACOAT	PVD Coated Carbide				Carbide	Applicable Toolholders
		CW	CDX	RE											
		Edge Width (W)	Available Grooving Depth	Corner-R	PV7040	TC40N	TN90	PR1625	PR1215	PR1115	PR905	PR930	KW10	
GBA32R/L	033-005 ※1	0.33	0.8	0.05						●					
	050-005 ※2※3	0.50	1.0	0.05			Ⓡ	●						●	
		0.50	1.2	0.05					●	●		●			
	075-005	0.75	2.0	0.05	●		Ⓡ	●	●	●	Ⓡ	●	●		
	095-005	0.95	2.0	0.05			Ⓡ		●	●		●	●		
	100-005	1.00	2.0	0.05	●		●	●	●	●	Ⓡ	●	●		
	110-005	1.10	2.0	0.05						●	Ⓡ				
	120-005	1.20	2.0	0.05					●	●					
	125-020	1.25	2.0	0.2	●		●	●	Ⓡ	●		●	●		
	130-020	1.30	2.0	0.2					●	Ⓡ					
	140-020	1.40	2.5	0.2				●	●	●	Ⓡ				
	145-020 ※3	1.45	2.0	0.2			Ⓡ							●	
		1.45	2.5	0.2					●	●		●			1
	150-020 ※3	1.50	2.0	0.2	●		●	●						●	
		1.50	2.5	0.2					●	●		●			
	160-020	1.60	2.5	0.2					●	Ⓡ					
	170-020	1.70	2.5	0.2					●	●					
	175-020 ※3	1.75	2.0	0.2			●							●	
		1.75	2.5	0.2					●	●	Ⓡ	●			
	200-020	2.00	2.5	0.2	●		●	●	●	●	Ⓛ	●	●		
	225-020	2.25	2.5	0.2					●	Ⓡ					
	250-020	2.50	2.5	0.2			●		●	●		●	●		
	300-020	3.00	2.5	0.2					●	●	●				
GBA43R/L	125-010	1.25	2.0	0.1				●	●						
	125-020	1.25	2.0	0.2	●		●	●	●		Ⓡ	Ⓡ		●	
	140-020	1.40	3.5	0.2				●	●		Ⓡ				
	145-020 ※3	1.45	2.0	0.2			●							●	
		1.45	3.5	0.2					●			●			
	150-010	1.50	3.5	0.1				●	●						
	150-020	1.50	3.5	0.2	●		●	●	●		Ⓡ	●	●		2
	170-020	1.70	3.5	0.2					●		●				
	175-020	1.75	3.5	0.2			Ⓛ	●	●		●	●	●		
	185-020	1.85	3.5	0.2			Ⓡ		●		●	●	●		
	200-010	2.00	3.5	0.1					●						
	200-020	2.00	3.5	0.2	●		●	●	●		●	●	●		
	225-020	2.25	3.5	0.2					●		Ⓡ				
	230-020	2.30	3.5	0.2			●		●		●	●	●		
	250-010	2.50	5.0	0.1					●						
	250-030 ※3	2.50	4.0	0.3	●		●	●						●	
		2.50	5.0	0.3					●		●	●			
	265-030 ※3	2.65	4.0	0.3			●							●	
		2.65	5.0	0.3					●			●			
	280-030 ※3	2.80	4.0	0.3			●							●	
		2.80	5.0	0.3					●			●			3
	300-010	3.00	5.0	0.1					●						
	300-030 ※3	3.00	4.0	0.3	●		●	●						●	
		3.00	5.0	0.3					●		Ⓡ	●			
	325-030	3.25	5.0	0.3							Ⓡ				
	330-030 ※3	3.30	4.0	0.3			Ⓡ							●	
		3.30	5.0	0.3					●		Ⓡ	●			
	350-010	3.50	5.0	0.1					●						
	350-030	3.50	5.0	0.3			●		●		●	●	●		
	400-010	4.00	5.0	0.1					●						
	400-040	4.00	5.0	0.4	●		●	●	●		●	●	●		4
	430-040	4.30	5.0	0.4			Ⓡ		●			Ⓡ	●		
	450-040	4.50	5.0	0.4			Ⓡ		●			●	●		
	480-040	4.80	5.0	0.4			Ⓡ		●			●	●		

※1 : The edge width tolerance of GBA32R/L 033-005 : $0.33^{+0.02}_{-0.03}$

※2 : The edge width tolerance of GBA32R/L 050-005 : $0.50^{+0.05}_{-0.00}$

※3 : Available grooving depth is different based on grade

Ground Chipbreaker Sharp Edge			
	P	Carbon Steel / Alloy Steel	●
	M	Stainless Steel	
	K	Cast Iron	
	N	Non-ferrous Material	
	S	Titanium Alloy	
	H	Hardened Material (~40HRC)	

Part Number		Dimensions (mm)			Cermet	Applicable Toolholders
		CW	CDX	RE		
		Edge Width (W)	Available Grooving Depth	Corner-R	TN620	
GBA32R/L	050-005F ※1	0.50	1.0	0.05	●	
	075-005F	0.75	2.0	0.05	●	
	095-005F	0.95	2.0	0.05	●	
	100-005F	1.00	2.0	0.05	●	
	125-020F	1.25	2.0	0.2	●	
	145-020F	1.45	2.0	0.2	●	
	150-020F	1.50	2.0	0.2	●	
	175-020F	1.75	2.0	0.2	●	
	200-020F	2.00	2.5	0.2	●	1
	250-020F	2.50	2.5	0.2	●	
GBA43R/L	125-020F	1.25	2.0	0.2	●	
	145-020F	1.45	2.0	0.2	●	
	150-020F	1.50	3.5	0.2	●	
	175-020F	1.75	3.5	0.2	●	2
	185-020F	1.85	3.5	0.2	●	
	200-020F	2.00	3.5	0.2	●	
	230-020F	2.30	3.5	0.2	●	
	250-030F	2.50	4.0	0.3	●	
	265-030F	2.65	4.0	0.3	●	
	280-030F	2.80	4.0	0.3	●	3
	300-030F	3.00	4.0	0.3	●	
	330-030F	3.30	4.0	0.3	●	
	350-030F	3.50	5.0	0.3	●	
	400-040F	4.00	5.0	0.4	●	
	430-040F	4.30	5.0	0.4	Ⓡ	4
	450-040F	4.50	5.0	0.4	Ⓡ	
	480-040F	4.80	5.0	0.4	Ⓡ	

※1 : The edge width tolerance of GBA32R/L 033-005 : $0.50^{+0.25}_{-0.00}$

Applicable JCT Toolholders

1: KGBAR ···16 JCT Type
2: KGBAR/L ···22-15 JCT Type
3: KGBAR/L ···22-25 JCT Type
4: KGBAR/L ···22-35 JCT Type

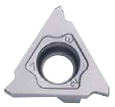
For more details on cutting conditions, please see the KYOCERA General Product Catalog or GBA brochure

● : Standard Item Ⓡ : Standard Item (Right-Hand Only) Ⓛ : Standard Item (Left-Hand Only)

KGBA-JCT Applicable Inserts (Metric)

Molded Chipbreaker

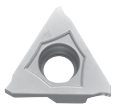
Molded GM Chipbreaker



					NEW
P	Carbon Steel / Alloy Steel	●	◕	◕
M	Stainless Steel		●	◕
K	Cast Iron		◕	
N	Non-ferrous Material			
S	Titanium Alloy			
H	Hardened Material (~40HRC)		●	

Part Number		Dimensions (mm) CW Edge Width (W)	CDX Available Grooving Depth	RE Corner-R	Cermet TN620	MEGACOAT PR1215	MEGACOAT NANO PR1625	Applicable Toolholders
GBA43R/L	140-010GM	1.40	3.5	0.1	●	●		2
	150-020GM	1.50	3.5	0.2	●	●	●	
	175-020GM	1.75	3.5	0.2	●	●		
	185-020GM	1.85	3.5	0.2	●	●	●	
	200-020GM	2.00	3.5	0.2	●	●	●	
	230-020GM	2.30	3.5	0.2	●	●		
	250-030GM	2.50	5.0	0.3	●	●	●	3
	265-030GM	2.65	5.0	0.3	●	●		
	300-030GM	3.00	5.0	0.3	●	●	●	
	330-030GM	3.30	5.0	0.3	●	●		
	350-030GM	3.50	5.0	0.3	●	●		4
	400-040GM	4.00	5.0	0.4	●	●	●	

Molded MY Chipbreaker



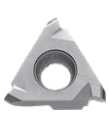
P	Carbon Steel / Alloy Steel	○	◕	◔
M	Stainless Steel		●	◔
K	Cast Iron		◕	
N	Non-ferrous Material			
S	Titanium Alloy			
H	Hardened Material (~40HRC)		●	○

Part Number		Dimensions (mm) CW Edge Width (W)	CDX Available Grooving Depth	RE Corner-R	Cermet TN6020	MEGACOAT PR1215	PVD Coated Carbide PR930	Applicable Toolholders
GBA43R/L	175-020MY	1.75	3.5	0.2	●	●	●	2
	185-020MY	1.85	3.5	0.2	●	●	●	
	200-020MY	2.00	3.5	0.2	●	●	●	
	230-020MY	2.30	3.5	0.2	●	●	●	
	250-030MY ※3	2.50	4.0	0.3	Ⓡ			3
		2.50	5.0	0.3		●	●	
	265-030MY ※3	2.65	4.0	0.3	●			
		2.65	5.0	0.3		●	Ⓡ	
	300-030MY ※3	3.00	4.0	0.3	●			
		3.00	5.0	0.3		●	●	
	330-030MY ※3	3.30	4.0	0.3	Ⓡ			
		3.30	5.0	0.3		●	Ⓡ	
	350-030MY	3.50	5.0	0.3	●	●	●	4
	400-040MY	4.00	5.0	0.4	●	●	●	

※3 : Available grooving depth is different based on grade

Full-R

Full-R



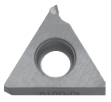
						NEW					
P	Carbon Steel / Alloy Steel	●	○		◕	●	◔		◔		
M	Stainless Steel				◕	●	◔		◔		
K	Cast Iron							◕		◔	
N	Non-ferrous Material									◕	
S	Titanium Alloy									◕	
H	Hardened Material (~40HRC)					●	○		○		

Part Number		Dimensions (mm) CW Edge Width (W)	CDX Available Grooving Depth	RE Corner-R	MEGACOAT Cermet PV7040	Cermet TN620	Cermet TN90	MEGACOAT NANO PR1625	MEGACOAT PR1215	PVD Coated Carbide PR1115	PVD Coated Carbide PR905	PVD Coated Carbide PR930	Carbide KW10	Applicable Toolholders
GBA32R	200-100R	2.00	2.5	1.00					●	●				1
	300-150R	3.00	2.5	1.50					●	●				
GBA43R/L	100-050R	1.00	2.0	0.50	●			●	●			Ⓡ		2
	150-075R	1.50	3.5	0.75	●		Ⓡ	●	●		Ⓡ		Ⓡ	
	200-100R	2.00	3.5	1.00	●			●	●		●			
	250-125R	2.50	4.0	1.25					●					3
	300-150R	3.00	4.0	1.50			●	●	●		●	●	●	
	400-200R	4.00	5.0	2.00					●					4
GBA43R/L	100-050RF	1.00	2.0	0.50		●								2
	150-075RF	1.50	3.5	0.75		●								
	200-100RF	2.00	3.5	1.00		●								
	250-125RF	2.50	4.0	1.25		●								3
	300-150RF	3.00	4.0	1.50		●								
	400-200RF	4.00	5.0	2.00		Ⓡ								4

GBA43R/L …RF: Sharp Edge Type

CBN / PCD

1-Edge (CBN / PCD)



P	Carbon Steel / Alloy Steel				
M	Stainless Steel				
K	Cast Iron				
N	Non-ferrous Material			●	
S	Titanium Alloy			●	
H	Hardened Material (~40HRC)	○	●		

Part Number		Dimensions (mm) CW Edge Width (W)	CDX Available Grooving Depth	RE Corner-R	CBN KBN510	CBN KBN525	PCD KPD001	PCD KPD010	Applicable Toolholders
GBA32R	125-010	1.25	2.0	0.1				●	1
	150-010	1.50	2.0	0.1			●	●	
GBA43R/L	125-010	1.25	2.0	0.1				●	2
	125-020	1.25	2.0	0.2	Ⓡ	Ⓛ			
	150-010	1.50	3.5	0.1			●	●	
	150-020	1.50	3.5	0.2	●	Ⓡ			
	200-010	2.00	3.5	0.1			●	●	
	200-020	2.00	3.5	0.2	●	●			
	250-010	2.50	4.0	0.1			●	●	3
	300-010	3.00	4.0	0.1			●	●	
	300-020	3.00	4.0	0.2		Ⓡ			

Applicable JCT Toolholders

1: KGBAR ···16 JCT Type
2: KGBAR/L ···22-15 JCT Type
3: KGBAR/L ···22-25 JCT Type
4: KGBAR/L ···22-35 JCT Type

For more details on cutting conditions, please see the KYOCERA General Product Catalog or GBA brochure

● : Standard Item Ⓡ : Standard Item (Right-Hand Only) Ⓛ : Standard Item (Left-Hand Only)

KGD-JCT

Grooving / Cut-Off

Coolant-Through Holders for External Grooving and Cut-Off

Coolant is Directed from the Rake Surface and the Flank Face of the Insert

Improved Chip Control and Longer Tool Life for External Grooving and Cut-off

Discharges Coolant in Two Directions

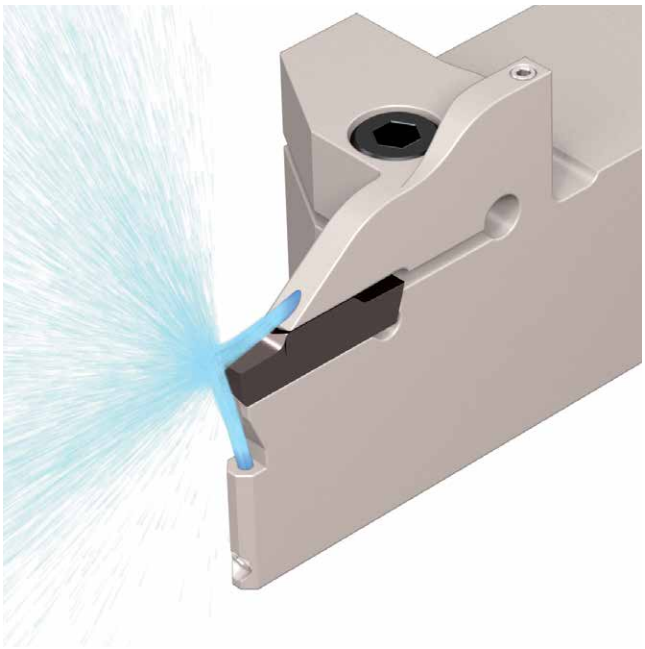
Discharges coolant in two directions toward both the rake surface and the flank face of the insert

Excellent Chip Control and Long Tool Life

1 Superior Chip Control Performance

Coolant towards the rake face

Coolant hole position and angle improve chip control



Chip Control Comparison (Internal Evaluation)

KGD-JCT showed better chip control performance even at lower feed rates

f = 0.002 ipr (218 psi)

