

# DIPOSOTETRA™

## 12 & 16



### Diameters:

1.00" - 8.00"

25.0 - 100.0 mm

### Cutter Series:

1TJ1Q, TJ\*Q (12MM)

1TJ1N, TJ\*N, TN1N (16MM)

### Corner Radii:

.015, .031, .062 & .094R

### Lead Angles:

90 & 45

### Depth of Cut:

ANHU12 (90): .43

ANHU16 (90): .59

ANHU16 (45): .33

### Materials:

Aluminum, Iron, Steel, Stainless Steel, High-Temp Alloys



Multi-Purpose



Non-Ferrous



SS/Hi-Temps



Chip Splitters

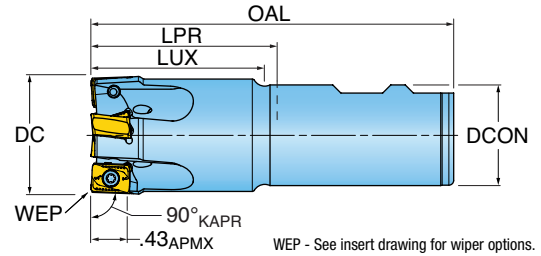
## Double your APKT style geometry from 2 to 4 cutting edges!

- Two-sided insert adds value by doubling your cutting edges!
- Thick and robust insert adds durability to demanding cutting conditions
- Double-positive geometry benefits machining efficiency and slices stainless steel and high-temp alloys
- Integrated wiper flat produces surface finishes between 32-63Ra
- Coolant through the tool offered



## SERIES 1TJ1Q (WELDON STYLE) (12MM)

90° END MILL WITH 4 INDEXES



### INCH

Part Number	DC Cutting Dia.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.
1TJ1Q-1001780R01	1.000	1.55	1.75	4.00	2	1.000
1TJ1Q-1001784R01	1.000	1.75	1.75	3.75	2	0.750
1TJ1Q-1003780R01	1.000	3.55	3.75	6.00	2	1.000
1TJ1Q-1201784R01	1.250	1.75	1.75	3.75	3	0.750
1TJ1Q-1202281R01	1.250	2.22	2.25	4.50	3	1.250
1TJ1Q-1204281R01	1.250	4.22	4.25	6.50	3	1.250
1TJ1Q-1502281R01	1.500	2.25	2.25	4.50	4	1.250

### METRIC

Part Number	DC Cutting Dia.	LUX Usable Length Max.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.
1TJ1Q025040W5R00	25.00 mm	40.0 mm	100.0 mm	2	25.00 mm
1TJ1Q032040W6R00	32.00 mm	40.0 mm	110.0 mm	3	32.00 mm
1TJ1Q040040W6R00	40.00 mm	40.0 mm	115.0 mm	4	32.00 mm

## SERIES 1TJ1Q (TOP ON STYLE) (12MM)

90° MODULAR END MILL WITH 4 INDEXES



Shoulder



Channel



Ramp



Corkscrew



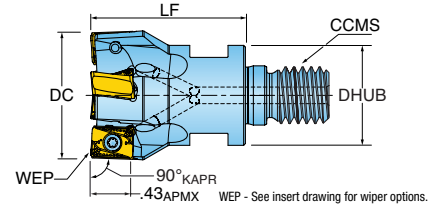
Facing



Slabbing



Coolant



### INCH

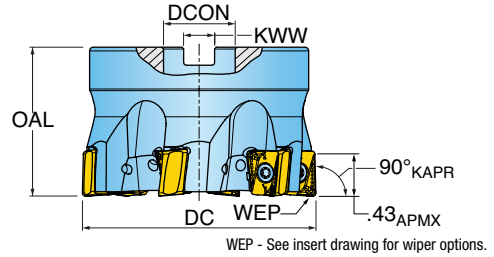
Part Number	DC Cutting Dia.	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Dia.
1TJ1Q-10015X7R01	1.000	1.50	2	TopOn M12	0.81
1TJ1Q-12017X8R01	1.250	1.75	3	TopOn M16	1.13
1TJ1Q-15017X8R01	1.500	1.75	4	TopOn M16	1.13

