

THE NEW VALUE FRONTIER



Great for high pressure coolant | **JCT series**

JCT series



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

Turning:

Double clamp-JCT

External grooving / cut-off:

KGD-JCT

Threading:

KTN-JCT



Great for high pressure coolant

JCT series

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 3



External grooving: KGD-JCT - page 7



Threading: KTN-JCT - page 11

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 (In-house evaluation)

Internal coolant (7 MPa)

External coolant (0.4 MPa)



Cutting conditions: $V_c = 250$ m/min, $f = 0.3$ mm/rev, $a_p = 2$ mm, wet, CNMG120408 type, workpiece: 34CrMo4, external turning after machining 42.2 min

Improved chip control

Chip control comparison (In-house evaluation)

Internal coolant (7 MPa)

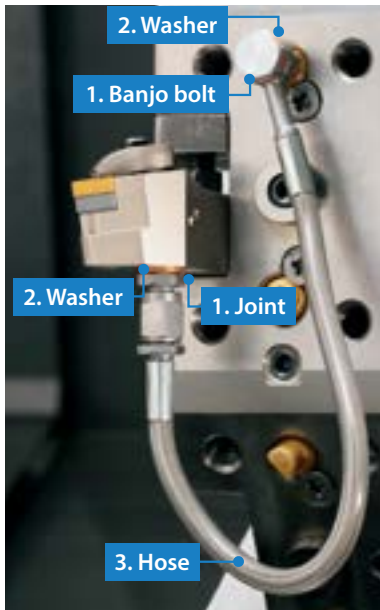
External Coolant (0.4 MPa)



Cutting conditions: $V_c = 200$ m/min, $f = 0.05$ mm/rev, $a_p = 0.5$ mm, wet, DNMG150408 type, workpiece: 15CrMo4, external turning

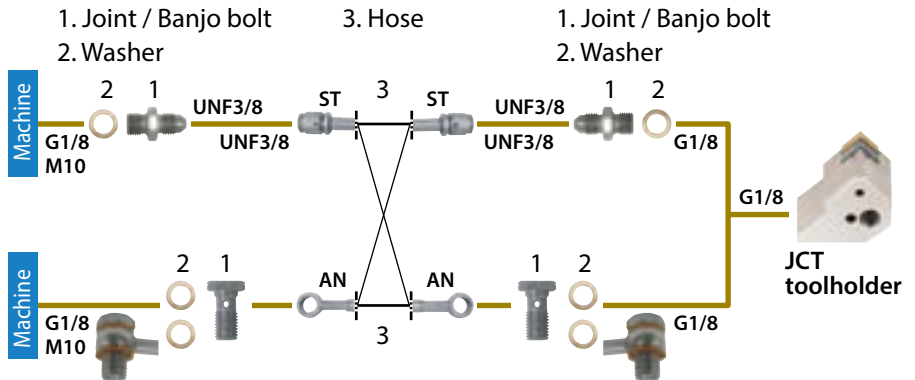
Easy coolant connections

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

1. Joint / Banjo bolt

Applicable pressure: ~ 30 MPa

Shape	Description	Available	Thread standard	
			Thread connection to the machine	
	J-G1/8-UNF3/8	●	G1/8	
	J-M10X1.5-UNF3/8	●	M10X1.5	
Banjo bolt (For the angle hose)	BB-G1/8	●	G1/8	
	BB-M10X1.5	●	M10X1.5	

2. Washer

Applicable pressure: ~ 30 MPa

Shape	Description	Available
	WS-10	●

* Use 2 washers for a banjo bolt

3. Hose

Applicable pressure: ~ 30 MPa

Shape	Description	Available	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

Precautions

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 same. Check the applicable pressure before use.
6. Regularly changing the coolant filter is recommended.

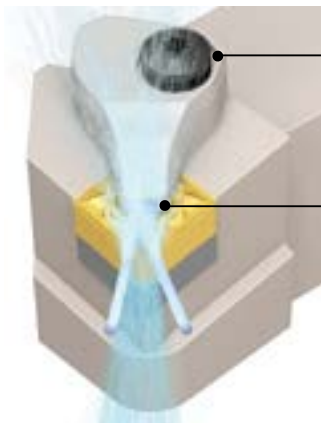
Great for high pressure coolant, toolholder for turning

Double clamp-JCT

Discharges coolant in three directions. Improved chip control and longer 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 simulation analysis technology



Double-clamp

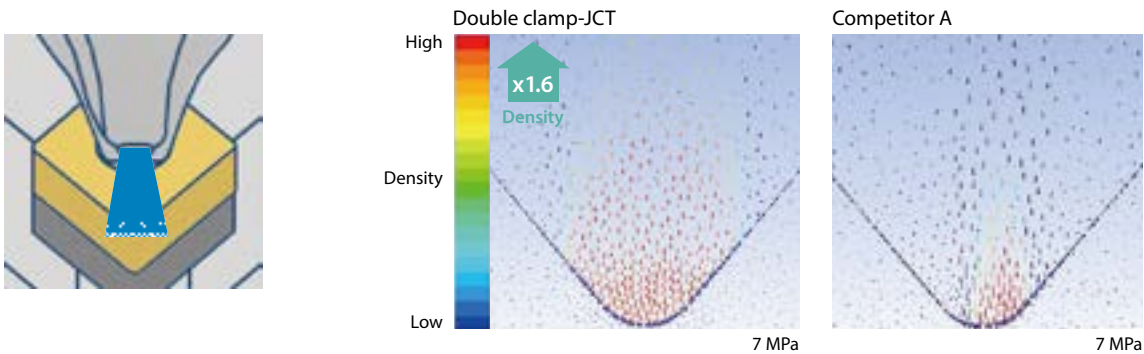
Firm insert clamp and easy to use in single operations
High-density coolant supply close to the cutting edge

Unique nozzle shape

Provides coolant to a wide area of the cutting point

Coolant supply simulation comparison (In-house evaluation)

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



Chip control comparison (In-house evaluation)

Double clamp-JCT



Competitor A



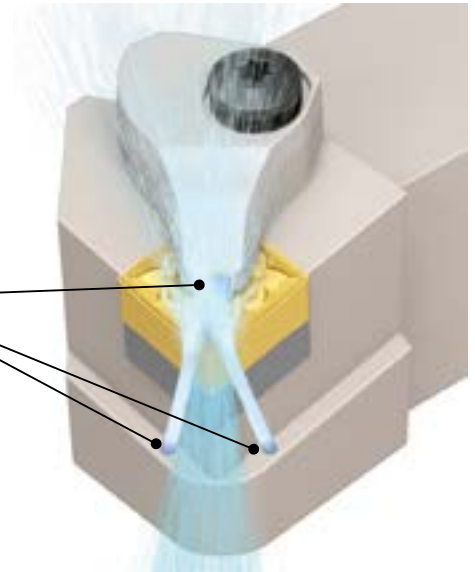
Cutting conditions: $V_c = 150 \text{ m/min}$, $a_p = 0.5 \text{ mm}$, wet, CNMG120408 type, workpiece: 15CrMo4, external turning

2 Longer tool life and high speed machining

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

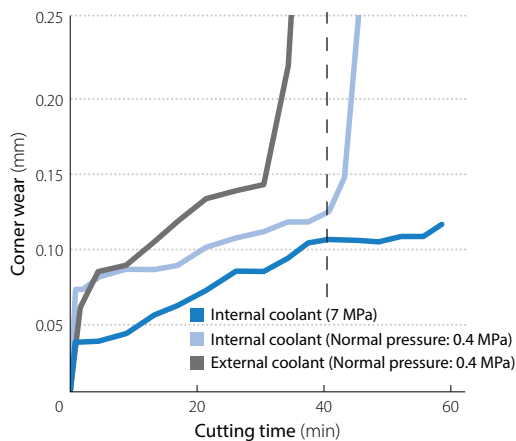
Longer tool life and high-speed machining with improved wear resistance

Discharges coolant in three directions:
The cutting edge stays cool.