KGD-JCT

Competitor E

Competitor F

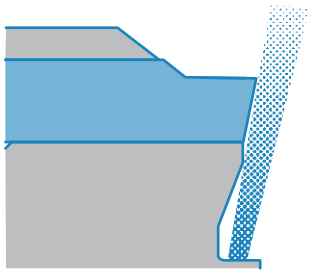
Competitor G

Cutting Conditions: Vc = 490 sfm, f = 0.002 ipr, d = 0.315", Wet
Edge Width 4 mm (0.157") Workpiece: 4131 Grooving

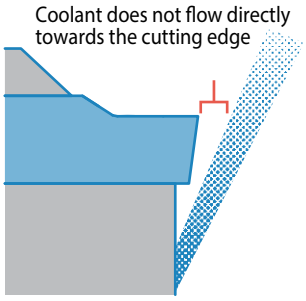
2 Keeping the Cutting Edge Cool Leads to Longer Tool Life

Coolant towards the rake surface and the flank face of the insert
Directing coolant towards the cutting edge lengthens tool life

KGD-JCT



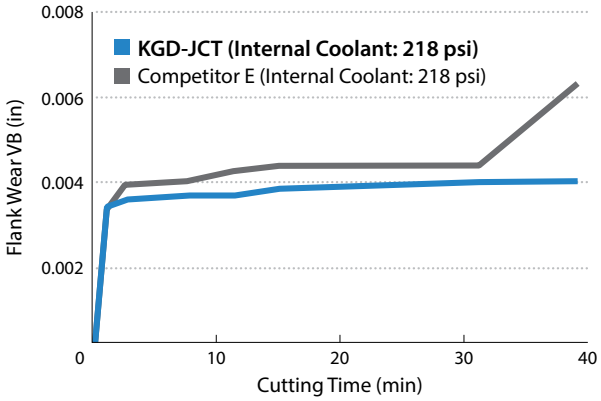
Competitor E



After Machining 39 min

Defect

Wear Resistance Comparison (Internal Evaluation)



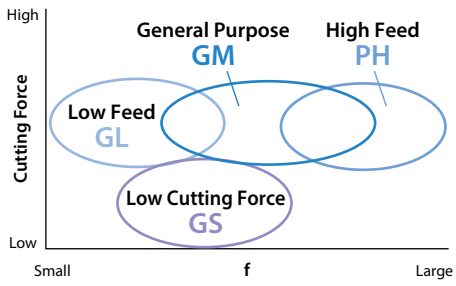
Cutting Conditions: Vc = 590 sfm, f = 0.006 ipr, d = 0.354", Wet
Edge Width 0.158" Workpiece: 4131 Grooving

KGD-JCT Minimizes Wear and Provides Longer Tool Life without Insert Fracturing

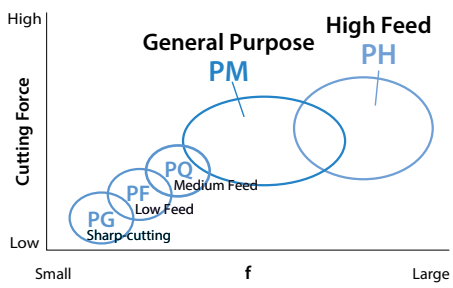
3 Large Chipbreaker Lineup for Various Machining Applications

Application Maps

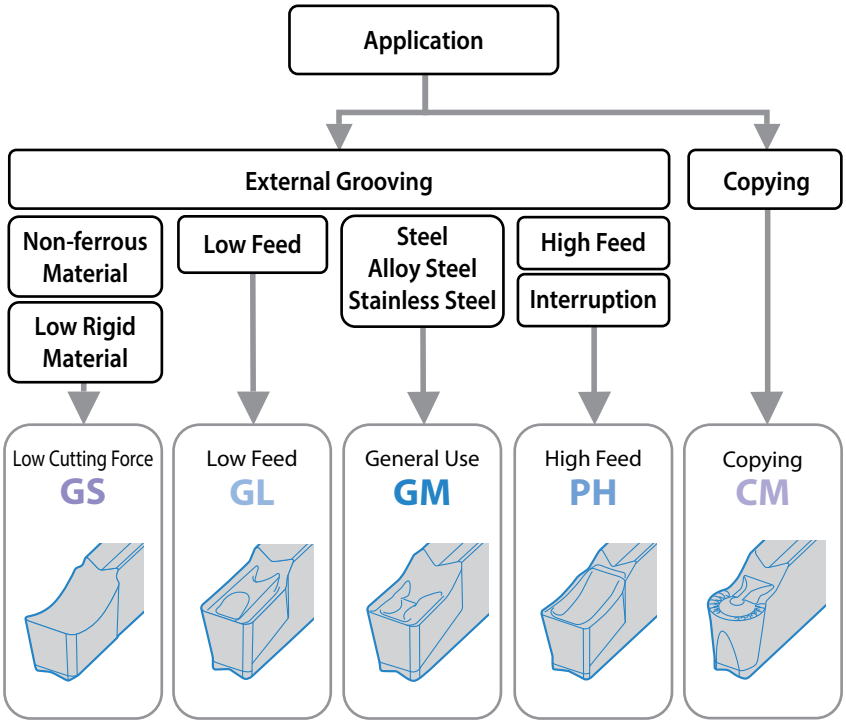
External Grooving and Traversing



Cut-Off



Chipbreaker Selection (External)



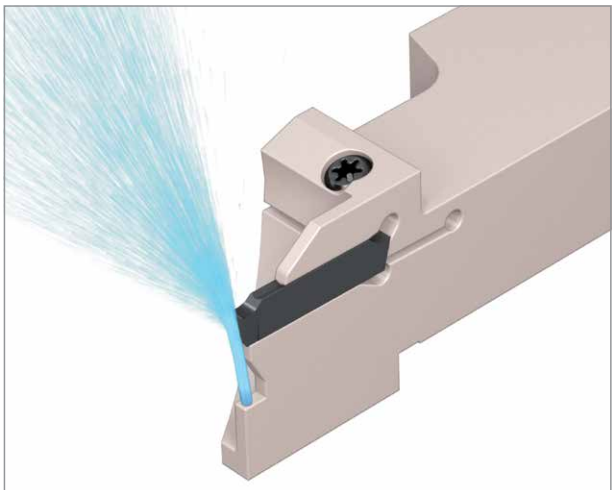
KGD-JCT for Small Parts

NEW

Small Diameter Grooving / Cut-Off

Coolant-Through Cut-Off Holders for Small Parts Machining

KGD-JCT Cut-Off Holder Lineup Expansion
Improved Tool Life Lowers Machining Costs



Effective Cooling of the Cutting Edge

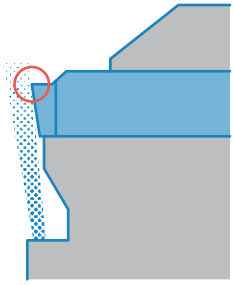
1 Optimized Coolant Hole Position

2 Discharges Coolant towards the Flank Face of the Insert

Coolant Discharge

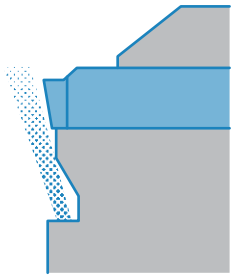
KGD-JCT

Sufficient cooling towards the cutting edge



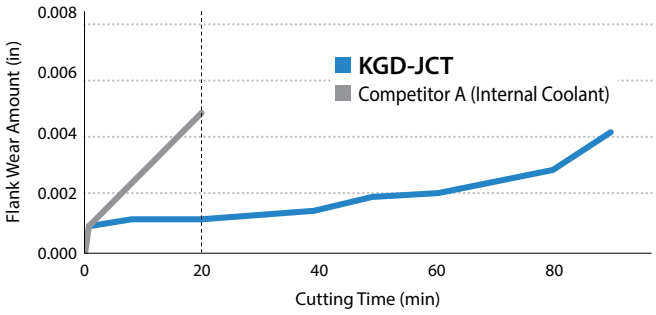
Competitor A

Coolant does not flow directly towards the cutting edge



Wear Resistance Comparison

(Internal Evaluation)



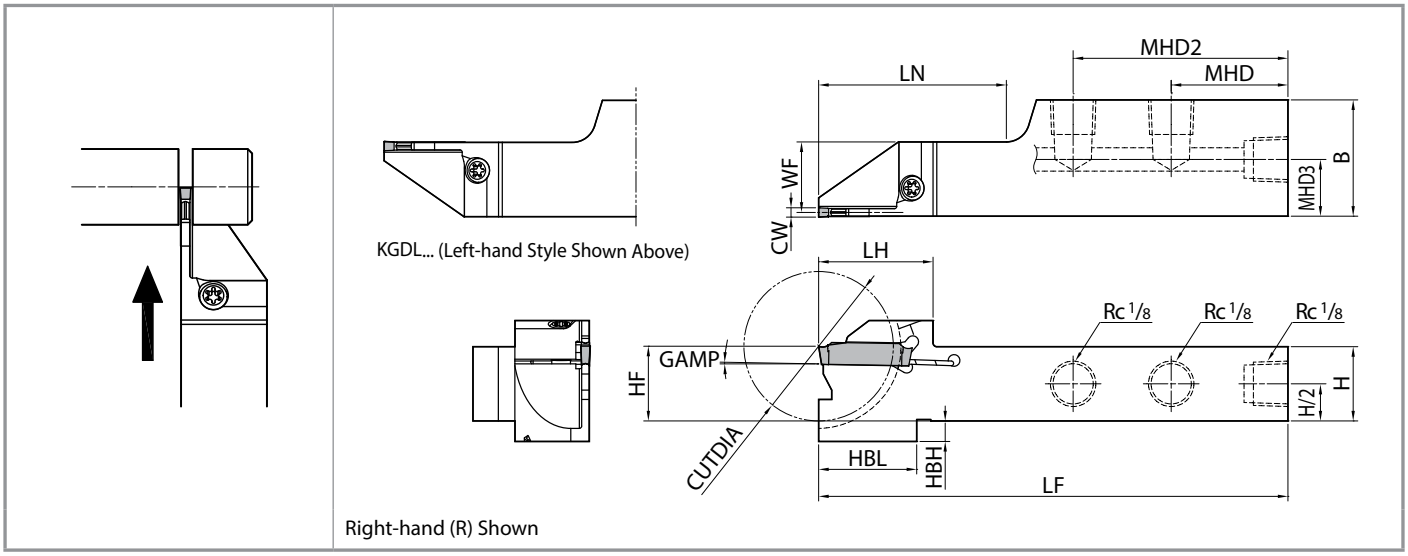
Cutting Conditions : Vc = 260 sfm, f=0.0024 ipr (at~Ø 0.079" : f = 0.0007 ipr), KGDR1625H-2JCT, GDM2020N-015PF PR1535 (Insert Width : 0.079") Workpiece : 304 (Ø0.984") Internal Coolant(218 psi) Cut-off

Cutting Edge (After Machining 20 min)

High density and high speeds coolant provides effective cooling of the cutting edge

Superior cooling action improves tool life

KGD-JCT (for Small Diameter Cut-Off) NEW

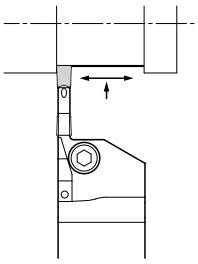


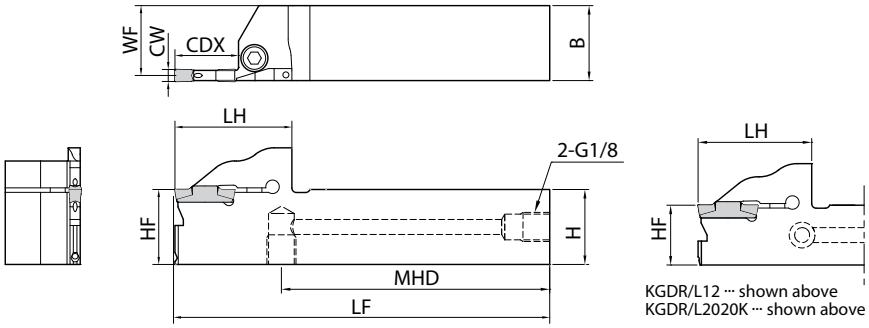
Toolholder Dimensions (Metric Size)

Part Number	Stock	Cut-Off Dia.	Dimensions (mm)											Angle	Edge Width CW (mm)		Spare Parts			Applicable Inserts **Page 22**
																	Clamp Screw	Wrench	Plug	
		CUTDIA	H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	GAMP	MIN	MAX				
KGDR 1220H-2JCT	●	24	12	8.5	20	100	19.5	21	44	11.2	35	-	8.4	1°	2.0	3.0	SB-40120TR	LTW-15S	GP-1	GDM Type GDG Type (GDMS Type) (GDGS Type)
KGDL 1220H-2JCT	●							21.5					7.7							
KGDR 1625H-2JCT	●	32	16	4.5	25		24.5	21	40	15.2	25	46	12.2							
KGDL 1625H-2JCT	●												7.7							
KGDR 1220H-2.4JCT	●	24	12	8.5	20	100	19.5	21	44	11	35	-	8.4	1°	2.4	3.0				
KGDL 1220H-2.4JCT	●							21.5					7.7							
KGDR 1625H-2.4JCT	●	32	16	4.5	25		24.5	21	40	15	25	46	12.2							
KGDL 1625H-2.4JCT	●												7.7							
KGDR 1220H-3JCT	●	24	12	8.5	20	100	19.5	21	44	10.8	35	-	8.6	1°	3.0	3.0				
KGDL 1220H-3JCT	●							21.5					7.7							
KGDR 1625H-3JCT	●	32	16	4.5	25		24.5	21	40	14.8	25	46	12.2			4.0				
KGDL 1625H-3JCT	●												7.7							

Choose an insert with a width that falls within the **MIN** and **MAX** parameters shown in table above.
Applicable Inserts See **Page 22**

● : Standard Item





Right-hand (R) Shown

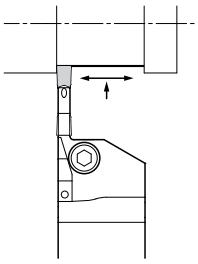
Toolholder Dimensions (Inch Size)

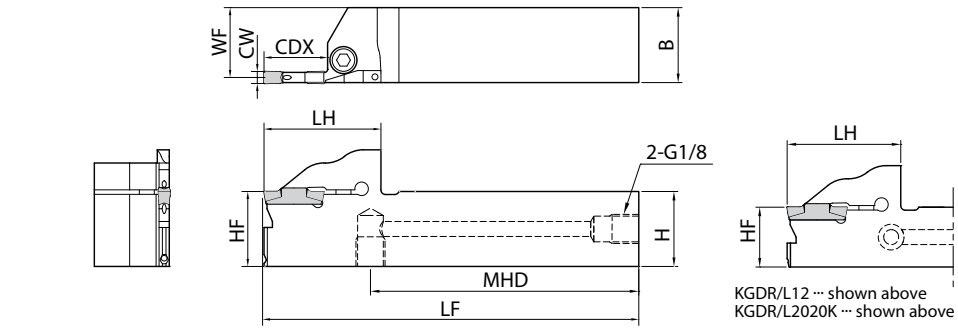
Pressure Resistance: up to 2,175 psi

Groove Width (in)	Max Grooving Depth (in)	Part Number	Stock		Dimensions (in)							Edge Width CW (mm)		Spare Parts		
			R	L	H=HF	B	LF	LH	WF	CDX	MHD	MIN	MAX	Clamp Screw	Wrench	Plug
0.118 (3mm)	0.787 (20mm)	KGD R/L 12-3T20JCT	●	●	0.750	0.750	5.000	1.496	0.702	0.787 (20mm)	3.590	0.118 (3mm)	0.157 (4mm)	HH5X16	LW-4	HSG1/8X8.0
		16-3T20JCT	●	●	1.000	1.000	5.000	1.535	0.952		3.551			HH5X25	LW-4	HSG1/8X8.0
0.157 (4mm)	0.787 (20mm)	KGD R/L 12-4T20JCT	●		0.750	0.750	5.000	1.496	0.683	0.787 (20mm)	3.590	0.157 (4mm)	0.197 (5mm)	HH5X16	LW-4	HSG1/8X8.0
		16-4T20JCT	●	●	1.000	1.000	5.000	1.535	0.933		3.551			HH5X25	LW-4	HSG1/8X8.0
	1.000 (25.4mm)	KGD R/L 16-4T25.4JCT	●	●	1.000	1.000	5.000	1.732	0.933	1.000 (25.4mm)	3.354			HH5X25	LW-4	HSG1/8X8.0