### METRIC

Part Number	DC Cutting Dia.	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Dia.
1TJ1Q025035X7R00	25.00 mm	35.0 mm	2	TopOn M12	21.00 mm
1TJ1Q032043X8R00	32.00 mm	43.0 mm	3	TopOn M16	29.00 mm
1TJ1Q040043X8R00	40.00 mm	43.0 mm	4	TopOn M16	29.00 mm

## SERIES TJ5Q, TJ6Q (12MM)

90° FACE MILL WITH 4 INDEXES



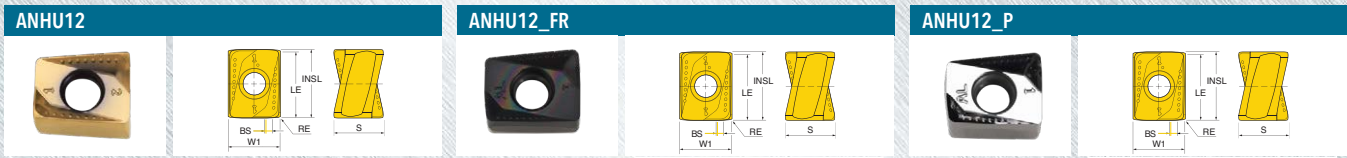
### INCH

Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	KWW Keyway
TJ5Q-20R01	2.000	1.57	6	0.750	0.312
TJ6Q-20R01	2.000	1.57	3	0.750	0.312
TJ6Q-25R01	2.500	1.57	6	0.750	0.312
TJ5Q-30R01	3.000	1.75	9	1.000	0.375
TJ6Q-30R01	3.000	1.75	7	1.000	0.375
TJ5Q-40R01	4.000	2.38	11	1.500	0.625
TJ6Q-40R01	4.000	2.38	7	1.500	0.625

### METRIC










Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	KWW Keyway
TJ5Q040R00	40.00 mm	40.00 mm	4	16.00 mm	8.40 mm
TJ5Q050R00	50.00 mm	40.00 mm	6	22.00 mm	10.40 mm
TJ5Q063R00	63.00 mm	40.00 mm	7	22.00 mm	10.40 mm
TJ5Q080R00	80.00 mm	50.00 mm	10	27.00 mm	12.40 mm
TJ5Q100R00	100.00 mm	50.00 mm	12	32.00 mm	14.40 mm
TJ5Q125R00	125.00 mm	63.00 mm	14	40.00 mm	16.40 mm

## INSERTS (12MM)



Part Number	Application	RE Corner Radius	BS Wiper Length	LE Cutting Edge Eff. Length	INSL Insert Length	W1 Insert Width	S Thickness	NOI Number of Indexes	IH Insert Hand	Grade	IN10K	IN2505	IN2510	IN2530	IN2540	IN4030	IN4036
ANHU120604FR-P	Grd/Pol for Al	0.015 R	0.059	0.430	0.472	0.362	0.338	4	Right		•						
ANHU120604R	Multi-Purpose	0.015 R	0.059	0.430	0.472	0.362	0.338	4	Right			•					
ANHU120608FR	SS/Hi-Temp/Ti	0.031 R	0.043	0.430	0.472	0.362	0.338	4	Right								•
ANHU120608FR-P	Grd/Pol for Al	0.031 R	0.043	0.430	0.472	0.362	0.338	4	Right		•						
ANHU120608R	Multi-Purpose	0.031 R	0.043	0.430	0.472	0.362	0.338	4	Right			•	•	•	•	•	
ANXU120608R	Utility Insert - Heavy Duty	0.031 R	0.043	0.430	0.472	0.362	0.338	4	Right			•		•			
ANHU120616R	Multi-Purpose	0.062 R	0.027	0.430	0.472	0.362	0.338	4	Right			•		•			