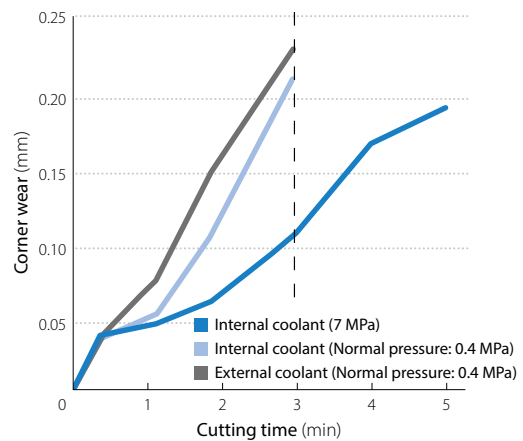


Wear resistance comparison (In-house evaluation)

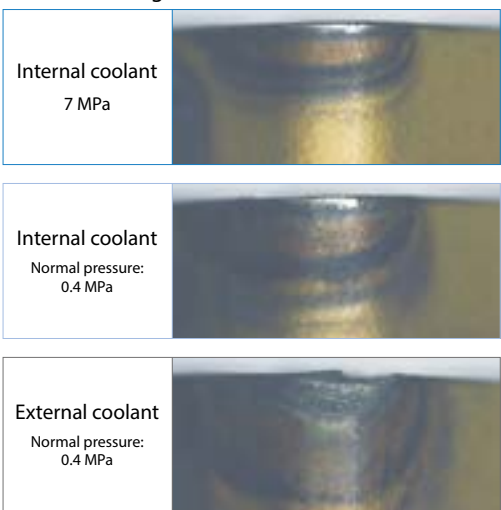
Alloy steel (34CrMo4)



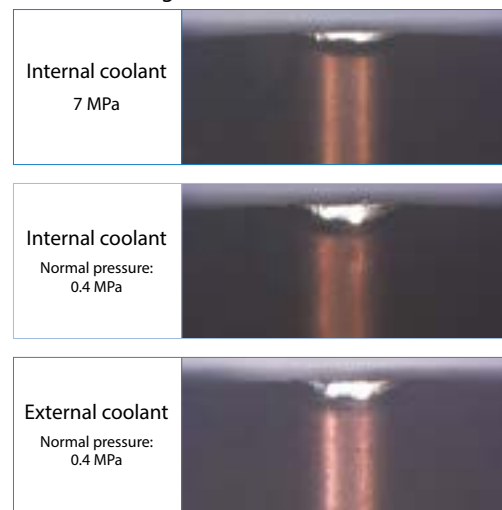
Heat-resistant alloys (Inconel®718)



After machining 42.2 min



After machining 3 min



Cutting conditions: $V_c = 250$ m/min, $f = 0.3$ mm/rev, $a_p = 2$ mm, wet CNMG120408 type, external turning

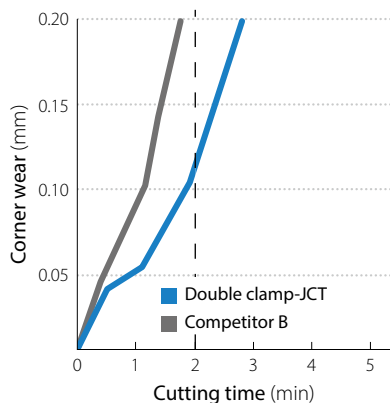
Cutting conditions: $V_c = 80$ m/min, $f = 0.15$ mm/rev, $a_p = 0.5$ mm, wet CNMG120408 type, external turning

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

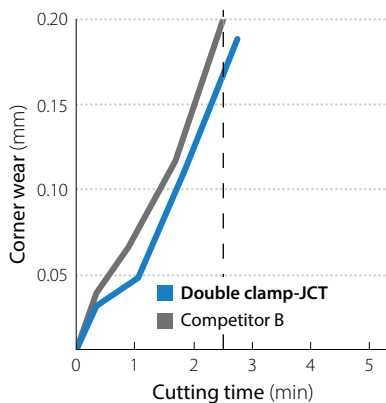
Wear resistance comparison (In-house evaluation)

Double clamp-JCT maintains better wear resistance than competitors

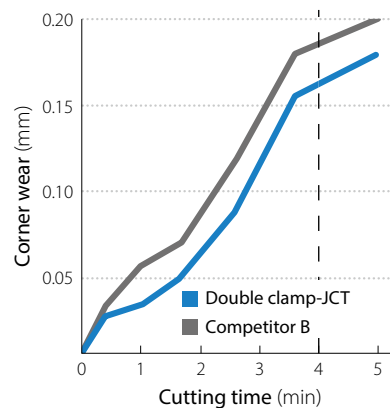
Internal coolant (Normal pressure: 0.4 MPa)



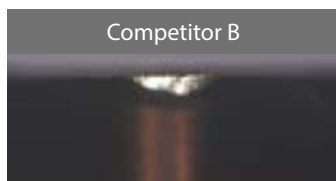
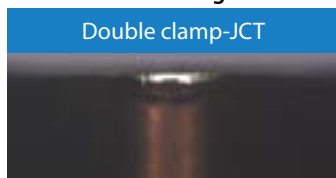
Internal coolant (4 MPa)



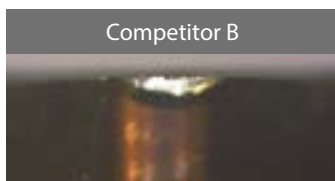
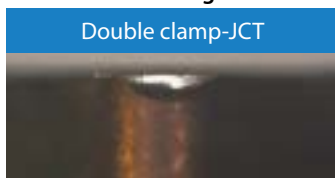
Internal coolant (7 MPa)



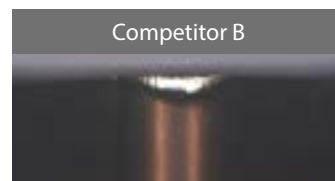
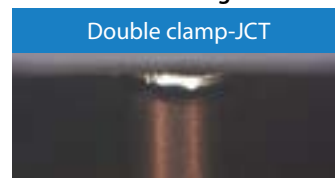
After machining 2 min



After machining 2.5 min



After machining 4 min

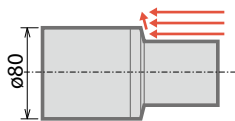


Cutting conditions: $V_c = 80$ m/min, $f = 0.15$ mm/rev, $a_p = 0.5$ mm, wet, CNMG120408 type, workpiece: Inconel®718-equivalent, external turning

Case studies

Mechanical parts - carbon steel

$V_c = 250$ m/min
 $a_p = 3$ mm
 $f = 0.36$ mm/rev
 Wet (Water soluble)
 DCLNR2525M-12JCT
 CNMG120408PT CA510



