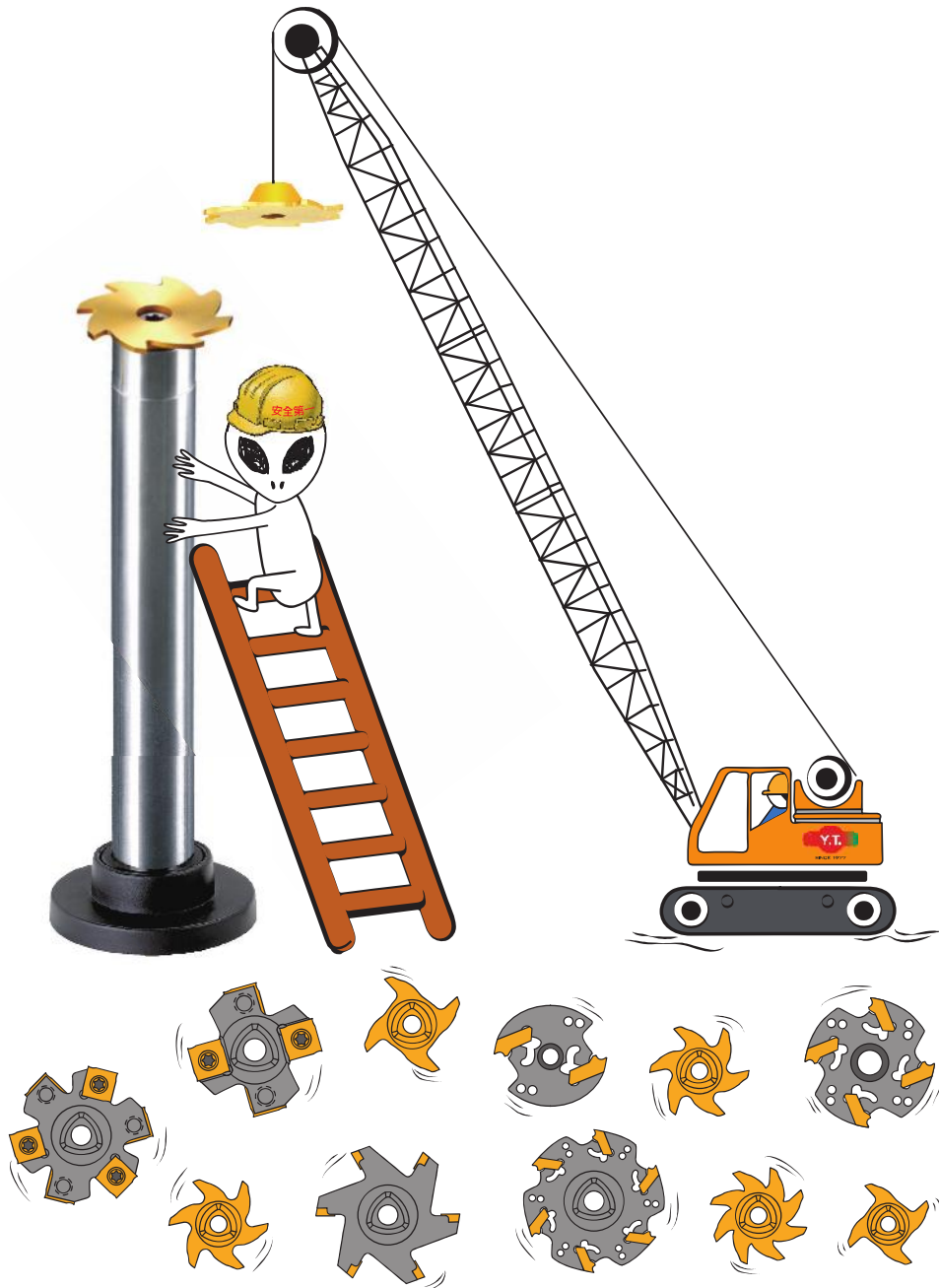


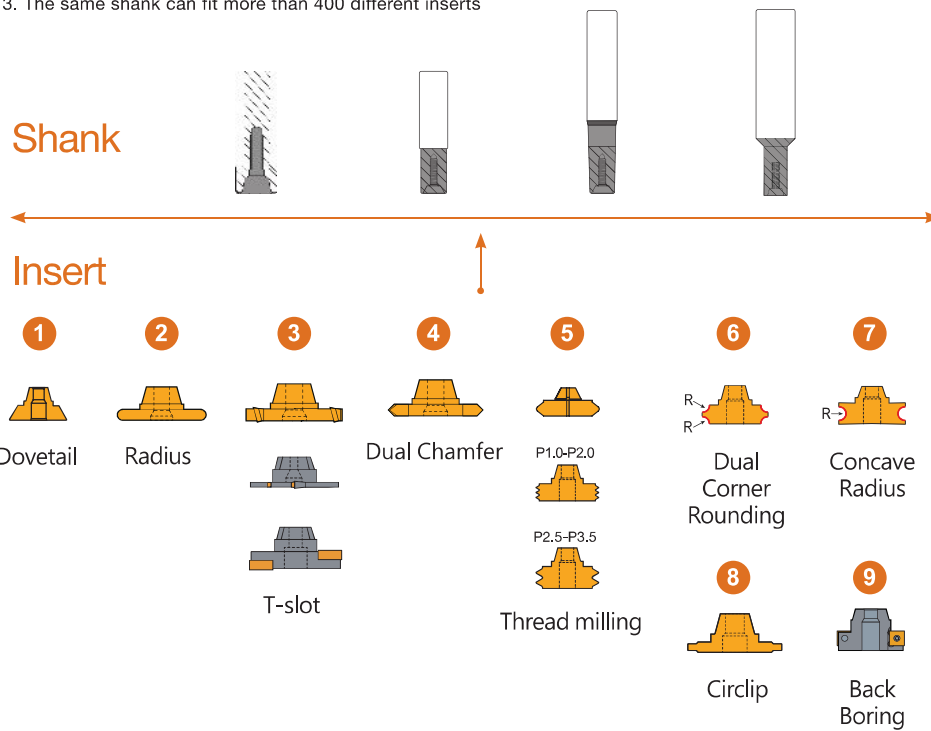
One holder fits differen inserts up to 400 types



## Design Of UFO Family

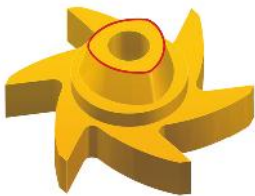
### Shank

1. High precision HSS shank (HRC60) with good stability and excellent strength.
2. Comprehensive toolholders with 4 different types of shank, available with overhangs from 40~240mm.
3. The same shank can fit more than 400 different inserts



UFO Family

## Tapered Polygon (Grinded)



### Capacity

Polygon positioning design has a greater torque capacity than any other positioning designs, the load is generated over a generous area which assure the strength of the shaft.

### Multi Application

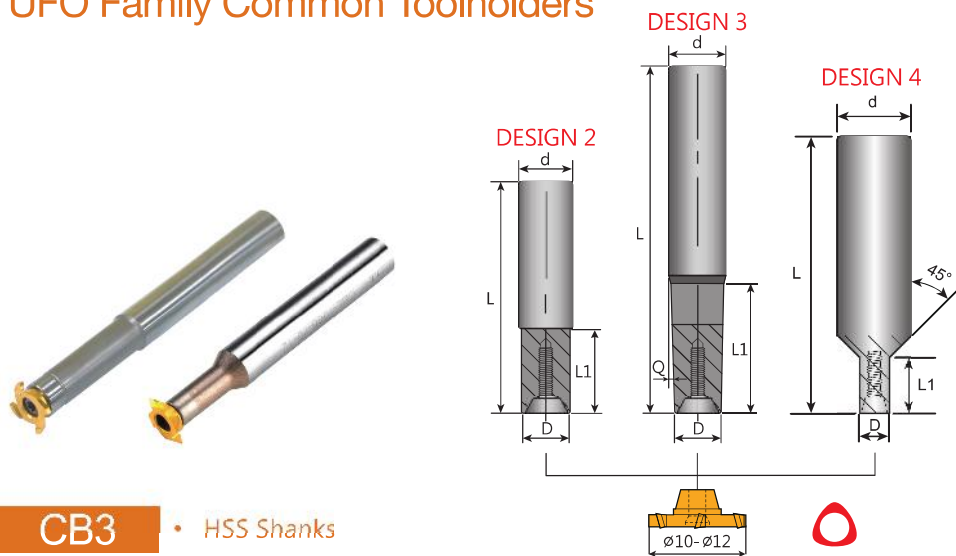
Tapered polygon design offers a simple connection with different inserts and applications.

### Center Positioning

The interface is tapered design for keeping eccentricity  $\leq 0.01\text{mm}$ , which enhance the cutting speed and insert tool life.

# PRODUCT SPECIFICATIONS

## UFO Family Common Toolholders



### CB3 • HSS Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3-0606-55-12	6.5	6	55	10	-	2	ø10 ø11 ø12	C03012		T09P
CB3-0808-80-12	7.9	8	80							
CB3-1006-100-12	6.5	10	100	20	1°	3				
CB3-1008-100-12	7.9			30						
CB3-1606-60-12	6.5	16	60	12	-	4				
CB3-1608-65-12	7.9									

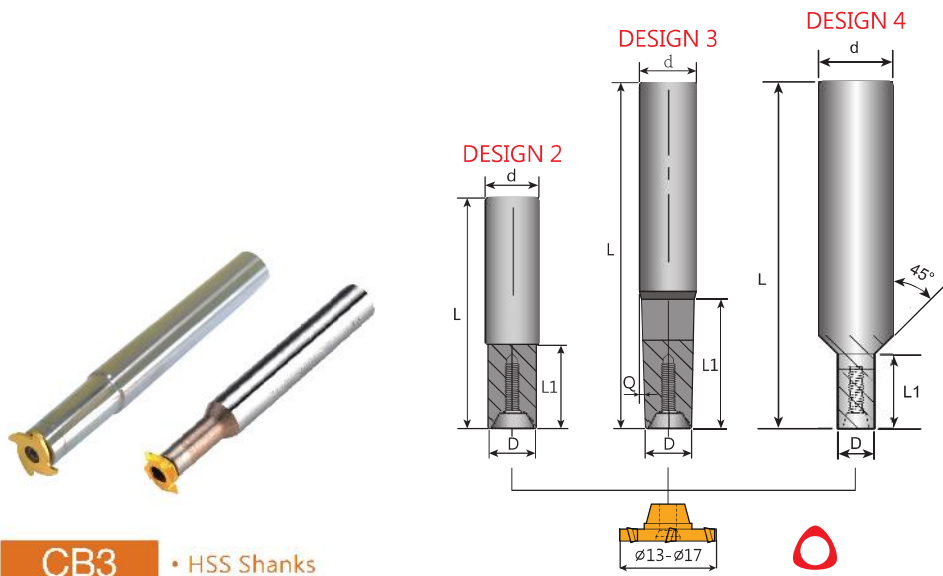
### CB3W • Carbide Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3W-0808-80-12	7.9	8	80	10	-	2	0.11	ø10 ø11 ø12	C03012	T09P
CB3W-1008-100-12	7.9	10	100	30	1°	3	0.16			

• To check the max. AR, please refer to the page of relative inserts or cutters.

## UFO Family Common Toolholders

UFO Family



### CB3 • HSS Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3-0808-55-15	7.9	8	55	10	-	2	0.08	ø13 ø14 ø15 ø16 ø17	C03012	T09P
CB3-1010-90-15	9.9	10	90							
CB3-1208-110-15	7.9	12	110	30	1°	3	0.14			
CB3-1210-120-15	9.9		120							
CB3-1608-75-15	7.9	16	75	16	-	4	0.24			
CB3-1610-80-15	9.9		80							

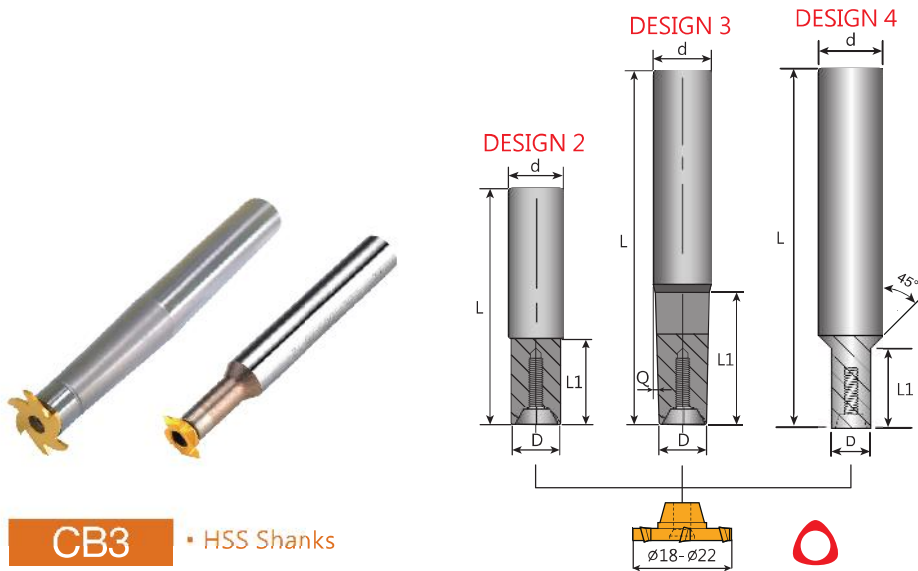
### CB3W • Carbide Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3W-1010-90-15	9.9	10	90	10	-	2	0.15	ø13 ø14 ø15 ø16 ø17	C03012	T09P
CB3W-1208-110-15	7.9	12	110	30	1°	3	0.21			
CB3W-1210-120-15	9.9		120							

• To check the max. AR, please refer to the page of relative inserts or cutters.



## UFO Family Common Toolholders



### CB3 • HSS Shanks

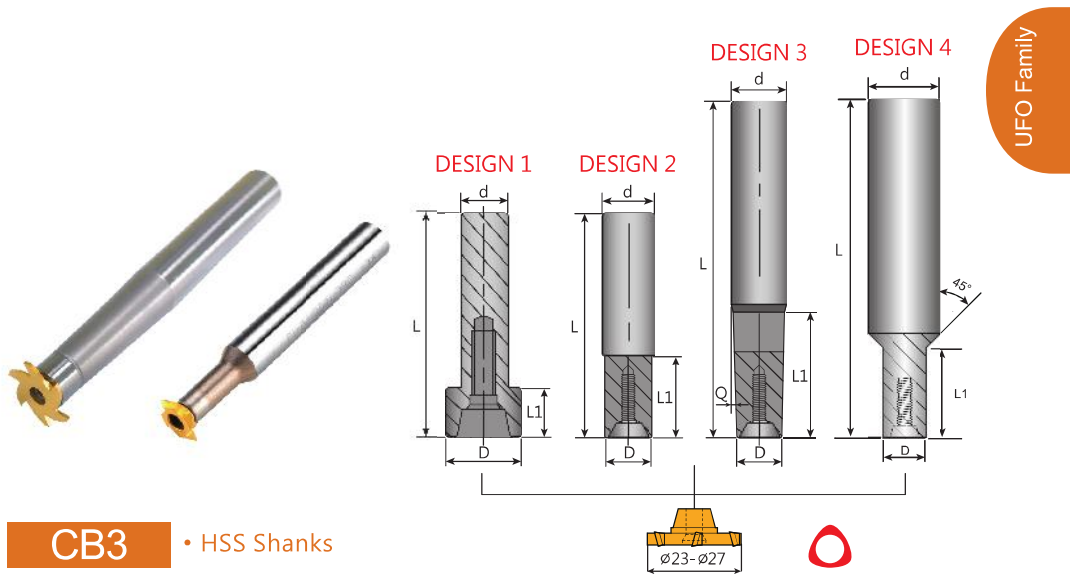
Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3-1010-80-20	9.8	10	80	12	-	2	ø 18 ø 19 ø 20 ø 21 ø 22	C03513	T10P	
CB3-1010-100-20			100		-					
CB3-1210-90-20		12	90	25	3.2°	3				
CB3-1210-130-20			130	40	1.7°					
CB3-1610-90-20	11.8	16	90	20	-	4	0.20	C03513	T10P	
CB3-1612-95-20			95	25	-	4	0.23			
CB3-1612-150-20			150	55	2.4°	3	0.29			
CB3-1616-150-20	15.8			20	-	2	0.31			

### CB3W • Carbide Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3W-1010-100-20	9.8	10	100	12	-	2	0.18	ø 18 ø 19 ø 20 ø 21 ø 22	C03513	T10P
CB3W-1212-150-20	11.8	12	150	20	-	2	0.32			

• To check the max. AR, please refer to the page of relative inserts or cutters.

## UFO Family Common Toolholders



### CB3 • HSS Shanks

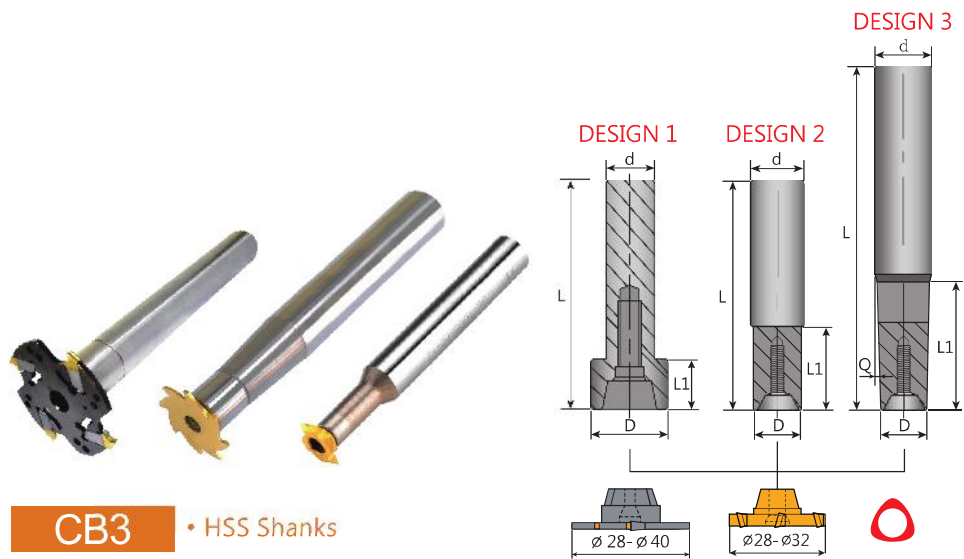
Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3-1012-50-25	11.8	10	50	10	-	1	0.11	ø 23 ø 24 ø 25 ø 26 ø 27	C04014	T15P
CB3-1212-90-25		12	90	12	-	2	0.16			
CB3-1212-110-25		110	35	4.2°	0.18					
CB3-1612-110-25		16	150	55	2.4°	3	0.31			
CB3-1612-150-25			25	-	4	0.50				
CB3-2012-95-25		20	95	30		-	4			
CB3-2016-95-25	15.8		150	20	-	2	0.46			
CB3-2020-150-25	19.8									

### CB3W • Carbide Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3W-1212-110-25	11.8	12	110	12	-	2	0.26	ø 23 ø 24 ø 25 ø 26 ø 27	C04014	T15P
CB3W-1616-150-25	15.8	16	150	20			0.54			

• To check the max. AR, please refer to the page of relative inserts or cutters.

## UFO Family Common Toolholders



### CB3 • HSS Shanks

Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key	
	D	d	L	L1	Q						
CB3-1016-50-30	15.8	10	50	10	-	1	0.13	C05016	T20P		
CB3-1616-120-30		16	120	15	-	2	0.28				
CB3-1616-150-30							0.34				
CB3-2016-150-30		20	150	45	3.8°	3	0.45				
CB3-2016-180-30							70			2.0°	0.51
CB3-2020-180-30											19.8

### CB3W • Carbide Shanks

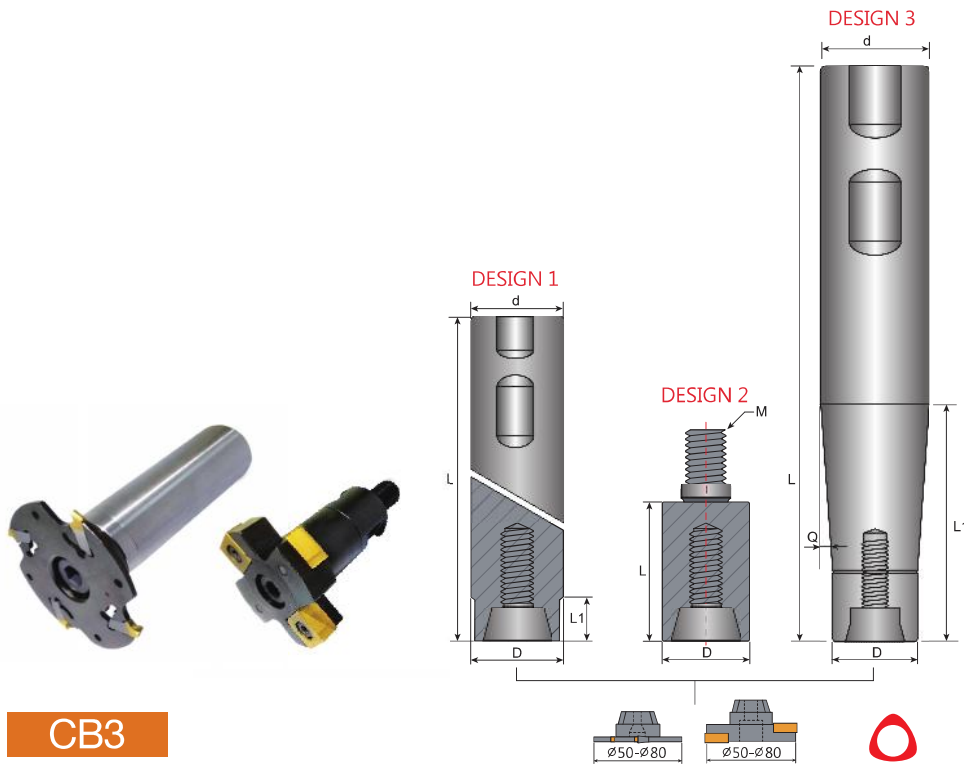
Order code	Dimensions (mm)					Design	KG	Inserts	Screw	Key
	D	d	L	L1	Q					
CB3W-1616-150-30	15.8	16	150	15	-	2	0.55	C05016	T20P	
CB3W-2016-180-30		20	180	70	2.0°	3	0.87			

• To check the max. AR, please refer to the page of relative inserts or cutters.

## UFO Family Common Toolholders

- Combi Toolholders P. 285 - 286

UFO Family



### CB3

Order code	Dimensions (mm)						Design	KG	Inserts	Screw	Key
	D	d	L	L1	M	Q					
CB3-2525-110	24.8	25	110	15	-	-	1	0.42	ø 50   ø 80	M0825	-
CB3-2525-170			170		-	-					
CB3-25	25.0	-	40	-	12	-	2	0.17			
CB3-3225-110	24.8	32	110	40	-	10°	3	0.62			
CB3-3225-170			170	70	-	4°		0.96			

- To check the max. AR, please refer to the page of relative inserts or cutters.

# UFO T-SLOT CUTTER



Video

## Features

Available in materials



Cost  
**200~300%**  
SAVING

Applicable  
Machines  
CNC Milling machine

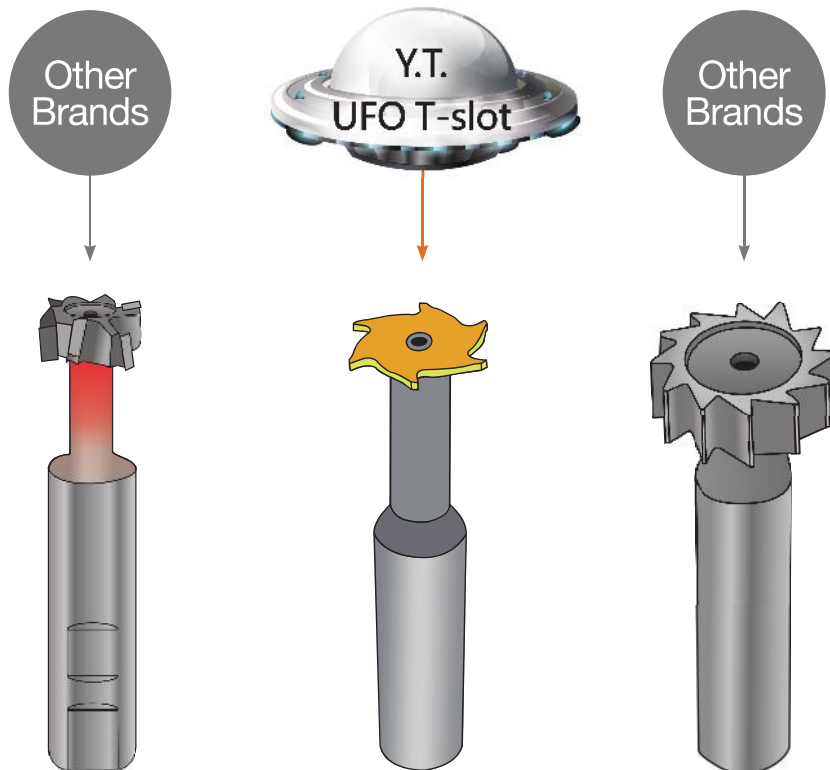
Efficiency  
**400%**  
UP

Durability  
**300%**  
UP

## Insert Design

1. Minimum thickness starts from 0.5mm, and the insert thickness under 2mm is available in slight variation with every 0.1mm difference.
2. 9 different types of inserts are available for selection, the minimum diameter is 10mm.
3. The front-mounted insert is positioned into a tapered seat for center-positioning, giving secure and continuous performance.
4. High productivity with more teeth.( 4-8 teeth )

## Product Introduction



### Carbide brazed

1. Welding carbides on the cutter under high temperature will degrade the tool-holder hardness.
2. Insufficient hardness.
3. Only available in thickness over 2mm.