Choose an insert with a width that falls within the **MIN** and **MAX** parameters shown in table above.
Applicable Inserts See **Page 22**

● : Standard Item





Right-hand (R) Shown

Toolholder Dimensions (Metric Size)

Pressure Resistance: up to 2,175 psi

Groove Width (mm)	Max Grooving Depth (mm)	Part Number	Stock R	Stock L	H=HF	B	LF	LH	WF	CDX	MHD	Edge Width CW (mm) MIN	Edge Width CW (mm) MAX	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Plug
3	6	KGD R/L 2020K-3T06JCT	●	●	20	20	125	31.5	18.8	6	96.2	3.0	4.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-3T06JCT	●	●	25	25			23.8		96.5			HH5X25		
	10	2020K-3T10JCT	●	●	20	20		34.0	18.8	10	94.2			HH5X16		
		2525K-3T10JCT	●	●	25	25			23.8		94.5			HH5X25		
	20	2020K-3T20JCT	●	●	20	20		38.0	18.8	20	90.2			HH5X16		
		2525K-3T20JCT	●	●	25	25		39.0	23.8		89.5			HH5X25		
4	10	KGD R/L 2020K-4T10JCT	●	●	20	20	125	34.0	18.3	10	94.2	4.0	5.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-4T10JCT	●	●	25	25			23.3		94.5			HH5X25		
	20	KGD R/L 2020K-4T20JCT	●	●	20	20		38.0	18.3	20	90.2			HH5X16		
		2525K-4T20JCT	●	●	25	25		39.0	23.3		89.5			HH5X25		
	25	KGD R/L 2525K-4T25JCT	●	●	25	25		44.0	23.3	25	84.5					

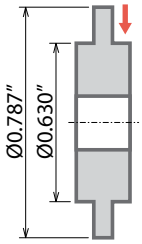
Choose an insert with a width that falls within the **MIN** and **MAX** parameters shown in table above.
Applicable Inserts See **Page 22**

● : Standard Item

Case Studies

Ring - 5120 (Equivalent)

Vc = 525 sfm
(n = 3,200 rpm)
D.O.C. = 0.098"
f = 0.0028 ipr
Wet (Water Soluble), Normal Pressure
KGDR2020K-3T10JCT
GDM3020M-025PM PR1225



Tool Life

KGD-JCT (Internal Coolant) **9,000 pcs / edge**

Tool Life x1.5

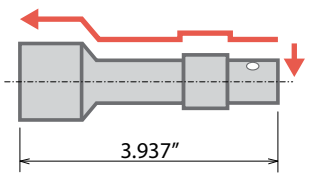
Competitor H (External Coolant) **6,000 pcs / edge**

Change to KGD-JCT (internal coolant) from Competitor H (external coolant) extended tool life by 1.5 times.

(User Evaluation)

Valve - Free Cutting Steel

Vc = 525 sfm
D.O.C. = 0.551"
f = 0.0047-0.0059 ipr
Wet (Water Soluble), Normal Pressure
KGDR2525K-3T20JCT
GDM3020M-040GM PR1535



Tool Life

KGD-JCT (Internal Coolant) **1,000 pcs / edge**

Competitor I (Internal Coolant) **1,000 pcs / edge**

Chip Control: Good
Surface Finish: Good

KGD-JCT maintained stable machining for the required number of pieces
Better chip control and surface finish

(User Evaluation)

KGD-JCT Applicable Inserts

External Grooving / Turning

Usage Classification									
	P	Carbon Steel / Alloy Steel	●	○		◕	◔	
	M	Stainless Steel			◕	◔	◔	
◕ : Light Interruption / 1st Choice ◔ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	K	Cast Iron					◕	
	N	Non-ferrous Material						◕
	S	Titanium Alloy			◕			◔
	H	Hardened Material (~40HRC)				○		
		Hardened Material (40HRC~)						

Shape		Part Number	Dimensions (in)				Cermet		MEGA COAT NANO	MEGACOAT		Carbide
			Edge Width CW			RE	TN620	TN90	PR1535	PR1225	PR1215	GW15
			inch	mm	Tolerance							
External Grooving & Traversing	 General Purpose	GDM 2420N-020GM	0.094	2.4	±0.0012	0.008	●	●	●	●	●	
		3020N-020GM	0.118	3		0.008	●	●	●	●	●	
		3020N-040GM				0.016	●	●	●	●	●	
		4020N-020GM	0.157	4		0.008	●	●	●	●	●	
		4020N-040GM				0.016	●	●	●	●	●	
		4020N-080GM				0.031	●	●	●	●	●	
		5020N-040GM	0.197	5	±0.0016	0.016	●	●	●	●	●	
		5020N-080GM				0.031	●		●	●	●	
	 General Purpose 1-Edge	GDMS 2220N-020GM	0.087	2.2	±0.0012	0.008	●	●	●	●	●	
		3020N-040GM	0.118	3		0.016	●		●	●	●	
		4020N-040GM	0.157	4		0.016	●	●	●	●	●	
		5020N-080GM	0.197	5	±0.0016	0.031	●		●	●	●	
	 Low Feed	GDM 2420N-020GL	0.094	2.4	±0.0012	0.008	●	●	●	●	●	
		3020N-020GL	0.118	3		0.008	●	●	●	●	●	
		3020N-040GL				0.016	●	●	●	●	●	
		4020N-020GL	0.157	4		0.008	●	●	●	●	●	
		4020N-040GL				0.016	●		●	●	●	
		5020N-040GL	0.197	5	±0.0016		●	●	●	●	●	
Grooving	 Wiper Edge	GDG 2520N-020GS	0.098	2.5	±0.0008	0.008	●	●	●	●	●	●
		3020N-020GS	0.118	3			●	●	●	●	●	●
		3520N-020GS	0.138	3.5			●		●	●	●	●
		4020N-040GS	0.157	4		0.016	●	●	●	●	●	●
		5020N-040GS	0.197	5			●	●	●	●	●	●
Full-R / Copying		GDM 3020N-150R-CM	0.118	3	±0.0012	0.059	●	●	●	●	●	
		4020N-200R-CM	0.157	4		0.079	●	●	●	●	●	
		5020N-250R-CM	0.197	5	±0.0016	0.098	●	●	●	●	●	
Grooving & Cut-Off (High Feed)		GDM 2020N-020PH	0.079	2	±0.0012	0.008			●	●	●	
		3020N-030PH	0.118	3		0.012			●	●	●	
		4020N-030PH	0.157	4					●	●	●	
	 1-Edge	GDMS 2020N-020PH	0.079	2	±0.0012	0.008			●	●	●	
		3020N-030PH	0.118	3		0.012			●	●	●	
		4020N-030PH	0.157	4					●	●	●	

Inserts sold in 10 piece boxes

CBN / PCD

Usage Classification					
	N	Non-ferrous Material			●
	S	Titanium Alloy			●
◕ : Light Interruption / 1st Choice ◔ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	H	Hardened Material (~40HRC)			
		Hardened Material (40HRC~)	●		
	-	Powdered Steel		●	

Shape		Part Number	Dimensions (in)			RE	MEGA COAT CBN	CBN	PCD
			Edge Width CW				KBN05M	KBN570	KPD001
			inch	mm	Tolerance				
Grooving	 1-Edge	GDGS 2020N-020NB	0.079	2	±0.0012	0.008	●	●	●
		3020N-020NB	0.118	3		0.008			●
		3020N-040NB				0.016	●	●	
		4020N-020NB	0.157	4		0.008			●
		4020N-040NB				0.016	●	●	
		5020N-020NB	0.197	5		0.008			●
		5020N-040NB				0.016	●	●	

CBN and PCD inserts sold in 1 piece boxes

Cut-Off

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

Shape		Part Number	Dimensions (in)			RE	MEGA COAT NANO	MEGACOAT		DLC Coated Carbide	Carbide
			Edge Width CW				PR1535	PR1225	PR1215	PD1025	GW15
			inch	mm	Tolerance						
Cut-Off		GDM 2020N-020PM	0.079	2	±0.0012	0.008	●	●	●		
		2520N-020PM	0.098	2.5		0.008	●	●	●		
		3020N-025PM	0.118	3	±0.0012	0.010	●	●	●		
		4020N-030PM	0.157	4		0.012	●	●	●		
	 6° Lead Angle	GDM 2020R-020PM-6D	0.079	2	±0.0012	0.008	●	●	●		
		2520R-020PM-6D	0.098	2.5		0.008	●	●	●		
		3020R-025PM-6D	0.118	3		0.010	●	●	●		
	 1-Edge	GDMS 2020N-020PM	0.079	2	±0.0012	0.008	●	●	●		
		3020N-025PM	0.118	3		0.010	●	●	●		
		4020N-030PM	0.157	4		0.012	●	●	●		
	 6° Lead Angle 1-Edge	GDMS 2020R-020PM-6D	0.079	2	±0.0012	0.008	●	●	●		
		3020R-025PM-6D	0.118	3		0.010	●	●	●		
		4020R-030PM-6D	0.157	4		0.012	●	●	●		
Cut-Off (Low Feed)		GDM 2020N-003PF	0.079	2	±0.0016	0.001	●	●			
		2020N-015PF				0.006	●	●	●		
		2520N-003PF	0.098	2.5		0.001	●	●			
		2520N-015PF				0.006	●	●	●		
		3020N-003PF	0.118	3		0.001	●	●			
		3020N-015PF				0.006	●	●	●		
	 15° Lead Angle	GDM 2020R/L-003PF-15D	0.079	2	±0.0016	0.001	●	●			
		2020R-015PF-15D				0.006	●	●	●		
		2520R/L-003PF-15D	0.098	2.5		0.001	●	●			
		2520R-015PF-15D				0.006	●	●	●		
		3020R/L-003PF-15D	0.118	3		0.001	●	●			
		3020R-015PF-15D				0.006	●	●	●		
Cut-Off (Medium Feed)		GDM 2020N-010PQ	0.079	2	±0.0012	0.004	●	●			
		2520N-010PQ	0.098	2.5			●	●			
		3020N-010PQ	0.118	3			●	●			
	 15° Lead Angle	GDM 2020R-010PQ-15D	0.079	2	±0.0012	0.004	●	●			
		2520R-010PQ-15D	0.098	2.5			●	●			
		3020R-010PQ-15D	0.118	3			●	●			
Cut-Off (Low Cutting Force)		GDG 2020N-005PG	0.079	2	±0.0008	0.002	●	●		●	●
		2520N-005PG	0.098	2.5			●	●		●	●
		3020N-005PG	0.118	3			●	●		●	●
	 15° Lead Angle	GDG 2020R-005PG-15D	0.079	2	±0.0008	0.002	●	●		●	●
		2520R-005PG-15D	0.098	2.5			●	●		●	●
		3020R-005PG-15D	0.118	3			●	●		●	●

Inserts sold in 10 piece boxes

● : Standard Item

KTN-JCT

Coolant-Through Holders for Threading

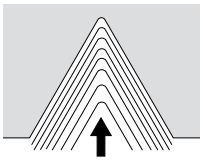
Double Coolant Holes Reduce Defects and Lengthen Tool Life

1 Improved Tool Life Lowers Machining Costs

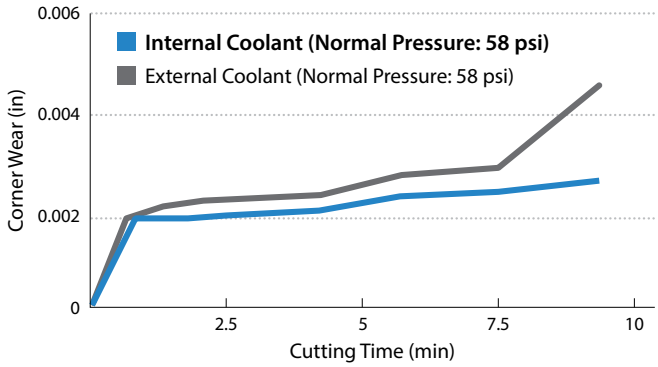
Coolant flows from the top of the clamp and provides efficient cooling of the cutting edge to prevent wear

Wear Resistance Comparison of Internal vs. External Coolant (Internal Evaluation)

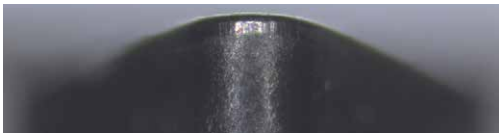
Radial Infeed



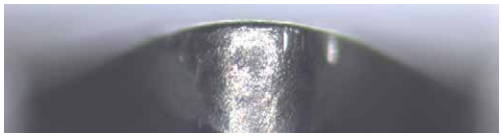
Cutting Conditions: Vc = 490 sfm
16ER150ISO-TQ (PR1215)
Workpiece: 4137



Internal Coolant (Normal Pressure: 0.4MPa)



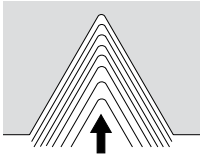
External Coolant (Normal Pressure: 0.4MPa)



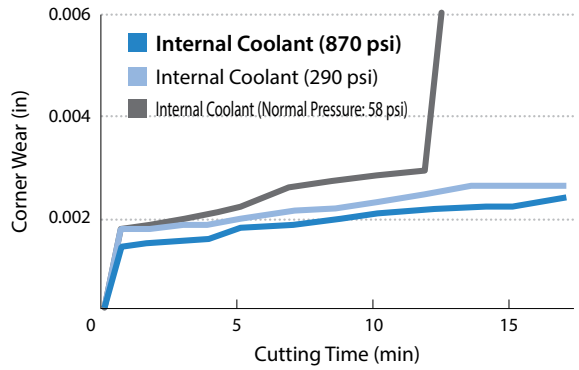
Switching to the KTN-JCT with internal coolant lengthens tool life

Wear Resistance Comparison at Different Pressures (Internal Evaluation)