Tool life

DCLN-JCT toolholder
 Internal coolant: 4 MPa

100 pcs / edge

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 - 20CrMo5 (Hardened steel over 55 HRC)

$V_c = 180$ m/min
 $a_p = 0.1$ mm
 $f = 0.07$ mm/rev
 Wet
 DDJNR2525M-15JCT
 DNGA150408 type CBN



Tool life

DDJN-JCT toolholder
 Internal coolant

100 pcs / edge

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



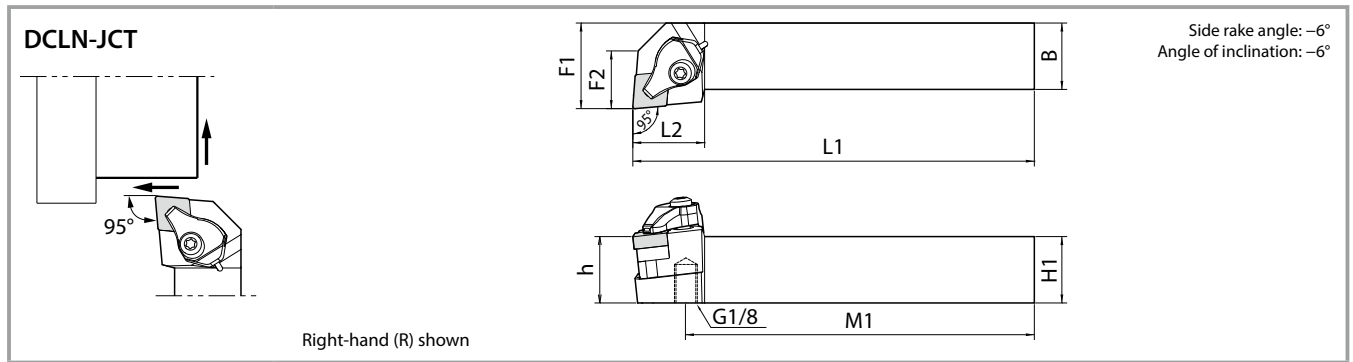
Competitor D



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

User evaluation

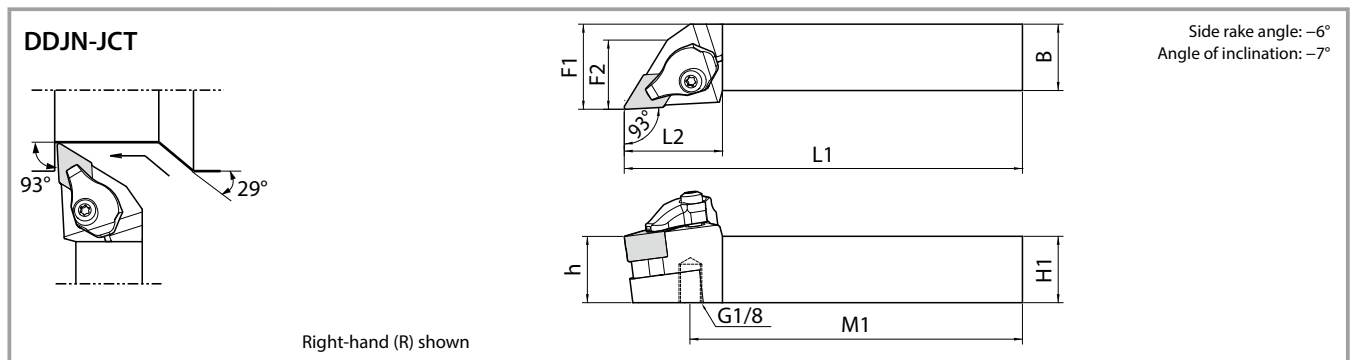
Double clamp-JCT (Turning)



Toolholder dimensions

Applicable pressure: ~ 30 MPa

Description	Available		Dimension (mm)							Spare parts							Applicable inserts
	R	L	H1=h	B	L1	L2	F1	M1	Clamp	Pipe connection *1 with O-ring	Screw	Spring	Wrench	Shim	Shim screw		
DCLN ^R /L 2525M-12JCT	●	●	25	25	150	27	32	135.2								CN**1204	



Toolholder dimensions

Applicable pressure: ~ 30 MPa

Description	Available		Dimension (mm)							Spare parts							Applicable inserts
	R	L	H1=h	B	L1	L2	F1	M1	Clamp	Pipe connection *1 with O-ring	Screw	Spring	Wrench	Shim	Shim screw		
DDJN ^R /L 2525M-15JCT	●	●	25	25	150	37	32	126								DN**1504(06)	

Please see page 2 for piping parts

DD-43 is not included with the holder. Please purchase separately when a change in insert thickness is needed.

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

*2. When using inserts whose corner-R(re) is greater than 1.6 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.

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

● : Availability

Internal coolant advantages (Reference)

Coolant pressure (MPa)	Tool life	Chip control	Notes
Normal pressure ~ 2 (Low Pressure)	Good	–	Longer tool life under 1 MPa
2-7 (Medium pressure)	Excellent	Good	Longer tool life and excellent chip control
7-15 (High pressure)	Excellent	Excellent	Fine chip breaking
15-30 (Extra-high pressure)	Excellent	Excellent	Fine chip breaking. High speed machining for heat-resistant alloys

Internal coolant under low pressure provides improved performance and stable machining

Great for high pressure coolant, toolholder for external grooving and cut-off

KGD-JCT

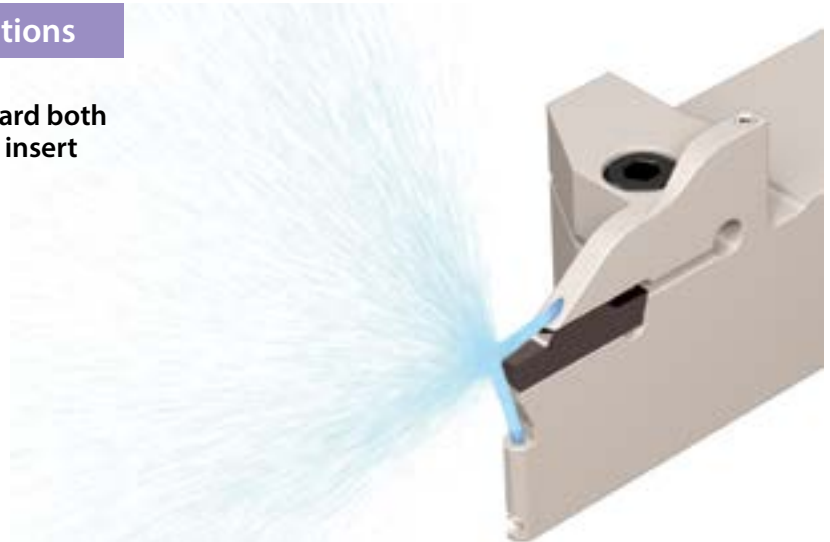
Coolant is directed from the rake surface and the flank face of the insert