### Toolholders grade: HSS Hardness up to HRC 58

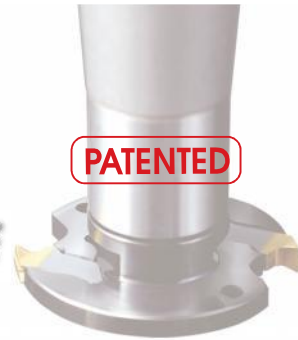
1. One tool-holder can fit in 400 different types of inserts.
2. Insert has patented geometry design.
3. Most suitable for high speed cutting.

### Toolholders grade: HSS

1. Insufficient hardness.
2. Hard to grind.
3. Not suitable for high speed cutting.

# UFO T-SLOT<sup>®</sup>

## FULL RANGE



• P. 33-59

Thickness:  
0.5/0.6/0.7/0.8/0.9/1.0/1.1/1.2/1.3/  
1.4/1.5/1.6/1.7/1.8/1.9/2.0/2.2/2.5/  
3.0/3.5/4.0/4.2/4.5/5.0/6.0/8.0 mm

Dia. 10/12/15/20/25/30 mm



• P. 61-66

Thickness:  
1.4/1.5/1.6/1.8/2.0/2.2/2.5/2.7/3.0/3.2/  
3.5/4.0/4.2/4.5/5.0/5.2/5.5/6.0/8.0 mm

Dia. 32/35/40/50/60/80 mm



• P. 67-69

Thickness:  
4/5/6/7/8/10/12 mm

Dia. 50/60/80 mm



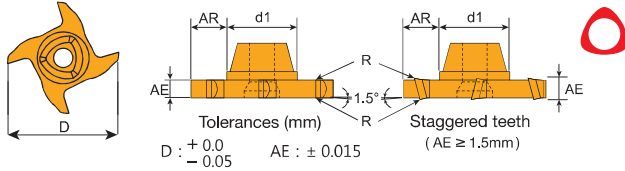
• P. 70

Radius:  
R4/R5/R6 mm

Dia. 60/80 mm

## UFO T-slot Inserts

- Toolholders P. 24
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
10	6.5	0.5-0.6	1.5	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		

\* Only "ME, B100 & ME, F20" insert are designed with corner radius.

UFO Family

Inserts	Order Code	Grades											
		Carbide				Cermet		Uncoated					
		B100	C200	C250	F20	F30	CE100	CE60		K10	CE		
<p>4 flutes</p>	3T0610-0.5-E												
	3T0610-0.6-E												
	3T0610-0.7-E												
	3T0610-0.8-E												
	3T0610-0.9-E												
	3T0610-1.0-E												
	3T0610-1.1-E												
	3T0610-1.2-E												
	3T0610-1.3-E												
	3T0610-1.4-E												
	3T0610-1.5-E												
	3T0610-1.6-E												
	3T0610-1.7-E												
	3T0610-1.8-E												
	3T0610-1.9-E												
3T0610-2.0-E													
3T0610-2.2-E													
3T0610-2.5-E													
3T0610-3.0-E													
<p>4 flutes</p>	3T0610-0.5-ME												
	3T0610-0.6-ME												
	3T0610-0.7-ME												
	3T0610-0.8-ME												
	3T0610-0.9-ME												
	3T0610-1.0-ME												
	3T0610-1.1-ME												
	3T0610-1.2-ME												
	3T0610-1.3-ME												
	3T0610-1.4-ME												
	3T0610-1.5-ME												
	3T0610-1.6-ME												
	3T0610-1.7-ME												
	3T0610-1.8-ME												
	3T0610-1.9-ME												
3T0610-2.0-ME													
3T0610-2.2-ME													
3T0610-2.5-ME													
3T0610-3.0-ME													



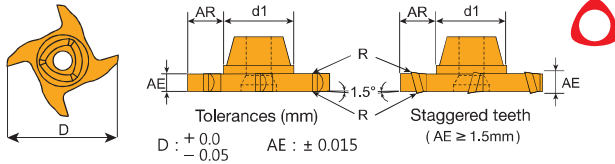
Inserts 2 PCS / Box

- ■ Steel ■ Stainless Steel ⊗ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0610-0.5-E,K10



## UFO T-slot Inserts

- Toolholders P. 24
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
11	6.5	0.5-0.6	2.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		

\* Only \*ME, B100 & ME, F20\* insert are designed with corner radius.

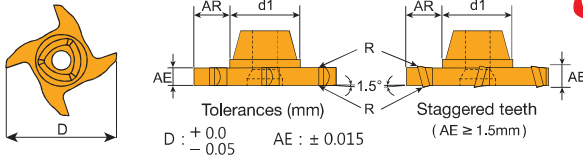
Inserts	Order Code	Grades															
		Carbide					Cermet		Uncoated								
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE							
<p>4 flutes</p>	3T0611-0.5-E																
	3T0611-0.6-E																
	3T0611-0.7-E																
	3T0611-0.8-E																
	3T0611-0.9-E																
	3T0611-1.0-E																
	3T0611-1.1-E																
	3T0611-1.2-E																
	3T0611-1.3-E																
	3T0611-1.4-E																
	3T0611-1.5-E																
	3T0611-1.6-E																
	3T0611-1.7-E																
	3T0611-1.8-E																
	3T0611-1.9-E																
	3T0611-2.0-E																
	3T0611-2.2-E																
3T0611-2.5-E																	
3T0611-3.0-E																	
<p>4 flutes</p>	3T0611-0.5-ME	⊗															
	3T0611-0.6-ME	⊗															
	3T0611-0.7-ME	⊗															
	3T0611-0.8-ME	⊗															
	3T0611-0.9-ME	⊗															
	3T0611-1.0-ME	⊗															
	3T0611-1.1-ME	⊗															
	3T0611-1.2-ME	⊗															
	3T0611-1.3-ME	⊗															
	3T0611-1.4-ME	⊗															
	3T0611-1.5-ME	⊗															
	3T0611-1.6-ME	⊗															
	3T0611-1.7-ME	⊗															
	3T0611-1.8-ME	⊗															
	3T0611-1.9-ME	⊗															
	3T0611-2.0-ME	⊗															
	3T0611-2.2-ME	⊗															
3T0611-2.5-ME	⊗																
3T0611-3.0-ME	⊗																

\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0611-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 24
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
12	6.5	0.5-0.6	2.5	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		

\* Only "ME, B100 & ME, F20" insert are designed with corner radius.

UFO Family

Inserts	Order Code	Grades												
		Carbide					Cermet		Uncoated					
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE			
<p>4 flutes</p>	3T0612-0.5-E													
	3T0612-0.6-E													
	3T0612-0.7-E													
	3T0612-0.8-E													
	3T0612-0.9-E													
	3T0612-1.0-E													
	3T0612-1.1-E													
	3T0612-1.2-E													
	3T0612-1.3-E													
	3T0612-1.4-E													
	3T0612-1.5-E													
	3T0612-1.6-E													
	3T0612-1.7-E													
	3T0612-1.8-E													
	3T0612-1.9-E													
3T0612-2.0-E														
3T0612-2.2-E														
3T0612-2.5-E														
3T0612-3.0-E														
<p>4 flutes</p>	3T0612-0.5-ME													
	3T0612-0.6-ME													
	3T0612-0.7-ME													
	3T0612-0.8-ME													
	3T0612-0.9-ME													
	3T0612-1.0-ME													
	3T0612-1.1-ME													
	3T0612-1.2-ME													
	3T0612-1.3-ME													
	3T0612-1.4-ME													
	3T0612-1.5-ME													
	3T0612-1.6-ME													
	3T0612-1.7-ME													
	3T0612-1.8-ME													
	3T0612-1.9-ME													
3T0612-2.0-ME														
3T0612-2.2-ME														
3T0612-2.5-ME														
3T0612-3.0-ME														

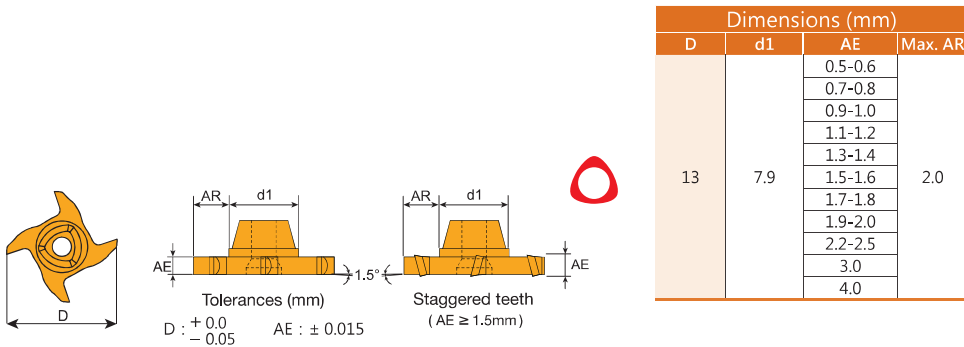


Inserts 2 PCS / Box

- Steel ■ Stainless Steel ■ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0612-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120



Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
 4 flutes	3T0813-0.5-E										
	3T0813-0.6-E										
	3T0813-0.7-E										
	3T0813-0.8-E										
	3T0813-0.9-E										
	3T0813-1.0-E										
	3T0813-1.1-E										
	3T0813-1.2-E										
	3T0813-1.3-E										
	3T0813-1.4-E										
	3T0813-1.5-E										
	3T0813-1.6-E										
	3T0813-1.7-E										
	3T0813-1.8-E										
	3T0813-1.9-E										
	3T0813-2.0-E										
	3T0813-2.2-E										
3T0813-2.5-E											
3T0813-3.0-E											
3T0813-4.0-E											

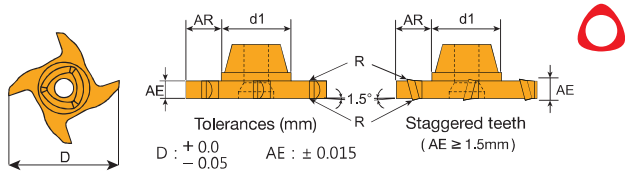
\* M.O.Q: 12PCS  
 \* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0813-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120

UFO Family



Dimensions (mm)				
D	d1	AE	Max. AR	R
13	7.9	0.5-0.6	2.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		
4.0				

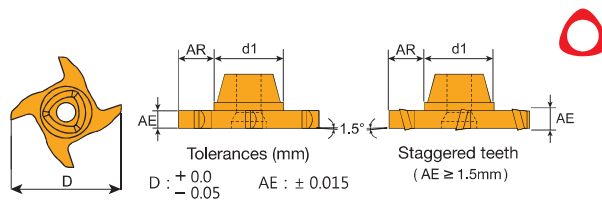
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
 <p>4 flutes</p>	3T0813-0.5-ME	⊙									
	3T0813-0.6-ME	⊙									
	3T0813-0.7-ME	⊙									
	3T0813-0.8-ME	⊙									
	3T0813-0.9-ME	⊙									
	3T0813-1.0-ME	⊙									
	3T0813-1.1-ME	⊙									
	3T0813-1.2-ME	⊙									
	3T0813-1.3-ME	⊙									
	3T0813-1.4-ME	⊙									
	3T0813-1.5-ME	⊙									
	3T0813-1.6-ME	⊙									
	3T0813-1.7-ME	⊙									
	3T0813-1.8-ME	⊙									
	3T0813-1.9-ME	⊙									
	3T0813-2.0-ME	⊙									
	3T0813-2.2-ME	⊙									
	3T0813-2.5-ME	⊙									
3T0813-3.0-ME	⊙										
3T0813-4.0-ME	⊙										

\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0813-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
14	7.9	0.5-0.6	2.5
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0	
4.0			

Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
 4 flutes	3T0814-0.5-E										
	3T0814-0.6-E										
	3T0814-0.7-E										
	3T0814-0.8-E										
	3T0814-0.9-E										
	3T0814-1.0-E										
	3T0814-1.1-E										
	3T0814-1.2-E										
	3T0814-1.3-E										
	3T0814-1.4-E										
	3T0814-1.5-E										
	3T0814-1.6-E										
	3T0814-1.7-E										
	3T0814-1.8-E										
	3T0814-1.9-E										
	3T0814-2.0-E										
	3T0814-2.2-E										
	3T0814-2.5-E										
	3T0814-3.0-E										
	3T0814-4.0-E										

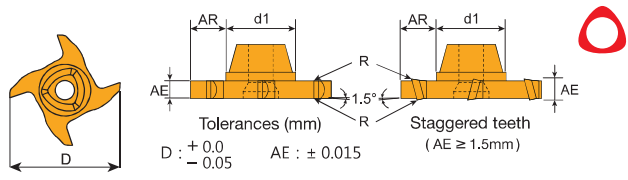
\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0814-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120

UFO Family



Dimensions (mm)				
D	d1	AE	Max. AR	R
14	7.9	0.5-0.6	2.5	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		
4.0				

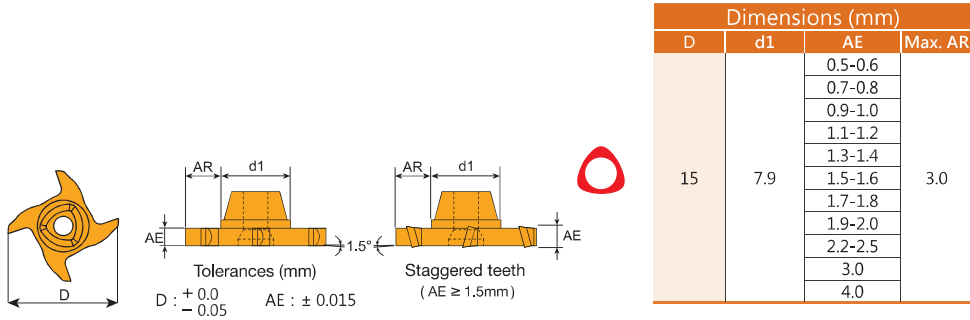
Inserts	Order Code	Grades								
		Carbide					Cermet		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
	3T0814-0.5-ME	⊗								
	3T0814-0.6-ME	⊗								
	3T0814-0.7-ME	⊗								
	3T0814-0.8-ME	⊗								
	3T0814-0.9-ME	⊗								
	3T0814-1.0-ME	⊗								
	3T0814-1.1-ME	⊗								
	3T0814-1.2-ME	⊗								
	3T0814-1.3-ME	⊗								
	3T0814-1.4-ME	⊗								
	3T0814-1.5-ME	⊗								
	3T0814-1.6-ME	⊗								
	3T0814-1.7-ME	⊗								
	3T0814-1.8-ME	⊗								
	3T0814-1.9-ME	⊗								
	3T0814-2.0-ME	⊗								
	3T0814-2.2-ME	⊗								
	3T0814-2.5-ME	⊗								
	3T0814-3.0-ME	⊗								
	3T0814-4.0-ME	⊗								

\* M.O.Q: 12PCS  
 \* Make-to-Order.








- ■ Steel ■ Stainless Steel ⊗ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0814-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120

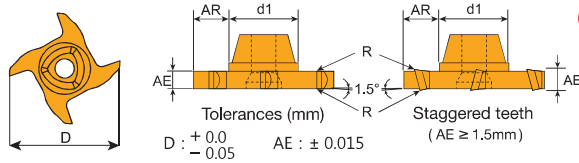


Inserts	Order Code	Grades													
		Carbide					Cermet		Uncoated						
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE					
 <p>4 flutes</p>	3T0815-0.5-E														 <p>Inserts 2 PCS / Box</p>
	3T0815-0.6-E														
	3T0815-0.7-E														
	3T0815-0.8-E														
	3T0815-0.9-E														
	3T0815-1.0-E														
	3T0815-1.1-E														
	3T0815-1.2-E														
	3T0815-1.3-E														
	3T0815-1.4-E														
	3T0815-1.5-E														
	3T0815-1.6-E														
	3T0815-1.7-E														
	3T0815-1.8-E														
	3T0815-1.9-E														
	3T0815-2.0-E														
	3T0815-2.2-E														
3T0815-2.5-E															
3T0815-3.0-E															
3T0815-4.0-E															

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0815-0.5-E,K10



## UFO T-slot Inserts

- Toolholders P. 25
- Cutting Data P. 119 - 120










Dimensions (mm)				
D	d1	AE	Max. AR	R
15	7.9	0.5-0.6	3.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0		
4.0				

UFO Family

Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T0815-0.5-ME	⊙									
	3T0815-0.6-ME	⊙									
	3T0815-0.7-ME	⊙									
	3T0815-0.8-ME	⊙									
	3T0815-0.9-ME	⊙									
	3T0815-1.0-ME	⊙									
	3T0815-1.1-ME	⊙									
	3T0815-1.2-ME	⊙									
	3T0815-1.3-ME	⊙									
	3T0815-1.4-ME	⊙									
	3T0815-1.5-ME	⊙									
	3T0815-1.6-ME	⊙									
	3T0815-1.7-ME	⊙									
	3T0815-1.8-ME	⊙									
	3T0815-1.9-ME	⊙									
	3T0815-2.0-ME	⊙									
	3T0815-2.2-ME	⊙									
	3T0815-2.5-ME	⊙									
	3T0815-3.0-ME	⊙									
	3T0815-4.0-ME	⊙									



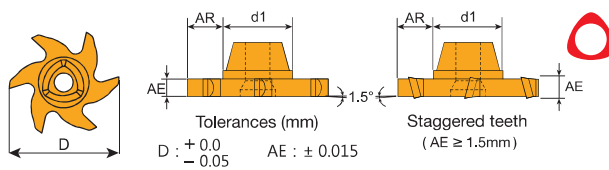
Inserts 2 PCS / Box

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0815-0.5-ME,B100





## UFO T-slot Inserts








- Toolholders P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
18	10	0.5-0.6	3.5
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
4.2-5.0			
6.0			
8.0			

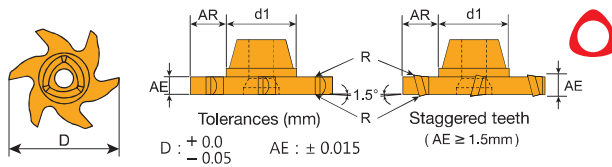
Inserts	Order Code	Grades											
		Carbide					Cermet		Uncoated				
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE		
 6 flutes	3T1018-0.5-E												
	3T1018-0.6-E												
	3T1018-0.7-E												
	3T1018-0.8-E												
	3T1018-0.9-E												
	3T1018-1.0-E												
	3T1018-1.1-E												
	3T1018-1.2-E												
	3T1018-1.3-E												
	3T1018-1.4-E												
	3T1018-1.5-E												
	3T1018-1.6-E												
	3T1018-1.7-E												
	3T1018-1.8-E												
	3T1018-1.9-E												
	3T1018-2.0-E												
	3T1018-2.2-E												
	3T1018-2.5-E												
	3T1018-3.0-E												
	3T1018-3.5-E												
3T1018-4.0-E													
3T1018-4.2-E													
3T1018-4.5-E													
3T1018-5.0-E													
3T1018-6.0-E													
3T1018-8.0-E													

\* M.O.Q: 12PCS  
\* Make-to-Order.

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1018-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
18	10	0.5-0.6	3.5	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
		8.0		

UFO Family

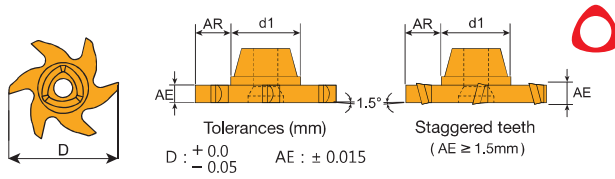
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE	
	3T1018-0.5-ME	⊙									
	3T1018-0.6-ME	⊙									
	3T1018-0.7-ME	⊙									
	3T1018-0.8-ME	⊙									
	3T1018-0.9-ME	⊙									
	3T1018-1.0-ME	⊙									
	3T1018-1.1-ME	⊙									
	3T1018-1.2-ME	⊙									
	3T1018-1.3-ME	⊙									
	3T1018-1.4-ME	⊙									
	3T1018-1.5-ME	⊙									
	3T1018-1.6-ME	⊙									
	3T1018-1.7-ME	⊙									
	3T1018-1.8-ME	⊙									
	3T1018-1.9-ME	⊙									
	3T1018-2.0-ME	⊙									
	3T1018-2.2-ME	⊙									
	3T1018-2.5-ME	⊙									
	3T1018-3.0-ME	⊙									
	3T1018-3.5-ME	⊙									
	3T1018-4.0-ME	⊙									
	3T1018-4.2-ME	⊙									
	3T1018-4.5-ME	⊙									
	3T1018-5.0-ME	⊙									
	3T1018-6.0-ME	⊙									
	3T1018-8.0-ME	⊙									

\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1018-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120










Dimensions (mm)			
D	d1	AE	Max. AR
19	10	0.5-0.6	4.0
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
		4.2-5.0	
		6.0	
8.0			

Inserts	Order Code	Grades								
		Carbide					Cermet		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
	3T1019-0.5-E									
	3T1019-0.6-E									
	3T1019-0.7-E									
	3T1019-0.8-E									
	3T1019-0.9-E									
	3T1019-1.0-E									
	3T1019-1.1-E									
	3T1019-1.2-E									
	3T1019-1.3-E									
	3T1019-1.4-E									
	3T1019-1.5-E									
	3T1019-1.6-E									
	3T1019-1.7-E									
	3T1019-1.8-E									
	3T1019-1.9-E									
	3T1019-2.0-E									
	3T1019-2.2-E									
	3T1019-2.5-E									
	3T1019-3.0-E									
	3T1019-3.5-E									
	3T1019-4.0-E									
	3T1019-4.2-E									
	3T1019-4.5-E									
	3T1019-5.0-E									
	3T1019-6.0-E									
	3T1019-8.0-E									



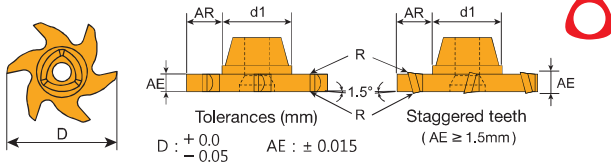
6 flutes

\* M.O.Q: 12PCS  
\* Make-to-Order.