## HARDWARE (12MM)

									
	Screw	Driver Handle	Driver Blade	Retention Bolt	Coolant Retention Bolt	Wrench	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
1TJ1Q-1001780R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1001784R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1003780R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1201784R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1202281R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1204281R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-1502281R01	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-10015X7R01	SM35-088-10	DS-A00T	DS-T106B			617MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-12017X8R01	SM35-088-10	DS-A00T	DS-T106B			622MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q-15017X8R01	SM35-088-10	DS-A00T	DS-T106B			622MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q-20R01	SM35-088-10	DS-A00T	DS-T106B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ6Q-20R01	SM35-088-10	DS-A00T	DS-T106B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ6Q-25R01	SM35-088-10	DS-A00T	DS-T106B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q-30R01	SM35-088-10	DS-A00T	DS-T106B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ6Q-30R01	SM35-088-10	DS-A00T	DS-T106B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q-40R01	SM35-088-10	DS-A00T	DS-T106B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ6Q-40R01	SM35-088-10	DS-A00T	DS-T106B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q025040W5R00	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q032040W6R00	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q040040W6R00	SM35-088-10	DS-A00T	DS-T106B				DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q025035X7R00	SM35-088-10	DS-A00T	DS-T106B			617MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q032043X8R00	SM35-088-10	DS-A00T	DS-T106B			622MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
1TJ1Q040043X8R00	SM35-088-10	DS-A00T	DS-T106B			622MM	DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q040R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M8X25-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q050R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M10X25-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q063R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M10X25-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q080R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M12X35-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q100R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M16X30-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1
TJ5Q125R00	SM35-088-10	DS-A00T	DS-T106B		ISO4762M20X40-12.9		DS-A00-.25-T	DT-30-.25	DS-T10B1

## SERIES 1TJ1N (WELDON STYLE) (16MM)

90° END MILL WITH 4 INDEXES



Shoulder

Channel

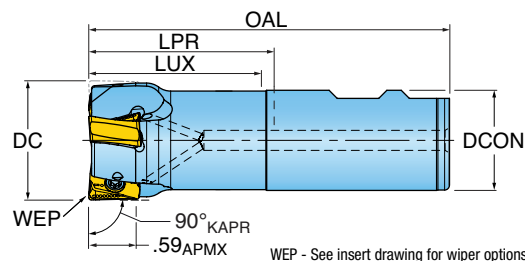
Ramp

Corkscrew

Facing

Slabbing

Coolant



INCH

Part Number	DC Cutting Dia.	LUX Usable Length Max.	LPR Protruding Length	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	CSP Coolant
1TJ1N-1202281R01	1.250	2.05	2.25	4.50	2	1.250	Yes
1TJ1N-1204281R01	1.250	4.05	4.25	6.50	2	1.250	Yes
1TJ1N-1206281R01	1.250	6.05	6.25	8.50	2	1.250	Yes
1TJ1N-1501781R10	1.500	1.75	1.75	4.00	3	1.250	No
1TJ1N-1502281R01	1.500	2.25	2.25	4.50	3	1.250	Yes
1TJ1N-1504281R01	1.500	4.25	4.25	6.50	3	1.250	Yes
1TJ1N-2002281R01	2.000	2.25	2.25	4.50	4	1.250	Yes

## SERIES 1TJ1N (TOP ON STYLE) (16MM)

90° END MILL WITH 4 INDEXES



Shoulder



Channel



Ramp



Corkscrew



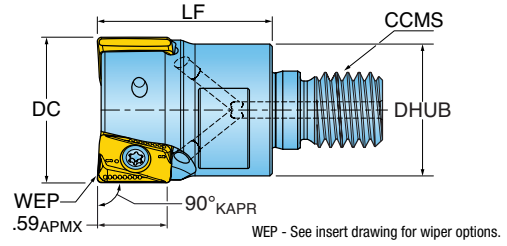
Facing



Slabbing



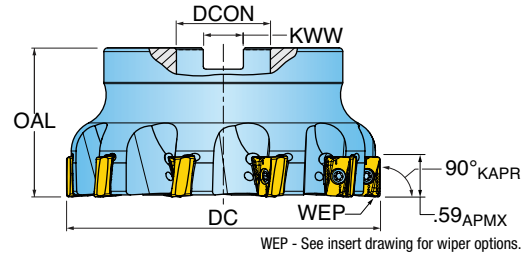
Coolant



Part Number	DC Cutting Dia.	LF Functional Length	ZEFF Effective Teeth	CCMS Connection Code	DHUB Hub Dia.
1TJ1N-12015X8R01	1.250	1.50	2	TopOn M16	1.13
1TJ1N-15015X8R01	1.500	1.50	3	TopOn M16	1.13