Improved chip control and longer tool life for external grooving and cutting-off

Discharges coolant in two directions

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

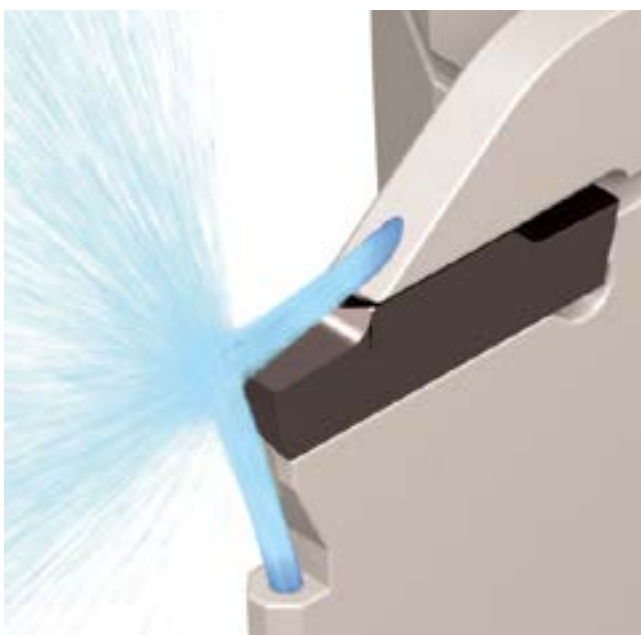
Excellent Chip Control and Long Tool Life



1 Superior chip control performance

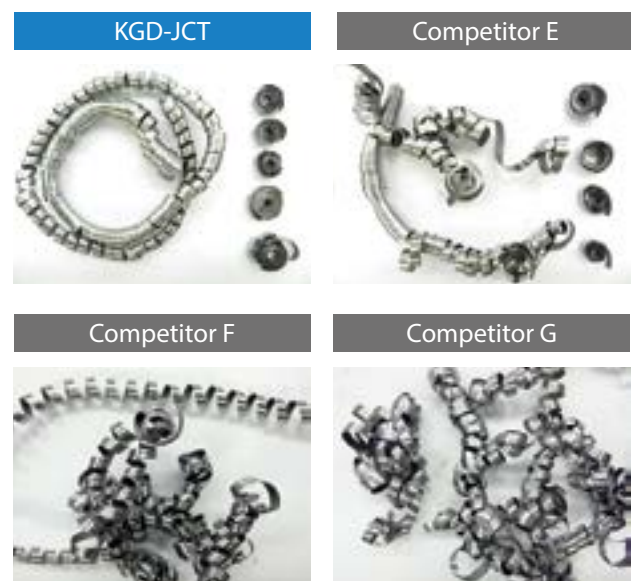
Coolant towards the rake face

Coolant hole position and angle improve chip control



Chip control comparison (In-house evaluation)

KGD-JCT showed better chip control performance even at lower feed rates [$f = 0.05$ mm/rev (1.5 MPa)]

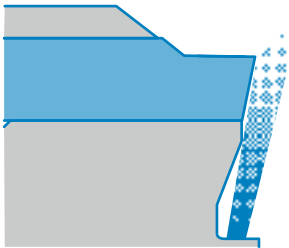


Cutting conditions: $V_c = 150$ m/min, $f = 0.05$ mm/rev, $d = 8$ mm, wet, edge width 4 mm, workpiece: 15CrMo4, grooving

2 Cooling the cutting edge 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.

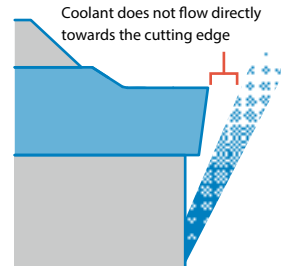
KGD-JCT



After machining 39 min

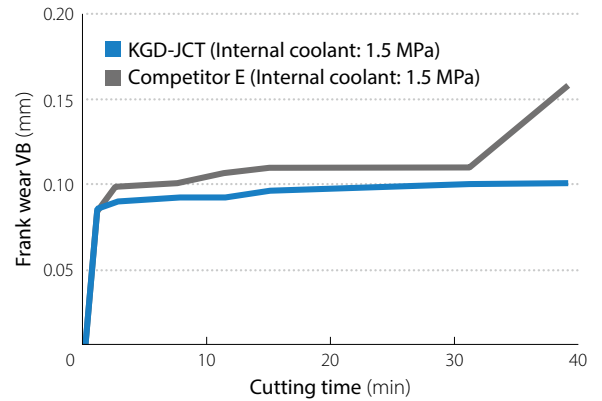


Competitor E



Defect

Wear resistance comparison (In-house evaluation)

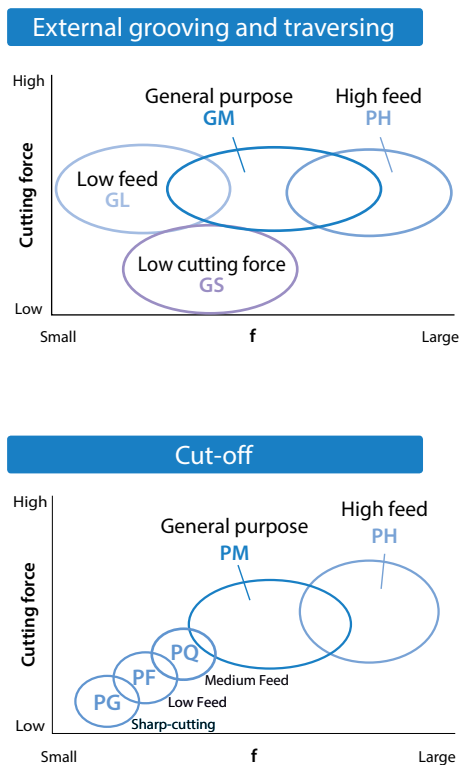


Cutting conditions: $V_c = 180$ m/min, $f = 0.15$ mm/rev, $d = 9$ mm, wet
Edge width 4 mm, workpiece: 15CrMo4, grooving

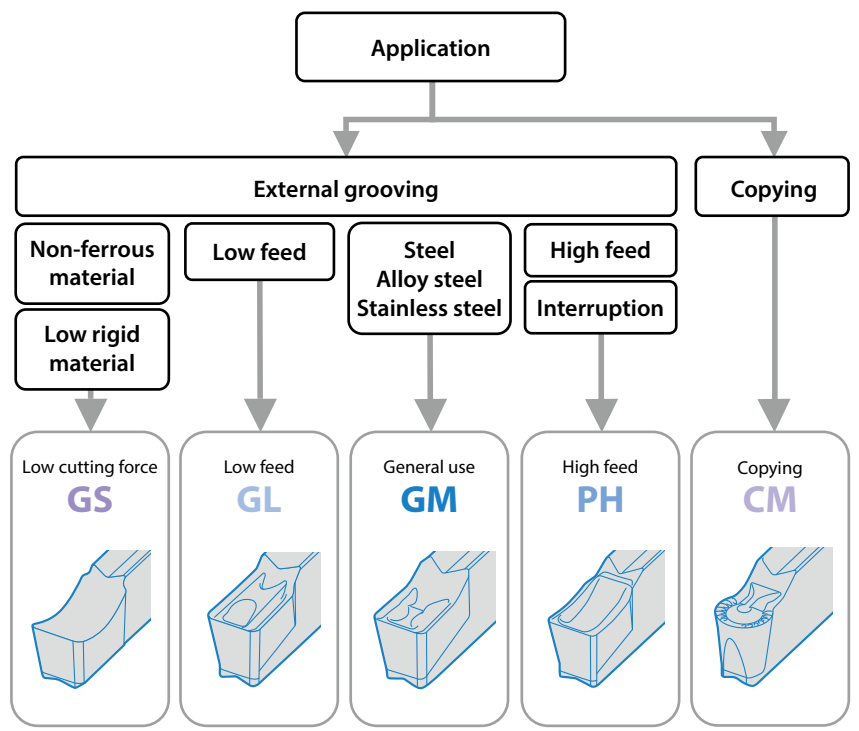
KGD-JCT minimizes wear and provides longer tool life without insert fracturing