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1019-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
19	10	0.5-0.6	4.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
8.0				

UFO Family

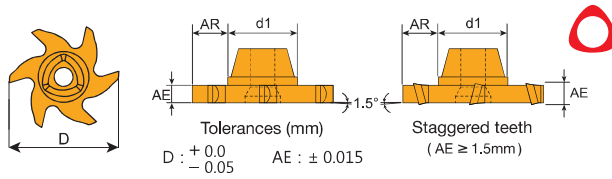
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T1019-0.5-ME	⊙									
	3T1019-0.6-ME	⊙									
	3T1019-0.7-ME	⊙									
	3T1019-0.8-ME	⊙									
	3T1019-0.9-ME	⊙									
	3T1019-1.0-ME	⊙									
	3T1019-1.1-ME	⊙									
	3T1019-1.2-ME	⊙									
	3T1019-1.3-ME	⊙									
	3T1019-1.4-ME	⊙									
	3T1019-1.5-ME	⊙									
	3T1019-1.6-ME	⊙									
	3T1019-1.7-ME	⊙									
	3T1019-1.8-ME	⊙									
	3T1019-1.9-ME	⊙									
	3T1019-2.0-ME	⊙									
	3T1019-2.2-ME	⊙									
	3T1019-2.5-ME	⊙									
	3T1019-3.0-ME	⊙									
	3T1019-3.5-ME	⊙									
3T1019-4.0-ME	⊙										
3T1019-4.2-ME	⊙										
3T1019-4.5-ME	⊙										
3T1019-5.0-ME	⊙										
3T1019-6.0-ME	⊙										
3T1019-8.0-ME	⊙										

\* M.O.Q: 12PCS  
 \* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1019-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
20	10	0.5-0.6	4.5
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
		4.2-5.0	
6.0			
8.0			

Inserts	Order Code	Grades								E	
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T1020-0.5-E										
	3T1020-0.6-E										
	3T1020-0.7-E										
	3T1020-0.8-E										
	3T1020-0.9-E										
	3T1020-1.0-E										
	3T1020-1.1-E										
	3T1020-1.2-E										
	3T1020-1.3-E										
	3T1020-1.4-E										
	3T1020-1.5-E										
	3T1020-1.6-E										
	3T1020-1.7-E										
	3T1020-1.8-E										
	3T1020-1.9-E										
	3T1020-2.0-E										
	3T1020-2.2-E										
	3T1020-2.5-E										
	3T1020-3.0-E										
	3T1020-3.5-E										
	3T1020-4.0-E										
	3T1020-4.2-E										
	3T1020-4.5-E										
	3T1020-5.0-E										
	3T1020-6.0-E										
	3T1020-8.0-E										



6 flutes

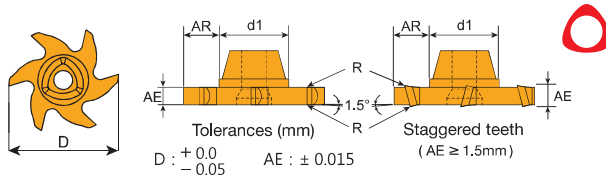


Inserts 2 PCS / Box

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-0.5-E,K10


## UFO T-slot Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
20	10	0.5-0.6	4.5	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
		8.0		

UFO Family

Inserts	Order Code	Grades									
		Carbide					Cermets		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T1020-0.5-ME	⊙									
	3T1020-0.6-ME	⊙									
	3T1020-0.7-ME	⊙									
	3T1020-0.8-ME	⊙									
	3T1020-0.9-ME	⊙									
	3T1020-1.0-ME	⊙					⊙				
	3T1020-1.1-ME	⊙									
	3T1020-1.2-ME	⊙									
	3T1020-1.3-ME	⊙									
	3T1020-1.4-ME	⊙									
	3T1020-1.5-ME	⊙					⊙				
	3T1020-1.6-ME	⊙									
	3T1020-1.7-ME	⊙									
	3T1020-1.8-ME	⊙									
	3T1020-1.9-ME	⊙									
	3T1020-2.0-ME	⊙					⊙				
	3T1020-2.2-ME	⊙									
	3T1020-2.5-ME	⊙					⊙				
	3T1020-3.0-ME	⊙					⊙				
	3T1020-3.5-ME	⊙					⊙				
	3T1020-4.0-ME	⊙					⊙				
	3T1020-4.2-ME	⊙									
	3T1020-4.5-ME	⊙					⊙				
	3T1020-5.0-ME	⊙					⊙				
	3T1020-6.0-ME	⊙									
	3T1020-8.0-ME	⊙									



6 flutes

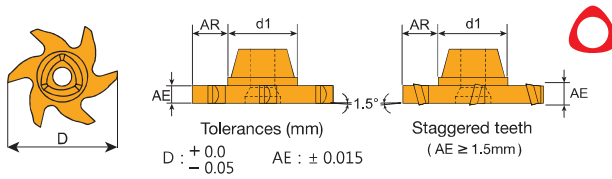


Inserts 2 PCS / Box

- ⊙ Steel ⊙ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ⊙ Cast Iron ⊙ Aluminum ⊙ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
23	12	0.5-0.6	5.0
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
		4.2-5.0	
		6.0	
8.0			

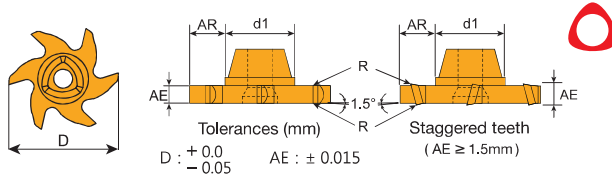
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T1223-0.5-E										
	3T1223-0.6-E										
	3T1223-0.7-E										
	3T1223-0.8-E										
	3T1223-0.9-E										
	3T1223-1.0-E										
	3T1223-1.1-E										
	3T1223-1.2-E										
	3T1223-1.3-E										
	3T1223-1.4-E										
	3T1223-1.5-E										
	3T1223-1.6-E										
	3T1223-1.7-E										
	3T1223-1.8-E										
	3T1223-1.9-E										
	3T1223-2.0-E										
	3T1223-2.2-E										
	3T1223-2.5-E										
	3T1223-3.0-E										
	3T1223-3.5-E										
3T1223-4.0-E											
3T1223-4.2-E											
3T1223-4.5-E											
3T1223-5.0-E											
3T1223-6.0-E											
3T1223-8.0-E											

\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1223-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
23	12	0.5-0.6	5.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
8.0				

UFO Family

Inserts	Order Code	Grades								
		Carbide					Cermet		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
	3T1223-0.5-ME	⊗								
	3T1223-0.6-ME	⊗								
	3T1223-0.7-ME	⊗								
	3T1223-0.8-ME	⊗								
	3T1223-0.9-ME	⊗								
	3T1223-1.0-ME	⊗								
	3T1223-1.1-ME	⊗								
	3T1223-1.2-ME	⊗								
	3T1223-1.3-ME	⊗								
	3T1223-1.4-ME	⊗								
	3T1223-1.5-ME	⊗								
	3T1223-1.6-ME	⊗								
	3T1223-1.7-ME	⊗								
	3T1223-1.8-ME	⊗								
	3T1223-1.9-ME	⊗								
	3T1223-2.0-ME	⊗								
	3T1223-2.2-ME	⊗								
	3T1223-2.5-ME	⊗								
	3T1223-3.0-ME	⊗								
	3T1223-3.5-ME	⊗								
3T1223-4.0-ME	⊗									
3T1223-4.2-ME	⊗									
3T1223-4.5-ME	⊗									
3T1223-5.0-ME	⊗									
3T1223-6.0-ME	⊗									
3T1223-8.0-ME	⊗									

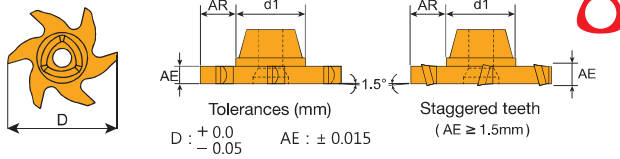
\* M.O.Q: 12PCS  
 \* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1223-0.5-ME,B100




## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
24	12	0.5-0.6	5.5
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
		4.2-5.0	
6.0			
8.0			

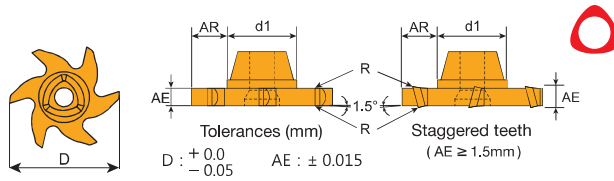
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
 6 flutes	3T1224-0.5-E										
	3T1224-0.6-E										
	3T1224-0.7-E										
	3T1224-0.8-E										
	3T1224-0.9-E										
	3T1224-1.0-E										
	3T1224-1.1-E										
	3T1224-1.2-E										
	3T1224-1.3-E										
	3T1224-1.4-E										
	3T1224-1.5-E										
	3T1224-1.6-E										
	3T1224-1.7-E										
	3T1224-1.8-E										
	3T1224-1.9-E										
	3T1224-2.0-E										
	3T1224-2.2-E										
	3T1224-2.5-E										
	3T1224-3.0-E										
	3T1224-3.5-E										
3T1224-4.0-E											
3T1224-4.2-E											
3T1224-4.5-E											
3T1224-5.0-E											
3T1224-6.0-E											
3T1224-8.0-E											

\* M.O.Q: 12PCS  
 \* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1224-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
24	12	0.5-0.6	5.5	R0.05 $\pm$ 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
8.0				

UFO Family

Inserts	Order Code	Grades								
		Carbide					Cermet		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
	3T1224-0.5-ME	⊙								
	3T1224-0.6-ME	⊙								
	3T1224-0.7-ME	⊙								
	3T1224-0.8-ME	⊙								
	3T1224-0.9-ME	⊙								
	3T1224-1.0-ME	⊙								
	3T1224-1.1-ME	⊙								
	3T1224-1.2-ME	⊙								
	3T1224-1.3-ME	⊙								
	3T1224-1.4-ME	⊙								
	3T1224-1.5-ME	⊙								
	3T1224-1.6-ME	⊙								
	3T1224-1.7-ME	⊙								
	3T1224-1.8-ME	⊙								
	3T1224-1.9-ME	⊙								
	3T1224-2.0-ME	⊙								
	3T1224-2.2-ME	⊙								
	3T1224-2.5-ME	⊙								
	3T1224-3.0-ME	⊙								
	3T1224-3.5-ME	⊙								
	3T1224-4.0-ME	⊙								
	3T1224-4.2-ME	⊙								
	3T1224-4.5-ME	⊙								
	3T1224-5.0-ME	⊙								
	3T1224-6.0-ME	⊙								
	3T1224-8.0-ME	⊙								



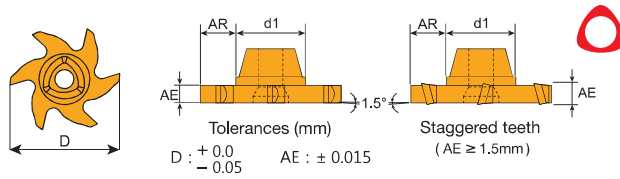
6 flutes

\* M.O.Q: 12PCS  
 \* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1224-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



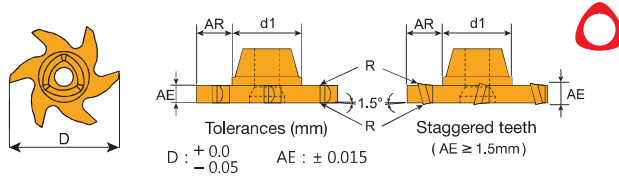
Dimensions (mm)			
D	d1	AE	Max. AR
25	12	0.5-0.6	6.0
		0.7-0.8	
		0.9-1.0	
		1.1-1.2	
		1.3-1.4	
		1.5-1.6	
		1.7-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
		4.2-5.0	
6.0			
8.0			

Inserts	Order Code	Grades													
		Carbide					Cermet		Uncoated						
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE					
	3T1225-0.5-E														
	3T1225-0.6-E														
	3T1225-0.7-E														
	3T1225-0.8-E														
	3T1225-0.9-E														
	3T1225-1.0-E														
	3T1225-1.1-E														
	3T1225-1.2-E														
	3T1225-1.3-E														
	3T1225-1.4-E														
	3T1225-1.5-E														
	3T1225-1.6-E														
	3T1225-1.7-E														
	3T1225-1.8-E														
	3T1225-1.9-E														
	3T1225-2.0-E														
	3T1225-2.2-E														
	3T1225-2.5-E														
	3T1225-3.0-E														
	3T1225-3.5-E														
3T1225-4.0-E															
3T1225-4.2-E															
3T1225-4.5-E															
3T1225-5.0-E															
3T1225-6.0-E															
3T1225-8.0-E															

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1225-0.5-E,K10

## UFO T-slot Inserts

- Toolholders P. 27
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	Max. AR	R
25	12	0.5-0.6	6.0	R0.05 ± 0.025
		0.7-0.8		
		0.9-1.0		
		1.1-1.2		
		1.3-1.4		
		1.5-1.6		
		1.7-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		
		6.0		
8.0				

UFO Family

Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
	3T1225-0.5-ME	⊙									
	3T1225-0.6-ME	⊙									
	3T1225-0.7-ME	⊙									
	3T1225-0.8-ME	⊙									
	3T1225-0.9-ME	⊙									
	3T1225-1.0-ME	⊙									
	3T1225-1.1-ME	⊙									
	3T1225-1.2-ME	⊙									
	3T1225-1.3-ME	⊙									
	3T1225-1.4-ME	⊙									
	3T1225-1.5-ME	⊙									
	3T1225-1.6-ME	⊙									
	3T1225-1.7-ME	⊙									
	3T1225-1.8-ME	⊙									
	3T1225-1.9-ME	⊙									
	3T1225-2.0-ME	⊙									
	3T1225-2.2-ME	⊙									
	3T1225-2.5-ME	⊙									
	3T1225-3.0-ME	⊙									
	3T1225-3.5-ME	⊙									
	3T1225-4.0-ME	⊙									
	3T1225-4.2-ME	⊙									
	3T1225-4.5-ME	⊙									
	3T1225-5.0-ME	⊙									
	3T1225-6.0-ME	⊙									
	3T1225-8.0-ME	⊙									

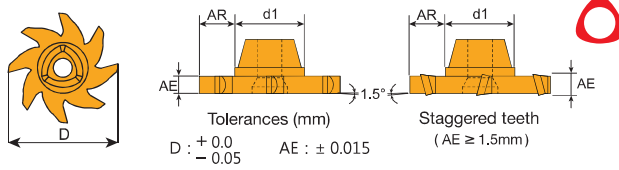
6 flutes

Inserts 2 PCS / Box

- ■ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, i.e.: 3T1225-0.5-ME,B100

## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120



Dimensions (mm)			
D	d1	AE	Max. AR
28	15.7	0.8-0.9	5.5
		1.0-1.1	
		1.2-1.3	
		1.4-1.5	
		1.6-1.8	
		1.9-2.0	
		2.2-2.5	
		3.0-4.0	
4.2-5.0			

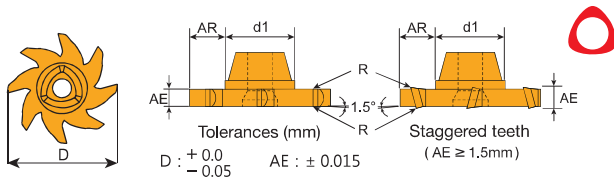
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE
8 flutes	3T1628-0.8-E										
	3T1628-0.9-E										
	3T1628-1.0-E										
	3T1628-1.1-E										
	3T1628-1.2-E										
	3T1628-1.3-E										
	3T1628-1.4-E										
	3T1628-1.5-E										
	3T1628-1.6-E										
	3T1628-1.7-E										
	3T1628-1.8-E										
	3T1628-1.9-E										
	3T1628-2.0-E										
	3T1628-2.2-E										
	3T1628-2.5-E										
	3T1628-3.0-E										
	3T1628-3.5-E										
3T1628-4.0-E											
3T1628-4.2-E											
3T1628-4.5-E											
3T1628-5.0-E											

\* M.O.Q: 12PCS  
\* Make-to-Order.

- ■ Steel ■ Stainless Steel ■ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ■ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1628-0.8-E,K10

## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120




Dimensions (mm)				
D	d1	AE	Max. AR	R
28	15.7	0.8-0.9	5.5	R0.05 ± 0.025
		1.0-1.1		
		1.2-1.3		
		1.4-1.5		
		1.6-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
4.2-5.0				

UFO Family

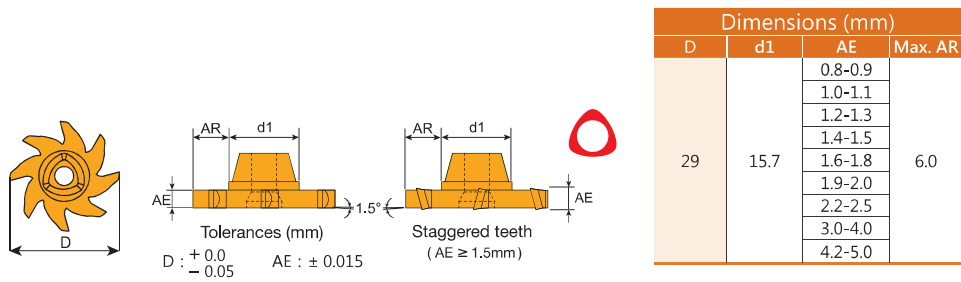
Inserts	Order Code	Grades								
		Carbide					Cermets		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
 8 flutes	3T1628-0.8-ME	⊙								
	3T1628-0.9-ME	⊙								
	3T1628-1.0-ME	⊙								
	3T1628-1.1-ME	⊙								
	3T1628-1.2-ME	⊙								
	3T1628-1.3-ME	⊙								
	3T1628-1.4-ME	⊙								
	3T1628-1.5-ME	⊙								
	3T1628-1.6-ME	⊙								
	3T1628-1.7-ME	⊙								
	3T1628-1.8-ME	⊙								
	3T1628-1.9-ME	⊙								
	3T1628-2.0-ME	⊙								
	3T1628-2.2-ME	⊙								
	3T1628-2.5-ME	⊙								
	3T1628-3.0-ME	⊙								
	3T1628-3.5-ME	⊙								
3T1628-4.0-ME	⊙									
3T1628-4.2-ME	⊙									
3T1628-4.5-ME	⊙									
3T1628-5.0-ME	⊙									

\* M.O.Q: 12PCS  
\* Make-to-Order.

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1628-0.8-ME,B100

## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120



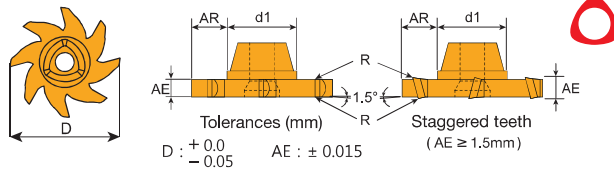
Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE	
 8 flutes	3T1629-0.8-E											* M.O.Q: 12PCS * Make-to-Order.
	3T1629-0.9-E											
	3T1629-1.0-E											
	3T1629-1.1-E											
	3T1629-1.2-E											
	3T1629-1.3-E											
	3T1629-1.4-E											
	3T1629-1.5-E											
	3T1629-1.6-E											
	3T1629-1.7-E											
	3T1629-1.8-E											
	3T1629-1.9-E											
	3T1629-2.0-E											
	3T1629-2.2-E											
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	3T1629-3.0-E											
	3T1629-3.5-E											
	3T1629-4.0-E											
	3T1629-4.2-E											
	3T1629-4.5-E											
3T1629-5.0-E												

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1629-0.8-E,K10

## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120

UFO Family



Dimensions (mm)				
D	d1	AE	Max. AR	R
29	15.7	0.8-0.9	6.0	R0.05 ±0.025
		1.0-1.1		
		1.2-1.3		
		1.4-1.5		
		1.6-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		

Inserts	Order Code	Grades								
		Carbide					Cermet		Uncoated	
		B100	C200	C250	F20	F30	CE100	CE60	K10	
	3T1629-0.8-ME	⊙								
	3T1629-0.9-ME	⊙								
	3T1629-1.0-ME	⊙								
	3T1629-1.1-ME	⊙								
	3T1629-1.2-ME	⊙								
	3T1629-1.3-ME	⊙								
	3T1629-1.4-ME	⊙								
	3T1629-1.5-ME	⊙								
	3T1629-1.6-ME	⊙								
	3T1629-1.7-ME	⊙								
	3T1629-1.8-ME	⊙								
	3T1629-1.9-ME	⊙								
	3T1629-2.0-ME	⊙								
	3T1629-2.2-ME	⊙								
	3T1629-2.5-ME	⊙								
	3T1629-3.0-ME	⊙								
	3T1629-3.5-ME	⊙								
	3T1629-4.0-ME	⊙								
	3T1629-4.2-ME	⊙								
	3T1629-4.5-ME	⊙								
	3T1629-5.0-ME	⊙								

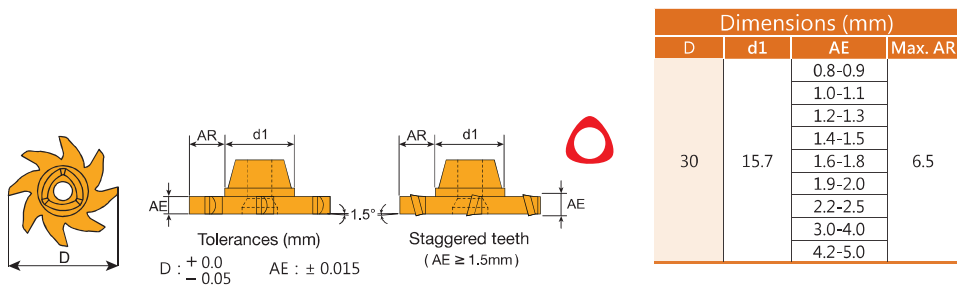
\* M.O.Q: 12PCS  
\* Make-to-Order.


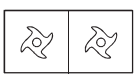
- ■ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1629-0.8-ME,B100



## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120



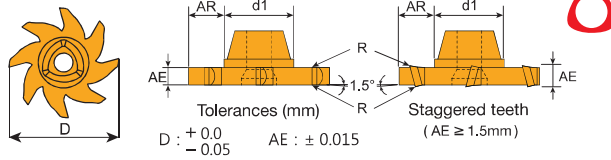
Inserts	Order Code	Grades										E			
		Carbide					Cermet		Uncoated						
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE					
 <p>8 flutes</p>	3T1630-0.8-E														 <p>Inserts 2 PCS / Box</p>
	3T1630-0.9-E														
	3T1630-1.0-E														
	3T1630-1.1-E														
	3T1630-1.2-E														
	3T1630-1.3-E														
	3T1630-1.4-E														
	3T1630-1.5-E														
	3T1630-1.6-E														
	3T1630-1.7-E														
	3T1630-1.8-E														
	3T1630-1.9-E														
	3T1630-2.0-E														
	3T1630-2.2-E														
	3T1630-2.5-E														
	3T1630-3.0-E														
	3T1630-3.5-E														
3T1630-4.0-E															
3T1630-4.2-E															
3T1630-4.5-E															
3T1630-5.0-E															

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1630-0.8-E,K10

## UFO T-slot Inserts

- Toolholders P. 28
- Cutting Data P. 119 - 120








UFO Family



Dimensions (mm)				
D	d1	AE	Max. AR	R
30	15.7	0.8-0.9	6.5	R0.05 ± 0.025
		1.0-1.1		
		1.2-1.3		
		1.4-1.5		
		1.6-1.8		
		1.9-2.0		
		2.2-2.5		
		3.0-4.0		
		4.2-5.0		

Inserts	Order Code	Grades												
		Carbide					Cermet		Uncoated					
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE				
	3T1630-0.8-ME	⊙												
	3T1630-0.9-ME	⊙												
	3T1630-1.0-ME	⊙												
	3T1630-1.1-ME	⊙												
	3T1630-1.2-ME	⊙												
	3T1630-1.3-ME	⊙												
	3T1630-1.4-ME	⊙												
	3T1630-1.5-ME	⊙												
	3T1630-1.6-ME	⊙												
	3T1630-1.7-ME	⊙												
	3T1630-1.8-ME	⊙												
	3T1630-1.9-ME	⊙												
	3T1630-2.0-ME	⊙												
	3T1630-2.2-ME	⊙												
	3T1630-2.5-ME	⊙												
	3T1630-3.0-ME	⊙												
	3T1630-3.5-ME	⊙												
	3T1630-4.0-ME	⊙												
	3T1630-4.2-ME	⊙												
	3T1630-4.5-ME	⊙												
	3T1630-5.0-ME	⊙												

Inserts 2 PCS / Box

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1630-0.8-ME,B100

# UFO T-SLOT CUTTER

**PATENTED**



Patent No. : M538848



Patent No. : ZL 2016 2 1300067.8



PCT Priority

## Features

Available in  
materials

P K M  
N S H

Cost  
**200~300%**  
SAVING

Applicable  
Machines  
CNC Milling machine

Efficiency  
**400%**  
UP

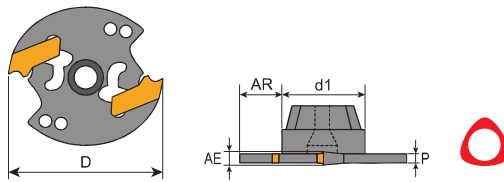
Durability  
**300%**  
UP

## UFO T-slot Cutters

- Toolholders P. 28
- Inserts P. 182 - 189
- Cutting Data P. 121 - 122

UFO Family

3T



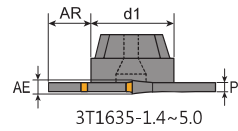
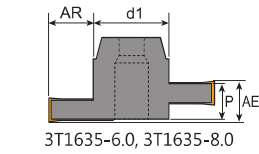
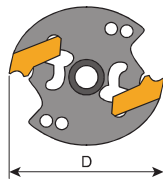
Order Code	Dimensions (mm)					Z	KG	MAX RPM	Inserts LNGLT	Wrench
	D	d1	AR	AE	P					
3T1632-1.4	32	16	7.5	1.4	1.2	2	0.03	8000	1414	150.10-30
3T1632-1.6				1.6	1.4				1616	
3T1632-1.8				1.8	1.6				1818	
3T1632-2.0				2.0	1.75				2020	
3T1632-2.5				2.2	2.25				2022	
				2.5					2025	
				2.7					2525	
3T1632-3.0				2.7	2.7				2527	
				3.0					2530	
				3.2					0.04	
3.2	3032									
3.5	3035									
3T1632-4.0	4.0	3.7	4040							
	4.2		4042							
	4.5		4045							
3T1632-5.0	5.0	4.5	5050							
	5.2		5052							
	5.5		5055							

\* Wrench for above holders sold separately.