Radial Infeed

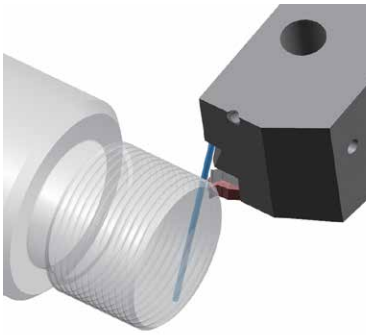


Cutting Conditions: Vc = 490 sfm
16ER150ISO-TQ (PR1215)
Workpiece: 4137



The higher the coolant pressure, the more efficient the wear resistance will be

2 Prevents Chip Recutting

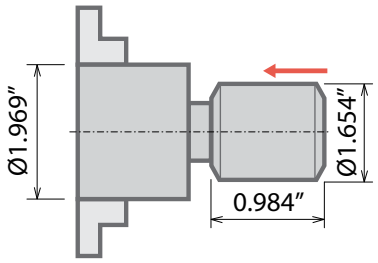


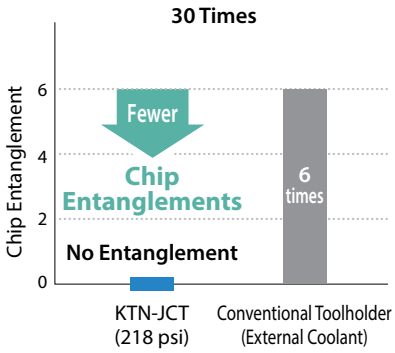
Coolant from the flank face of the insert smoothly evacuates chips away from the cutting edge and reduces chip clogging

*** Coolant from the flank face does not flow directly to the cutting edge.**

Chip Evacuation Comparison (Internal Evaluation)

Cutting Conditions: Vc = 490 sfm 16ER150ISO Type (PR1215) Workpiece: 4137, Radial Infeed





(Chip Entanglement Example)

KTN-JCT prevents chip entanglement by directing the chips downward

Internal Coolant Advantages (Reference)

Tool life is increased using internal coolant

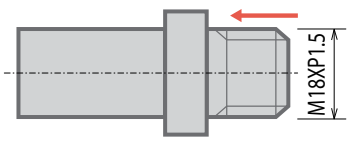
Items	Workpiece	Advantages to Internal Coolant
Tool Life	Steel	Better Wear Resistance
	Stainless Steel	Lower Cutting Resistance
Chip Evacuation	Steel	Prevents chip entanglement with 218 psi or higher
Chip Control	Steel	Breaks chips with 870 psi or higher
	Stainless Steel	

* To prevent chip entanglement, 218 psi or higher is recommended. (Steel)
* For chip breaking, high pressure coolant is recommended. (870 psi or higher for Steel and Stainless Steel)

Case Studies

Arbor Bolt Free Cutting Steel

n = 2,700 rpm (Vc = 480 sfm)
Number of pass: 7, Radial Infeed, Wet (Water Soluble)
KTNR2020K-16-JCT, 16ER150ISO Type



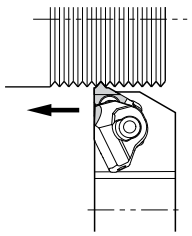
Tool Life (1,250 pcs/edge)

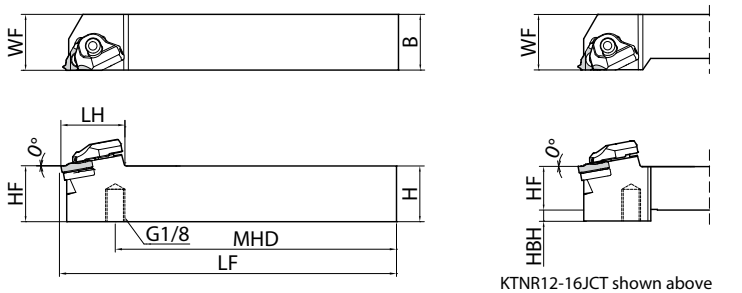
KTN-JCT Toolholder (Internal Coolant: Normal Pressure)

Competitor Toolholder J (External Coolant: Normal Pressure)

KTN-JCT could extend tool life with less wear than competitors. Also improved chip control and reduced fracturing.

(User Evaluation)





Right-hand (R) Shown

KTNR12-16JCT shown above
KTNR2020K-16JCT shown above

Toolholder Dimensions

Pressure Resistance: up to 2,175 psi

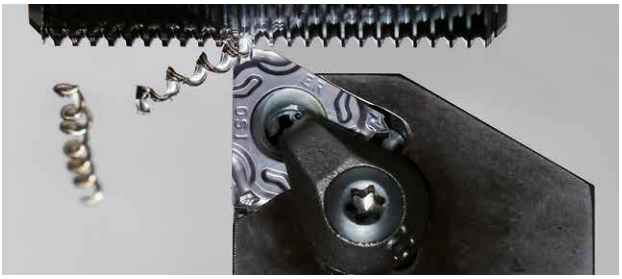
Part Number	Stock	Unit	Dimensions							Spare Parts					Applicable Inserts Page 26-27
			H=HF	HBH	B	WF	LF	LH	MHD	Clamp Set	Pipe Connection (*1 with O-Ring)	Wrench	Shim	Shim Screw	
KTNR 12-16JCT	●	in	0.750	0.234	0.750	0.875	5.000	1.122	4.042	CPS-5S-R-JCT	FP-12	FT-15	TN-32	SP3X8	16ER…
NEW 16-16JCT	●		1.000	-	1.000	1.000	6.000	1.122	5.042	CPS-5S-R-JCT	FP-12	FT-15	TN-32	SP3X8	16ER…
KTNR 2020K-16JCT	●	mm	20	5	20	25	125	33.3	100.7	CPS-5S-R-JCT	FP-12	FT-15	TN-32	SP3X8	16ER...
2525M-16JCT	●		25	-	25	25	150	-	125.7						

*1. O-ring (SS-035) is available to order separately
See ➔ Page 2 for piping parts

● : Standard Item

TQ Chipbreaker

Molded Threading Chipbreaker



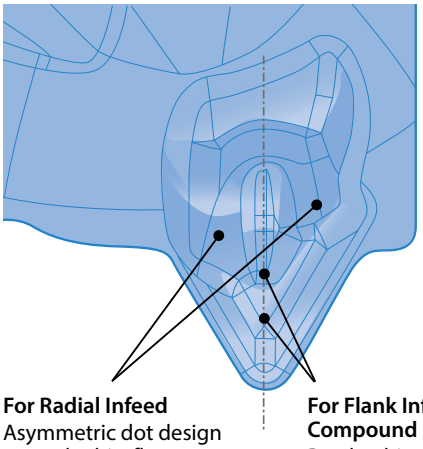
Improved Chip Control with Molded Chipbreaker Combination with KTN-JCT for Greater Productivity

Stable Chip Control

Stable Chip Control with Asymmetric Chipbreaker Design

Chipbreaker Geometry

Stable chip control regardless of cutting direction

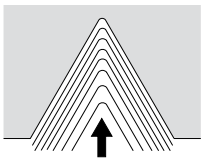


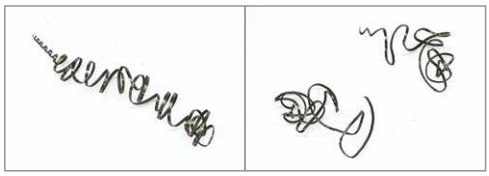
For Radial Infeed
Asymmetric dot design controls chip-flow direction

For Flank Infeed / Flank Compound Infeed
Breaks chips easily with shallow breaker depth

Cutting Force Comparison (Internal Evaluation)

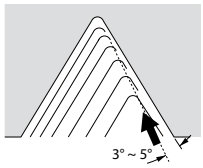
Radial Infeed

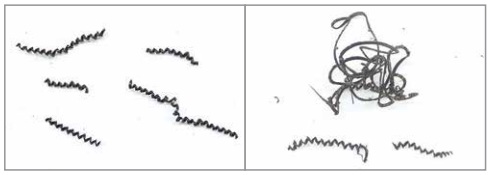




TQ Chipbreaker Competitor K

Flank Compound Infeed





TQ Chipbreaker Competitor K

Cutting Conditions: Vc = 490 sfm, D.O.C. = 0.005" (4th Pass), L = 0.984", Wet, 16ER150ISO Insert
M45 × P1.5 Workpiece: 4131

Full Profile

Metric (M) 60° Full Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch mm	Pitch TPI	Cermet TC60	MEGACOAT / MEGACOAT NANO PR1215	MEGACOAT / MEGACOAT NANO PR1515	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15
				R	R	R	R	R	L	R
16ER 100ISO-TF	M	1.00	-					●		
125ISO-TF		1.25						●		
150ISO-TF		1.50						●		
175ISO-TF		1.75						●		
200ISO-TF		2.00						●		
250ISO-TF		2.50						●		
300ISO-TF		3.00						●		
16ER(L) 050ISO		0.50						●	●	●
075ISO		0.75						●	●	●
100ISO		1.00							●	●
125ISO		1.25						●	●	●
150ISO		1.50							●	●
200ISO		2.00							●	●
250ISO		2.50								●
16ER 100ISO-TQ		1.00			●	●	●			
125ISO-TQ		1.25			●	●	●			
150ISO-TQ		1.50			●	●	●			
200ISO-TQ		2.00			●	●	●			

Parallel Pipe [G(PF)] Whitworth (W) 55° Full Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch G(PF)	Pitch W	Pitch TPI	Cermet TC60	MEGACOAT / MEGACOAT NANO PR1215	MEGACOAT / MEGACOAT NANO PR1515	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15
					R	R	R	R	R	L	R
16ER 19W-TF	G(PF) W	19	-						●		
16W-TF		-	16						●		
14W-TF		14	14						●		
11W-TF		11	11						●		
16ER 19W-TQ		19	-		●	●	●				
14W-TQ		14	14		●	●	●				
11W-TQ		11	11		●	●	●				

American National Tapered Pipe (NPT) 60° Full Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch mm	Pitch TPI	Cermet TC60	MEGACOAT / MEGACOAT NANO PR1215	MEGACOAT / MEGACOAT NANO PR1515	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15
				R	R	R	R	R	L	R
16ER 19W-TF	NPT	19	-					●		
16W-TF		-	16					●		
11W-TF		11	11					●		

Unified (UN) 60° Full Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch mm	Pitch TPI	Cermet TC60	MEGACOAT / MEGACOAT NANO PR1215	MEGACOAT / MEGACOAT NANO PR1515	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15
				R	R	R	R	R	L	R
16ER 24UN-TF	UN UNF	-	24					●		
20UN-TF			20					●		
18UN-TF			18					●		
16UN-TF			16					●		
14UN-TF			14					●		
13UN-TF			13					●		
12UN-TF			12					●		
10UN-TF			10					●		
08UN-TF			8					●		
16ER 16UN			16	●						
16ER 24UN-TQ			24		●	●	●			
20UN-TQ			20		●	●	●			
18UN-TQ			18		●	●	●			
16UN-TQ			16		●	●	●			
14UN-TQ			14		●	●	●			
13UN-TQ			13		●	●	●			
12UN-TQ			12		●	●	●			
10UN-TQ			10		●	●	●			
08UN-TQ			8		●	●	●			

Tapered Pipe [R(PT), (BSPT)] 55° Full Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch mm	Pitch TPI	Cermet TC60	MEGACOAT / MEGACOAT NANO PR1215	MEGACOAT / MEGACOAT NANO PR1515	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15
				R	R	R	R	R	L	R
16ER 28BSPT-TF	R(PT) (BSPT)	-	28					●		
19BSPT-TF			19					●		
14BSPT-TF			14					●		
11BSPT-TF			11					●		
16ER 28BSPT			28							●
19BSPT			19							●
14BSPT			14							●
11BSPT			11							●
16ER 19BSPT-TQ			19		●	●	●			
14BSPT-TQ			14		●	●	●			
11BSPT-TQ			11		●	●	●			

TC60 (Threading) are sold in 10 piece boxes.
Others are sold in 5 piece boxes.

16ER ..... –TQ: With Chipbreaker
–TF: Without Chipbreaker
(TF Cutting Edge)
No Indication: Without Chipbreaker

●: Standard Item

Partial Profile

Metric (M), Unified (UN)
60° Partial Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch		Cermet	MEGACOAT / MEGACOAT NANO			PVD Coated Carbide	Carbide
		mm	TPI	TC60	PR1215	PR1515	PR1535	PR1115	GW15
				R	R	R	R	R	R
16ER A60-TF	M UN UNF	0.5 ~ 1.5	48 ~ 16					●	
G60-TF		1.75 ~ 3	14 ~ 8					●	
AG60-TF		0.5 ~ 3	48 ~ 8					●	
16ER A60		0.5 ~ 1.5	48 ~ 16						●
G60		1.75 ~ 3	14 ~ 8						●
AG60		0.5 ~ 3	48 ~ 8						●
16ER A60-TQ		0.5 ~ 1.5	48 ~ 16		●	●	●		
G60-TQ		1.75 ~ 3	14 ~ 8		●	●	●		
AG60-TQ		0.5 ~ 3	48 ~ 8		●	●	●		

30° Trapezoidal (Tr)
30° Partial Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel						●	
	M	Stainless Steel						●	
●: 1st Choice	K	Cast Iron							
○: 2nd Choice	N	Non-ferrous Material							

Part Number	Applicable Thread	Pitch		Cermet	MEGACOAT / MEGACOAT NANO			PVD Coated Carbide	Carbide
		mm	TPI	TC60	PR1215	PR1515	PR1535	PR1115	GW15
				R	R	R	R	R	R
16ER 200TR	Tr	2	-					●	
300TR		3						●	

Parallel Pipe [G(PF)], Tapered Pipe [R(PT)], (BSPT)], Whitworth (W) 55° Partial Profile

Usage Classification									
	P	Carbon Steel / Alloy Steel		●				
	M	Stainless Steel			●	○		
●: 1st Choice	K	Cast Iron						●
○: 2nd Choice	N	Non-ferrous Material						●

Part Number	Applicable Thread	Pitch		Cermet	MEGACOAT / MEGACOAT NANO			PVD Coated Carbide	Carbide
		G(PF) R(PT)	W	TC60	PR1215	PR1515	PR1535	PR1115	GW15
		TPI		R	R	R	R	R	R
16ER A55-TF	G(PF) R(PT) W	28, 19	40 ~ 16					●	
G55-TF		14, 11	14 ~ 8					●	
AG55-TF		28 ~ 11	40 ~ 8					●	
16ER A55		28, 19	40 ~ 16						●
G55		14, 11	14 ~ 8						●
AG55		28 ~ 11	40 ~ 8						●

TC60 (Threading) are sold in 10 piece boxes.
Others are sold in 5 piece boxes.