3 Large chipbreaker lineup for various machining applications

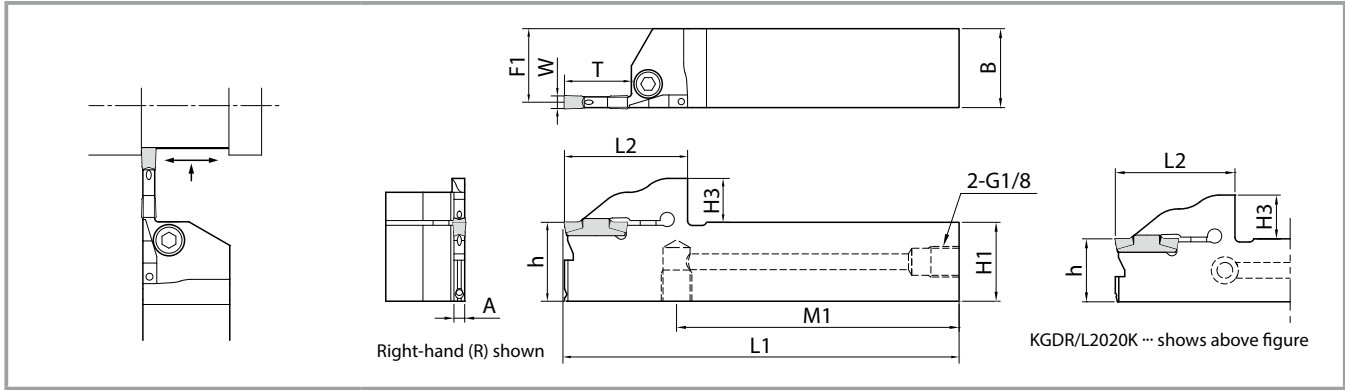
Application maps



Chipbreaker selection (External)



KGD-JCT (External grooving / Cut-Off)



Toolholder dimensions

Applicable pressure: ~ 15 MPa

Groove widths (mm)	Max. grooving depth (mm)	Description	Avail-ability		Dimensions (mm)										Edge width W (mm)		Spare parts							
			R	L	H1=h	H3	B	L1	L2	F1	A	T	M1	MIN	MAX	Arbor bolt	Wrench	Plug						
3	6	KGDR/L 2020K-3T06JCT	●	●	20	11.4	20	125	31.5	18.8	2.4	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	13.9	20		34.0	18.8		10	94.2			HH5X16								
		2525K-3T10JCT	●	●	25		25									23.8			94.5	HH5X25				
		2020K-3T20JCT	●	●	20		20									18.8			90.2	HH5X16				
		2525K-3T20JCT	●	●	25		25									23.8			89.5	HH5X25				
4	10	KGDR/L 2020K-4T10JCT	●	●	20	13.9	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	KGDR/L 2020K-4T20JCT	●	●	20	13.9	20		38.0	18.3	3.4	20			90.2			HH5X16						
		2525K-4T20JCT	●	●	25		25											23.3	89.5	HH5X25				
		25	KGDR/L 2525K-4T25JCT	●	●		25											15.3	25	44.0	23.3	25	84.5	HH5X25

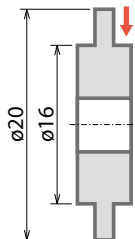
Please see page 2 for piping parts.

● Available

Case studies

Ring - 15CrMo4-equivalent

Vc = 160 m/min
 n = 3,200 min⁻¹
 ap = 2.5 mm
 f = 0.07 mm/rev
 Wet (Water soluble), normal pressure
 KGDR2020K-3T10JCT
 GDM3020M-025PM PR1525



Tool life

KGD-JCT
Internal coolant

9,000 pcs / edge



Competitor H
External coolant

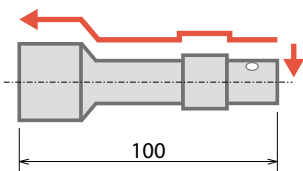
6,000 pcs / edge

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

User evaluation

Valve - Free cutting steel equivalent

Vc = 160 m/min
 ap = 14 mm
 f = 0.12-0.15 mm/rev
 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

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		K	Cast iron			●				
○: Light interruption / 2nd choice		N	Non-ferrous material				●			
●: Continuous / 1st choice		S	Titanium alloy			●				
○: Continuous / 2nd choice		H	Hardened material (~40HRC)			○				
		H	Hardened material (40HRC ~)				○			
Shape	Description	Dimensions (mm)		Cermets	MEGA COAT NANO	MEGACOAT	Car-bide			
		Edge width (W)	re							
External grooving and turning	General purpose	GDM 3020N-020GM 3020N-040GM	3.0	±0.03	0.2	●	●	●	●	●
					0.4	●	●	●	●	●
		4020N-020GM 4020N-040GM	4.0	±0.03	0.2	●	●	●	●	●
					0.4	●	●	●	●	●
		4020N-080GM 5020N-040GM	5.0	±0.04	0.4	●	●	●	●	●
					0.8	●	●	●	●	●
	5020N-080GM	5.0	±0.04	0.8	●	●	●	●	●	
	General use 1-edge	GDMS 3020N-040GM 4020N-040GM	3.0	±0.03	0.4	●	●	●	●	●
						●	●	●	●	●
						●	●	●	●	●
	5020N-080GM	5.0	±0.04	0.8	●	●	●	●	●	
●					●	●	●	●		
●					●	●	●	●		
Low feed	GDM 3020N-020GL 3020N-040GL	3.0	±0.03	0.2	●	●	●	●	●	
					0.4	●	●	●	●	
	4020N-020GL 4020N-040GL	4.0	±0.03	0.2	●	●	●	●	●	
					0.4	●	●	●	●	
	5020N-040GL	5.0	±0.04	0.4	●	●	●	●	●	
●					●	●	●	●		
Grooving Wiper edge	GDG 3020N-020GS 3520N-020GS	3.0	±0.02	0.2	●	●	●	●	●	
					3.5	●	●	●	●	
					4.0	●	●	●	●	
Full-R / Coping	GDM 3020N-150R-CM 4020N-200R-CM	3.0	±0.03	1.5	●	●	●	●	●	
					4.0	●	●	●	●	
					5.0	●	●	●	●	
Grooving and cut-Off (High feed)	GDM 3020N-030PH 4020N-030PH	3.0	±0.03	0.3			●	●	●	
					4.0			●	●	●
					4.0			●	●	●
1-edge	GDMS 3020N-030PH 4020N-030PH	3.0	±0.03	0.3			●	●	●	
					4.0			●	●	●