## UFO T-slot Cutters

- Toolholders P. 28
- Insert P. 182 - 189
- Cutting Data P. 121 - 122

3T



Order Code	Dimensions (mm)					Z	ZC	KG	MAX RPM	Inserts LNGT	Wrench
	D	d1	AR	AE	P						
3T1635-1.4	35	16	9.0	1.4	1.2	2	-	8000	1414 1415	150.10-30	
3T1635-1.6				1.6	1.4						0.03
3T1635-1.8				1.8	1.6						
3T1635-2.0				2.0	1.75						
				2.2							
				2.5							
3T1635-2.5				2.5	2.25						
				2.7							
				3.0							
3T1635-3.0				3.0	2.7						
				3.2							
				3.5							
3T1635-4.0	4.0	3.7									
	4.2										
	4.5										
3T1635-5.0	5.0	4.5									
	5.2										
	5.5										
3T1635-6.0	6.0	5.5	1	0.05	5050NS						
3T1635-8.0	8.0	7.5									

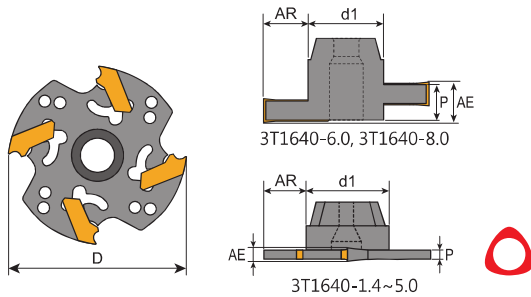
\* Wrench for above holders sold separately.

## UFO T-slot Cutters

- Toolholders P. 28
- Insert P. 182 - 189
- Cutting Data P. 121 - 122

UFO Family

3T



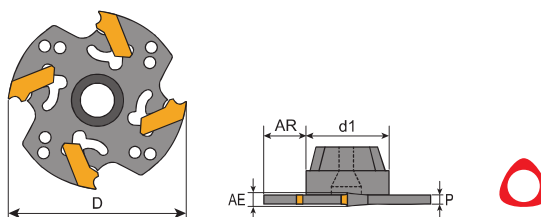
Order Code	Dimensions (mm)					Z	ZC	KG	MAX RPM	Inserts LNKT	Wrench
	D	d1	AR	AE	P						
3T1640-1.4	40	16	11.5	1.4	1.2	4	-	7500	1414 1415	150.10-30	
3T1640-1.6				1.6	1.4						
3T1640-1.8				1.8	1.6						
3T1640-2.0				2.0 2.2 2.5	1.75						
3T1640-2.5				2.5 2.7 3.0	2.25						
3T1640-3.0				3.0 3.2 3.5	2.7						
3T1640-4.0				4.0 4.2 4.5	3.7						
3T1640-5.0				5.0 5.2 5.5	4.5						
3T1640-6.0				6.0	5.5						
3T1640-8.0				8.0	7.5						

\* Wrench for above holders sold separately.

## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 182 - 189
- Cutting Data P. 121 - 122

3T



Order Code	Dimensions (mm)					Z	KG	MAX RPM	Inserts LNGLT	Wrench	
	D	d1	AR	AE	P						
3T2550-1.4	50	25	12	1.4	1.2	4	7000	1414 1415	150.10-30		
3T2550-1.5				1.5	1.2						
3T2550-1.6				1.6	1.4					0.07	1616
3T2550-1.8				1.8	1.6					0.08	1818
3T2550-2.0				2.0	1.75					0.08	2020 2022 2025
3T2550-2.5				2.5	2.25					0.09	2525 2527 2530
3T2550-3.0				3.0	2.7					0.09	3030 3032 3035
3T2550-4.0				4.0	3.7					0.10	4040 4042 4045
3T2550-5.0				5.0	4.5					0.10	5050 5052 5055

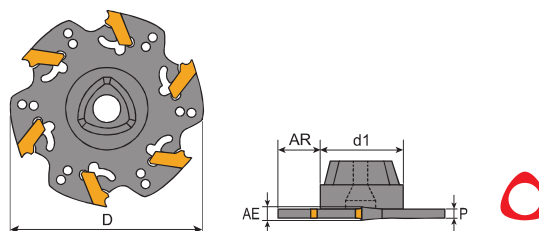
\*Wrench for above holders sold seperately.

## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 182 - 189
- Cutting Data P. 121 - 122

UFO Family

3T



Order Code	Dimensions (mm)					Z	KG	MAX RPM	Inserts LNGLT	Wrench
	D	d1	AR	AE	P					
3T2560-1.4	60	25	17	1.4	1.2	6	0.09	6500	1414	150.10-30
3T2560-1.6				1.6	1.4				1415	
3T2560-1.8				1.8	1.6				1818	
3T2560-2.0				2.0	1.75				2020	
3T2560-2.5				2.2	2.25				2022	
				2.5					2025	
				2.7					2525	
3T2560-3.0				2.5	2.25				2527	
				3.0					2530	
				3.2					3030	
3T2560-4.0	3.2	2.7	3032							
	3.5		3035							
	4.0		4040							
3T2560-5.0	4.2	3.7	4042							
	4.5		4045							
	5.0		5050							
3T2560-5.0	5.2	4.5	5052							
	5.5		5055							
	5.5		5055							

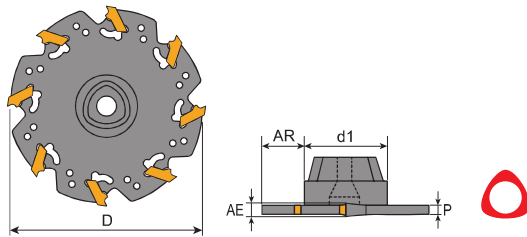
\*Wrench for above holders sold separately.



## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 182 - 189
- Cutting Data P. 121 - 122

3T



Order Code	Dimensions (mm)					Z	KG	MAX RPM	Inserts LNGET	Wrench
	D	d1	AR	AE	P					
3T2580-1.4	80	25	27	1.4	1.2	8	0.11	6500	1414	150.10-30
3T2580-1.6				1.5	1.4				1415	
3T2580-1.8				1.6	1.6				1818	
3T2580-2.0				1.8	1.75				2020	
3T2580-2.5				2.0	2.25				2022	
				2.2	2.25				2025	
				2.5	2.25				2525	
3T2580-3.0				2.7	2.7				2527	
				3.0	2.7				2530	
	3.2	2.7	3030							
3T2580-4.0	3.5	2.7	3032							
	4.0	3.7	3035							
	4.2	3.7	4040							
3T2580-5.0	4.5	3.7	4042							
	5.0	4.5	4045							
	5.2	4.5	5050							
			5.5	4.5		0.17		5052		
								5055		

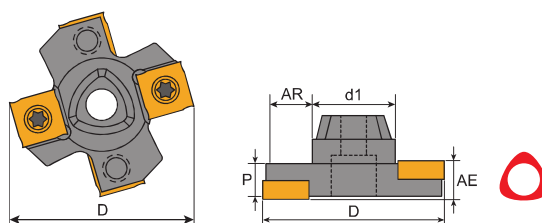
\* Wrench for above holders sold seperately.

## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 190 - 192
- Cutting Data P. 123 - 124

UFO Family

3TS

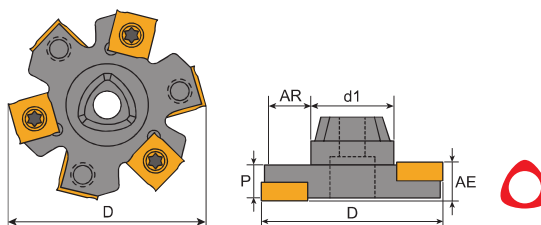


Order Code	Dimensions (mm)					Z	Zc	KG	MAX RPM	Inserts SNGX SNGW	Screw	Key
	D	d1	AR	AE	P							
3TS2550-4.0	50	25	12	4	3.4	4	2	0.09	17000	1102	T9354	908-T9
3TS2550-5.0				5	4.2					1103	T9355	908-T8
3TS2550-6.0				6	5					1203	T945	908-T15
3TS2550-7.0				7	6					1204	T946	
3TS2550-8.0				8	7					12045	T947	
3TS2550-10				10	9					1205	T948	
3TS2550-12				12	11					1207	T9411	

## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 190 - 192
- Cutting Data P. 123 - 124

3TS



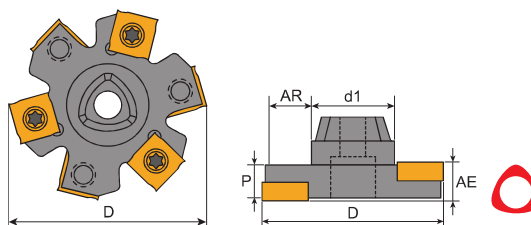
Order Code	Dimensions (mm)					Z	Zc	KG	MAX RPM	Inserts SNGX SNGW	Screw	Key
	D	d1	AR	AE	P							
3TS2560-4.0	60	25	17	4	3.4	6	3	0.10	15000	1102	T9354	908-T9
3TS2560-5.0				5	4.2					1103	T9355	908-T8
3TS2560-6.0				6	5					1203	T945	908-T15
3TS2560-7.0				7	6			1204		T946		
3TS2560-8.0				8	7			12045		T947		
3TS2560-10				10	9			1205		T948		
3TS2560-12				12	11			1207		T9411	0.18	

## UFO T-slot Cutters

- Toolholders P. 29
- Insert P. 190 - 192
- Cutting Data P. 123 - 124

UFO Family

3TS

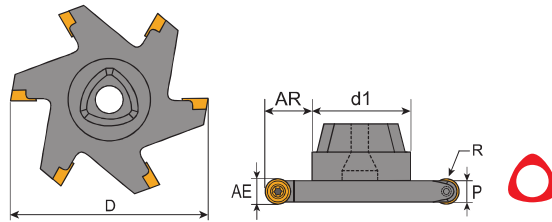


Order Code	Dimensions (mm)					Z	Zc	KG	MAX RPM	Inserts SNGX SNGW	Screw	Key
	D	d1	AR	AE	P							
3TS2580-4.0	80	25	27	4	3.4	8	4	0.13	14000	1102	T9354	908-T9
3TS2580-5.0				5	4.2					1103	T9355	908-T8
3TS2580-6.0				6	5					1203	T945	908-T15
3TS2580-7.0				7	6					1204	T946	
3TS2580-8.0				8	7	12045	T947					
3TS2580-10				10	9	6	3			0.21	1205	T948
3TS2580-12				12	11	6	3			0.31	1207	T9411

## UFO T-slot Cutters

• Toolholders P. 29

3T



Order Code	Dimensions (mm)						Z	KG	MAX RPM	Inserts RDKW RDKT RPKT	Screw	Key
	D	d1	AR	AE	P	R						
3T2560-R4	60	25	17	8	6.2	4R	6	0.20	13000	0803	C02506	T08P
3T2580-R4	80		27			5R		0.20	12000			
3T2560-R5	60		17	10	8.0	5R	4	0.30	13000	10T3	C03007	T09P
3T2580-R5	80		27			6R		0.30	12000			
3T2560-R6	60		17	12	10	6R	4	0.40	9500	1204	C03508 -T15	T15P
3T2580-R6	80		27			6R		0.40	9000			

## RDKT / RDKW / RPKT Inserts

Tolerances (mm)  
D=±0.04 S=±0.05

Inserts 10 PCS / Box

Dimensions (mm)			
Code	S	I	R
0803	3.05	8	4
10T3	3.97	10	5
1204	4.7	12	6

Inserts	Order Code	Grades								
		Carbide					Metal cermet		Uncoated	
		B100	C200	C250	F20	F30	CE25	CE60	K10	CE
	RDKW 0803MOT-MD	⊙								
	RDKT 10T3MOT-M	⊙								
	RPKT 1204MOT-M	⊙								

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: RDKW 0803MOT-MD, B100

**UFO**  
**RADIUS**  
**DUAL CORNER ROUNDING**  
**CONCAVE RADIUS**  
**DUAL CHAMFER**  
**DOVETAIL**  
**CIRCLIP**



Video

**PATENTED**



## Features

Available in materials



Cost  
**200~300%**  
SAVING

Applicable  
Machines  
CNC Milling machine

Efficiency  
**400%**  
UP

Durability  
**300%**  
UP

UFO  
R-groove  
Chamfer  
Series

# UFO



## UFO Radius Inserts

R0.5 to R3.0 cutters are readily available in stock. Performs impressive cutting speed in 6 flutes.

Fig.1

## UFO Dovetail Inserts

Available with 45°, 60° angles and designed with 6 flutes.

## UFO Dual Chamfer

Up and down chamfering are available in the same insert.

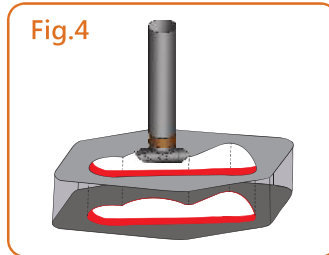
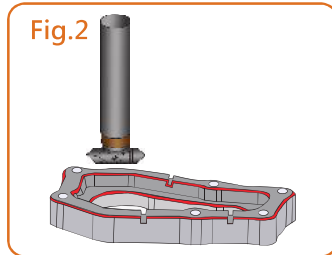
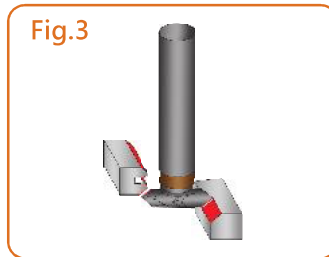
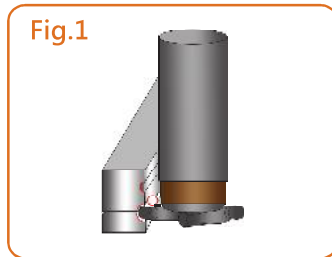
Support different angles and radii:

- 45° chamfer: Ø9.8-Ø11.8-Ø14.8 with 4 teeth.
- Radius: R0.5~R2.0, Ø9.8-Ø11.8-Ø19.8 with 4 teeth.

Fig.2/3/4

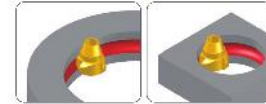
## UFO Circlip Inserts

For circlip range: 1.1~4.15 mm  
Same shank fits all different inserts. All items are available from stock.

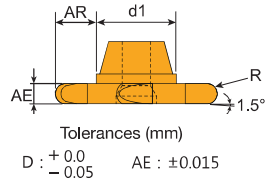


## UFO Radius Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



UFO Family



Dimensions (mm)				
D	d1	AE	R	Max. AR
20	9.9	1.0	0.5	4.5
		1.5	0.75	
		2.0	1.0	
		2.5	1.25	
		3.0	1.5	
		4.0	2.0	
		5.0	2.5	
		6.0	3.0	

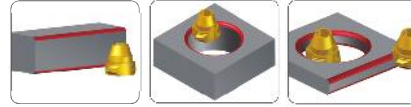
Inserts	Order Code	Grades									
		Carbide					Metal cermet		Uncoated		
		B100	C200	C250	F20	F30	CE25	CE60	K10	CE	
<p>6 flutes</p>	3T1020-R0.5-E										<p>Inserts 2 PCS / Box</p>
	3T1020-R0.75-E										
	3T1020-R1.0-E										
	3T1020-R1.25-E										
	3T1020-R1.5-E										
	3T1020-R2.0-E										
	3T1020-R2.5-E										
	3T1020-R3.0-E										
	3T1020-R0.5-ME	⊗									
	3T1020-R0.75-ME	⊗									
	3T1020-R1.0-ME	⊗									
	3T1020-R1.25-ME	⊗									
	3T1020-R1.5-ME	⊗									
	3T1020-R2.0-ME	⊗									
	3T1020-R2.5-ME	⊗									
3T1020-R3.0-ME	⊗										

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-R0.5-E, F20

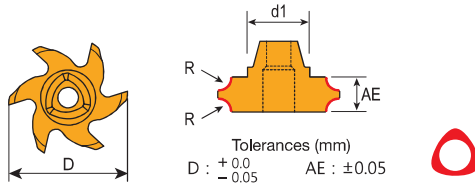


## UFO Dual Corner Rounding Inserts

- Toolholders P. 24 · P. 26
- Cutting Data P. 119 - 120



Dimensions (mm)				
D	d1	AE	R	Max. AR
9.8	6.5	3.0	0.5	0.5
		3.0	0.5	0.5
4.0		1.0	1.0	
5.0		1.5	1.5	
19.8	9.9	3.0	0.5	0.5
		3.5	0.75	0.75
		4.0	1.0	1.0
		4.5	1.25	1.25
		5.0	1.5	1.5
		6.0	2.0	2.0

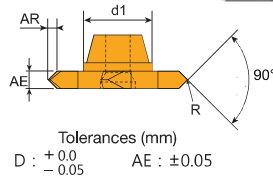
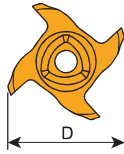
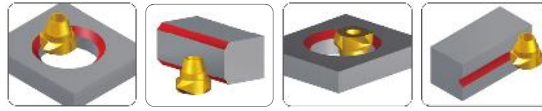


Inserts	Order Code	Grades									
		Carbide					Metal cermet		Uncoated		
		B100	C200	C250	F20	F30	CE25	CE60			K10
 4 flutes	3T0610-DCR0.5-E										 Inserts 2 PCS / Box
	3T0612-DCR0.5-E										
	3T0612-DCR1.0-E										
	3T0612-DCR1.5-E										
	3T1020-DCR0.5-E										
	3T1020-DCR0.75-E										
	3T1020-DCR1.0-E										
	3T1020-DCR1.25-E										
	3T1020-DCR1.5-E										
	3T1020-DCR2.0-E										
 6 flutes	3T0610-DCR0.5-ME										
	3T0612-DCR0.5-ME										
	3T0612-DCR1.0-ME										
	3T0612-DCR1.5-ME										
	3T1020-DCR0.5-ME										
	3T1020-DCR0.75-ME										
	3T1020-DCR1.0-ME										
	3T1020-DCR1.25-ME										
	3T1020-DCR1.5-ME										
	3T1020-DCR2.0-ME										

- ■ Steel ■ Stainless Steel ⊗ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0610-DCR0.5-E,F20

## UFO Dual Chamfer Inserts

- Toolholders P. 24 - 25
- Cutting Data P. 119 - 120



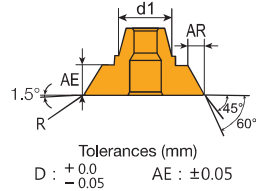
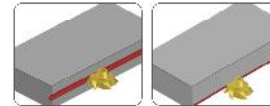
Dimensions (mm)				
D	d1	AE	Max. AR	R
9.8	6.5	3	0.5	0.2
11.8			1.0	
14.8	7.9			

UFO Family

Inserts	Order Code	Grades										
		Carbide					Metal cermet		Uncoated			
		B100	C200	C250	F20	F30	CE25	CE60	K10		CE	
<p>4 flutes</p>	3T0610-3-45-E											<p>Inserts 2 PCS / Box</p>
	3T0612-3-45-E											
	3T0815-3-45-E											
	3T0610-3-45-ME	⊙										
	3T0612-3-45-ME	⊙										
	3T0815-3-45-ME	⊙										

## UFO Dovetail Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



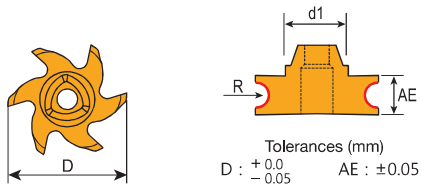
Dimensions (mm)					
D	d1	AE	Angle	Max. AR	R
20	9.9	5.0	45°	3.0	0.4
			60°	2.5	

Inserts	Order Code	Grades										
		Carbide					Metal cermet		Uncoated			
		B100	C200	C250	F20	F30	CE25	CE60	K10		CE	
<p>6 flutes</p>	3T1020-45-E											<p>Inserts 2 PCS / Box</p>
	3T1020-60-E											
	3T1020-45-ME	⊙										
	3T1020-60-ME	⊙										




- ■ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-45-E,F20








## UFO Concave Radius Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



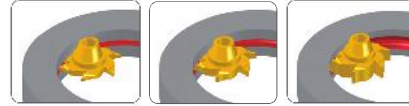
Dimensions (mm)			
D	d1	AE	R
20	9.9	4.5	1.0
		5.0	1.25
		5.5	1.5
		6.5	2.0

Inserts	Order Code	Grades												
		Carbide					Metal cermet		Uncoated					
		B100	C200	C250	F20	F30	CE25	CE60	K10	CE				
 <p>6 flutes</p>	3T1020-CR1.0-E													 <p>Inserts 2 PCS / Box</p>
	3T1020-CR1.25-E													
	3T1020-CR1.5-E													
	3T1020-CR2.0-E													
	3T1020-CR1.0-ME	⊙												
	3T1020-CR1.25-ME	⊙												
	3T1020-CR1.5-ME	⊙												
	3T1020-CR2.0-ME	⊙												

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-CR1.0-E, F20

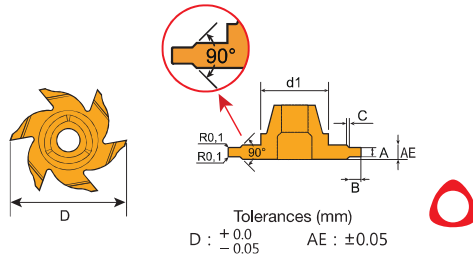
## UFO Circlip Inserts

- Toolholders P. 26
- Cutting Data P. 119 - 120



UFO Family

Offer customized items at standard prices by MOQ 12 pcs



Dimensions (mm)						
D	d1	A	Circlip	B	C	AE
20	10	1.21	1.1	0.5	0.1	2.2
		1.41	1.3	0.85		
		1.71	1.6	1.0		
		1.96	1.85	1.25	0.2	3
		2.26	2.15	1.5		
		2.76	2.65	1.75		
		3.26	3.15	1.75		
		4.26	4.15	2.0	5	

Inserts	Order Code	Grades										
		Carbide					Metal cermet		Uncoated			
		B100	C200	C250	F20	F30	CE25	CE60	K10	CE		
<p>6 flutes</p>	C3T1020-1.1-E											<p>Inserts 2 PCS / Box</p>
	C3T1020-1.3-E											
	C3T1020-1.6-E											
	C3T1020-1.85-E											
	C3T1020-2.15-E											
	C3T1020-2.65-E											
	C3T1020-3.15-E											
	C3T1020-4.15-E											
	C3T1020-1.1-ME	⊙										
	C3T1020-1.3-ME	⊙										
	C3T1020-1.6-ME	⊙										
	C3T1020-1.85-ME	⊙										
	C3T1020-2.15-ME	⊙										
	C3T1020-2.65-ME	⊙										
	C3T1020-3.15-ME	⊙										
C3T1020-4.15-ME	⊙											

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: C3T1020-1.1-E,K10

# UFO THREAD MILLING



## Features

Available in materials

P K M  
N S H

Cost  
**200~300%**  
SAVING

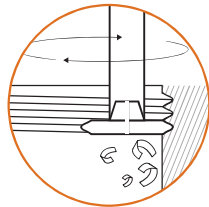
Applicable  
Machines  
CNC Milling machine

Efficiency  
**400%**  
UP

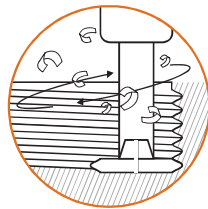
Durability  
**300%**  
UP



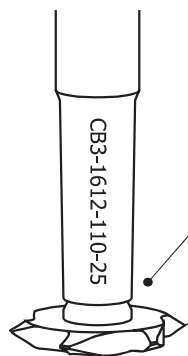
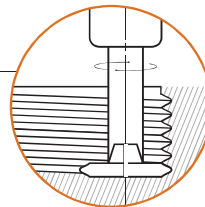
**1** / Excellent chip evacuation



**2** / High stability & Low cutting forces



**3** / Same insert can make different pitches of thread.



## Product Advantages

Indexable UFO thread mill - Excellent in chip evacuation and small cutting force.