## SERIES TJ5N, TJ6N (16MM)

### 90° FACE MILL WITH 4 INDEXES



### INCH

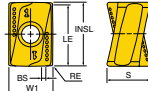
Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	KWW Keyway	DBC Bolt Circle	CSP Coolant
TJ5N-20R01	2.000	1.57	4	0.750	0.312	NA	Yes
TJ6N-20R01	2.000	1.57	3	0.750	0.312	NA	Yes
TJ5N-25R01	2.500	1.75	5	1.000	0.375	NA	Yes
TJ5N-30R01	3.000	1.75	7	1.000	0.375	NA	Yes
TJ6N-30R01	3.000	1.75	5	1.000	0.375	NA	Yes
TJ5N-40R01	4.000	2.38	8	1.500	0.625	NA	Yes
TJ6N-40R01	4.000	2.38	5	1.500	0.625	NA	Yes
TJ5N-50R01	5.000	2.38	10	1.500	0.625	NA	Yes
TJ6N-50R01	5.000	2.38	7	1.500	0.625	NA	Yes
TJ5N-60R01	6.000	2.48	11	1.500	0.625	NA	Yes
TJ6N-60R01	6.000	2.48	8	1.500	0.625	NA	Yes
TJ5N-80R01	8.000	2.48	14	2.500	1.000	4.00	No

### METRIC

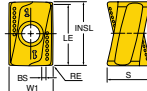
Part Number	DC Cutting Dia.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	KWW Keyway	DBC Bolt Circle	CSP Coolant
TJ5N050R00	50.00 mm	40.00 mm	4	22.00 mm	10.40 mm	NA	Yes
TJ5N063R00	63.00 mm	40.00 mm	6	22.00 mm	10.40 mm	NA	Yes
TJ5N080R00	80.00 mm	50.00 mm	7	27.00 mm	12.40 mm	NA	Yes
TJ5N100R00	100.00 mm	50.00 mm	8	32.00 mm	14.40 mm	NA	Yes
TJ6N100R00	100.00 mm	50.00 mm	5	32.00 mm	14.40 mm	NA	Yes

## INSERTS (16MM)

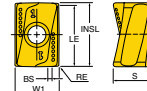
### ANHU16



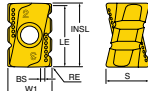
### ANHU16\_FR



### ANHU16\_P












### ZNHU16



Part Number	Application	RE Corner Radius	BS Wiper Length	LE Cutting Edge Eff. Length	INSL Insert Length	W1 Insert Width	S Thickness	NOI Number of Indexes	IH Insert Hand	Grade	IN10K	IN2505	IN2510	IN2530	IN2540	IN4030	IN4036	IN6515	IN6537
ANHU160704FR-P	Grd/Pol for Al	0.015 R	0.051	0.590	0.630	0.433	0.429	4	Right		•								
ANHU160704R	Multi-Purpose	0.015 R	0.067	0.590	0.630	0.433	0.421	4	Right		•		•						
ANHU160708FR	SS/Hi-Temp/Ti	0.031 R	0.055	0.590	0.630	0.433	0.417	4	Right				•			•			
ANHU160708FR-P	Grd/Pol for Al	0.031 R	0.051	0.590	0.630	0.433	0.421	4	Right		•								
ANHU160708R	Multi-Purpose	0.031 R	0.055	0.590	0.630	0.433	0.417	4	Right			•	•	•	•	•		•	•
ANHU160708R	Utility Insert - Heavy Duty	0.031 R	0.055	0.590	0.630	0.433	0.425	4	Right			•		•					
ZNHU160708R	Multi-Purpose - Chip Splitters	0.031 R	0.055	0.590	0.630	0.433	0.417	4	Right			•		•					
ANHU160716R	Multi-Purpose	0.062 R	0.023	0.590	0.630	0.433	0.413	4	Right			•	•	•	•				
ANHU160724R	Multi-Purpose	0.093 R	-	0.590	0.630	0.433	0.409	4	Right			•							