16ER ..... –TQ: With Chipbreaker
–TF: Without Chipbreaker
(TF Cutting Edge)
No Indication: Without Chipbreaker

● : Standard Item

JCT Series for Small Parts

Coolant-Through Holders for Small Parts Machining

Capable of Pressure up to 2,900 psi and Improves Chip Control Performance
Large Holder Lineup for Turning, External Grooving and Cut-off

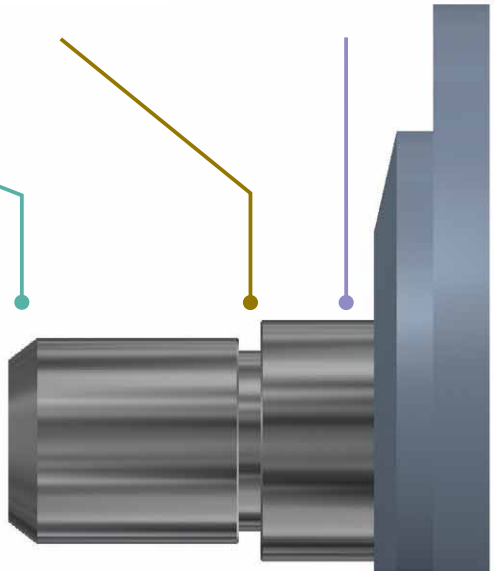
NEW *New Inch Size Holders Now Avialble!*

Turning
Screw-Clamp-JCT
Page 32

External Grooving
KGBF-JCT
Page 36

Cut-Off
KTKF-JCT
Page 40

Grooving / Cut-Off
KGD-JCT
Page 18



Small Parts Holder Identification System

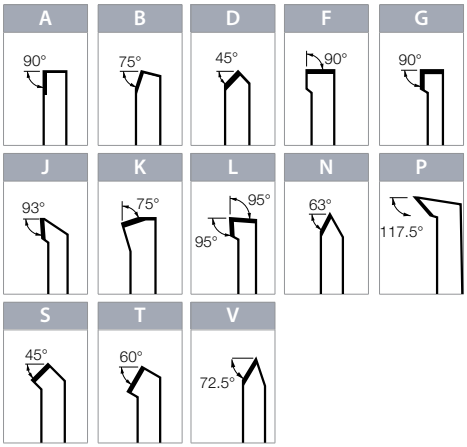
Note: JCT-Series holders for small parts machining have rectangle shanks

See below for part number identification examples

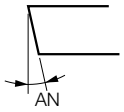
Clamping System	Insert Shape	Hand of Tool	Shank Size	Insert Size IC	Others
A : Back Clamp **C** : Top Clamp **P** : Level Lock **S** : Screw Clamp	**C** : 80° Rhombic **D** : 55° Rhombic **S** : 90° Square **T** : 60° Triangle **V** : 35° Rhombic	**R** : Right-Hand **L** : Left-Hand **N** : Neutral	**Square Shank:** This number will represent the number of sixteenths of width and height. Ex. 6/16 = 3/8" Square **Rectangle Shank:** the first digit represents the number of eighths of width and the second digit the number of quarters of height. Ex. **Width** = 6/8 = 3/4" **Height** = 2/4 = 1/2"	Number of 1/8ths on 1/4" IC and over.	Optional Codes Manufacturer Options (**FF** : Without Offset) (**JCT** : Jet Coolant-Through Series)

ANSI (inch)	S	C	L	C	R	62	–	3	FF	JCT			
ISO (metric)	S	C	L	C	R	12	20	H	–	09	FF	JCT	
	Cutting Edge System					Insert Relief Angle	Shank Height	Shank Width	Toolholder Length		Insert Size		

Cutting Edge System



Insert Relief Angle

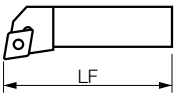


B : 5° Positive
C : 7° Positive
N : 0° Negative
P : 11° Positive

Shank Height (mm)

Shank Width (mm)

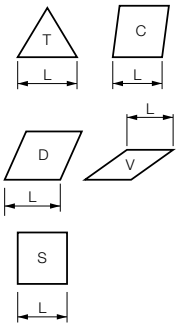
Toolholder Length



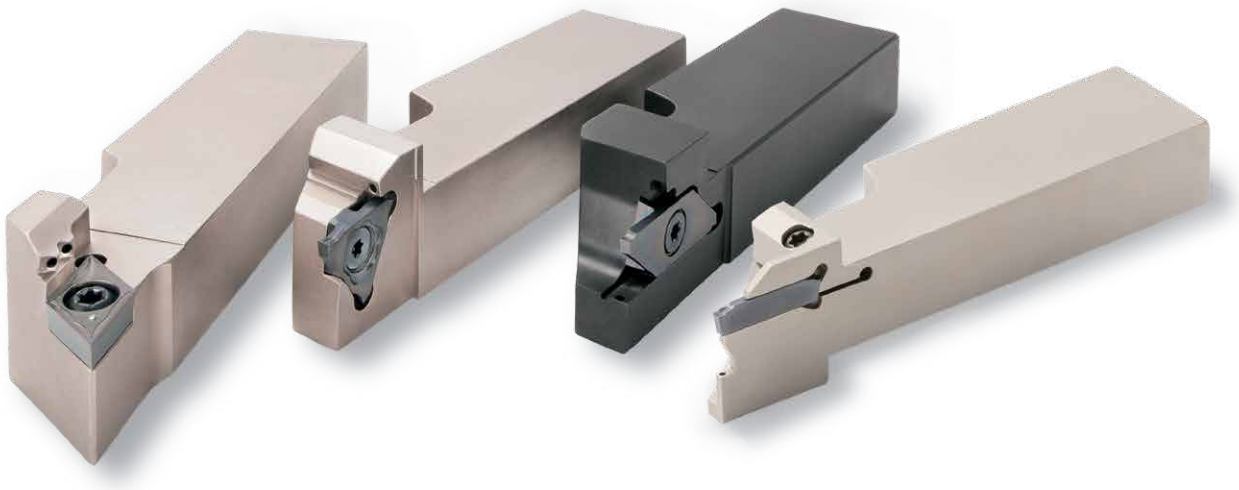
F : 80mm (85mm)
H : 100mm

JX : 4.750" 120mm
K : 125mm
M : 150

Insert Size



• Some back turning toolholders have Kyocera's unique descriptions

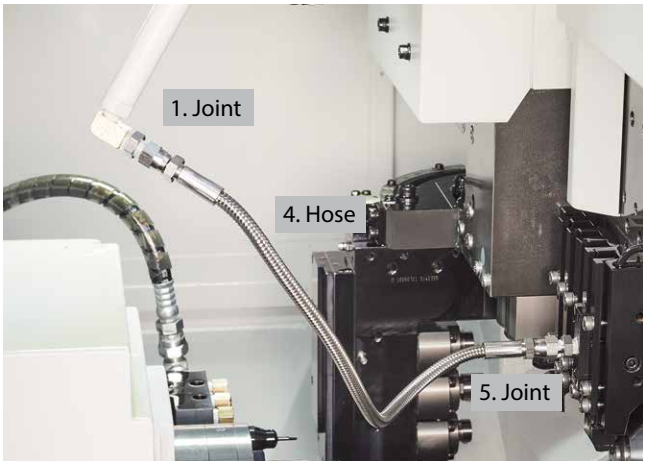


Easy Coolant Connections

Pipe parts will be required separately if internal coolant is used

Pump Pressure: up to 2,900 psi
Pump Pressure: up to 1,090 psi if couplers are used

Without Coupler (Pump Pressure: up to 2,900 psi)

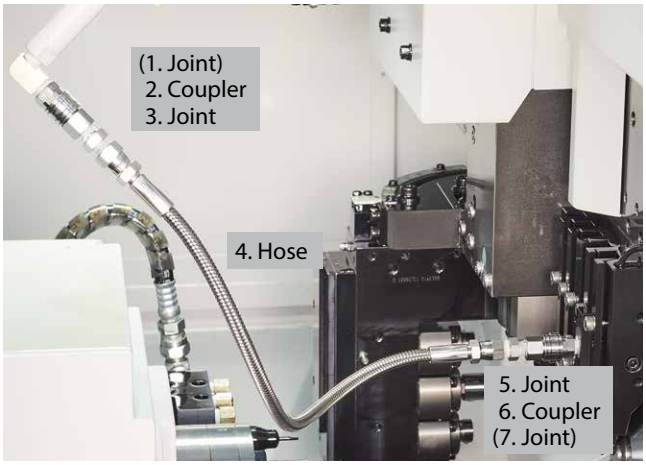


Combination Part Number (Example)

Part	Part Number
1. Joint	J-ST-R1/8-G1/8
4. Hose	HS-G1/8-G1/8-500
5. Joint	J-ST-R1/8-G1/8

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to the thread standard on the hose side (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

With Coupler (Pump Pressure: Up to 1,090 psi)



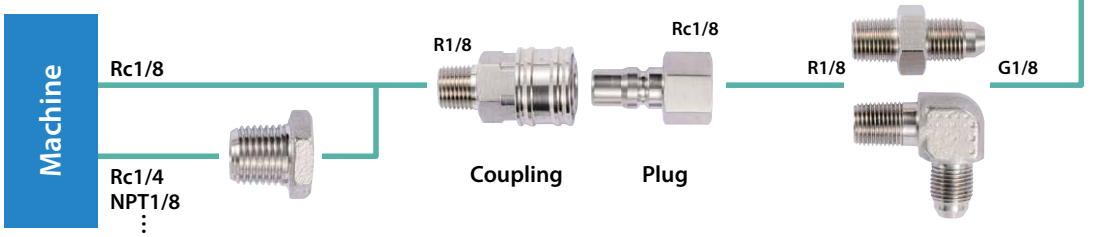
Combination Part Number (Example)

Part	Part Number
(1. Joint)	–
2. Coupler	CP-ST-R1/8, P-ST-RC1/8
3. Joint	J-ST-R1/8-G1/8
4. Hose	HS-G1/8-G1/8-500
5. Joint	J-ST-R1/8-G1/8
6. Coupler	P-ST-RC1/8, CP-ST-R1/8
(7. Joint)	–

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to thread standards of the coupler (Rc1/8, etc.) or hose (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Without Coupler (Pump Pressure: up to 2,900 psi)

With Coupler (Pump Pressure: up to 1,090 psi)



1. Joint 2. Coupler 3. Joint 4. Hose

Piping Installation Parts Description

Joint (1, 3, 5, 7) Pressure Resistance: up to 2,900 psi

(Unit: mm)

Shape	Part Number	Stock	Ød1	Ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-AN-R1/8-G1/8	●	4.0	4.0	27	14	13	R1/8	G1/8
	J-ST-R1/4-RC1/8	●	–	–	17	12	–	R1/4	Rc1/8
	J-ST-NPT1/8-RC1/8	●	3.5	–	30	10	–	NPT1/8	Rc1/8
	J-ST-R1/8-RC1/8	●	3.5	–	33	13	–	R1/8	Rc1/8

Coupler (2, 6) Pressure Resistance: up to 1,090 psi (Unit: mm)

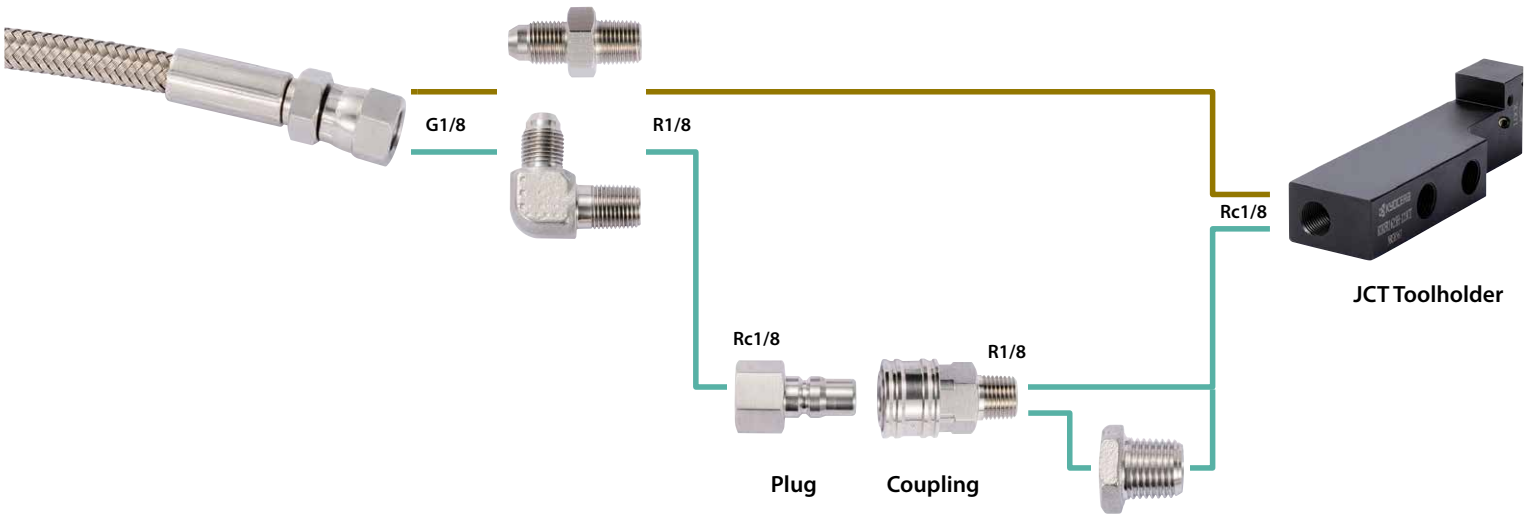
Shape	Part Number	Stock
	CP-ST-R1/8	●
	P-ST-RC1/8	●

Hose (4) Pressure Resistance: up to 2,900 psi

(Unit: mm)

Shape	Part Number	Stock	L
	HS-G1/8-G1/8-200	●	200
	HS-G1/8-G1/8-300	●	300
	HS-G1/8-G1/8-400	●	400
	HS-G1/8-G1/8-500	●	500
	HS-G1/8-G1/8-600	●	600
	HS-G1/8-G1/8-800	●	800

● : Standard Item



4. Hose 5. Joint 6. Coupler 7. Joint (Extension Joint)

Screw-Clamp-JCT

Small Parts Turning

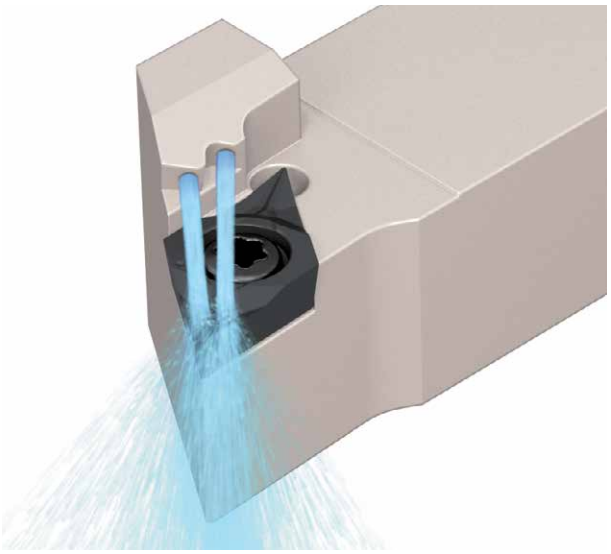
Coolant-Through Turning Holders for Small Parts Machining

Double Coolant Hole Design Delivers an Ample Supply of Coolant to the Cutting Edge
Excellent Chip Control and Longer Tool Life

1 Superior Chip Control Performance

2 Sufficient Cooling of the Cutting Edge Leads to Longer Tool Life

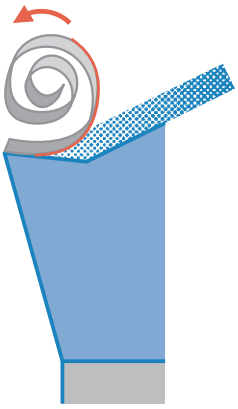
Double coolant hole design provides coolant to the insert cutting edge surface



Double Coolant Holes

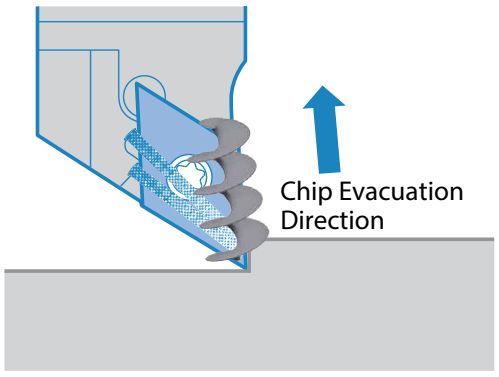
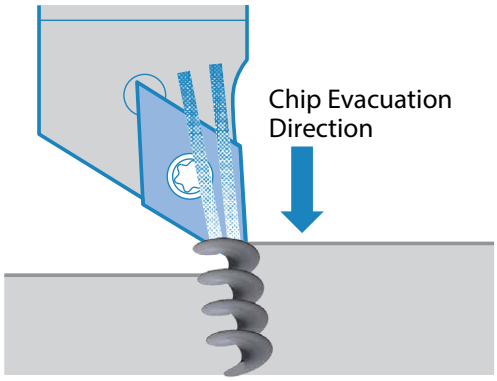
Provides stable chip curls for superior chip control