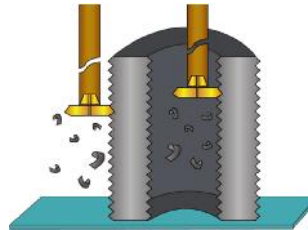
## Insert Design

1. Yih Troun provides UFO thread milling inserts applicable to metric, UN and withworth both in full profile and partial profile. Full profile inserts are available from  $\text{Ø}10/\text{pitch}1.0$ ; partial profile inserts are available from  $\text{Ø}12/\text{pitch}1.0$ .
2. Unique tapered polygon design to get the excellent stability in high speed machining.
3. The front-mounted insert are positioned in a taper seat for center-positioning, giving secure and continuous performance.
4. High productivity with many teeth (4-6 teeth).

## New

UFO thread mill is the best choice for expensive components, it's excellent in chip evacuation, averts chip twining and tap breakage at the last stage of machining, exempts machines from unscheduled down time.

The UFO thread mill insert generates machining cutting force least from its single-point design. It's the first choice for medium to large threads milling in BT30 CNC machining centers, thin-walled components and unstable conditions such as milling thread with a long overhang.



---

## Old

Machining with conventional HSS/ carbide solid tap gets problems easily in chip evacuation, tap breakage on the parts and machining stoppage, It takes time and cost to remove the breakage tap.



## Advantages Of Partial Profile Ufo Thread Milling

### FIG.1

Same UFO thread milling insert is applicable to a wide range of hole sizes and thread pitches.

If use taps, it needs different taps for different hole sizes and different pitches.

### FIG.2

UFO thread milling achieves full-bottom threading in a blind hole with a least drill depth.

It's easy to fix thread tolerance by programme.

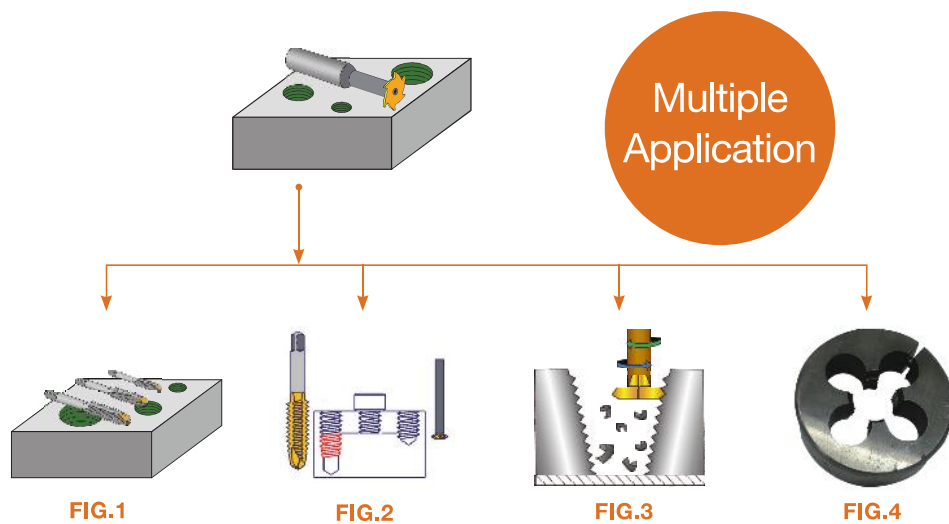
### FIG.3

Same UFO thread milling inserts can be used in PT(NPT) thread.

It provides better tool life and less cutting force than PT tap.





### FIG.4

Same UFO thread milling insert is available for both external and internal threads.

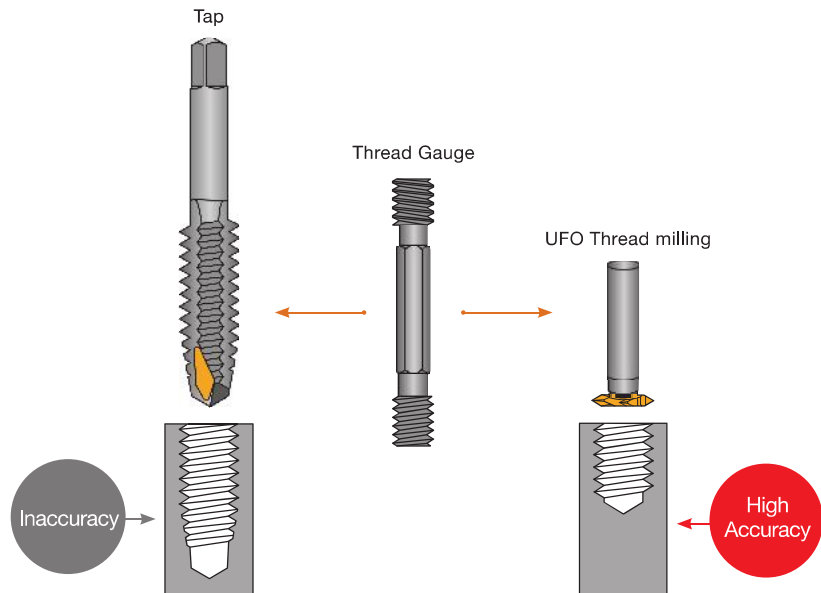




## Tools Comparison

UFO partial profile insert	Tap	Solid carbide thread milling	Thread milling insert
			
One insert applicable to a wide pitch range	Single pitch	Single pitch	Single pitch
		expensive	
min dia. 12mm , 4~6 teeth			large size and less no. of tooth
	deeper pre-drilling hole is required		
single cutting edge with multiple teeth results in less cutting force, available even in small horse power M/C	bigger horse power M/C is required in big hole machining	multiple pitches design results in higher cutting force and lower feed in machining difficult material	multiple pitches design results in higher cutting force and lower feed in machining difficult material
less cutting force in machining taper thread	additional taper tap is required	not available in taper thread	not available in taper thread

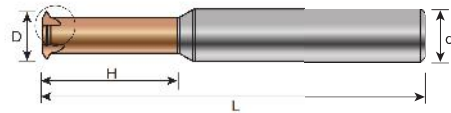
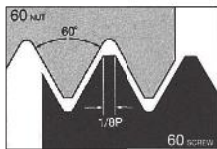
## Precise Thread By UFO Thread Milling



## Solid Carbide Thread Milling - Partial Profile 60°

- Cutting Data P. 125

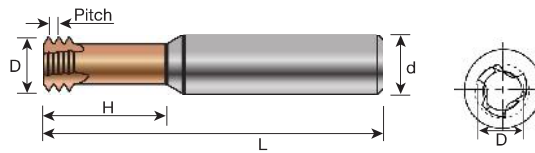
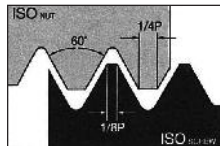
UFO Family



Order code	Pitch Range		D	H	T	d	L
	MM	TPI					
AT0195-50	0.35-0.6	72-40	1.95	6.0	3	3	50
AT0245-50	0.5-0.8	48-32	2.45	7.7	3	3	50
AT0315-50	0.5-0.8	48-32	3.15	10	3	4	50
AT0400-50	0.5-1.0	48-24	4.0	12	3	4	50
AT0470-60	0.5-1.25	48-20	4.7	15	3	6	60
AT0600-60	0.5-1.25	48-20	6.0	18	3	6	60
AT0800-60	0.75-1.5	32-16	8.0	24	3	8	60
AT1000-80	1.0-2.5	24-10	10	30	4	10	80

## Solid Carbide Thread Milling 2D (Full-Profile) 60°

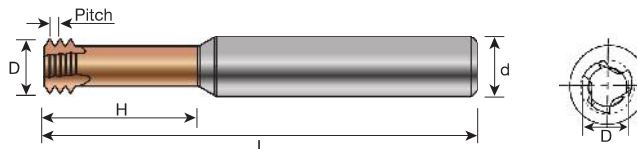
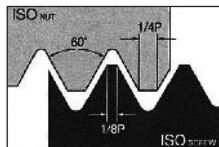
- Cutting Data P. 125



Thread Length Up To 2D

Order code	Thread Size	Pitch	D	H	T	d	L
BT0240-50	M3.0 X 0.5	0.5	2.4	6.4	3	4	50
BT0275-50	M3.5 X 0.6	0.6	2.75	7.4	3	4	50
BT0315-60	M4 X 0.7	0.7	3.15	8.6	3	6	60
BT0400-60	M5 X 0.8	0.8	4.0	12.0	3	6	60
BT0475-60	M6 X 1.0	1.0	4.75	13.0	3	6	60
BT0600-60	M8 X 1.25	1.25	6.5	17.3	3	8	60
BT0790-60	M10 X 1.5	1.5	7.9	22.0	3	8	60
BT0950-80	M12 X 1.75	1.75	9.5	25.5	3	10	80

## Solid Carbide Thread Milling 3D (Full-Profile) 60°

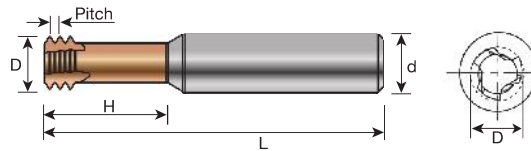
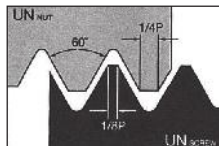


Thread Length Up To 3D

Order code	Thread Size	Pitch	D	H	T	d	L
BTL0240-50	M3.0 X 0.5	0.5	2.4	9.3	3	4	50
BTL0315-60	M4.0 X 0.7	0.7	3.15	12.4	3	6	60
BTL0400-60	M5 X 0.8	0.8	4.0	15.6	3	6	60
BTL0475-60	M6 X 1.0	1.0	4.75	19.0	3	6	60
BTL0650-60	M8 X 1.25	1.25	6.5	24.3	3	8	60
BTL0790-60	M10 X 1.5	1.5	7.9	31.0	3	8	60
BTL0950-80	M12 X 1.75	1.75	9.5	36.5	3	10	80

## Solid Carbide Thread Milling 2D (Full-Profile) UN 60°

- Cutting Data P. 125

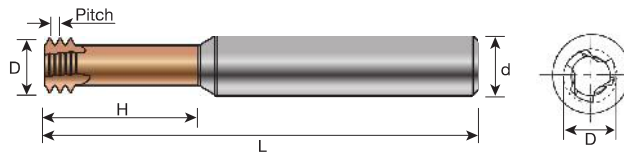
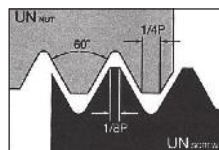


Thread Length Up To 2D

Order code	UNC	UNF	T.P.I	D	H	T	d	L
UT404-50	No.5 - 40 UNC	No.6 - 40 UNF	40	2.46	7.1	3	4	50
UT364-50	-	No.8 - 36 UNF	36	3.31	8.8	3	4	50
UT324-50	No.6 - 32 UNC	-	32	2.57	7.3	3	4	50
UT326-60	No.8 - 32 UNC	No.10 - 32 UNF	32	3.22	10.1	3	6	60
UT286-60	-	1/4 - 28 UNF	28	5.2	14	3	6	60
UT246-60	No.10 - 24 UNC	-	24	3.55	10.4	3	6	60
UT248-60	-	5/16 - 24 UNF	24	6.65	16.7	3	8	60
UT206-60	1/4 - 20 UNC	7/16 - 20 UNF	20	4.85	13.7	3	6	60
UT208-60	-	7/16 - 20 UNF	20	7.95	24	3	8	60
UT186-60	5/16 - 18 UNC	-	18	5.95	16.5	3	6	60
UT168-60	3/8 - 16 UNC	-	16	6.9	21	3	8	60
UT148-60	7/16 - 14 UNC	-	14	7.95	23.5	3	8	60
UT1310-80	1/2 - 13 UNC	-	13	9.3	27	3	10	80

UFO Family

## Solid Carbide Thread Milling 3D (Full-Profile) UN 60°



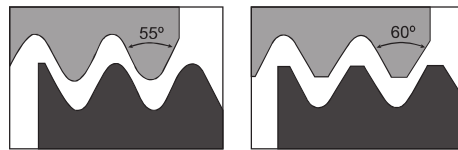
Thread Length Up To 3D

Order code	UNC	UNF	T.P.I	D	H	T	d	L
UTL404-50	No.5 - 40 UNC	No.6 - 40 UNF	40	2.46	9.8	3	4	50
UTL324-60	No.6 - 32 UNC	-	32	2.57	10.7	3	4	50
UTL326-60	No.8 - 32 UNC	No.10 - 32 UNF	32	3.22	12.7	3	6	60
UTL286-60	-	1/4 - 28 UNF	28	5.2	19.3	3	6	60
UTL248-60	-	5/16 - 24 UNF	24	6.65	24.2	3	8	60
UTL206-60	1/4 - 20 UNC	7/16 - 20 UNF	20	4.85	19.4	3	6	60

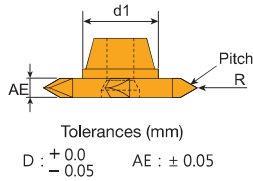
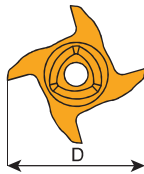
## UFO Thread Milling Inserts (Partial Profile)

- Toolholders P. 24
- Cutting Data P. 126 - 127

External / Internal



Inserts 2 PCS / Box



Dimensions (mm)								
D	d1	AE	Pitch mm	Pitch t.p.l	Angle	R	Minimum hole diameter	
							MM	INCH
12	6.5	3.2	-	16~10	55°	0.08~0.1	16.51	0.65"
		2.0	1.0~1.5	-	60°	0.05	14.00	-
		3.2	1.75~2.5	-		0.08~0.1		

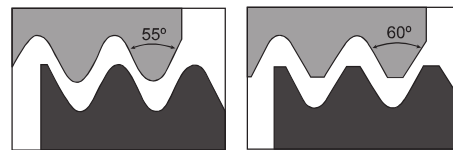
Inserts	Order Code	Grades										
		Carbide				Cermet			Uncoated			
		B100	C200	C250	F20	F30	CE25	CE100	CE60	K10		CE
 55° BSW/BSF	3T1-0612-55-16~10TPI-E											 BSW Defined by: B.S.84:1956, DIN 259, ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW- Medium class A, BSF-Medium class
	3T1-0612-55-16~10TPI-ME	⊙										
 60° ISO Metric(M,MF)	3T1-0612-60-1.0~1.5-E											 Defined by: R262 (DIN 13) Tolerance class: 6g/6H
	3T1-0612-60-1.75~2.5-E											
	3T1-0612-60-1.0~1.5-ME	⊙										
	3T1-0612-60-1.75~2.5-ME	⊙										

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1-0612-55-16~10TPI-E,F20

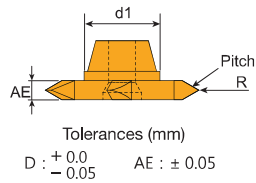
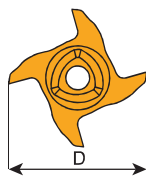
## UFO Thread Milling Inserts (Partial Profile)

- Toolholders P. 25
- Cutting Data P. 126 - 127

External / Internal



UFO Family



Inserts 2 PCS / Box

Dimensions (mm)								
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	R	Minimum hole diameter	
							MM	INCH
15	7.9	4.0	-	11~8	55°	0.08~0.1	17.78	0.7"
		2.0	1.0~1.5	-	60°	0.05	17.00	-
		4.0	1.75~3.0	-	-	0.08~0.1	-	-

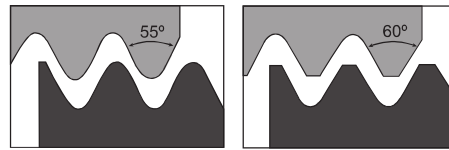
Inserts	Order Code	Grades												
		Carbide					Cermet			Uncoated				
		B100	C200	C250	F20	F30	CE25	CE100	CE60	K10	CE			
 55° BSW/BSF	3T1-0815-55-11~8TPI-E													 BSW Defined by: B.S.84:1956, DIN 259, ISO 228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW- Medium class A, BSF-Medium class
	3T1-0815-55-11~8TPI-ME	⊙												
 60° ISO Metric(M,MF)	3T1-0815-60-1.0~1.5-E													 Defined by: R262 (DIN 13) Tolerance class: 6g/6H
	3T1-0815-60-1.75~3.0-E													
	3T1-0815-60-1.0~1.5-ME	⊙												
	3T1-0815-60-1.75~3.0-ME	⊙												

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1-0815-55-11~8TPI-E,F20

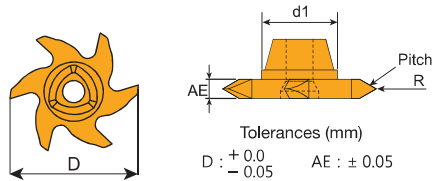
## UFO Thread Milling Inserts (Partial Profile)

- Toolholders P. 26
- Cutting Data P. 126 - 127

External / Internal



Inserts 2 PCS / Box



Dimensions (mm)								
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	R	Minimum hole diameter	
							MM	INCH
20	9.9	4.6	-	11~6	55°	0.08~0.1	22.86	0.9"
		2.0	1.0~1.5	-	60°	0.05	22.00	-
		4.6	1.75~3.5			0.08~0.1		

Inserts	Order Code	Grades										
		Carbide				Cermet			Uncoated			
		B100	C200	C250	F20	F30	CE25	CE100	CE60	K10		CE
 55° BSW/BSF	3T1-1020-55-11~6TPI-E											 BSW Defined by: B.S.84:1956, DIN 259, ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW- Medium class A, BSF-Medium class
	3T1-1020-55-11~6TPI-ME	⊗										
 60° ISO Metric(M,MF)	3T1-1020-60-1.0~1.5-E											 Defined by: R262 (DIN 13) Tolerance class:6g/6H
	3T1-1020-60-1.75~3.5-E											
	3T1-1020-60-1.0~1.5-ME	⊗										
	3T1-1020-60-1.75~3.5-ME	⊗										

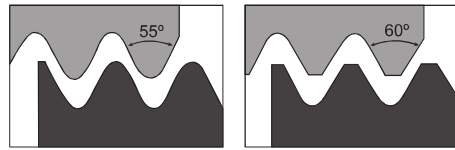
- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1-1020-55-11~6TPI-E,F20

## UFO Thread Milling Inserts (Partial Profile)

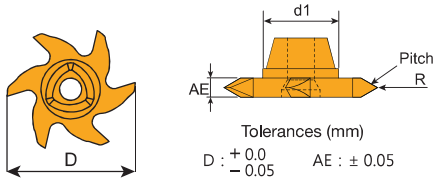
- Toolholders P. 27
- Cutting Data P. 126 - 127

UFO Family

External / Internal



Inserts 2 PCS / Box



Dimensions (mm)								
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	R	Minimum hole diameter	
							MM	INCH
25	12	4.6	-	11~5	55°	0.08~0.1	28.58	1.125"
		2.0	1.0~1.5	-	60°	0.05	27.00	-
		4.6	1.75~5.0	-		0.08~0.1		

Inserts	Order Code	Grades											
		Carbide			Cermet			Uncoated					
		B100	C200	C250	F20	F30	CE25	CE100	CE60	K10		CE	
 55° BSW/BSF	3T1-1225-55-11~5TPI-E												 BSW Defined by: B.S.84:1956, DIN 259, ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW-Medium class A, BSF-Medium class
	3T1-1225-55-11~5TPI-ME	⊙											
 60° ISO Metric(M,MF)	3T1-1225-60-1.0~1.5-E												 Defined by: R262 (DIN 13) Tolerance class: 6g/6H
	3T1-1225-60-1.75~5.0-E												
	3T1-1225-60-1.0~1.5-ME	⊙											
	3T1-1225-60-1.75~5.0-ME	⊙											

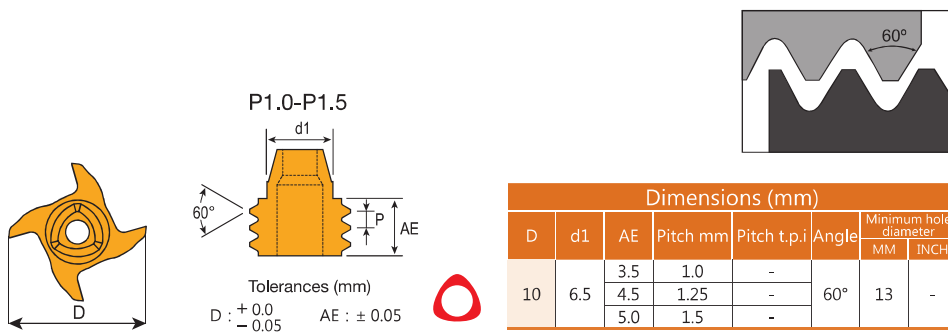
- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1-1225-55-11~5TPI-E, F20



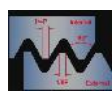
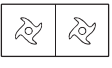









## UFO Thread Milling Inserts(Full Profile)

- Toolholders P. 24
- Cutting Data P. 126 - 127

### ISO



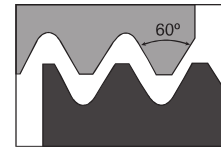
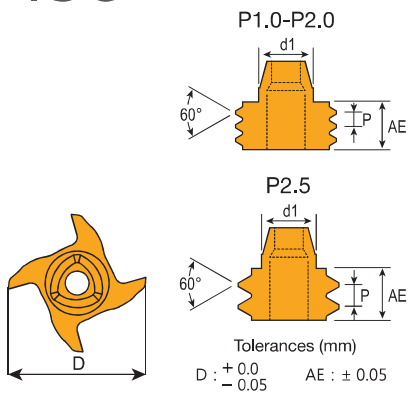
Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE	
 ISO Metric(M,MF)	3T0610-ISO1.0-E										 Defined by: R262 (DIN 13) Tolerance class:6g/6H
	3T0610-ISO1.25-E										
	3T0610-ISO1.5-E										
	3T0610-ISO1.0-ME										 Inserts 2 PCS / Box
	3T0610-ISO1.25-ME										
	3T0610-ISO1.5-ME										

-  Steel  Stainless Steel  Steel/Stainless Steel/Super alloy  Cast Iron  Aluminum  Steel/Cast Iron
-  Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0610-ISO1.0-E, F20

## UFO Thread Milling Inserts (Full Profile)



- Toolholders P. 24
- Cutting Data P. 126 - 127

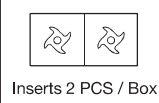
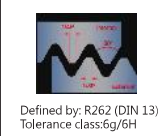
### ISO



Dimensions (mm)							
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	Minimum hole diameter	
						MM	INCH
12	6.5	3.5	1.0	-	60°	14	-
		4.5	1.25	-			
		5.0	1.5	-			
		6.5	2.0	-			
		5.5	2.5	-			

UFO Family

Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE		
 ISO Metric(M,MF)	3T0612-ISO1.0-E											
	3T0612-ISO1.25-E											
	3T0612-ISO1.5-E											
	3T0612-ISO2.0-E											
	3T0612-ISO2.5-E											
	3T0612-ISO1.0-ME	⊙										
	3T0612-ISO1.25-ME	⊙										
	3T0612-ISO1.5-ME	⊙										
	3T0612-ISO2.0-ME	⊙										
	3T0612-ISO2.5-ME	⊙										



- ⊙ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0612-ISO1.0-E, F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 24
- Cutting Data P. 126 - 127

### UNC

TPI 16 - TPI 13

TPI 12 - TPI 10

Dimensions (mm)

D	d1	AE	Pitch mm	Pitch t.p.i	Angle	Minimum hole diameter	
						MM	INCH
12	6.5	5.0	-	16	60°	14	0.55"
		6.0	-	14			
		6.5	-	13			
		4.5	-	12			
		5.0	-	11			
		5.5	-	10			

Tolerances (mm)

D :  $\pm 0.0$   
-0.05

AE :  $\pm 0.05$

Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE		
 UNC/UNF	3T0612-UNC16-E											 Defined by: R262 (DIN 13) Tolerance class: 6g/6H  * M.O.Q: 12PCS * Make-to-Order.
	3T0612-UNC14-E											
	3T0612-UNC13-E											
	3T0612-UNC12-E											
	3T0612-UNC11-E											
	3T0612-UNC10-E											
	3T0612-UNC16-ME											
	3T0612-UNC14-ME											
	3T0612-UNC13-ME											
	3T0612-UNC12-ME											
	3T0612-UNC11-ME											
	3T0612-UNC10-ME											

- ■ Steel ■ Stainless Steel ■ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ■ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0612-UNC16-E,F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 24
- Cutting Data P. 126 - 127

UFO Family

### BSW

TPI 16 - TPI 14

TPI 12 - TPI 10

Tolerances (mm)

D :  $\begin{matrix} +0.0 \\ -0.05 \end{matrix}$     AE :  $\pm 0.05$

Dimensions (mm)						
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	Minimum hole diameter
						MM   INCH
12	6.5	5.0	-	16	55°	16.51   0.65"
		5.5	-	14		
		4.5	-	12		
		5.0	-	11		
		5.5	-	10		

Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE		
 BSW/BSF	3T0612-BSW16-E											 BSW Defined by: B.S.84:1956 DIN 259:ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW-Medium class A, BSF-Medium class
	3T0612-BSW14-E											
	3T0612-BSW12-E											
	3T0612-BSW11-E											
	3T0612-BSW10-E											
	3T0612-BSW16-ME											
	3T0612-BSW14-ME											
	3T0612-BSW12-ME											
	3T0612-BSW11-ME											
	3T0612-BSW10-ME											

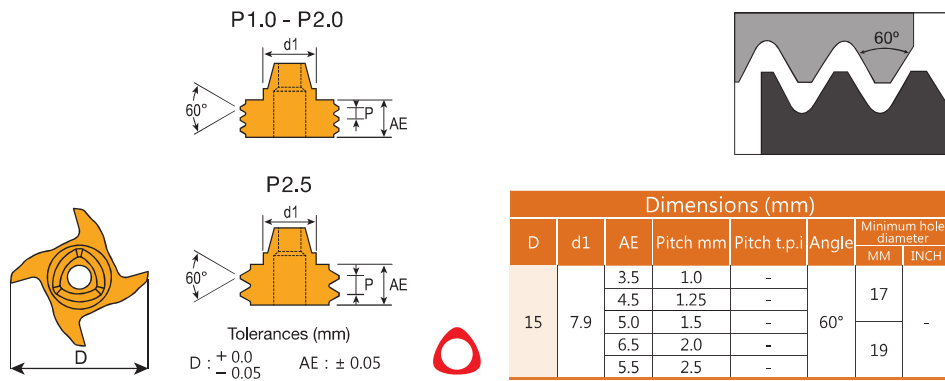
\* M.O.Q: 12PCS  
\* Make-to-Order.