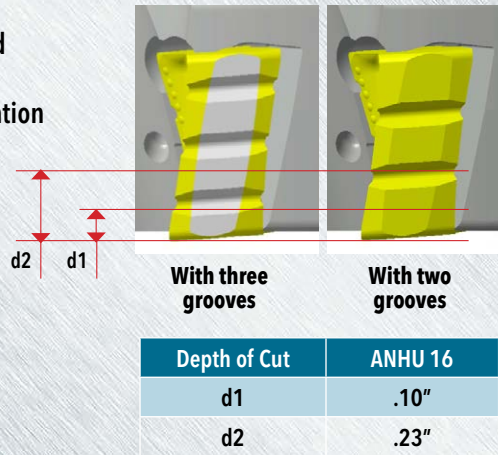
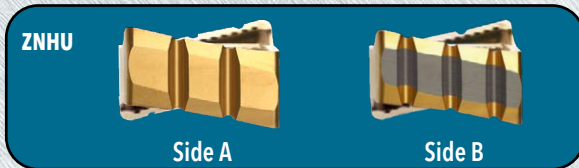
## HARDWARE (16MM)

									
	Screw	Driver Handle	Driver Blade	Retention Bolt	Coolant Retention Bolt	Wrench	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
<b>1TJ1N-1202281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1204281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1206281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1501781R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1501781R10</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1502281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-1504281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-2002281R01</b>	SM40-120-20	DS-A00T	DS-T156B				DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-12015X8R01</b>	SM40-120-20	DS-A00T	DS-T156B			622MM	DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>1TJ1N-15015X8R01</b>	SM40-120-20	DS-A00T	DS-T156B			622MM	DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-20R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N-20R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-25R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-30R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N-30R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-40R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N-40R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-50R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N-50R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-60R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N-60R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N-80R01</b>	SM40-120-20	DS-A00T	DS-T156B	SD10-68			DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N050R00</b>	SM40-120-20	DS-A00T	DS-T156B		ISO4762M10X25-12.9		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N063R00</b>	SM40-120-20	DS-A00T	DS-T156B		ISO4762M10X25-12.9		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N080R00</b>	SM40-120-20	DS-A00T	DS-T156B		ISO4762M12X35-12.9		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ5N100R00</b>	SM40-120-20	DS-A00T	DS-T156B		ISO4762M16X30-12.9		DS-A00-.25-T	DT-35-.25	DS-T15B1
<b>TJ6N100R00</b>	SM40-120-20	DS-A00T	DS-T156B		ISO4762M16X30-12.9		DS-A00-.25-T	DT-35-.25	DS-T15B1

## CHIPSPLITTER INFORMATION (16MM)

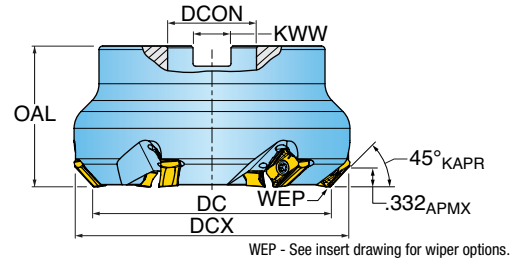
### CHIPSPLITTER INFORMATION

- Reduces vibration and noise
- Improves chip evacuation (Chips split into small pieces)
- Reduces heat generation
- Suitable for long overhang machining (weak machining and fixture applications)
- Mountable on all standard cutter lines without any modification



## SERIES TN1N (16MM)

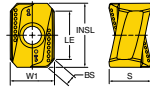
45° FACE MILL WITH 4 INDEXES



Part Number	DC Cutting Dia.	DCX Cutting Dia. Max.	OAL Overall Length	ZEFF Effective Teeth	DCON Shank Dia.	KWW Keyway
TN1N-20R01	2.000	2.75	1.750	4	0.750	0.312
TN1N-30R01	3.000	3.75	1.750	5	1.000	0.375
TN1N-30R02	3.000	3.75	1.750	7	1.000	0.375
TN1N-40R01	4.000	4.75	2.375	6	1.500	0.625
TN1N-40R02	4.000	4.75	2.375	8	1.500	0.625