Inserts are sold in 10 piece boxes

Cut-Off

Usage classification		P	Carbon steel / Alloy steel	○	●	○				
		M	Stainless steel	●	○	○				
●: Light interruption / 1st choice		N	Non-ferrous material				●	○		
○: Light interruption / 2nd choice										
●: Continuous / 1st choice										
○: Continuous / 2nd choice										
Shape	Description	Dimensions (mm)		MEGA COAT NANO	MEGACOAT			DLC coated carbide	Car-bide	
		Edge width (W)	re		PR1535	PR1225	PR1215			
Handed insert shows Right-hand		Tolerance								
Cut-off	GDM 3020N-025PM 4020N-030PM	3.0	±0.03	0.25	●	●	●			
					4.0	0.3	●	●	●	
	6° lead angle	GDM 3020R-025PM-6D	3.0	±0.03	0.25	R	R	R		
	1-edge	GDMS 3020N-025PM 4020N-030PM	3.0	±0.03	0.25	●	●	●		
						4.0	0.3	●	●	●
6° lead angle 1-edge	GDMS 3020R-025PM-6D 4020R-030PM-6D	3.0	±0.03	0.25	R	R	R			
					4.0	0.3	R	R	R	
Cut-Off (Low Feed)	GDM 3020N-003PF 3020N-015PF	3.0	±0.04	0.03	●	●	●			
					0.15	●	●	●		
	15° lead angle	GDM 3020 R/L-003PF-15D 3020R-015PF-15D	3.0	±0.04	0.03	●	●	●		
0.15						R	R	R		
Cut-Off (Medium feed)	GDM 3020N-010PQ	3.0	±0.03	0.1	●	●	●			
15° lead angle	GDM 3020R-010PQ-15D	3.0	±0.03	0.1	R	R	R			
Cut-Off (Low cutting force)	GDG 3020N-005PG 3020R-005PG-15D	3.0	±0.02	0.05	●	●		●	●	
15° lead angle					R	R		R	R	

Inserts are sold in 10 piece boxes

CBN / PCD

Usage Classification		N	Non-ferrous material			●	
		S	Titanium alloy			●	
●: Light interruption / 1st choice		H	Hardened material (~40HRC)				
○: Light interruption / 2nd choice		H	Hardened material (40HRC ~)	●			
●: Continuous / 1st choice			Sintered steel		●		
○: Continuous / 2nd choice							
Shape	Description	Dimensions (mm)		MEGA COAT CBN	CBN	PCD	
		Edge width (W)	re				
Grooving 1-edge	GDGS 3020N-020NB 3020N-040NB 4020N-020NB 4020N-040NB 5020N-020NB 5020N-040NB	3.0	±0.03	0.2		●	
				0.4	●	●	
		4.0	±0.03	0.2			●
				0.4	●	●	
		5.0	±0.03	0.2			●
				0.4	●	●	

CBN & PCD Inserts are sold in 1 piece boxes

For more details on cutting conditions, see the KYOCERA general product catalog or KGD/KGDF brochure

●: Available R: Standard stock (Right-hand only)

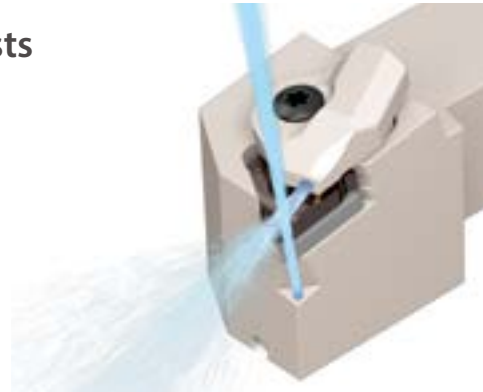
Great for high pressure coolant, threading toolholder

KTN-JCT

New threading toolholder. Two coolant holes reduces defects and lengthens tool life

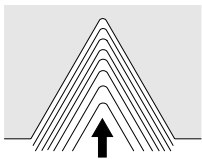
1 Improved tool life lowers machining costs

Coolant flows from the top of the clamp
Efficient cooling of the cutting edge prevents wear

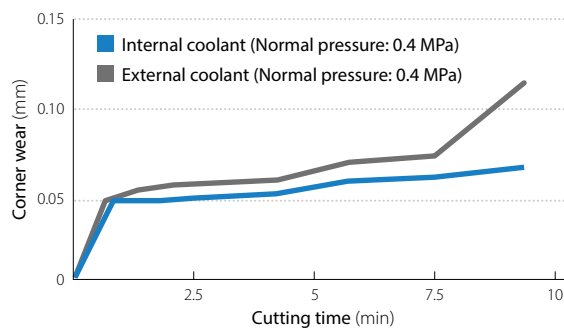


Wear resistance comparison of internal vs. external coolant (In-house evaluations)

Radial infeed



Cutting conditions: $V_c = 150$ m/min, 16ER150ISO-TQ (PR1215), workpiece: 34CrMo4



Internal coolant (Normal pressure: 0.4 MPa)



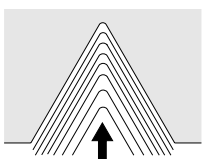
External coolant (Normal pressure: 0.4 MPa)



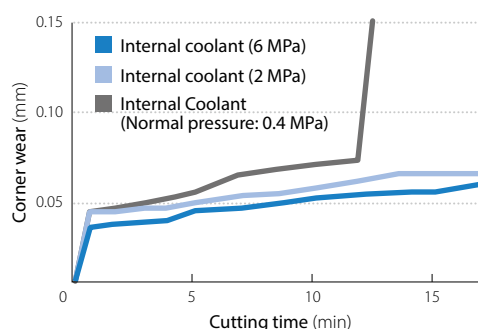
Switching to the KTN-JCT with internal coolant lengthens tool life

Wear resistance comparison at different pressures (In-house evaluation)

Radial infeed



Cutting Conditions: $V_c = 150$ m/min, 16ER150ISO-TQ (PR1215), workpiece: 34CrMo4

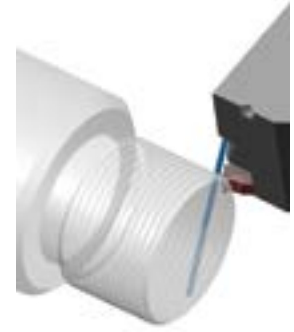


The higher the coolant pressure, the more efficient the wear resistance will be

2 Prevents chip recutting

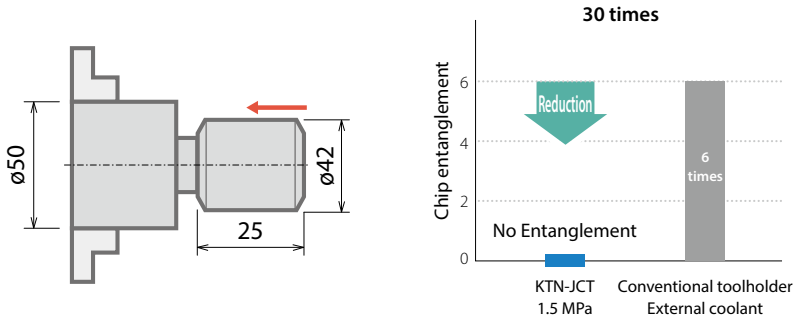
Coolant from the flank face of the insert smoothly evacuates chips away from the cutting edge. Reduced chip clogging

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



Chip evacuation comparison (In-house evaluation)

Cutting conditions: $V_c = 150$ m/min 16ER150ISO type (PR1215), workpiece: 34CrMo4, 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 external coolant
Tool life	Steel	Better wear resistance
	Stainless steel	Lower cutting resistance
Chip evacuation	Steel	Prevents chip entanglement with 1.5 Mpa or higher
Chip control	Steel	Breaks chips with 6 Mpa or higher
	Stainless steel	