- ■ Steel ■ Stainless Steel ■ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ■ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0612-BSW16-E,F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 25
- Cutting Data P. 126 - 127

### ISO



Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE	
 ISO Metric (M,MF)	3T0815-ISO1.0-E											 Defined by: R262 (DIN 13) Tolerance class: 6g/6H
	3T0815-ISO1.25-E											
	3T0815-ISO1.5-E											
	3T0815-ISO2.0-E											
	3T0815-ISO2.5-E											
	3T0815-ISO1.0-ME	⊙										 Inserts 2 PCS / Box
	3T0815-ISO1.25-ME	⊙										
	3T0815-ISO1.5-ME	⊙										
	3T0815-ISO2.0-ME	⊙										
	3T0815-ISO2.5-ME	⊙										

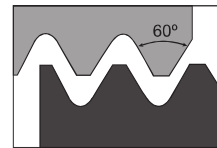
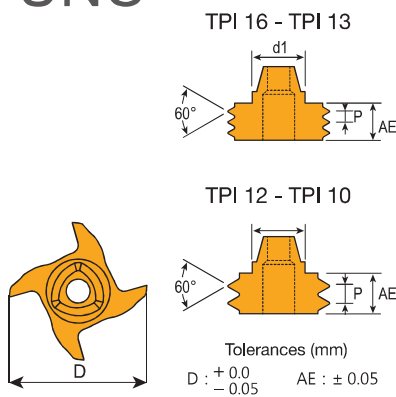
- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0815-ISO1.0-E,F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 25
- Cutting Data P. 126 - 127

UFO Family

### UNC



Dimensions (mm)							
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	Minimum hole diameter	
						MM	INCH
15	7.9	5.0	-	16	60°	17.78	0.7"
		6.0	-	14			
		6.5	-	13			
		4.5	-	12			
		5.0	-	11			
		5.5	-	10			

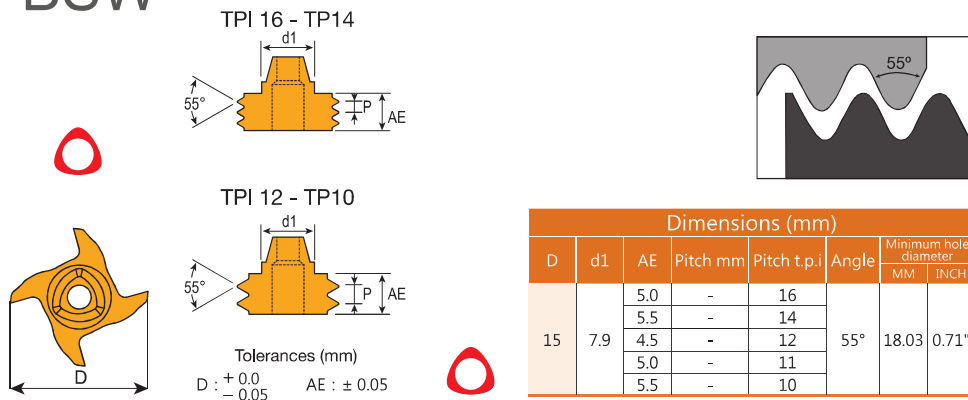
Inserts	Order Code	Grades									
		Carbide					Cermets		Uncoated		
		B100	C200	C250	F20	F30	CEI100	CE60	K10		CE
<p>UNC/UNF</p>	3T0815-UNC16-E										<p>Defined by: R262 (DIN 13) Tolerance class: 6g/6H</p>
	3T0815-UNC14-E										
	3T0815-UNC13-E										
	3T0815-UNC12-E										
	3T0815-UNC11-E										
	3T0815-UNC10-E										
	3T0815-UNC16-ME										<p>* M.O.Q: 12PCS * Make-to-Order.</p>
	3T0815-UNC14-ME										
	3T0815-UNC13-ME										
	3T0815-UNC12-ME										
	3T0815-UNC11-ME										
	3T0815-UNC10-ME										

- ■ Steel ■ Stainless Steel ⊗ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊗ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T0815-UNC16-E,F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 25
- Cutting Data P. 126 - 127

### BSW



Inserts	Order Code	Grades									
		Carbide					Cermet		Uncoated		
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE	
 BSW/BSF	3T0815-BSW16-E										 BSW Defined by: B.S.84:1956 DIN 259, ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW- Medium class A, BSF-Medium class
	3T0815-BSW14-E										
	3T0815-BSW12-E										
	3T0815-BSW11-E										
	3T0815-BSW10-E										
	3T0815-BSW16-ME										
	3T0815-BSW14-ME										
	3T0815-BSW12-ME										
	3T0815-BSW11-ME										
	3T0815-BSW10-ME										

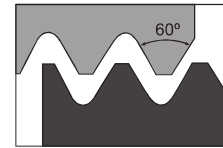
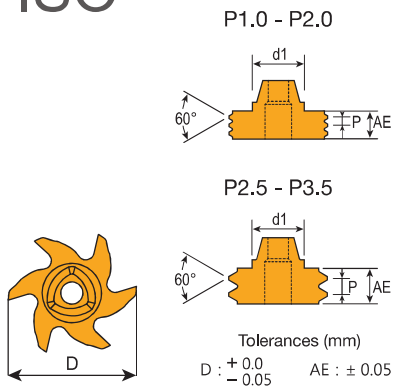
\* M.O.Q: 12PCS  
\* Make-to-Order.

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-BSW16-E,F20

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 26
- Cutting Data P. 126 - 127

ISO



UFO Family

Dimensions (mm)							
D	d1	AE	Pitch mm	Pitch t.p.i	Angle	Minimum hole diameter	
						MM	INCH
20	9.9	3.5	1.0	-	60°	22	-
		4.5	1.25	-		24	
		5.0	1.5	-		26	
		6.5	2.0	-			
		5.5	2.5	-			
		6.5	3.0	-			
		7.5	3.5	-			

Inserts	Order Code	Grades												
		Carbide					Cermet		Uncoated					
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE				
 ISO Metric (M,MF)	3T1020-ISO1.0-E												 Defined by: R262 (DIN 13) Tolerance class: 6g/6H	
	3T1020-ISO1.25-E													
	3T1020-ISO1.5-E													
	3T1020-ISO2.0-E													
	3T1020-ISO2.5-E													
	3T1020-ISO3.0-E													
	3T1020-ISO3.5-E													
	3T1020-ISO1.0-ME	⊙												 Inserts 2 PCS / Box
	3T1020-ISO1.25-ME	⊙												
	3T1020-ISO1.5-ME	⊙												
	3T1020-ISO2.0-ME	⊙												
	3T1020-ISO2.5-ME	⊙												
	3T1020-ISO3.0-ME	⊙												
	3T1020-ISO3.5-ME	⊙												

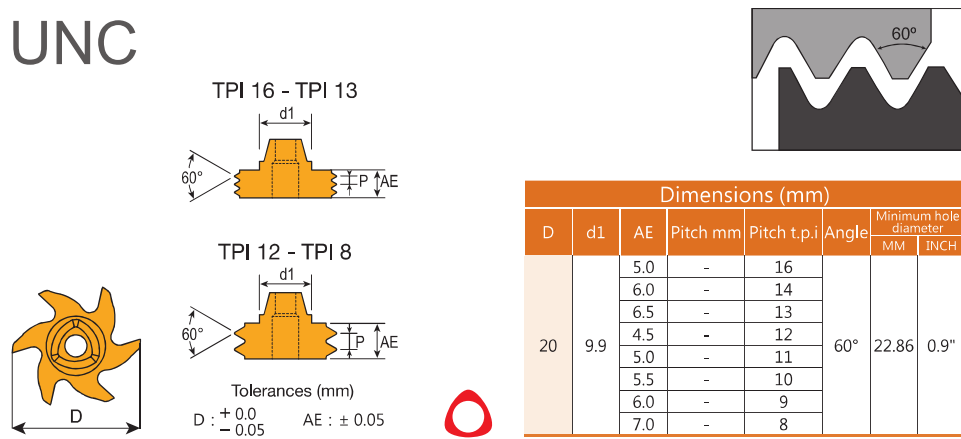
- ■ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-ISO1.0-E,F20



## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 26
- Cutting Data P. 126 - 127

### UNC



Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10		CE	
 UNC/UNF	3T1020-UNC16-E											 Defined by: R262 (DIN 13) Tolerance class: 6g/6H
	3T1020-UNC14-E											
	3T1020-UNC13-E											
	3T1020-UNC12-E											
	3T1020-UNC11-E											
	3T1020-UNC10-E											
	3T1020-UNC9-E											
	3T1020-UNC8-E											
	3T1020-UNC16-ME	⊙										
	3T1020-UNC14-ME	⊙										
	3T1020-UNC13-ME	⊙										
	3T1020-UNC12-ME	⊙										
	3T1020-UNC11-ME	⊙										
	3T1020-UNC10-ME	⊙										
3T1020-UNC9-ME	⊙											
3T1020-UNC8-ME	⊙											

- ■ Steel ■ Stainless Steel ⊙ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-UNC16-E,F20

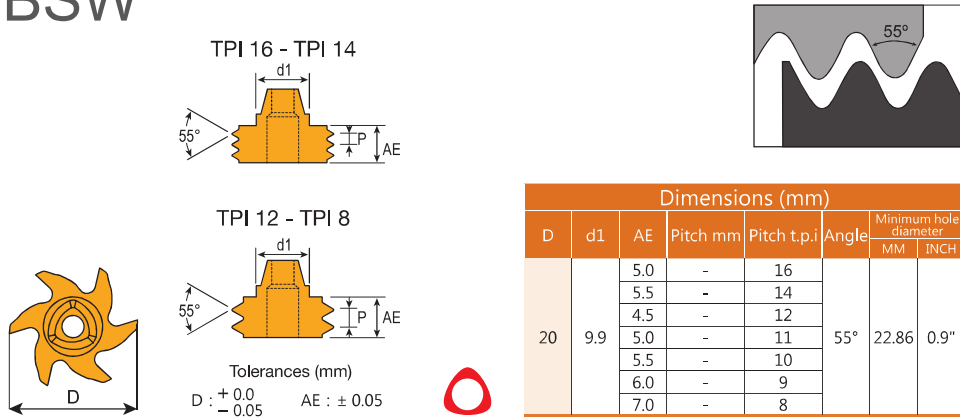
\* M.O.Q: 12PCS  
 \* Make-to-Order.

## UFO Thread Milling Inserts (Full Profile)

- Toolholders P. 26
- Cutting Data P. 126 - 127

### BSW

UFO Family



Inserts	Order Code	Grades										
		Carbide					Cermet		Uncoated			
		B100	C200	C250	F20	F30	CE100	CE60	K10	CE		
 BSW/BSF	3T1020-BSW16-E											 BSW Defined by: B.S.84:1956, DIN 259, ISO228/1:1982 BSF Defined by: B.S.2779:1956 Tolerance class: BSW- Medium class A, BSF-Medium class
	3T1020-BSW14-E											
	3T1020-BSW12-E											
	3T1020-BSW11-E											
	3T1020-BSW10-E											
	3T1020-BSW9-E											
	3T1020-BSW8-E											
	3T1020-BSW16-ME											
	3T1020-BSW14-ME											
	3T1020-BSW12-ME											
	3T1020-BSW11-ME											
	3T1020-BSW10-ME											
3T1020-BSW9-ME												
3T1020-BSW8-ME												

- ■ Steel ■ Stainless Steel ■ Steel/Stainless Steel/Super alloy ■ Cast Iron ■ Aluminum ■ Steel/Cast Iron
- ⊙ Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: 3T1020-BSW16-E,F20

\* M.O.Q: 12PCS  
\* Make-to-Order.

# TECHNICAL GUIDE

## Thread Infeed Depth and Number of Passes Recommendation

Below recommended data are applicable to steel

### • External ISO - metric threads

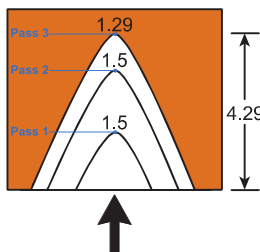
Pitch(mm)	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.75	1.5	1.25	1.0	0.80	0.75	0.50
Tot.inf.depth (mm)	3,82	3,52	3,19	2,87	2,53	2,23	1,92	1,60	1,25	1,13	0,93	0,81	0,65	0,52	0,48	0,48
Pass 1 (mm)	1,50	1,50	1,30	1,60	1,53	1,23	1,0	1,60	1,25	1,13	0,93	0,81	0,65	0,52	0,48	0,48
Pass 2 (mm)	1,30	1,20	1,10	1,37	1,0	1,0	0,92	-	-	-	-	-	-	-	-	-
Pass 3 (mm)	1,02	0,82	0,79	-	-	-	-	-	-	-	-	-	-	-	-	-

### • Internal ISO-metric threads

Pitch(mm)	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.75	1.5	1.25	1.0	0.80	0.75	0.50
Tot.inf.depth (mm)	3,54	3,25	2,96	2,65	2,33	2,05	1,78	1,48	1,17	1,05	0,85	0,75	0,60	0,49	0,46	0,31
Pass 1 (mm)	1,50	1,30	1,60	1,50	1,33	1,10	1,0	1,48	1,17	1,05	0,85	0,75	0,60	0,49	0,46	0,31
Pass 2 (mm)	1,20	1,10	1,39	1,15	1,0	0,95	0,78	-	-	-	-	-	-	-	-	-
Pass 3 (mm)	0,84	0,85	-	-	-	-	-	-	-	-	-	-	-	-	-	-

### • Internal-Inch threads

Pitch TPI	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10	11	12	14	16	18	19	20	26	28
Tot.inf.depth (mm)	4,29	3,82	3,44	2,96	2,50	2,17	1,93	1,76	1,58	1,45	1,20	1,13	1,01	0,96	0,92	0,72	0,69
Pass 1 (mm)	1,50	1,50	1,50	1,60	1,40	1,20	1,10	1,76	1,58	1,45	1,20	1,13	1,01	0,96	0,92	0,72	0,69
Pass 2 (mm)	1,50	1,30	1,20	1,36	1,10	0,97	0,83	-	-	-	-	-	-	-	-	-	-
Pass 3 (mm)	1,29	1,02	0,74	-	-	-	-	-	-	-	-	-	-	-	-	-	-



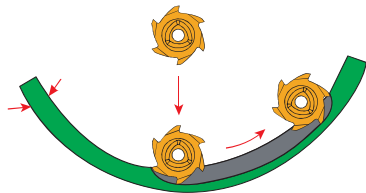
Example of thread infeed method

- To stainless steel, the infeed depth per pass should be decreased.
- The threading insert nose radius is relatively small and can be easily damaged if it is overloaded.

# Technical Guide

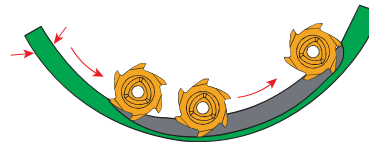
## Internal Thread

1



Plunging is not recommended

2



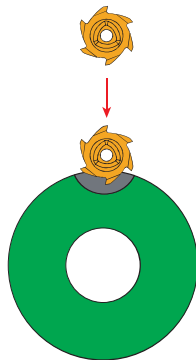
Ramping is the best choice

Highly Recommended

UFO Family

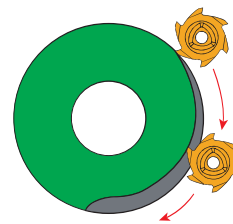
## External Thread

1



Plunging is not recommended

2



Ramping is the best choice

Highly Recommended

## About Thread Milling

In order to perform a thread milling operation, a milling machine with three-axis control capable of helical interpolation is required. Helical interpolation is a CNC function, producing movement along helical paths. This helical motion combines circular movements in the X and Y planes and perpendicular linear motions in the Z plane simultaneously. For example, the path from point A to point B (Fig.A) on the surface of the cylinder making a circular movement in the xy plane with a linear displacement in the Z direction.

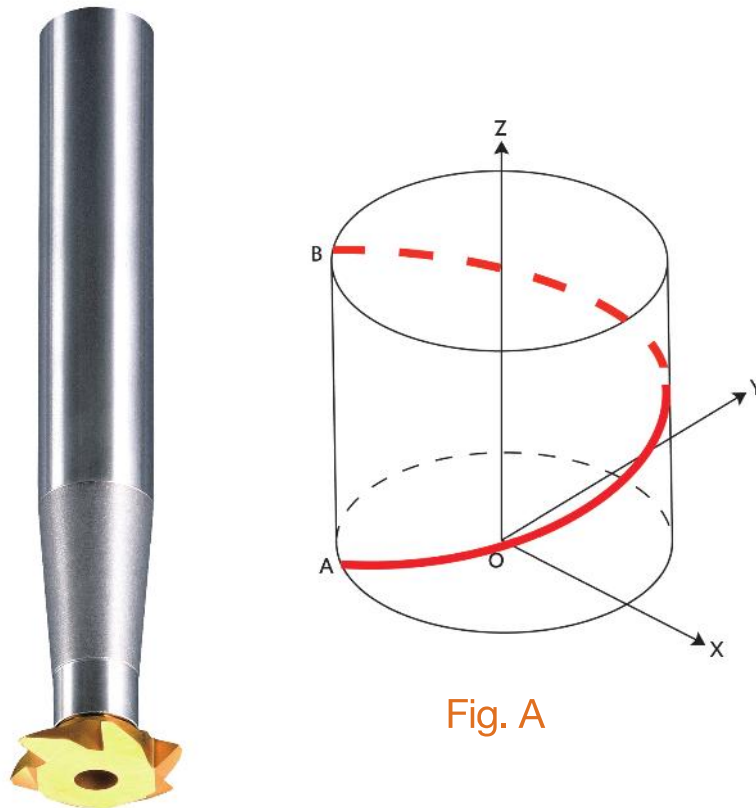
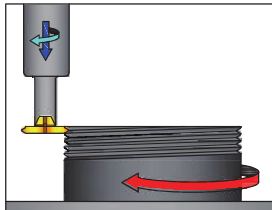


Fig. A

# Thread Milling Methods

## External

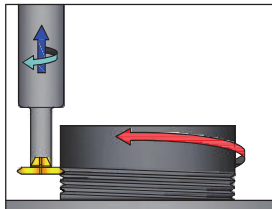
FIG.1



Right Hand Thread-Climb Milling

Highly Recommended

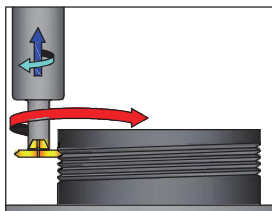
FIG.2



Left Hand Thread-Climb Milling

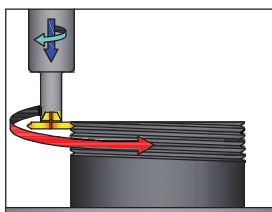
Highly Recommended

FIG.3



Right Hand Thread-Conventional Milling

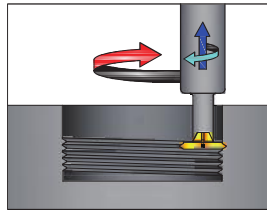
FIG.4



Left Hand Thread-Conventional Milling

## Internal

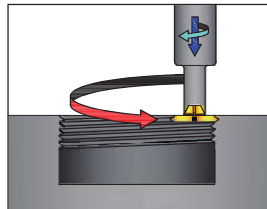
FIG.1



Right Hand Thread-Climb Milling

Highly Recommended

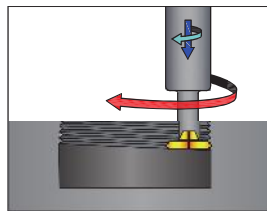
FIG.2



Left Hand Thread-Climb Milling

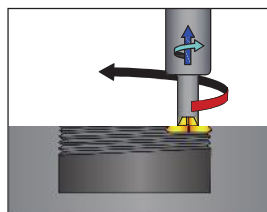
Highly Recommended

FIG.3



Right Hand Thread-Conventional Milling

FIG.4



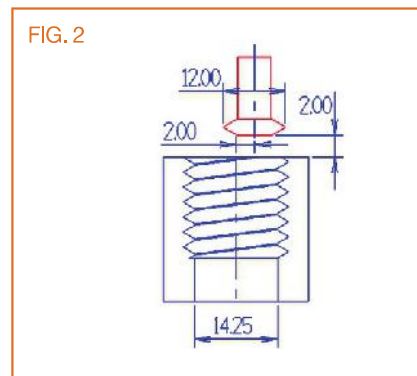
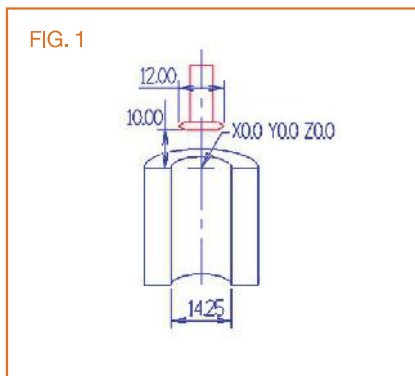
Left Hand Thread-Conventional Milling

UFO Family

## Internal Thread Milling Example CNC Code - Partial Profile Programm

Method 1/Tool offset-cutter compensation

- Insert code / 3T1-0612-60-1.0~2.5
- Milling / Climb milling / Internal thread
- Thread / M16x2.0P
- CNC programme / Fanuc / Mitsubishi



### Fanuc

```

G90 G0 G54 X0.0 Y0.0
G43 Z10.0 H1 S3978 M3 (On centerline of workpiece Fig1)
M7
G00 Z1.0 (Move to the starting point Fig 2)
G01 Z-6.0 F200
G41 D ? (cutter compensation)
G91 G03 X2.0 Y0.0 R2.0 F150
G03I-2.0 Z2.0 F630 (Thread milling)
G03I-2.0 Z2.0
G03I-2.0 Z2.0
G03I-2.0 Z2.0
G90 G01 X0.0 Y0.0 (Move out from workpiece,ready to retract)
G90 G00 Z50.0 M9 (Retract the tool)
G40 (Offset finish)
M30 (Programme finish, check the quality of thread, modify G41 D figure)
    
```

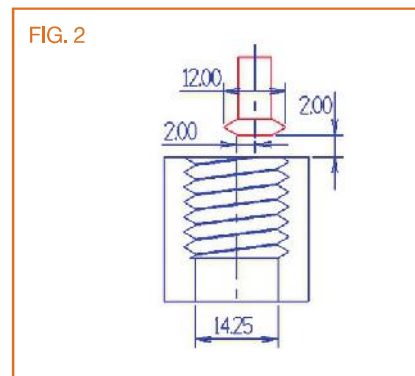
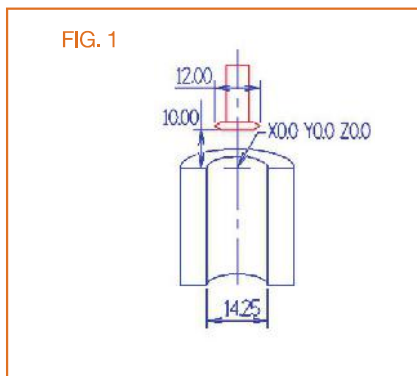
Exact cutting data  
see page 125-127