## INSERTS (16MM)

ANHU1607ANR



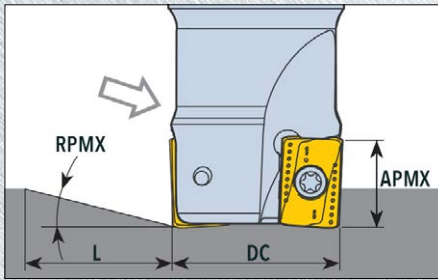
Part Number	Application	BS Wiper Length	LE Cutting Edge Length	INSL Insert Length	W1 Insert Width	S Thickness (To Cutting Edge)	NOI Number of Indexes	IH Insert Hand	Grade	IN2510	IN2530	IN2540
ANHU1607ANR	Multi-Purpose	0.062	0.500	0.630	0.433	0.409	4	Right		•	•	•

## HARDWARE (16MM)

	Screw	Driver Handle	Driver Blade	Retention Bolt	Coolant Retention Bolt	Wrench	Torque Driver Handle	Preset Torque Bit	Torque Driver Bit
TN1N-20R01	SM40-120-20	DS-A00T	DS-T156B	SD-06-46	SD-06-89		DS-A00-.25-T	DT-35-.25	DS-T15B1
TN1N-30R01	SM40-120-20	DS-A00T	DS-T156B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-35-.25	DS-T15B1
TN1N-30R02	SM40-120-20	DS-A00T	DS-T156B	SD-08-46	SD-08-92		DS-A00-.25-T	DT-35-.25	DS-T15B1
TN1N-40R01	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1
TN1N-40R02	SM40-120-20	DS-A00T	DS-T156B	SD-12-82	SD-12-99		DS-A00-.25-T	DT-35-.25	DS-T15B1

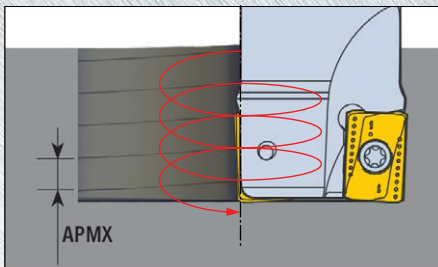
**RAMPING DATA (12MM)**

**STRAIGHT RAMPING - 1TJ1Q, TJ5Q, TJ6Q**



DC Cutting Dia.	RMPX Ramping Angle	L	APMX
1.00	1.4	17	0.43
1.25	1.0	25	0.43
1.50	0.7	31	0.43
2.00	0.6	41	0.43
2.50	0.4	62	0.43
3.00	0.3	82	0.43
4.00	0.2	124	0.43

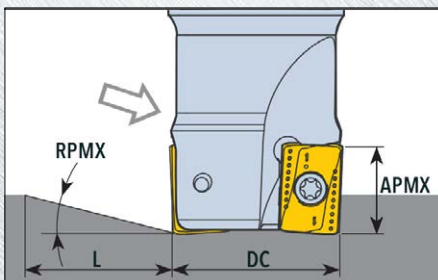
**HELICAL RAMPING - 1TJ1Q, TJ5Q, TJ6Q**



Cutter Dia. (DC) Using R.031 Insert	MIN. Diameter Milled Hole	MIN. APMX/Rev	MAX. Diameter Milled Hole	MAX. APMX/Rev
1.00	1.25	0.01	2.00	0.06
1.25	1.75	0.02	2.50	0.06
1.50	2.25	0.02	3.00	0.06
2.00	3.25	0.03	4.00	0.05
2.50	4.25	0.03	5.00	0.04
3.00	5.25	0.03	6.00	0.04
4.00	7.25	0.03	8.00	0.04