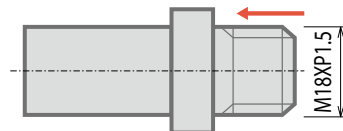
* To prevent chip entanglement, 1.5 MPa or higher is recommended (Steel)

* For chip breaking, high pressure coolant is recommended (6 MPa or higher for steel and stainless steel)

Case studies

Arbor bolt - free cutting steel

$n = 2,700$ min⁻¹ ($V_c = 145$ m/min)
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)



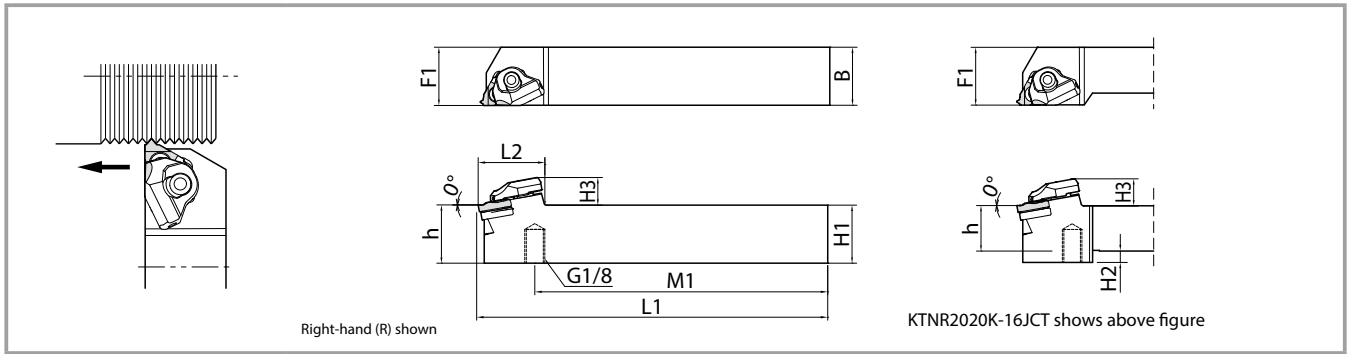
Competitor toolholder J (External coolant: Normal pressure)



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

User evaluation

KTN-JCT (Threading)



Toolholder dimensions

Applicable pressure: ~ 15 MPa

Description	Available		Dimensions (mm)								Spare parts					Applicable inserts
	R	L	H1=h	H2	H3	B	L1	L2	F1	M1	Clamp Set	Pipe connection *1 with O-ring	Wrench	Shim	Shim screw	
KTNR 2020K-16JCT	●		20	5	12	20	125	33.3	25	100.7	CPS-5S-R-JCT	FP-12	FT-15	TN-32	SP3X8	16ER...
	●		25	-		25	150	-		125.7						

Please see page 2 for piping parts
*1. O-ring (SS-035) is available to order

●: Availability

Threading insert with molded chipbreaker

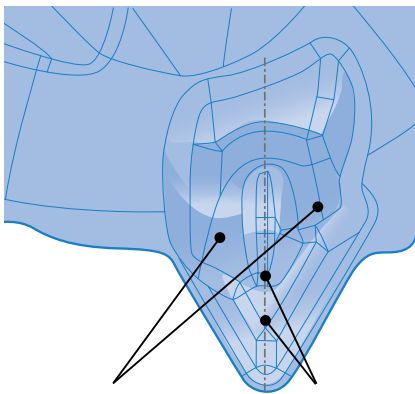
TQ chipbreaker

Improved chip control with molded chipbreaker. Combination with KTN-JCT for greater productivity



Chipbreaker geometry

Stable chip control regardless of cutting direction

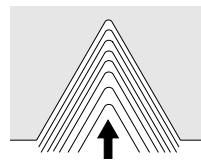


For radial infeed
Asymmetric dot design controls chip-flow direction

For flank infeed / flank compound infeed
Breaks chips easily with shallow breaker depth

Chip control comparison (In-house evaluation)

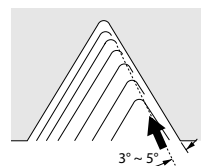
Radial infeed



TQ chipbreaker

Competitor K

Flank compound infeed



TQ chipbreaker

Competitor K

Cutting conditions: Vc = 150 m/min, ap = 0.12 mm (4th pass), L = 25 mm, wet, 16ER150ISO type M45 x P1.5, workpiece: 15CrMo4

KTN-JCT applicable inserts

Wiper edge

Metric (M) 60° full profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●															
	M	Stainless steel				●	○													
	K	Cast iron																		●
		N	Non-ferrous material																	●
Description	Applicable thread	Pitch		Cement	MEGACOAT MEGACOAT NANO				PVD coated carbide		Carbide									
		mm	TPI		TC60M	PR1215	PR1515	PR1535	PR1115	GW15										
					R	R	R	R	R	L		R								
16ER 100ISO-TF 125ISO-TF 150ISO-TF 175ISO-TF 200ISO-TF 250ISO-TF 300ISO-TF	M	1.0			●	●	●	○												
		1.25			●	●	●	○												
		1.5			●	●	●	○												
		1.75			●	●	●	○												
		2.0			●	●	●	○												
		2.5			●	●	●	○												
		3.0			●	●	●	○												
		050ISO	0.5		●					●	●	●								
075ISO	0.75		●					●	●	●										
100ISO	1.0		●					●	●	●										
125ISO	1.25		●					●	●	●										
150ISO	1.5		●					●	●	●										
175ISO	1.75		●					●	●	●										
200ISO	2.0		●					●	●	●										
250ISO	2.5		●					●	●	●										
300ISO	3.0		●					●	●	●										
16ER 100ISO-TQ 125ISO-TQ 150ISO-TQ 175ISO-TQ 200ISO-TQ 250ISO-TQ 300ISO-TQ	M	1.0			●	●	●													
		1.25			●	●	●													
		1.5			●	●	●													
		1.75			●	●	●													
		2.0			●	●	●													
		2.5			●	●	●													
		3.0			●	●	●													
		19W-TF	19	-		●	●	●	○											
16W-TF	-	16		●	●	●	○													
14W-TF	14	14		●	●	●	○													
11W-TF	11	11		●	●	●	○													
16ER 19W 14W 11W	G(PF) W	19	-	●					●											
		14	14	●					●											
		11	11	●					●											
16ER 19W-TQ 16W-TQ 14W-TQ 11W-TQ	G(PF) W	19	-	●	●	●														
		-	16	●	●	●														
		14	14	●	●	●														
		11	11	●	●	●														

Parallel pipe [G(PF)] whitworth (W) 55° full profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●															
	M	Stainless steel				●	○													
	K	Cast iron																		●
		N	Non-ferrous material																	●
Description	Applicable thread	Pitch		Cement	MEGACOAT MEGACOAT NANO				PVD coated carbide		Carbide									
		G(PF)	W		TC60M	PR1215	PR1515	PR1535	PR1115	GW15										
					TPI	R	R	R	R	R		L	R							
16ER 19W-TF 16W-TF 14W-TF 11W-TF	G(PF) W	19	-		●	●	●	○												
		-	16		●	●	●	○												
		14	14		●	●	●	○												
		11	11		●	●	●	○												
16ER 19W 14W 11W	G(PF) W	19	-	●					●											
		14	14	●					●											
		11	11	●					●											
16ER 19W-TQ 16W-TQ 14W-TQ 11W-TQ	G(PF) W	19	-	●	●	●														
		-	16	●	●	●														
		14	14	●	●	●														
		11	11	●	●	●														