The cutting edge stays cool increasing tool life



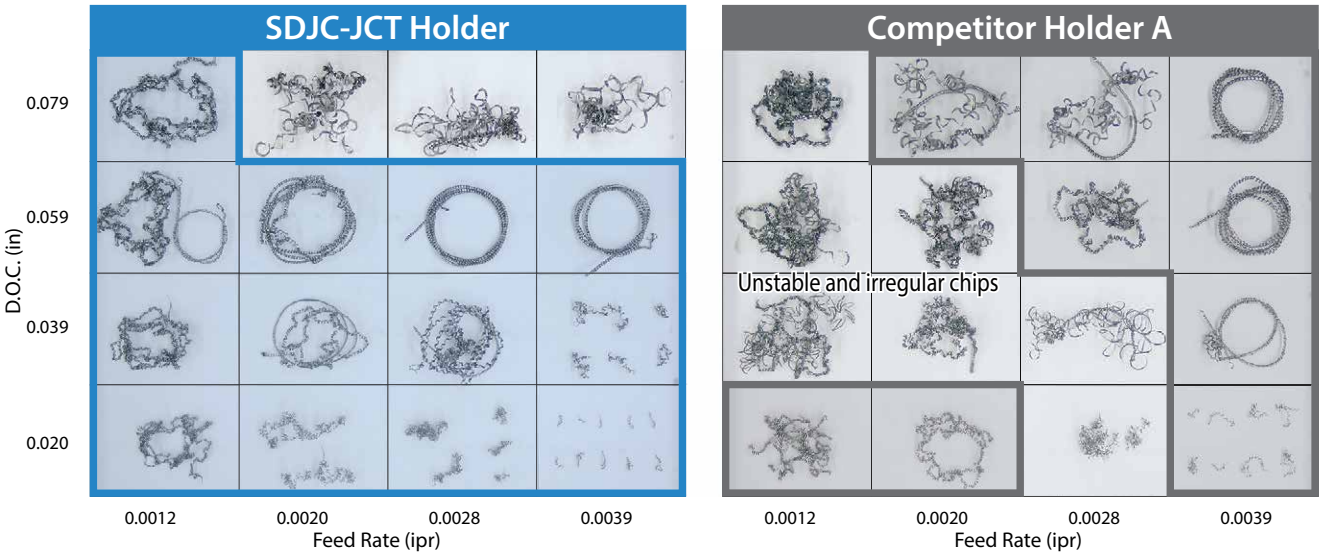
Insert cross-section

Coolant System Comparison (Internal Evaluation)

	Screw-Clamp-JCT Holder	Competitor A Holder
Coolant System	Discharges coolant towards the rake surface of insert 	Discharges coolant down onto the chip forcing the chip into the part 
Superior Chip Control	**Excellent** : Provides stable chip curls	**Poor** : Chip becomes unstable
Coolant Effects	**Excellent** : Ensures proper cooling of the cutting edge	**Poor** : Chip can cause interference with the workpiece

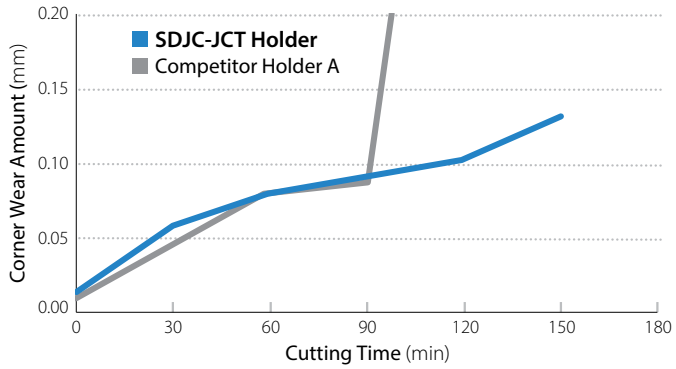
Chip Control Comparison (Internal Evaluation)

SDJC-JCT holder allows excellent chip control in a wide range of cutting conditions



Cutting Conditions: Vc = 260 sfm, DCGT32505MP-CK PR1535 (Same inserts were used) Workpiece: Ti-6Al-4V External and Internal Coolant (218 psi) Turning

Great for High Pressure Coolant Wear Resistance Comparison (Internal Evaluation)



Cutting Conditions: Vc = 660 sfm, External Turning: D.O.C. = 0.079", f = 0.0020 ipr, Facing: D.O.C. = 0.008", f = 0.0012 ipr
DCGT32505MFP-GQ PR1535 (Same inserts were used) Workpiece: 304 External and Internal Coolant (218 psi)
External Turning and Facing

Cutting Edge

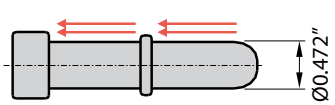
SDJC-JCT Holder (After Machining 150 min)

Competitor A Holder (After Machining 106 min)

Case Studies

Pipe - Stainless Steel

Vc = 525 sfm
D.O.C. = 0.035" / 0.047"
f = 0.007 ipr
Wet (Internal Coolant: 14MPa)
DCMT3251 Insert



Chip Control

SDJC-JCT Holder (Internal Coolant)

Good Chip Control

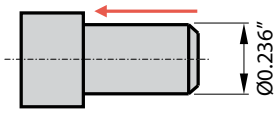
Competitor Holder B (Internal Coolant)

Change to SDJC-JCT improved chip control and tool life.

(User Evaluation)

Pin - Tool Steel

Vc = 590 sfm
D.O.C. = 0.055"
f = 0.005 ipr
Wet
DCMT3251 Insert



Chip Control

SDJC-JCT Holder (Internal Coolant: 360 psi)

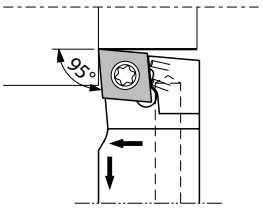
Good Chip Control

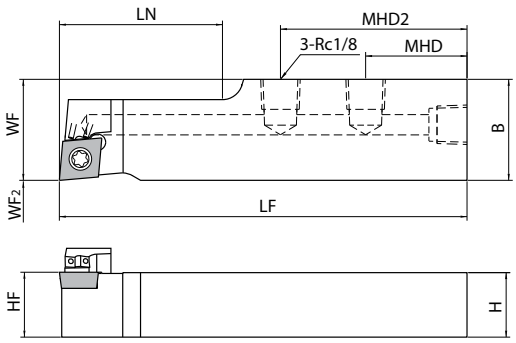
Conventional Holder (External Coolant)

SDJC-JCT holder with internal coolant improved chip control. Reduced chip entanglement

(User Evaluation)

SCLC-JCT (Small Parts Turning)





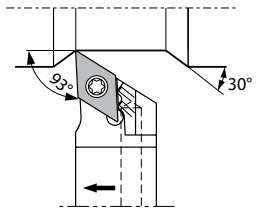
Right-hand (R) Shown

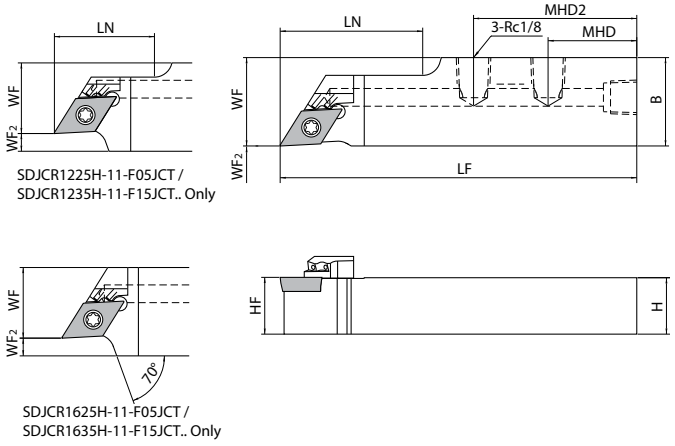
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Standard Corner-R (RE)	Spare Parts: Insert Screw	Spare Parts: Wrench	Spare Parts: Plug	Applicable Inserts
SCLCR 62-3FFJCT	●		in	0.500	0.500	0.750	4.750	1.110	0.750	0	1.378	-	0.008	SB-4085TR	FT-15	GP-1	CC..325 Sizes
NEW 82.5-3FFJCT	●		in	0.625	0.625	1.000	4.750	1.582	1.000	0	0.984	1.811	0.008	SB-4085TR	FT-15	GP-1	CC..325 Sizes
SCLCR 1220H-09FFJCT	●		mm	12	12	20	100	28	20	0	35	-	0.2	SB-4085TR	FT-15	GP-1	CC..325 Sizes
1625H-09FFJCT	●		mm	16	16	25	100	40	25	0	25	46	0.2	SB-4085TR	FT-15	GP-1	CC..325 Sizes
2025H-09FFJCT	●		mm	20	20	25	100	40	25	0	25	46	0.2	SB-4085TR	FT-15	GP-1	CC..325 Sizes

● : Standard Item

SDJC-JCT (Small Parts Turning)





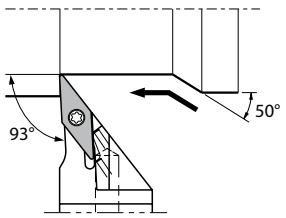
Right-hand (R) Shown

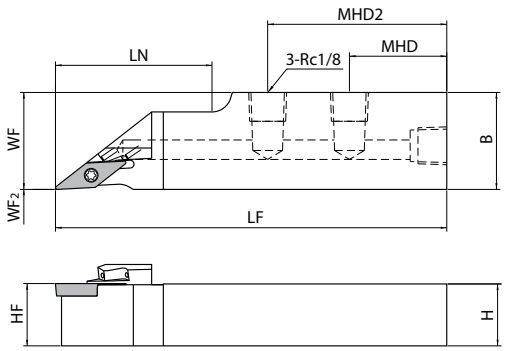
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Standard Corner-R (RE)	Spare Parts: Insert Screw	Spare Parts: Wrench	Spare Parts: Plug	Applicable Inserts
SDJCR 62-3FFJCT	●		in	0.500	0.500	0.750	4.750	1.110	0.750	0	1.378	-	0.008	SB-4085TR	FT-15	GP-1	DC..325 Sizes
NEW 82.5-3FFJCT	●		in	0.625	0.625	1.000	4.750	1.582	1.000	0	0.984	1.811	0.008	SB-4085TR	FT-15	GP-1	DC..325 Sizes
SDJCR 1220H-11FFJCT	●		mm	12	12	20	100	28	20	0	35	-	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
1625H-11FFJCT	●		mm	16	16	25	100	40	25	0	25	46	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
2025H-11FFJCT	●		mm	20	20	25	100	40	25	0	25	46	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
SDJCR 1225H-11-F05JCT	●		mm	12	12	25	100	28	20	5	35	-	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
1235H-11-F15JCT	●		mm	12	12	35	100	28	20	15	35	-	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
SDJCR 1625H-11-F05JCT	●		mm	16	16	25	100	-	20	5	25	46	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes
1635H-11-F15JCT	●		mm	16	16	35	100	-	20	15	25	46	0.2	SB-4085TR	FT-15	GP-1	DC..325 Sizes

● : Standard Item

SVJB-JCT / SVJP-JCT (Small Parts Turning)





Right-hand (R) Shown

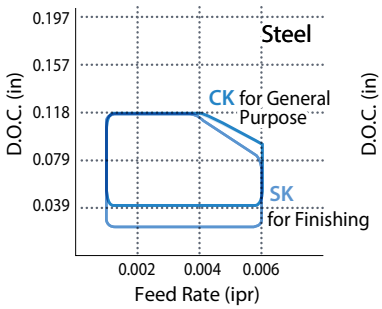
Toolholder Dimensions

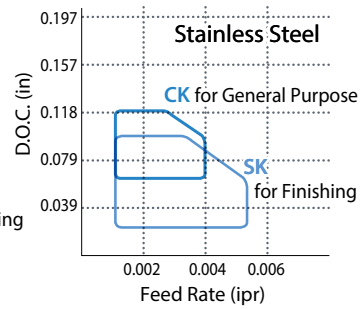
Part Number		Stock R	Stock L	Unit	Dimensions H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Standard Corner-R (RE)	Spare Parts: Insert Screw	Spare Parts: Wrench	Spare Parts: Plug	Applicable Inserts
SVJBR	62-2FFJCT	●		in	0.500	0.500	0.750	4.750	1.110	0.750	0	1.378	-	1/64	SB-2570TR	FT-8	GP-1	VB..22 Sizes
NEW	82.5-2FFJCT	●			0.625	0.625	1.000	4.750	1.110	1.000		0.984	1.811					
SVJBR	1220H-11FFJCT	●		mm	12	12	20	100	28	20	0	35	-	0.4	SB-2570TR	FT-8	GP-1	VB..22 Sizes
	1625H-11FFJCT	●			16	16	25		40	25		25	46					
	2025H-11FFJCT	●			20	20	25		40	25		25	46					
SVJPR	1220H-11FFJCT	●			12	12	20	100	28	20	0	35	-	0.2				VP..22 Sizes
	1625H-11FFJCT	●			16	16	25		40	25		25	46					
	2025H-11FFJCT	●			20	20	25		40	25		25	46					

● : Standard Item

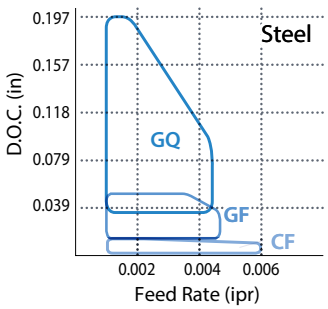
Chipbreaker Application Maps

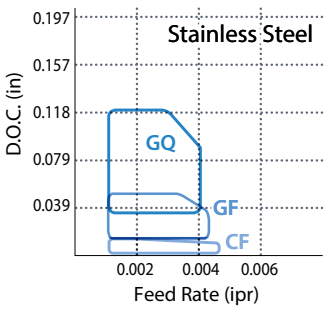
Low Cutting Force Oriented





Chip Control Oriented





More chipbreakers are available.
For more details, see the KYOCERA general product catalog.