## Internal Thread Milling Example CNC Code - Partial Profile Programm

Method 2: Reset the starting point(X) and (I)figure

- Insert code / 3T1-0612-60-1.0~2.5
- Milling / Climb milling / Internal thread
- Thread / M16x2.0P
- CNC programme / Fanuc / Mitsubishi

UFO Family



### Fanuc

```

G90 G0 G54 X0.0 Y0.0
G43 Z10.0 H1 S3978 M3 (On centerline of workpiece Fig1)
M7
G00 Z1.0 (Move to the starting point Fig 2)
G01 Z-6.0 F200
G91 G03 X2.0 Y0.0 R2.0 F150
G03 I-2.0 Z2.0 F630 (Thread milling)
G03 I-2.0 Z2.0
G03 I-2.0 Z2.0
G03 I-2.0 Z2.0
G90 G01 X0.0 Y0.0 (Move out from workpiece,ready to retract)
G90 G00 Z50.0 M9 (Retract the tool)
M30 (Programme finish, check the quality of thread, modify X.I. figure)
    
```

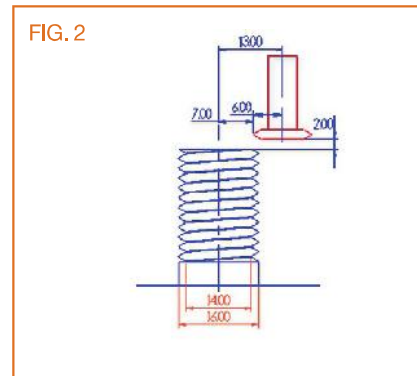
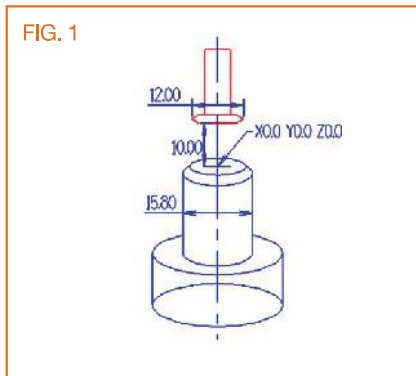
Exact cutting data  
see page 125-127



## External Thread Milling Example CNC Code - Partial Profile Programm

Method 1/Tool offset-cutter compensation

- Insert code / 3T1-0612-60-1.0~2.5
- Milling / Climb milling / External thread
- Thread / M16x2.0P
- CNC programme / Fanuc/Mitsubishi



### Fanuc

```
G90 G0 G54 X0.0 Y0.0
G43 Z10.0 H1 S3978 M3 (On centerline of workpiece Fig1)
M7
G00 X13.0 Y0.0 (Move to the starting point Fig 2)
G41 D ? (cutter compensation)
G01 Z2.0 F200
G91 G02I-13.0 Z-2.0 F630 (Thread milling)
G02I-13.0 Z-2.0
G02I-13.0 Z-2.0
G02I-13.0 Z-2.0
G90 G01 X16.0 (Move out from workpiece,ready to retract)
G90 G00 Z50.0 M9 (Retract the tool)
G40 (Offset finish)
M30 (Programme finish, check the quality of thread, modify G41 D figure)
```

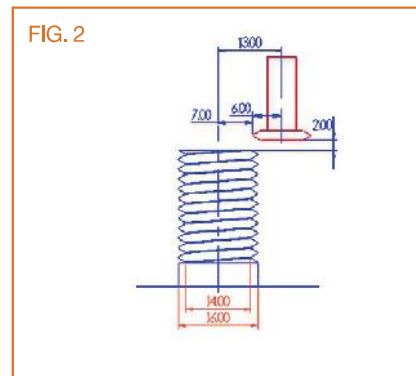
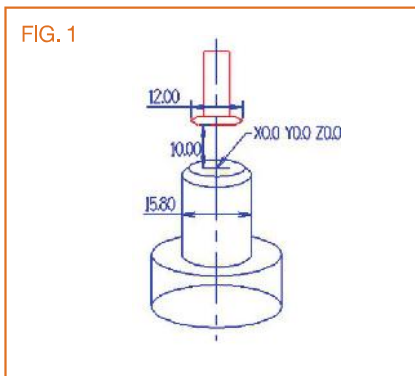
Exact cutting data  
see page 125-127

## External Thread Milling Example CNC Code - Partial Profile Programm

Method 2: Reset the starting point(X) and (I)figure

- Insert code / 3T1-0612-60-1.0~2.5
- Milling / Climb milling / External thread
- Thread / M16x2.0P
- CNC programme / Fanuc / Mitsubishi

UFO Family



### Fanuc

```
G90 G0 G54 X0.0 Y0.0
G43 Z10.0 H1 S3978 M3 (On centerline of workpiece Fig1)
M7
G00 X13.0 Y0.0 (Move to the contour starting point Fig 2)
G01 Z2.0 F200
G91 G02 I-13.0 Z-2.0 F630 (Thread milling)
G02 I-13.0 Z-2.0
G02 I-13.0 Z-2.0
G02 I-13.0 Z-2.0
G90 G01 X16.0 (Move out from workpiece,ready to retract)
G90 G00 Z50.0 M9 (Retract the tool)
M30 (Programme finish, check the quality of thread, modifyX.I figure)
```

Exact cutting data  
see page 125-127

## Recommended Preparatory Drill Diameter And Available Inserts

Insert diameter : ●  $\varnothing 12$  ●  $\varnothing 15$  ●  $\varnothing 20$  ●  $\varnothing 25$

Size	Maximum drill diameter			Size	Maximum drill diameter		
	4H	5H	6H		4H	5H	6H
M1 x 0.25	0.77	0.78	0.80	M8 x 1.00	7.06	7.10	7.15
M1 x 0.20	0.82	0.83	0.84	M8 x 0.75	7.30	7.33	7.37
M1.1 x 0.25	0.87	0.88	0.90	M8 x 0.50	7.54	7.57	7.59
M1.1 x 0.20	0.92	0.93	0.94	M9 x 1.25	7.81	7.85	7.91
M1.2 x 0.25	0.97	0.98	1.00	M9 x 1.00	8.06	8.10	8.15
M1.2 x 0.20	1.02	1.03	1.04	M9 x 0.75	8.30	8.33	8.37
M1.4 x 0.30	1.12	1.14	1.16	M9 x 0.50	8.54	8.57	8.59
M1.4 x 0.20	1.22	1.23	1.24	M10 x 1.50	8.52	8.61	8.67
M1.6 x 0.35	1.28	1.30	1.32	M10 x 1.25	8.81	8.85	8.91
M1.6 x 0.20	1.42	1.43	1.44	M10 x 1.00	9.06	9.10	9.15
M1.7 x 0.35	1.38	1.40	1.42	M10 x 0.75	9.30	9.33	9.37
M1.7 x 0.30	1.42	1.44	1.46	M10 x 0.50	9.54	9.57	9.59
M1.7 x 0.25	1.47	1.48	1.50	M11 x 1.50	9.52	9.61	9.67
M1.7 x 0.20	1.52	1.53	1.54	M11 x 1.00	10.06	10.10	10.15
M1.8 x 0.35	1.48	1.50	1.52	M11 x 0.75	10.30	10.33	10.37
M1.8 x 0.20	1.62	1.63	1.64	M11 x 0.50	10.54	10.57	10.59
M2 x 0.40	1.63	1.65	1.67	M12 x 1.75	10.31	10.37	10.44
M2 x 0.25	1.77	1.78	1.80	M12 x 1.50	10.56	10.61	10.67
M2.2 x 0.45	1.79	1.81	1.83	M12 x 1.25	10.81	10.85	10.91
M2.2 x 0.25	1.97	1.98	2.00	M12 x 1.00	11.06	11.10	11.15
M2.3 x 0.40	1.93	1.95	1.97	M12 x 0.75	11.30	11.33	11.37
M2.3 x 0.35	1.98	2.00	2.02	M12 x 0.50	11.54	11.57	11.59
M2.3 x 0.25	2.07	2.08	2.10	M13 x 1.75	11.31	11.37	11.44
M2.5 x 0.45	2.09	2.11	2.13	M13 x 1.50	11.56	11.61	11.67
M2.5 x 0.35	2.18	2.20	2.22	M13 x 1.25	11.81	11.85	11.91
M2.6 x 0.45	2.19	2.22	2.23	M13 x 1.00	12.06	12.10	12.15
M2.6 x 0.35	2.28	2.30	2.32	M13 x 0.75	12.03	12.33	12.37
M3 x 0.50	2.54	2.57	2.59	M13 x 0.50	12.54	12.57	12.59
M3 x 0.35	2.68	2.70	2.72	M14 x 2.00	12.07	12.13	12.21
M3.5 x 0.60	2.95	2.97	3.01	M14 x 1.50	12.56	12.61	12.67
M3.5 x 0.35	3.18	3.20	3.22	M14 x 1.25	-	-	12.91
M4 x 0.70	3.35	3.38	3.42	M14 x 1.00	13.06	13.10	13.15
M4 x 0.50	3.54	3.57	3.59	M14 x 0.75	13.30	13.33	13.37
M4.5 x 0.75	3.80	3.83	3.87	M14 x 0.50	13.54	13.57	13.59
M4.5 x 0.50	4.04	4.07	4.09	M15 x 2.00	13.07	13.13	13.21
M5 x 0.90	4.15	4.19	4.23	M15 x 1.50	13.56	13.61	13.67
M5 x 0.80	4.25	4.29	4.33	M15 x 1.25	13.81	13.85	13.91
M5 x 0.50	4.54	4.57	4.59	M15 x 1.00 ●	14.06	14.10	14.15
M5.5 x 0.90	4.65	4.69	4.73	M15 x 0.75	14.30	14.33	14.37
M5.5 x 0.75	4.80	4.83	4.87	M15 x 0.50	14.54	14.57	14.59
M5.5 x 0.50	5.04	5.07	5.09	M16 x 2.00 ●	14.07	14.13	14.21
M6 x 1.00	5.06	5.10	5.15	M16 x 1.50 ●	14.56	14.61	14.67
M6 x 0.75	5.30	5.33	5.37	M16 x 1.00 ●	15.06	15.10	15.15
M6 x 0.50	5.54	5.57	5.59	M17 x 2.00 ●	15.07	15.13	15.21
M7 x 1.00	6.06	6.10	6.15	M17 x 1.50 ●	15.56	15.61	15.67
M7 x 0.75	6.30	6.33	6.37	M17 x 1.25 ●	15.81	15.85	15.91
M7 x 0.50	6.54	6.57	6.59	M17 x 1.00 ●	16.06	16.10	16.15
M8 x 1.25	6.81	6.85	6.91				

## Recommended Preparatory Drill Diameter And Available Inserts

Insert diameter : ●  $\varnothing 12$  ●  $\varnothing 15$  ●  $\varnothing 20$  ●  $\varnothing 25$

Size	Maximum drill diameter			Size	Maximum drill diameter				
	4H	5H	6H		4H	5H	6H		
M17 x 0.75		16.30	16.33	16.37	M28 x 1.00	●●●●	27.06	27.10	27.15
M17 x 0.50		16.54	16.57	16.59	M30 x 3.50	●●●●	26.56	26.66	26.77
M18 x 2.50	●	15.57	15.64	15.74	M30 x 3.00	●●●●	27.06	27.15	27.25
M18 x 2.00	●	16.07	16.13	16.21	M30 x 2.00	●●●●	28.07	28.13	28.21
M18 x 1.50	●	16.56	16.61	16.67	M30 x 1.50	●●●●	28.56	28.61	28.67
M18 x 1.00	●●	17.06	17.10	17.15	M30 x 1.00	●●●●	29.06	29.10	29.15
M19 x 2.50	●	16.57	16.64	16.74	M32 x 3.00	●●●●	29.06	29.15	29.25
M19 x 2.00	●●	17.07	17.13	17.21	M32 x 2.00	●●●●	30.07	30.13	30.21
M19 x 1.50	●●	17.56	17.61	17.67	M32 x 1.50	●●●●	30.56	30.61	30.67
M19 x 1.25	●●	17.81	17.85	17.91	M33 x 3.50	●●●●	29.56	29.66	29.77
M19 x 1.00	●●	18.06	18.10	18.15	M33 x 3.00	●●●●	30.06	30.15	30.25
M19 x 0.75		18.30	18.33	18.37	M33 x 2.00	●●●●	31.07	31.13	31.21
M19 x 0.50		18.54	18.57	18.59	M33 x 1.50	●●●●	31.56	31.61	31.67
M20 x 2.50	●●	17.57	17.64	17.74	M33 x 1.00	●●●●	32.06	32.10	32.15
M20 x 2.00	●●	18.07	18.13	18.21	M34 x 3.00	●●●●	31.06	31.15	31.25
M20 x 1.50	●●	18.56	18.61	18.67	M34 x 2.00	●●●●	32.07	32.13	32.21
M20 x 1.00	●●	19.06	19.10	19.15	M34 x 1.50	●●●●	32.56	32.61	32.67
M21 x 2.50	●●	18.57	18.64	18.74	M34 x 1.00	●●●●	33.06	33.10	33.15
M21 x 1.50	●●	19.56	19.61	19.67	M35 x 3.00	●●●●	32.06	32.15	32.25
M21 x 1.00	●●	20.06	20.10	20.15	M35 x 1.50	●●●●	33.56	33.61	33.67
M22 x 2.50	●●	19.57	19.64	19.74	M35 x 1.00	●●●●	34.06	34.10	34.15
M22 x 2.00	●●	20.07	20.13	20.21	M36 x 4.00	●●●●	32.04	32.14	32.27
M22 x 1.50	●●	20.56	20.61	20.67	M36 x 3.00	●●●●	33.06	33.15	33.25
M22 x 1.00	●●	21.06	21.10	21.15	M36 x 2.00	●●●●	34.07	34.13	34.21
M23 x 2.50	●●	20.57	20.64	20.74	M36 x 1.50	●●●●	34.56	34.61	34.67
M23 x 2.00	●●	21.07	21.13	21.21	M36 x 1.00	●●●●	35.06	35.10	35.15
M23 x 1.50	●●	21.56	21.61	21.67	M37 x 1.50	●●●●	35.56	35.61	35.67
M23 x 1.00	●●●	22.06	22.10	22.15	M37 x 1.00	●●●●	36.06	36.10	36.15
M24 x 3.00	●	21.06	21.15	21.25	M38 x 4.00	●●●●	34.04	34.14	34.27
M24 x 2.00	●●●	22.07	22.13	22.21	M38 x 3.00	●●●●	35.06	35.15	35.25
M24 x 1.50	●●●	22.56	22.61	22.67	M38 x 2.00	●●●●	36.07	36.13	36.21
M24 x 1.00	●●●	23.06	23.10	23.15	M38 x 1.50	●●●●	36.56	36.61	36.67
M25 x 3.00	●●	22.06	22.15	22.25	M39 x 4.00	●●●●	35.04	35.14	35.27
M25 x 2.00	●●●	23.07	23.13	23.21	M39 x 3.00	●●●●	36.06	36.15	36.25
M25 x 1.50	●●●	23.56	23.61	23.67	M39 x 2.00	●●●●	37.07	37.13	37.21
M25 x 1.00	●●●	24.06	24.10	24.15	M39 x 1.50	●●●●	37.56	37.61	37.67
M26 x 3.00	●●	23.06	23.15	23.25	M39 x 1.00	●●●●	38.06	38.10	38.15
M26 x 2.00	●●●	24.07	24.13	24.21	M40 x 4.00	●●●●	36.04	36.14	36.27
M26 x 1.50	●●●	24.56	24.61	24.67	M40 x 3.00	●●●●	37.06	37.15	37.25
M27 x 3.00	●●	24.06	24.15	24.25	M40 x 2.00	●●●●	38.07	38.13	38.21
M27 x 2.50	●●●	24.57	24.64	24.74	M40 x 1.50	●●●●	38.56	38.61	38.67
M27 x 2.00	●●●	25.07	25.13	25.21	M40 x 1.00	●●●●	39.06	39.10	39.15
M27 x 1.50	●●●	25.56	25.61	25.67	M42 x 4.50	●●●●	37.55	37.65	37.79
M27 x 1.00	●●●	26.06	26.10	26.15	M42 x 4.00	●●●●	38.04	38.14	38.27
M28 x 3.00	●●	25.06	25.15	25.25	M42 x 3.00	●●●●	39.06	39.15	39.25
M28 x 2.00	●●●	26.07	26.13	26.21	M42 x 2.00	●●●●	40.70	40.13	40.21
M28 x 1.50	●●●	26.56	26.61	26.67	M42 x 1.50	●●●●	40.56	40.61	40.67

## Recommended Preparatory Drill Diameter And Available Inserts

Insert diameter : ●  $\varnothing$ 12 ●  $\varnothing$ 15 ●  $\varnothing$ 20 ●  $\varnothing$ 25

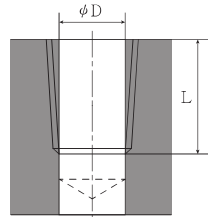
Size	Maximum drill diameter			
	4H	5H	6H	
M45 x 4.50	●	40.55	40.65	40.79
M45 x 4.00	●	41.04	41.14	41.27
M45 x 3.00	●●●	42.06	42.15	42.25
M45 x 2.00	●●●●	43.07	43.13	43.21
M45 x 1.50	●●●●●	43.56	43.61	43.67
M45 x 1.00	●●●●●●	44.06	44.10	44.15
M48 x 1.50	●●●●●	44.56	44.61	44.67
M48 x 5.00	●	43.03	43.14	43.29
M48 x 4.00	●	44.04	44.14	44.27
M48 x 3.00	●●●	45.06	45.15	45.25
M48 x 2.00	●●●●	46.07	46.13	46.21
M48 x 1.50	●●●●●	46.56	46.61	46.67
M48 x 1.00	●●●●●●	47.06	47.10	47.15
M50 x 5.00	●	45.03	45.14	45.29
M50 x 3.00	●●●	47.06	47.15	47.25
M50 x 2.00	●●●●	48.07	48.13	48.21
M50 x 1.50	●●●●●	48.56	48.61	48.67
M50 x 1.00	●●●●●●	49.10	49.10	49.15
M52 x 5.00	●	47.00	47.10	47.20
M52 x 4.00	●	48.00	48.10	48.20
M52 x 3.00	●●●	49.00	49.10	49.20
M52 x 2.00	●●●●	50.00	50.10	50.20
M52 x 1.50	●●●●●	50.50	50.60	50.60
M55 x 4.00	●	51.00	51.10	51.20
M55 x 3.00	●●●	52.00	52.10	52.20
M55 x 2.00	●●●●	53.00	53.10	53.20
M55 x 1.50	●●●●●	53.50	53.60	53.60
M56 x 5.50		50.50	50.60	50.70
M56 x 4.00	●	52.00	52.10	52.20
M56 x 3.00	●●●	53.00	53.10	53.20
M56 x 2.00	●●●●	54.00	54.10	54.20
M56 x 1.50	●●●●●	54.50	54.60	54.60
M58 x 4.00	●	54.00	54.10	54.20
M58 x 3.00	●●●	55.00	55.10	55.20
M58 x 2.00	●●●●	56.00	56.10	56.20
M58 x 1.50	●●●●●	56.50	56.60	56.60
M60 x 5.50		54.50	54.60	54.70
M60 x 4.00	●	56.00	56.10	56.20
M60 x 3.00	●●●	57.00	57.10	57.20
M60 x 2.00	●●●●	58.00	58.10	58.20
M60 x 1.50	●●●●●	58.50	58.60	58.60
M62 x 4.00	●	58.00	58.10	58.20
M62 x 3.00	●●●	59.00	59.10	59.20
M62 x 2.00	●●●●	60.00	60.10	60.2

Size	Maximum drill diameter			
	4H	5H	6H	
M62 x 1.50	●●●●	60.5	60.6	60.6
M64 x 6.00		58	58.1	58.2
M64 x 4.00	●	60	60.1	60.2
M64 x 3.00	●●●	61	61.1	61.2
M64 x 2.00	●●●●	62	62.1	62.2
M64 x 1.50	●●●●●	62.5	62.6	62.6
M65 x 4.00	●	61	61.1	61.2
M65 x 3.00	●●●	62	62.1	62.2
M65 x 2.00	●●●●	63	63.1	63.2
M65 x 1.50	●●●●●	63.5	63.6	63.6
M68 x 6.00		62	62.1	62.2
M68 x 4.00	●	64	64.1	64.2
M68 x 3.00	●●●	65	65.1	65.2
M68 x 2.00	●●●●	66	66.1	66.2
M68 x 1.50	●●●●●	66.5	66.6	66.6
M70 x 6.00		64	64.1	64.3
M70 x 4.00	●	66	66.1	66.2
M70 x 3.00	●●●	67	67.1	67.2
M70 x 2.00	●●●●	68	68.1	68.2
M72 x 6.00		66	66.1	66.3
M72 x 4.00	●	68	68.1	68.2
M72 x 3.00	●●●	69	69.1	69.2
M72 x 2.00	●●●●	70	70.1	70.2
M75 x 4.00	●	71	71.1	71.2
M75 x 3.00	●●●	72	72.1	72.2
M75 x 2.00	●●●●	73	73.1	73.2
M76 x 2.00	●●●●	74	74.1	74.2
M80 x 6.00	●●●●	74	74.1	74.3
M80 x 4.00	●	76	76.1	76.2
M80 x 3.00	●●●	77	77.1	77.2
M80 x 2.00	●●●●	78	78.1	78.2
M85 x 6.00		79	79.1	79.3
M85 x 4.00	●	81	81.1	81.2
M85 x 3.00	●●●	82	82.1	82.2
M85 x 2.00	●●●●	83	83.1	83.2
M90 x 6.00		84	84.1	84.3
M90 x 4.00	●	86	86.1	86.2
M90 x 2.00	●●●●	88	88.1	88.2
M95 x 6.00		89	89.1	89.3
M95 x 4.00	●	91	91.1	91.2
M95 x 2.00	●●●●	93	93.1	93.2
M100x 6.00		94	94.1	94.3
M100x 4.00	●	96	96.1	96.2
M100x 2.00	●●●●	98	98.1	98.2

## RC ( BSPT )

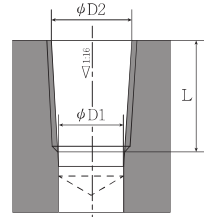
### Recommended Thread Dia / T.P.I / Minimum Bore Dia

1. Cylindrical drilling without reamer



Nom. size D	P Gg/1" (tpi)	φ D	L
Rc 1/16"	28	6,15	7,85
1/8"	28	8,15	7,85
1/4"	19	10,85	11,65
3/8"	19	14,3	12,05
1/2"	14	17,8	15,9
3/4"	14	23,2	16,75
1"	11	29,2	19,65
1 1/4"	11	37,8	21,95
1 1/2"	11	43,7	21,95
2"	11	55,2	26,25

2. Cylindrical drilling with reamer to form taper thread



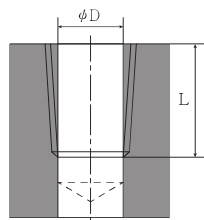
Nom. size D	P Gg/1" (tpi)	φ D1	φ D2	L
Rc 1/16"	28	6,1	6,56	7,85
1/8"	28	8,1	8,57	7,85
1/4"	19	10,75	11,45	11,65
3/8"	19	14,25	14,95	12,05
1/2"	14	17,7	18,63	15,9
3/4"	14	23,1	24,12	16,75
1"	11	29,1	30,29	19,65
1 1/4"	11	37,6	38,95	21,95
1 1/2"	11	43,5	44,85	21,95
2"	11	55	56,66	26,25

UFO Family

## NPT

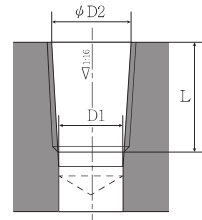
### Recommended Thread Dia / T.P.I / Minimum Bore Dia

1. Cylindrical drilling without reamer



Nom. size D	P Gg/1" (tpi)	φ D	L
NPT 1/16"	27	6,15	8,3
1/8"	27	8,5	8,3
1/4"	18	11	12,15
3/8"	18	14,4	12,45
1/2"	14	17,8	16,3
3/4"	14	23,15	16,3
1"	11 1/2"	29,05	19,55
1 1/4"	11 1/2"	37,8	20,05
1 1/2"	11 1/2"	43,85	20,05
2"	11 1/2"	55,85	20,45

2. Cylindrical drilling with reamer to form taper thread



Nom. size D	P Gg/1" (tpi)	φ D1	φ D2	L
NPT 1/16"	27	5,95	6,39	8,3
1/8"	27	8,3	8,74	8,3
1/4"	18	10,75	11,36	12,15
3/8"	18	14,15	14,80	12,45
1/2"	14	17,45	18,32	16,3
3/4"	14	22,8	23,67	16,3
1"	11 1/2"	28,65	29,69	19,55
1 1/4"	11 1/2"	37,35	38,45	20,05
1 1/2"	11 1/2"	43,45	44,52	20,05
2"	11 1/2"	55,45	56,56	20,45

# UFO BACK BORING



## Features

Available in  
materials

P K M  
N S H

Cost  
**200~300%**  
SAVING

Applicable  
Machines  
CNC Milling machine  
Drilling M/C

Efficiency  
**400%**  
UP

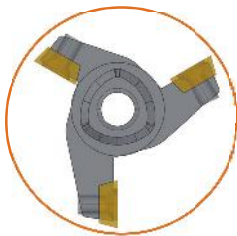
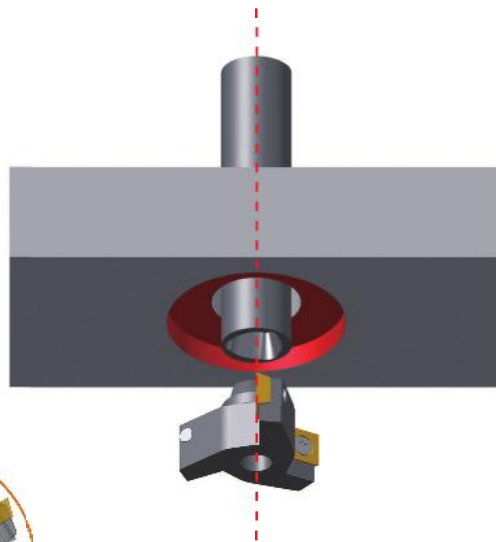
Durability  
**300%**  
UP

UFO  
A Type  
Back Boring  
Cutter

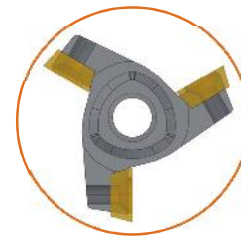
# UFO



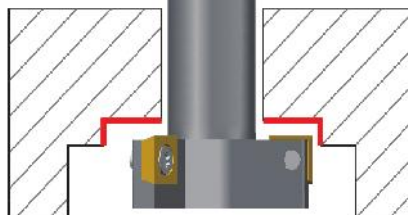
UFO Family



Inserts set at unequal distance from the center. Applicable with cutter  $\varnothing 23$ - $\varnothing 60$  mm.