American national tapered pipe (NPT) full profile 60°

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel							●											
	M	Stainless steel								●										
	K	Cast iron																		●
		N	Non-ferrous material																	●
Description	Applicable Thread	Pitch		Cement	MEGACOAT MEGACOAT NANO				PVD coated carbide		Carbide									
		mm	TPI		TC60M	PR1215	PR1515	PR1535	PR1115	GW15										
					R	R	R	R	R	L		R								
16ER 18NPT 14NPT 11.5NPT	NPT	-	18	●						●		●								
		-	14	●						●		●								
		-	11.5	●							●		●							

Unified (UN) 60° full profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●															
	M	Stainless steel				●	○													
	K	Cast iron																		●
		N	Non-ferrous material																	●
Description	Applicable thread	Pitch		Cement	MEGACOAT MEGACOAT NANO				PVD coated carbide		Carbide									
		mm	TPI		TC60M	PR1215	PR1515	PR1535	PR1115	GW15										
					R	R	R	R	R	L		R								
16ER 24UN-TF 20UN-TF 18UN-TF 16UN-TF 14UN-TF 13UN-TF 12UN-TF 10UN-TF 08UN-TF	M	24			●	●	●	○												
		20			●	●	●	○												
		18			●	●	●	○												
		16			●	●	●	○												
		14			●	●	●	○												
		13			●	●	●	○												
		12			●	●	●	○												
		10			●	●	●	○												
		8			●	●	●	○												
		16ER 24UN 20UN 18UN 16UN 14UN 12UN	UN	24	●						●									
				20	●						●									
				18	●						●									
16	●								●											
14	●								●											
12	●								●											
16ER 24UN-TQ 20UN-TQ 18UN-TQ 16UN-TQ 14UN-TQ 13UN-TQ 12UN-TQ 10UN-TQ 08UN-TQ	UN	24			●	●	●													
		20			●	●	●													
		18			●	●	●													
		16			●	●	●													
		14			●	●	●													
		13			●	●	●													
		12			●	●	●													
		10			●	●	●													
		8			●	●	●													

Tapered pipe [R(PT), (BSPT)] 55° full profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●															
	M	Stainless steel				●	○													
	K	Cast iron																		●
		N	Non-ferrous material																	●
Description	Applicable thread	Pitch		Cement	MEGACOAT MEGACOAT NANO				PVD coated carbide		Carbide									
		mm	TPI		TC60M	PR1215	PR1515	PR1535	PR1115	GW15										
					R	R	R	R	R	L		R								
16ER 28BSPT-TF 19BSPT-TF 14BSPT-TF 11BSPT-TF	M	28			●	●	●	○												
		19			●	●	●	○												
		14			●	●	●	○												
		11			●	●	●	○												
		28	●							●		●								
16ER 19BSPT 14BSPT 11BSPT	R(PT) (BSPT)	19	●						●		●									
		14	●					●		●										
		11	●					●		●										
		28	●	●	●															
16ER 28BSPT-TQ 19BSPT-TQ 14BSPT-TQ 11BSPT-TQ	R(PT) (BSPT)	28			●	●	●													
		19			●	●	●													
		14			●	●	●													
		11			●	●	●													

TC60M (Threading) are sold in 10 piece boxes.
Others are sold in 5 piece boxes.

16ER - TQ: With chipbreaker
- TF: Without chipbreaker (TF Cutting Edge)
w/o indication: Without chipbreaker

● : Available
○ : Check Availability

KTN-JCT applicable inserts

Partial profile

60° type
Metric (M), unified (UN)
60° partial profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●						
	M	Stainless steel				●	○				
	K	Cast iron									●
	N	Non-ferrous material									●
Description	Applicable Thread	Pitch		MEGACOAT MEGACOAT NANO			PVD coated carbide		Carbide		
		mm	TPI	PR1215	PR1515	PR1535	PR1115		GW15		
				R	R	R	R	R	R		
				R	R	R	R	R	R		
16ER A60-TF	M	0.5 ~ 1.5	48 ~ 16		●	●	●	○			
		1.75 ~ 3	14 ~ 8		●	●	●	○			
		0.5 ~ 3	48 ~ 8		●	●	●	○			
16ER A60	M	0.5 ~ 1.5	48 ~ 16							●	
		1.75 ~ 3	14 ~ 8							●	
		0.5 ~ 3	48 ~ 8								●
16ER 6001	UNF	1.0 ~ 2.5	24 ~ 11	●							
		1.5 ~ 2.5	16 ~ 11	●							
		0.5 ~ 1.5	48 ~ 16		●	●	●				
16ER A60-TQ	M	0.5 ~ 1.5	48 ~ 16		●	●	●				
		1.75 ~ 3	14 ~ 8		●	●	●				
		0.5 ~ 3	48 ~ 8		●	●	●				

55° type
Parallel pipe [G(PF)], tapered pipe [R(PT), (BSPT)],
Whitworth[(W)] 55° partial profile

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel			●						
	M	Stainless steel				●	○				
	K	Cast iron									●
	N	Non-ferrous material									●
Description	Applicable thread	Pitch		MEGACOAT MEGACOAT NANO			PVD coated carbide		Carbide		
		G(PF) R(PT)	W	PR1215	PR1515	PR1535	PR1115		GW15		
				R	R	R	R	R	R		
				TPI	R	R	R	R	R	R	
16ER A55-TF	M	28, 19	40 ~ 16		●	●	●	○			
		G55-TF	14, 11	14 ~ 8		●	●	●	○		
		AG55-TF	28 ~ 11	40 ~ 8		●	●	●	○		
16ER A55	G(PF)	28, 19	40 ~ 16							●	
		G55	14, 11	14 ~ 8						●	
		AG55	28 ~ 11	40 ~ 8						●	
16ER 5501	R(PT)	28 ~ 11	40 ~ 8							●	
		28 ~ 11	24 ~ 10	●							
16ER 5502	W	28 ~ 11	16 ~ 9	●							
		14, 11	16 ~ 9	●							
16ER A55-TQ	M	28, 19	40 ~ 16		●	●	●				
		G55-TQ	14, 11	14 ~ 8		●	●	●			
		AG55-TQ	28 ~ 11	40 ~ 8		●	●	●			

30° trapezoidal (Tr)
Partial profile 30°

Usage classification ● : 1st choice ○ : 2nd choice	P	Carbon steel / Alloy steel							●	
	M	Stainless steel							●	
	K	Cast iron								
	N	Non-ferrous material								
Description	Applicable Thread	Pitch		MEGACOAT MEGACOAT NANO			PVD coated carbide		Carbide	
		mm	TPI	PR1215	PR1515	PR1535	PR1115		GW15	
				R	R	R	R	R	R	
				R	R	R	R	R	R	
16ER 200TR	Tr	2.0	-	●					●	
		3.0	-	●					●	

16ER – TQ: With chipbreaker
– TF: Without chipbreaker (TF Cutting Edge)
w/o indication: Without chipbreaker

For more details on the cutting conditions, see the KYOCERA general product catalog.

● : Available
○ : Check Availability

TC60M (Threading) are sold in 10 piece boxes. Other inserts are sold in 5 piece boxes