KGBF-JCT

External Grooving

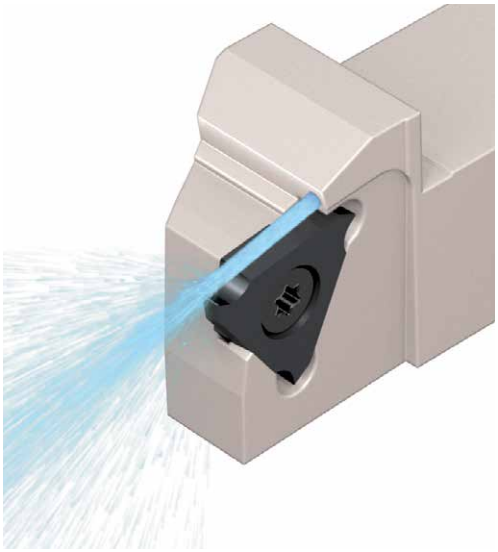
Coolant-Through Grooving Holders for Small Parts Machining

KGBF-JCT can Direct Coolant Closer to the Cutting Edge from the Top of the Insert Delivers Improved Chip Control and Longer Tool Life while Grooving

1 Excellent Chip Control

2 Superior Cooling Action Improves Tool Life

Discharges coolant from the top of the insert to deliver superior chip control and longer tool life

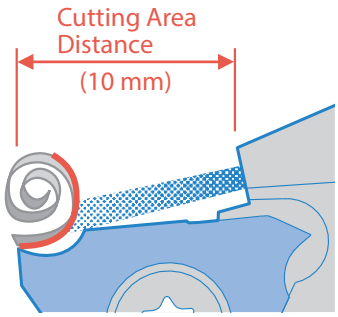


Coolant Hole

Coolant hole discharges coolant to the cutting edge and prevents coolant stream spreading which slows the coolant flow

Coolant Direction

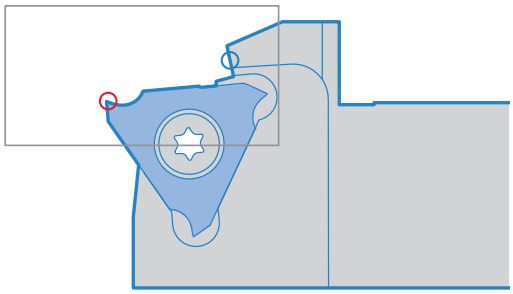
Sufficient coolant between the chipbreaker and the chips to provide stable chip curls and sufficient cooling of the insert



Coolant Discharge Comparison (Internal Evaluation)

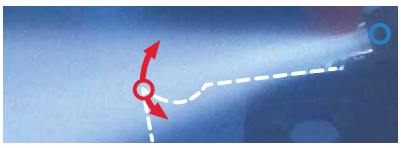
KGBF-JCT can direct coolant closer to the cutting edge than competitor C

○ Cutting Edge
○ Coolant Hole



KGBF-JCT

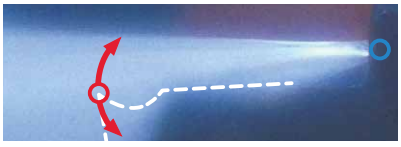
Coolant Spread: Narrow
Coolant Density: High



(Without Insert)

Competitor C

Coolant Spread: Wide
Coolant Density: Low



(Without Insert)

Small chips and better cooling of the insert leads to longer tool life

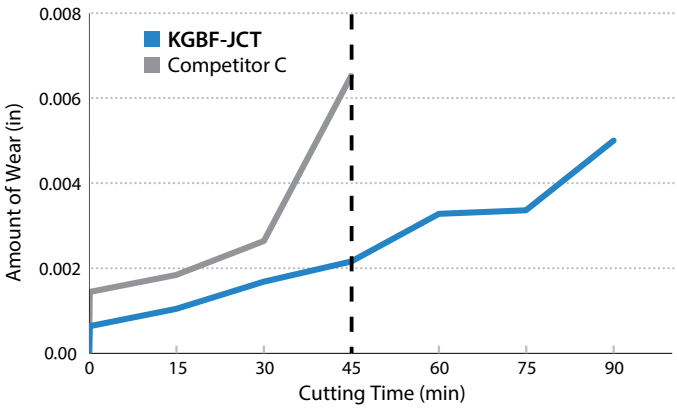
Chip Control Comparison (Internal Evaluation)

KGBF-JCT provided much better chip control

Cutting Conditions: Vc = 330 sfm, D.O.C. = 0.098", GBF32R200-010 PR1535, KGBFR1625H-16FJCT
Workpiece: Ti-6Al-4V External and Internal Coolant (218 psi) External Grooving

Wear Resistance Comparison (Internal Evaluation)

KGBF-JCT Showed Superior Wear Resistance



Cutting Edge

KGBF-JCT

Competitor C

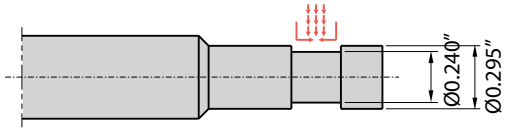
Cutting Conditions: Vc = 490 sfm, D.O.C. = 0.071", f = 0.0024 ipr, GBF32R100-005GL PR1535, KGBFR1625H-16FJCT
Workpiece: 304 External and Internal Coolant (218 psi) External Grooving

Case Studies

Nozzle Parts - Stainless Steel

Vc = 180 sfm
D.O.C. = 0.010"
f = 0.0012 ipr
Wet (Internal Coolant: 218 psi)

KGBFR1220H-16FJCT
GBF32R100-005GL PR1535



Tool Life

KGBF-JCT (Internal Coolant) **1,200 pcs/edge**

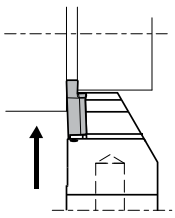
Tool Life x1.6

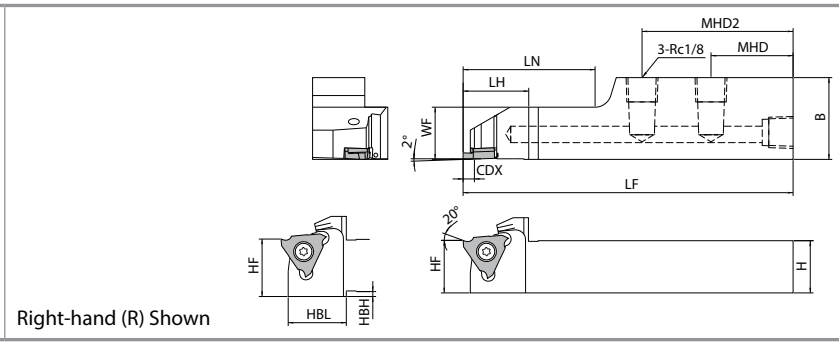
Competitor D (Internal Coolant) **750 pcs/edge**

KGBF-JCT provided much better chip control than competitor with internal coolant and a molded chipbreaker.
The KGBF-JCT lengthened tool life by 66%

(User Evaluation)

KGBF-JCT (Small Parts Grooving)





Right-hand (R) Shown

Toolholder Dimensions (Metric Size)

Part Number	Stock		Dimensions (mm)											Spare Parts		
														Insert Screw	Wrench	Plug
	R	L	H=HF	HBH	B	LF	HBL	LH	LN	WF	CDX*	MHD	MHD2			
KGBFR 1220H-16FJCT	●		12	1.5	20	100	20	20	28	12	3	35	-			
1625H-16FJCT	●		16	-	25	100	-	20	40	16	3	25	46	SB-4070TRW	FT-8	GP-1
2025H-16FJCT	●		20	-	25	100	-	20	40	20	3	25	46			

* Dimension CDX shows the distance from the toolholder to the cutting edge. Dimension CDX of Insert shows available grooving depth.

● : Standard Item

Caution

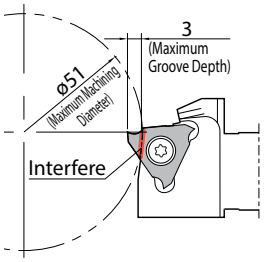
GBF and GBA Compatibility

1 GBF will fit KGBA/KGBAS holders
Caution: The maximum groove depth for KGBA/KGBAS holders is 2.5mm

2 GBA inserts will also fit KGBF-JCT holders
Caution: The rake angle after installation in the toolholder is 11°

KGBF-JCT Holder with GBF Insert Maximum Machining Diameter

3mm groove depth is available on workpiece diameters up to Ø51mm
2.7mm groove depth is available on workpiece diameters up to Ø100mm
2.5mm groove depth is available on workpiece diameters up to Ø200mm
The workpiece will interfere with the holder at maximum cutting diameters or larger



Recommended Cutting Conditions

★ 1st Recommendation ☆ 2nd Recommendation

GBF

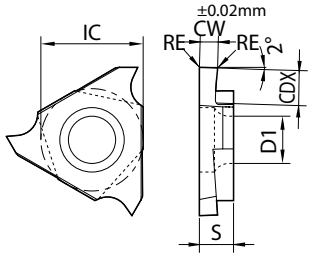
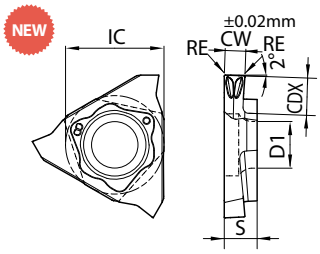
Workpiece	Recommended Insert Grade (Cutting Speed Vc: sfm)			**[1]** Grooving Feed Rate (ipr) **[2]** Traversing Feed Rate (ipr) **[3]** Max D.O.C. for Traversing (in)			
	MEGACOAT	MEGACOAT NANO	Carbide				
	PR1215	PR1535	GW15	GBF32R 025 – 053	GBF32R 065 – 095	GBF32R 100 – 145	GBF32R 150 – 300
Carbon Steel	★ 260 - 590	☆ 230 - 530	-	[1] 0.0004 – 0.0020 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0028 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079
Alloy Steel	★ 260 - 590	☆ 230 - 530	-	[1] 0.0004 – 0.0016 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0024 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079
Stainless Steel	☆ 200 - 430	★ 160 - 390	-	[1] 0.0004 – 0.0016 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0024 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079
Cast Iron	-	-	★ 200 - 330	[1] 0.0004 – 0.0020 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0028 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079
Aluminum Alloy	-	-	★ 490 - 1,310	[1] 0.0004 – 0.0020 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0028 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079
Brass	-	-	★ 490 - 980	[1] 0.0004 – 0.0016 [2] Not Recommended [3] Not Recommended	[1] 0.0008 – 0.0028 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079	[1] 0.0012 – 0.0028 [2] 0.0008 – 0.0020 [3] MAX. 0.0079

GBF-GL

Workpiece	Recommended Insert Grade (Cutting Speed Vc: sfm)		**[1]** Grooving Feed Rate (ipr) **[2]** Traversing Feed Rate (ipr) **[3]** Max D.O.C. for Traversing (in)			
	MEGACOAT	MEGACOAT NANO				
	PR1215	PR1535	GBF32R 075 (GL)	GBF32R 095 – 100 (GL)	GBF32R 150 – 200 (GL)	GBF32R 300 (GL)
Carbon Steel	★ 260 - 590	☆ 230 - 530	[1] 0.0008 – 0.0028 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0031 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0016 – 0.0039 [2] 0.0016 – 0.0031 [3] MAX. 0.0197
Alloy Steel	★ 260 - 590	☆ 230 - 530	[1] 0.0008 – 0.0024 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0028 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0028 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0016 – 0.0035 [2] 0.0016 – 0.0031 [3] MAX. 0.0197
Stainless Steel	☆ 200 - 430	★ 160 - 390	[1] 0.0008 – 0.0024 [2] Not Recommended [3] Not Recommended	[1] 0.0012 – 0.0028 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0012 – 0.0028 [2] 0.0012 – 0.0024 [3] MAX. 0.0079	[1] 0.0016 – 0.0035 [2] 0.0016 – 0.0031 [3] MAX. 0.0197

KGBF-JCT Applicable Inserts

Part Number	IC	S	D1
GBF32	9.525	3.18	4.4

Shape	Part Number	Dimensions (mm)			MEGACOAT	MEGACOAT NANO	Carbide
		CW	CDX	RE	PR1215	PR1535	GW15
	GBF32R 025-005	0.25	0.60	0.05	●	●	●
	030-005	0.30	0.80		●	●	●
	033-005 ※1	0.33			●	●	●
	043-005 ※2	0.43	1.00		●	●	●
	050-005	0.50	1.20		●	●	●
	053-005 ※3	0.53			●	●	●
	065-005	0.65			●	●	●
	075-005	0.75	2.00		●	●	●
	080-005	0.80			●	●	●
	095-005	0.95			●	●	●
	100-005	1.00			●	●	●
	110-005	1.10			●	●	●
	120-005	1.20			●	●	●
	125-010	1.25		0.10	●	●	●
	130-010	1.30			●	●	●
	140-010	1.40	2.70		●	●	●
	145-010	1.45			●	●	●
	150-010	1.50			●	●	●
	165-010	1.65			●	●	●
	170-010	1.70	3.00		●	●	●
	175-010	1.75			●	●	●
	200-010	2.00			●	●	●
	225-010	2.25			●	●	●
	250-010	2.50			●	●	●
	300-010	3.00			●	●	●
	GBF32R 075-005GL	0.75	2.00	0.05	●	●	
	095-005GL	0.95			●	●	
	100-005GL	1.00			●	●	
	150-010GL	1.50	2.70	0.10	●	●	
	200-010GL	2.00	3.00		●	●	
	300-010GL	3.00			●	●	

The maximum machining diameter is Ø51 mm (Please check caution on Page 38)

● : Standard Item

※1 : The edge width (CW) tolerance of GBF32R 033-005 : 0.33 $^{+0.015mm}_{-0.025mm}$

※2 : The edge width (CW) tolerance of GBF32R 043-005 : 0.43 $^{+0.015mm}_{-0.025mm}$

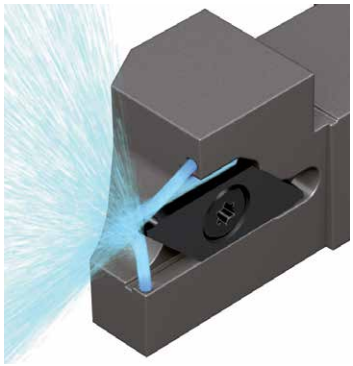
※3 : The edge width (CW) tolerance of GBF32R 053-005 : 0.53 $^{+0.015mm}_{-0.025mm}$

KTKF-JCT

Cut-Off

Coolant-Through Cut-Off Holders for Small Parts Machining

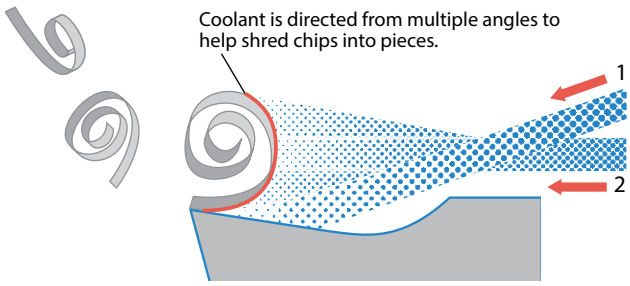
KTKF-JCT holders break chips evenly into small pieces with excellent chip control performance when machining difficult-to-cut material and stainless steel.



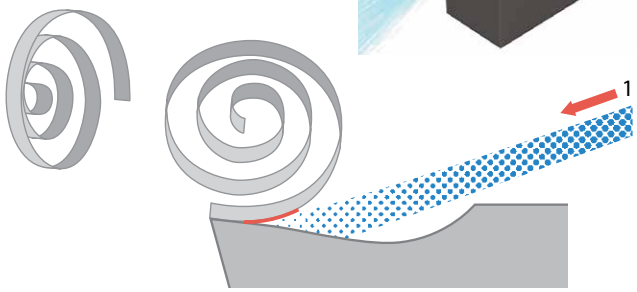
1 Excellent Chip Control Performance

The KTKF-JCT discharges coolant in two directions toward rake surface of insert and breaks chips into small pieces.