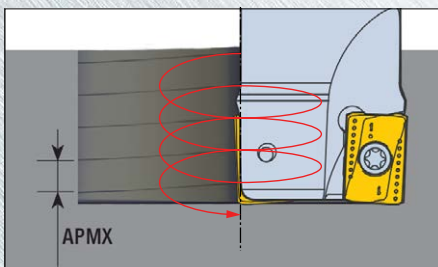
**RAMPING DATA (16MM)**

**STRAIGHT RAMPING - 1TJ1N, TJ5N, TJ6N**



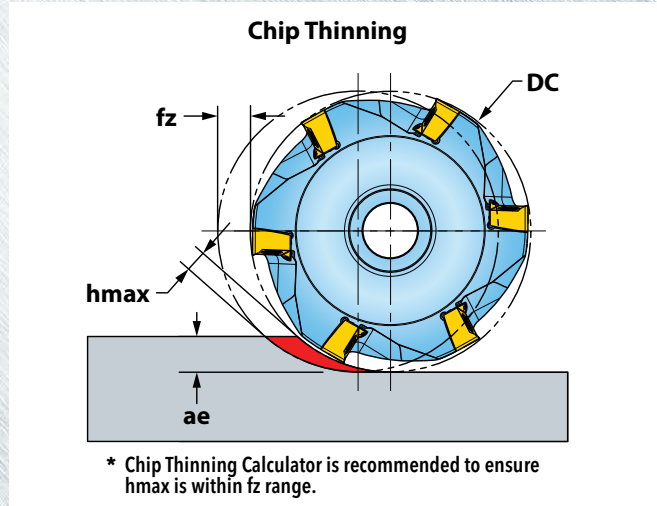
DC Cutting Dia.	RMPX Ramping Angle	L	APMX
1.25	1.20	28	0.59
1.50	1.10	31	0.59
2.00	1.00	34	0.59
2.50	0.60	56	0.59
3.00	0.50	68	0.59
4.00	0.35	97	0.59
5.00	0.25	135	0.59
6.00	0.15	226	0.59
8.00	0.05	677	0.59

**HELICAL RAMPING - 1TJ1N, TJ5N, TJ6N**



Cutter Dia. (DC) Using R.031 Insert	MIN. Diameter Milled Hole	MIN. APMX/Rev	MAX. Diameter Milled Hole	MAX. APMX/Rev
1.25	1.75	0.024	2.44	0.071
1.50	2.40	0.039	2.94	0.079
2.00	3.25	0.055	3.94	0.091
2.50	4.25	0.047	4.94	0.071
3.00	5.50	0.055	5.94	0.075
4.00	7.25	0.051	7.94	0.063
5.00	9.10	0.047	9.94	0.059
6.00	11.85	0.039	11.94	0.043
8.00	15.00	0.016	15.94	0.020

**OPERATING GUIDELINES**



ISO	Materials			Vc Cutting Speed SFM	fz* Feed/Tooth (inch)	Harder <-----> Tougher								Coolant
	Mat'l Group #VDI 3323	Type	Examples			Carbide								
						IN2504	IN6515	IN10K	IN2510	IN2540	IN2505	IN2530	IN6537	
<b>P</b>	1 thru 5	Non-alloy Steel	1018, A36, 1045, A572, 1070	400-1000	.003-.008	5				4	2	1	3	No
	6 thru 9	Low-alloy Steel	4140, 4340, P20, 8620, 300M	350-700										
	10, 11	High-alloy Steel	H13, A2, D2, M2, T1	300-600										
<b>M</b>	12 thru 13	Stainless Steel (Ferritic & Martensitic)	300 Series, 304, 316	400-700	.003-.008					4	3	2	1	May not be required at high speeds
	14	Stainless Steel (Martensitic)	400 Series, 15-5 PH	300-600										Yes
<b>K</b>	15 thru 16	Gray Cast Iron	CLS. 20, 30, 45	500-1000	.003-.008	3	2		1	4	5	6		No
	17 thru 20	Nodular Cast Iron	60-40-18, 100-70-03	400-800										
<b>N</b>	21-30	Aluminum	7075, 6061	1000-3000	.003-.009			1						Yes
<b>S</b>	31 thru 35	High-Temp Alloys	Inconel, Hastelloy, Nimonic, Monel	75-120	.003-.006					4	2	3	1	Yes
	36 thru 37	Titanium Alloys	6Al-4V, 5Al-5Mo-5V-3Cr	100-150										

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.