Inserts set at equal distance from the center. Applicable with cutter  $\varnothing 18$ - $\varnothing 22$  mm



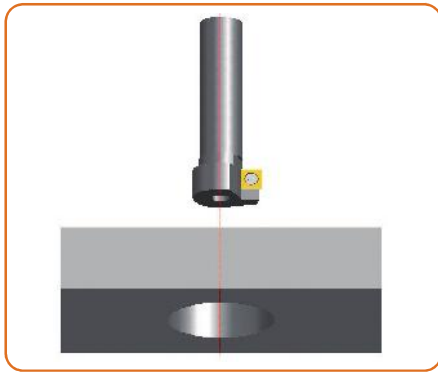


UFO  
B Type  
Back Boring  
Cutter

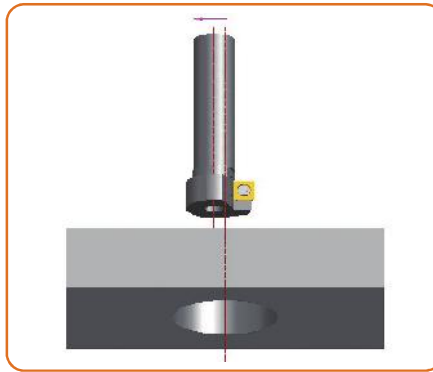
# UFO



1. Centerline



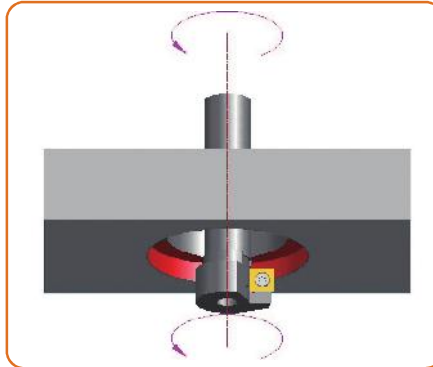
2. Tool displacement



3. Machining



4. Back to center line



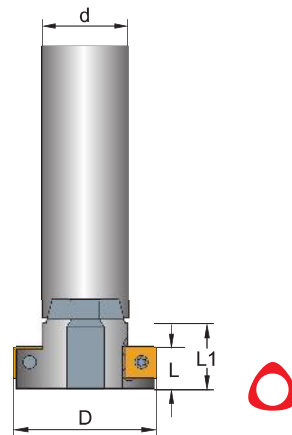
\* The price and lead time are based on present conditions.

# PRODUCT SPECIFICATIONS

UFO Family

## UFO Back Boring Cutter - A Type

- Toolholders P. 26
- Insert P. 118
- Cutting Data P. 118

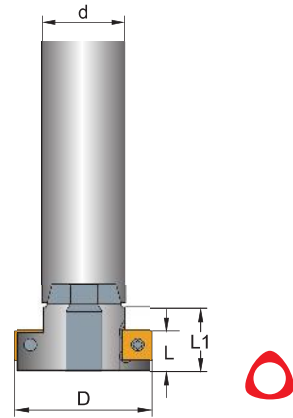


### B3T

Order Code						Z	ZC	KG	MAX RPM	Inserts SDET	Screw	Key
Shank	Cutter	D	d	L	L1							
CB3-1010-80-20 CB3-1010-100-20	B3T-1018	18	10.4	9	14	2	1	0.04	14000	060208	C02506	T08P
	B3T-1018.5	18.5										
	B3T-1019	19										
	B3T-1019.5	19.5				3						
	B3T-1020	20										
	B3T-1020.5	20.5										
	B3T-1021	21										
	B3T-1021.5	21.5										
	B3T-1022	22										

## UFO Back Boring Cutter - A Type

- Toolholders P. 27 - 28
- Insert P. 118
- Cutting Data P. 118

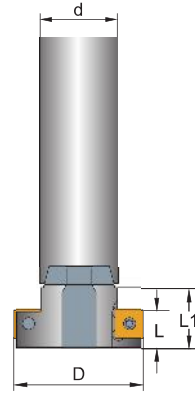


**B3T**

Order Code						Z	ZC	KG	MAX RPM	Inserts SDET	Screw	Key					
Shank	Cutter	D	d	L	L1												
CB3-1212-90-25 CB3-1212-110-25	B3T-1223	23	12.4	9	14	3	1	0.04	13000	060208	C02506	T08P					
	B3T-1224	24															
	B3T-1225	25															
	B3T-1226	26															
	B3T-1227	27															
	B3T-1228	28															
	B3T-1229	29															
	B3T-1230	30															
CB3-1616-120-30 CB3-1616-150-30	B3T-1631	31	16.4	12	17	3	1	0.06	12500	09T308	C04008	T15P					
	B3T-1632	32															
	B3T-1633	33															
	B3T-1634	34															
	B3T-1635	35															
	B3T-1636	36															
	B3T-1637	37															
	B3T-1638	38															
	B3T-1639	39															
	B3T-1640	40															

## UFO Back Boring Cutter - A Type

- Toolholders P. 29
- Insert P. 118
- Cutting Data P. 118



UFO Family

**B3T**

Order Code						Z	ZC	KG	MAX RPM	Inserts SDET	Screw	Key
Shank	Cutter	D	d	L	L1							
CB3-2525-110 CB3-2525-170	B3T-2541	41	25.4	12	17	3	1	0.14	10000	09T308	C04008	T15P
	B3T-2542	42										
	B3T-2543	43										
	B3T-2544	44										
	B3T-2545	45										
	B3T-2546	46										
	B3T-2547	47										
	B3T-2548	48										
	B3T-2549	49										
	B3T-2550	50										
	B3T-2551	51										
	B3T-2552	52										
	B3T-2553	53										
	B3T-2554	54										
	B3T-2555	55										
	B3T-2556	56										
	B3T-2557	57										
	B3T-2558	58										
	B3T-2559	59										
	B3T-2560	60										

## Recommended Insert Grades

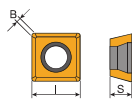
### • UFO Back Boring Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth)	Inserts			
		SDET.....ME	SDET.....E		
1	0.04-0.08	B100	-	-	-
2		B100	-	-	-
3	0.04-0.07	B100	-	-	-
4		B100	-	-	-
5		B100	-	-	-
6	0.04-0.06	B100	-	-	-
7		B100	-	-	-
8		B100	-	-	-
9	0.04-0.08	B100	-	-	-
10		B100	-	-	-
11	0.04-0.06	B100	-	-	-
12		F30	-	-	-
13	0.07-0.1	F30	-	-	-
14		F30	-	-	-
15	0.07-0.08	F30	-	-	-
16		-	-	-	-
17	0.1-0.2	-	-	-	-
18		-	-	-	-
19	0.04-0.06	B100	-	-	-
20	0.04-0.05	B100	-	-	-
21	0.03-0.04	B100	-	-	-
22	0.04-0.05	B100	-	-	-

## Recommended Cutting Data - UFO Back Boring Cutter

### • Recommended Cutting Speed, Vc(m/min)

Material group	Grades										
	B100	C250	F20	CE60	CE	K10	F30				
	fz (mm/tooth)										
	0.04	0.06	0.08			0.08	0.10	0.12	0.08	0.10	0.12
Cutting speed, v <sub>c</sub> (m/min)											
1	16	18	20	-	-	-	-	-	-	-	-
2	16	18	20	-	-	-	-	-	-	-	-
3	14	12	10	-	-	-	-	-	-	-	-
4	14	12	10	-	-	-	-	-	-	-	-
5	12	10	8	-	-	-	-	-	-	-	-
6	12	10	8	-	-	-	-	-	-	-	-
7	8	-	-	-	-	-	-	-	-	-	-
8	14	12	10	-	-	-	-	-	-	-	-
9	14	12	10	-	-	-	-	-	-	-	-
10	12	10	8	-	-	-	-	-	-	-	-
11	12	10	8	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	40	35	30
13	-	-	-	-	-	-	-	-	40	35	30
14	-	-	-	-	-	-	-	-	30	25	20
15	-	-	-	-	-	-	-	-	30	25	20
16	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-
20	8	10	-	-	-	-	-	-	-	-	-
21	8	10	-	-	-	-	-	-	-	-	-
22	8	10	-	-	-	-	-	-	-	-	-



Tolerances (± mm)  
I S  
SDET 0,03 0,025



Inserts 10 PCS /Box

Code	Dimensions (mm)		
	I	S	B
0602	6.0	2.3	0.4
09T3	9.0	3.97	0.5

Inserts	Order Code	Grades								
		Carbide					Metal cermet		Uncoated	
		B100	C200	C250	F20	F30	CE25	CE60	K10	CE
	SDET060208N-ME	⊗								
	SDET09T308TN-M	⊗								

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: SDET060208N-ME, B100

## Recommended Insert Grades - UFO T-slot Cutter / Radius / Dual Chamfer / Dovetail / Circlip / Dual Corner Rounding



UFO Family

### • Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		ME	E		
1	-	B100	-	-	-
2	-	B100	-	-	-
3	-	B100	-	-	-
4	-	B100	-	-	-
5	-	B100	-	-	-
6	-	B100	-	-	-
7	-	B100	-	-	-
8	-	B100	-	-	-
9	-	B100	-	-	-
10	-	B100	-	-	-
11	-	B100	-	-	-
12	-	F20	-	-	-
13	-	F20	-	-	-
14	-	F20	-	-	-
15	-	F20	-	-	-
16	-	-	K10,F20	-	-
17	-	-	K10,F20	-	-
18	-	-	-	-	-
19	-	-	-	-	-
20	-	B100	-	-	-
21	-	B100	-	-	-
22	-	B100	-	-	-

### • Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.05	0.10	0.14	0.65
Side Milling	2%	0.21	0.44	0.65	1.20
	5%	0.14	0.28	0.41	1.10
	10%	0.10	0.20	0.30	1.00
	20%	0.07	0.14	0.21	0.90
	30%	0.06	0.12	0.18	0.85
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-

## Recommended Insert Grades - UFO T-slot Cutter / Radius / Dual Chamfer / Dovetail / Circlip / Dual Corner Rounding




• Recommended Cutting Speed, Vc (m/min)

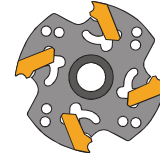
Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, v <sub>c</sub> (m/min)						
1	179 161 140	-	-	-	-	-	-
2	140 126 113	-	-	-	-	-	-
3	126 113 102	-	-	-	-	-	-
4	112 102 91	-	-	-	-	-	-
5	101 91 81	-	-	-	-	-	-
6	91 - -	-	-	-	-	-	-
7	40 - -	-	-	-	-	-	-
8	160 - 70	-	-	-	-	-	-
9	160 - 70	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	130 120 110	-	-	-	-
13	-	-	120 110 100	-	-	-	-
14	-	-	90 80 70	-	-	-	-
15	-	-	60 50 -	-	-	-	-
16	-	-	1150 950 850	-	-	1150 950 850	-
17	-	-	950 780 700	-	-	950 780 700	-
18	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	-	-	-	-	-

\* Coolant is always required

• Fz (mm/tooth)

	fz (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
0.5-0.7 mm	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.04	0.02-0.05	0.01-0.015
0.8-1.0 mm	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.04	0.02-0.05	0.01-0.02
1.1-1.3 mm	0.025-0.04	0.015-0.04	0.015-0.04	0.02-0.05	0.02-0.06	0.015-0.025
1.4-1.6 mm	0.025-0.04	0.02-0.03	0.02-0.04	0.025-0.06	0.03-0.07	0.02-0.03
1.7-2.2 mm	0.03-0.05	0.02-0.04	0.02-0.05	0.03-0.07	0.03-0.08	0.02-0.035
2.5-3.0 mm	0.03-0.05	0.03-0.045	0.03-0.05	0.03-0.08	0.04-0.10	0.025-0.04
3.5-4.0 mm	0.03-0.05	0.03-0.045	0.03-0.05	0.03-0.08	0.04-0.10	0.025-0.04
4.2-5.0 mm	0.04-0.07	0.03-0.06	0.04-0.07	0.05-0.10	0.05-0.10	0.025-0.05

## Recommended Insert Grades - UFO T-slot Cutter



UFO Family

### • UFO T-slot Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		LNGT EE	LNGT M	LNGT ME	
1	0.04-0.12	-	B100	B100	-
2	0.04-0.10	-	B100	B100	-
3	0.04-0.10	-	B100	B100	-
4	0.04-0.10	-	B100	B100	-
5	0.04-0.08	-	B100	B100	-
6	0.04-0.07	-	B100	B100	-
7	0.03-0.06	-	-	B100	-
8	0.04-0.12	-	-	B100	-
9	0.04-0.10	-	-	B100	-
10	0.04-0.09	-	-	B100	-
11	0.04-0.08	-	-	B100	-
12	0.04-0.12	-	-	F20	-
13	0.04-0.12	-	-	F20	-
14	0.04-0.11	-	-	F20	-
15	0.04-0.10	-	-	F20	-
16	0.06-0.13	F20	-	-	-
17	0.06-0.12	F20	-	-	-
20	0.06-0.08	-	-	B100	-
21	0.04-0.06	-	-	B100	-
22	0.04-0.07	-	-	B100	-

### • Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.05	0.10	0.14	0.65
Side Milling	2%	0.21	0.44	0.65	1.20
	5%	0.14	0.28	0.41	1.10
	10%	0.10	0.20	0.30	1.00
	20%	0.07	0.14	0.21	0.90
	30%	0.06	0.12	0.18	0.85
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-




## Recommended Cutting Data - UFO T-slot Cutter



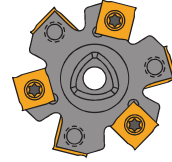
### • Recommended Cutting Speed, $V_c$ (m/min)

Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, $v_c$ (m/min)						
1	255 230 200	-	-	-	-	-	-
2	200 180 162	-	-	-	-	-	-
3	180 162 145	-	-	-	-	-	-
4	160 145 130	-	-	-	-	-	-
5	144 130 116	-	-	-	-	-	-
6	130 117 105	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	160 - 80	-	-	-	-	-	-
9	160 - 80	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	140 119 105	-	-	-	-
13	-	-	126 105 98	-	-	-	-
14	-	-	112 98 91	-	-	-	-
15	-	-	88 81 -	-	-	-	-
16	-	-	1150 950 850	-	-	-	-
17	-	-	950 780 700	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	-	-	-	-	-

### • Fz (mm/tooth)

	fz (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
1.4-1.7 mm	0.02-0.03	0.015-0.025	0.02-0.03	0.02-0.04	0.02-0.04	0.015-0.025
1.8-2.2 mm	0.03-0.05	0.03-0.04	0.02-0.03	0.03-0.06	0.03-0.08	0.02-0.03
2.5-3.0 mm	0.03-0.06	0.03-0.05	0.03-0.05	0.03-0.08	0.03-0.10	0.03-0.04
3.0-3.5 mm	0.04-0.08	0.03-0.06	0.03-0.06	0.04-0.10	0.04-0.10	0.03-0.05
4.0-4.5 mm	0.04-0.08	0.03-0.06	0.03-0.06	0.04-0.10	0.04-0.10	0.03-0.05
5.0-5.5 mm	0.05-0.10	0.04-0.08	0.04-0.07	0.05-0.12	0.05-0.17	0.04-0.06

## Recommended Insert Grades - UFO T-slot Cutter



UFO Family

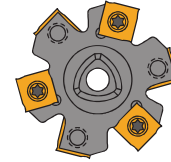
### • UFO T-slot Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/DC=10%	Inserts			
		SNGX ... M	SNGX...ME	SNGX...EE	
1	0.14-0.30	-	B100	-	-
2	0.14-0.25	-	B100	-	-
3	0.14-0.22	-	B100	-	-
4	0.14-0.22	-	B100	-	-
5	0.14-0.20	-	B100	-	-
6	0.10-0.15	-	B100	-	-
7	0.10-0.13	-	B100	-	-
8	0.14-0.25	-	B100	-	-
9	0.14-0.22	-	B100	-	-
10	0.14-0.20	-	B100	-	-
11	0.10-0.15	-	B100	-	-
12	0.14-0.30	-	F30	-	-
13	0.14-0.22	-	F30	-	-
14	0.14-0.20	-	F30	-	-
15	0.10-0.15	-	F30	-	-
16	0.16-0.30	-	-	F20	-
17	0.16-0.25	-	-	F20	-
18	0.16-0.20	-	-	F20	-
19	0.14-0.20	-	B100	-	-
20	0.14-0.18	-	B100	-	-
21	0.10-0.13	-	B100	-	-
22	0.14-0.20	-	B100	-	-

### • Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.05	0.10	0.14	0.65
Side Milling	2%	0.21	0.44	0.65	1.20
	5%	0.14	0.28	0.41	1.10
	10%	0.10	0.20	0.30	1.00
	20%	0.07	0.14	0.21	0.90
	30%	0.06	0.12	0.18	0.85
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-

## Recommended Cutting Data - UFO T-slot Cutter



- Recommended Cutting Speed,  $V_c$  (m/min)

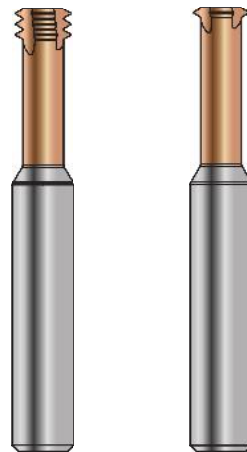
Material group	Grades															
	B100			C250			F20			CE60	CE	K10	F30			
	fz (mm/tooth)															
	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	0.3				0.1	0.2	0.3	
Cutting Speed, $V_c$ (m/min)																
1	186	166	150	-	-	-	-	-	-	-	-	-	-	-	-	
2	168	150	135	-	-	-	-	-	-	-	-	-	-	-	-	
3	151	136	122	-	-	-	-	-	-	-	-	-	-	-	-	
4	136	122	110	-	-	-	-	-	-	-	-	-	-	-	-	
5	120	110	99	-	-	-	-	-	-	-	-	-	-	-	-	
6	92	78	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	160	-	80	-	-	-	-	-	-	-	-	-	-	-	-	
9	160	-	80	-	-	-	-	-	-	-	-	-	-	-	-	
10	80	-	50	-	-	-	-	-	-	-	-	-	-	-	-	
11	80	-	50	-	-	-	-	-	-	-	-	-	-	-	-	
12	-	-	-	-	-	-	-	-	-	-	-	-	-	140	119	105
13	-	-	-	-	-	-	-	-	-	-	-	-	-	126	105	98
14	-	-	-	-	-	-	-	-	-	-	-	-	-	119	98	91
15	-	-	-	-	-	-	-	-	-	-	-	-	-	91	88	-
16	-	-	-	-	-	-	1150	950	850	-	-	-	-	-	-	-
17	-	-	-	-	-	-	950	780	700	-	-	-	-	-	-	-
18	-	-	-	-	-	-	950	780	700	-	-	-	-	-	-	-
19	55	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	55	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	46	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	55	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## Recommended Cutting Data - Solid Carbide Thread Milling

UFO Family

### • Recommended Cutting Speed, $V_c$ (m/min)

Material group	Cutting Speed, $V_c$ (m/min)		
1	255	230	200
2	200	180	162
3	180	162	145
4	160	145	130
5	144	130	116
6	130	117	105
7	40	-	-
8	160	-	80
9	160	-	80
10	80	-	50
11	80	-	50
12	136	116	102
13	122	102	95
14	109	95	88
15	85	78	-
16	1150	950	850
17	950	780	700
18	950	780	700
19	-	-	-
20	50	45	-
21	35	40	-
22	50	45	-



### • $F_z$ (mm/tooth)

Pitch (mm)	$f_z$ (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
1.0-1.5	0.04-0.06	0.03-0.05	0.04-0.06	0.04-0.07	0.05-0.08	0.03-0.04
1.75-2.5	0.05-0.07	0.04-0.06	0.05-0.07	0.05-0.08	0.06-0.09	0.04-0.05
3.0-4.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06
5.0-6.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06


## Recommended Insert Grades - UFO Thread Milling Inserts



### • UFO Thread Milling Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		ME	E		
1	-	B100	-	-	-
2	-	B100	-	-	-
3	-	B100	-	-	-
4	-	B100	-	-	-
5	-	B100	-	-	-
6	-	B100	-	-	-
7	-	B100	-	-	-
8	-	B100	-	-	-
9	-	B100	-	-	-
10	-	B100	-	-	-
11	-	B100	-	-	-
12	-	F20	-	-	-
13	-	F20	-	-	-
14	-	F20	-	-	-
15	-	F20	-	-	-
16	-	-	F20	-	-
17	-	-	F20	-	-
18	-	-	F20	-	-
19	-	B100	-	-	-
20	-	B100	-	-	-
21	-	B100	-	-	-
22	-	B100	-	-	-

### • Fz (mm/tooth)

 Pitch (mm)	fz (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
1.0-1.5	0.04-0.06	0.03-0.05	0.04-0.06	0.04-0.07	0.05-0.08	0.03-0.04
1.75-2.5	0.05-0.07	0.04-0.06	0.05-0.07	0.05-0.08	0.06-0.09	0.04-0.05
3.0-4.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06
5.0-6.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06

## Recommended Cutting Data - UFO Thread Milling Inserts



UFO Family

• Recommended Cutting Speed,  $V_c$  (m/min)

Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, $v_c$ (m/min)						
1	179 161 140	-	-	-	-	-	-
2	140 126 113	-	-	-	-	-	-
3	126 113 102	-	-	-	-	-	-
4	112 102 91	-	-	-	-	-	-
5	101 91 81	-	-	-	-	-	-
6	91 - -	-	-	-	-	-	-
7	40 - -	-	-	-	-	-	-
8	160 - 80	-	-	-	-	-	-
9	160 - 80	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	130 120 110	-	-	-	-
13	-	-	120 110 100	-	-	-	-
14	-	-	90 80 70	-	-	-	-
15	-	-	60 50 -	-	-	-	-
16	-	-	1150 950 850	-	-	-	-
17	-	-	950 780 700	-	-	-	-
18	-	-	950 780 700	-	-	-	-
19	-	-	-	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	- - -	-	-	-	-

## UFO Gear Milling Insert - Make - to - Order