Coolant Discharge Structure Comparison



KTKF-JCT



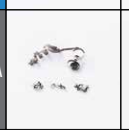
Competitor A

Chip Control Comparison (Internal Evaluation)

304

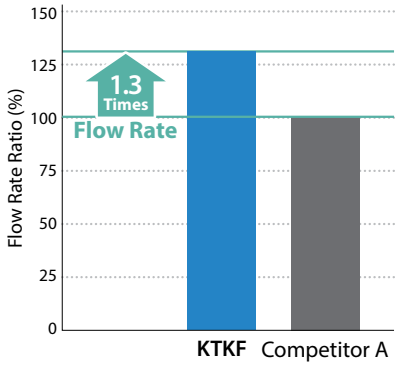
f (ipr)	0.0004	0.0008	0.0012
KTKF -JCT			
Competitor A			

Ti-6Al-4V

f (ipr)	0.0004	0.0008	0.0012
KTKF -JCT			
Competitor A			

Cutting Conditions: Vc = 260 sfm, Wet (Oil-based) Coolant Pressure: 218 psi (Internal)
Workpiece : Ø0.472"

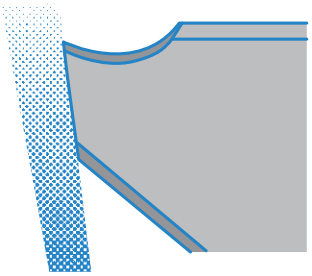
Coolant Flow Rate Comparison (Internal Evaluation)



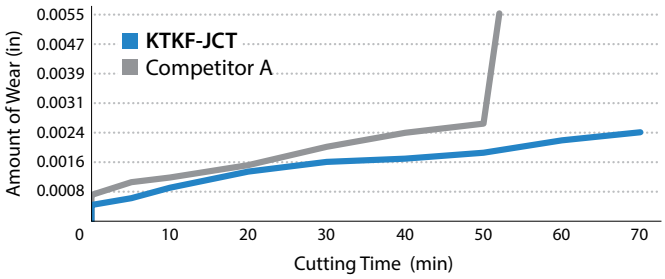
Coolant Pressure: 218 psi (Internal)

2 Superior Cooling Action Improves Tool Life

Coolant is also directed from the flank face of the insert to supply an ample amount of coolant to the tool edge area to help further suppress insert wear.



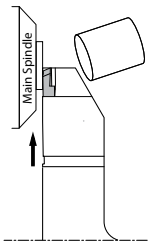
Wear Resistance Comparison (Internal Evaluation)

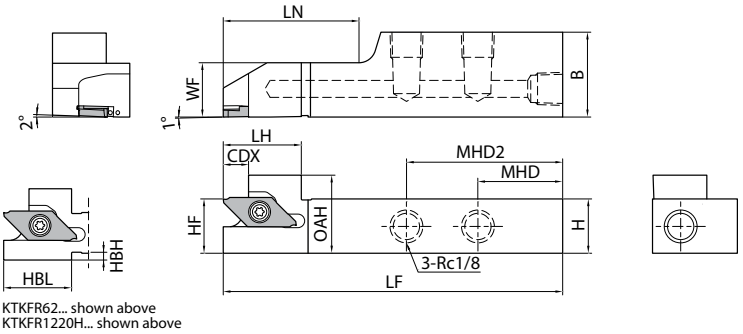


Cutting Conditions: Vc = 330 sfm, f = 0.0008 ipr, Wet (Oil-based)
Lubricating Pressure: 218 psi (Internal) Workpiece: Ti-6Al-4v Ø0.472"

KTKF-JCT (Small Parts Cut-Off)

Right-hand (R)



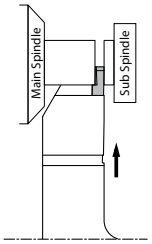


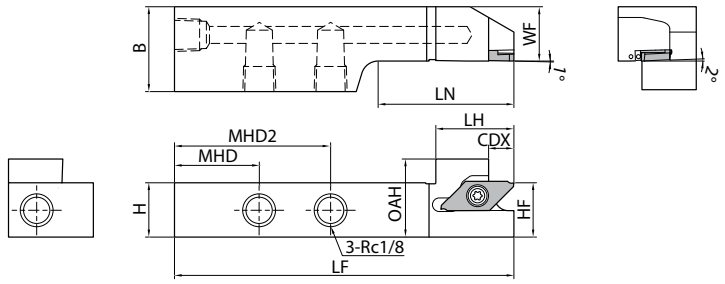
KTKFR62... shown above
KTKFR1220H... shown above

Right-hand (R) Shown

Right-hand Insert for **Right**-hand Toolholder

Left-hand (L)





Left-hand (L) Shown

Left-hand Insert for **Left**-hand Toolholder

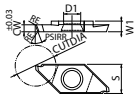
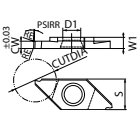
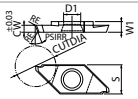
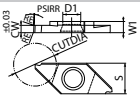
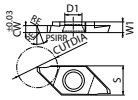
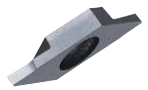
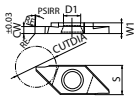
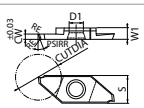
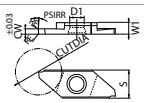
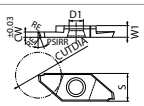
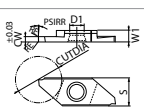
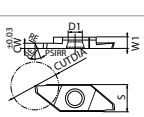
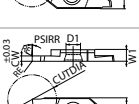
Toolholder Dimensions

Part Number	Stock		Unit	Dimensions												Spare Parts		
																Insert Screw	Wrench	Plug
	R	L		H=HF	OAH	B	LF	HBH	HBL	LH	LN	WF	CDX	MHD	MHD2			
NEW KTKFR 62-12JCT	●		in	0.500	0.775	0.750	4.750	-	0.783	0.783	1.110	0.500	0.295	1.417	-	SB-4590TRWN	FT-10	GP-1
NEW 82.5-12JCT	●			0.625	0.900	1.000	4.750	-	-	0.901	1.582	0.625	0.295	0.984	1.811	SB-4590TRWN	FT-10	GP-1
NEW KTKFR 82.5-16JCT	●			0.625	0.900	1.000	4.750	-	-	0.901	1.582	0.625	0.378	0.984	1.811	SB-4590TRWN	FT-10	GP-1
KTKFR 1220H-12JCT	●		mm	12	19	20	100	2	20	20	28	12	7.5	35	-	SB-4590TRWN	FT-10	GP-1
KTKF R/L 1625H-12JCT	●	●		16	23	25	100	-	-	23	40	16	7.5	25	46			
2025H-12JCT	●	●		20	27							20						
KTKF R/L 1625H-16JCT	●	●		16	23	25	100	-	-	23	40	16	9.6	25	46	SB-4590TRWN	FT-10	GP-1
2025H-16JCT	●	●		20	27						41	20						

● : Standard Item

KTKF-JCT Applicable Inserts

Usage Classification		
●: Continuous - Light Interruption / 1st Choice	P	Carbon Steel / Alloy Steel
◔: Continuous - Light Interruption / 2nd Choice	M	Stainless Steel
●: Continuous / 1st Choice	K	Cast Iron
○: Continuous / 2nd Choice	N	Non-ferrous Material

Shape		Part Number	Dimensions (in)							Angle	MEGACOAT NANO		MEGACOAT NANO		MEGACOAT		PVD Coated Carbide		DLC Coated Carbide		Uncoated Carbide	
			CW		CUTDIA	RE	W1	S	D1	PSIRR	PR1425		PR1535		PR1225		PR1025		PDL025		KW10	
			inch	mm							R	L	R	L	R	L	R	L	R	L	R	L
 Right Lead Angle		TKF12R/L 050-S-16DR	0.020	0.5	0.197	0.0012	0.118	0.343	0.197	16°	●	●	●	●	●		●	●			●	●
		070-S-16DR	0.028	0.7	0.315						●	●	●	●	●	●	●	●			●	●
		100-S-16DR	0.039	1.0	0.472						●	●	●	●	●	●	●	●	●	●	●	●
		125-S-16DR	0.049	1.25							●	●	●	●	●				●	●		
		150-S-16DR	0.059	1.5							●	●	●	●	●	●	●	●	●	●	●	●
		200-S-16DR	0.079	2.0							●	●	●	●	●	●	●	●	●	●	●	●
		TKF12R/L 050-S	0.020	0.5	0.197	0.0012	0.118	0.343	0.197	0°	●	●	●	●	●		●		●	●	●	●
		070-S	0.028	0.7	0.315						●	●	●	●	●	●	●		●	●	●	●
		100-S	0.039	1.0	0.472						●	●	●	●	●	●	●	●	●	●	●	●
		125-S	0.049	1.25							●	●	●	●	●				●	●		
		150-S	0.059	1.5							●	●	●	●	●	●	●	●	●	●	●	●
		200-S	0.079	2.0							●	●	●	●	●	●	●	●	●	●	●	●
 Right Lead Angle / Tough Edge		TKF12R/L 100-T-16DR	0.039	1.0	0.472	0.0031	0.118	0.343	0.197	16°	●	●	●	●	●	●						
		150-T-16DR	0.059	1.5							●	●	●	●	●	●						
		200-T-16DR	0.079	2.0							●	●	●	●	●	●						
 Tough Edge		TKF12R/L 100-T	0.039	1.0	0.472	0.0031	0.118	0.343	0.197	0°	●	●	●	●	●	●						
		150-T	0.059	1.5							●	●	●	●	●	●						
		200-T	0.079	2.0							●	●	●	●	●	●						
 Right Lead Angle / Without Chipbreaker		TKF12R/L 050-NB-20DR	0.020	0.5	0.197	0	0.118	0.343	0.197	20°	●	●	●	●			●				●	●
		070-NB-20DR	0.028	0.7	0.315						●	●	●	●			●				●	●
		100-NB-20DR	0.039	1.0	0.472						●	●	●	●			●	●			●	●
		150-NB-20DR	0.059	1.5							●	●	●	●			●	●			●	●
		200-NB-20DR	0.079	2.0							●	●	●	●			●	●			●	●
 Without Chipbreaker		TKF12R/L 050-NB	0.020	0.5	0.197	0	0.118	0.343	0.197	0°	●	●	●	●			●				●	●
		070-NB	0.028	0.7	0.315						●	●	●	●			●	●			●	●
		100-NB	0.039	1.0	0.472						●	●	●	●			●	●			●	●
		150-NB	0.059	1.5							●	●	●	●			●	●			●	●
		200-NB	0.079	2.0							●	●	●	●			●	●			●	●
 Right Lead Angle		TKF16R/L 150-S-16DR	0.059	1.5	0.630	0.0020	0.157	0.374	0.197	16°	●	●	●	●	●	●	●	●	●	●	●	●
		200-S-16DR	0.079	2.0							●	●	●	●	●	●	●	●	●	●	●	●
		TKF16R/L 150-S	0.059	1.5	0.630	0.0020	0.157	0.374	0.197	0°	●	●	●	●	●	●	●	●	●	●	●	●
		200-S	0.079	2.0							●	●	●	●	●	●	●	●	●	●	●	●
 Right Lead Angle / Tough Edge		TKF16R/L 150-T-16DR	0.059	1.5	0.630	0.0031	0.157	0.374	0.197	16°	●	●	●	●	●	●						
		200-T-16DR	0.079	2.0							●	●	●	●	●	●						
 Tough Edge		TKF16R/L 150-T	0.059	1.5	0.630	0.0031	0.157	0.374	0.197	0°	●	●	●	●	●	●						
		200-T	0.079	2.0							●	●	●	●	●	●						
 Right Lead Angle / Without Chipbreaker		TKF16R/L 150-NB-20DR	0.059	1.5	0.630	0	0.157	0.374	0.197	20°	●	●	●	●			●	●			●	●
		200-NB-20DR	0.079	2.0							●	●	●	●			●	●			●	●
 Without Chipbreaker		TKF16R/L 150-NB	0.059	1.5	0.630	0	0.157	0.374	0.197	0°	●	●	●	●			●	●			●	●
		200-NB	0.079	2.0							●	●	●	●			●	●			●	●

Lead angle (front cutting edge angle: PSIRR) shows the angle when installed in the toolholder.
Machining diameter of insert (CUTDIA) indicates the machining diameter when the tool tip has proceeded to the center of workpiece

● : Standard Item

Recommended Cutting Conditions ★ 1st Recommendation ☆ 2nd Recommendation

Workpiece	Recommended Insert Grade (Vc: sfm)						TKF12						TKF16		Notes
							Edge Width W (mm)						Edge Width W (mm)		
	MEGACOAT NANO		MEGACOAT	PVD Coated Carbide	DLC Coated Carbide	Uncoated Carbide	0.5	0.7	1.0	1.25	1.5	2.0	1.5	2.0	
	PR1425	**PR1535**	**PR1225**	**PR1025**	**PDL025**	**KW10**	f (ipr)						f (ipr)		
Carbon Steel	★ 230 - 560 (160 - 460)	☆ 230 - 490 (160 - 390)	☆ 230 - 490 (160 - 390)	☆ 200 - 430	-	-	0.0004-0.0008	0.0004-0.0012	0.0004-0.0016 (0.0004-0.0020)	0.0004-0.0016	0.0004-0.0016 (0.0008-0.0039)	0.0004-0.0016 (0.0008-0.0039)	0.0008-0.0028 (0.0008-0.0039)	0.0008-0.0028 (0.0008-0.0039)	Wet
Alloy Steel	★ 230 - 560 (160 - 460)	☆ 230 - 490 (160 - 390)	☆ 230 - 490 (160 - 390)	☆ 200 - 430	-	-	0.0004-0.0008	0.0004-0.0012	0.0004-0.0016 (0.0004-0.0020)	0.0004-0.0016	0.0004-0.0016 (0.0008-0.0039)	0.0004-0.0016 (0.0008-0.0039)	0.0008-0.0028 (0.0008-0.0039)	0.0008-0.0028 (0.0008-0.0039)	
Stainless Steel	☆ 200 - 460 (130 - 390)	★ 200 - 390 (130 - 330)	☆ 200 - 390 (130 - 330)	☆ 160 - 330	-	-	0.0002-0.0006	0.0004-0.0008	0.0004-0.0008 (0.0004-0.0012)	0.0004-0.0008	0.0004-0.0008 (0.0004-0.0020)	0.0004-0.0008 (0.0004-0.0020)	0.0004-0.0016 (0.0004-0.0020)	0.0004-0.0016 (0.0004-0.0020)	
Cast Iron	-	-	-	-	-	★ 160 - 330	0.0004-0.0012	0.0004-0.0016	0.0004-0.0020	0.0004-0.0020	0.0004-0.0020	0.0004-0.0020	0.0008-0.0031	0.0008-0.0031	
Aluminum	-	-	-	-	★ 660 - 1,640	☆ 660 - 1,470	0.0004-0.0012	0.0004-0.0016	0.0004-0.0020	0.0004-0.0020	0.0004-0.0020	0.0004-0.0020	0.0008-0.0031	0.0008-0.0031	
Brass	-	-	-	-	-	★ 330 - 660	0.0004-0.0012	0.0004-0.0016	0.0004-0.0024	0.0004-0.0024	0.0004-0.0024	0.0004-0.0024	0.0008-0.0039	0.0008-0.0039	

Recommendations in Parentheses ( ) : Tough Edge Type (TKF..T..)

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Official Website | www.kyoceraprecisiontools.com
Distributor Website | mykpti.kyocera.com
Email | cuttingtools@kyocera.com

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