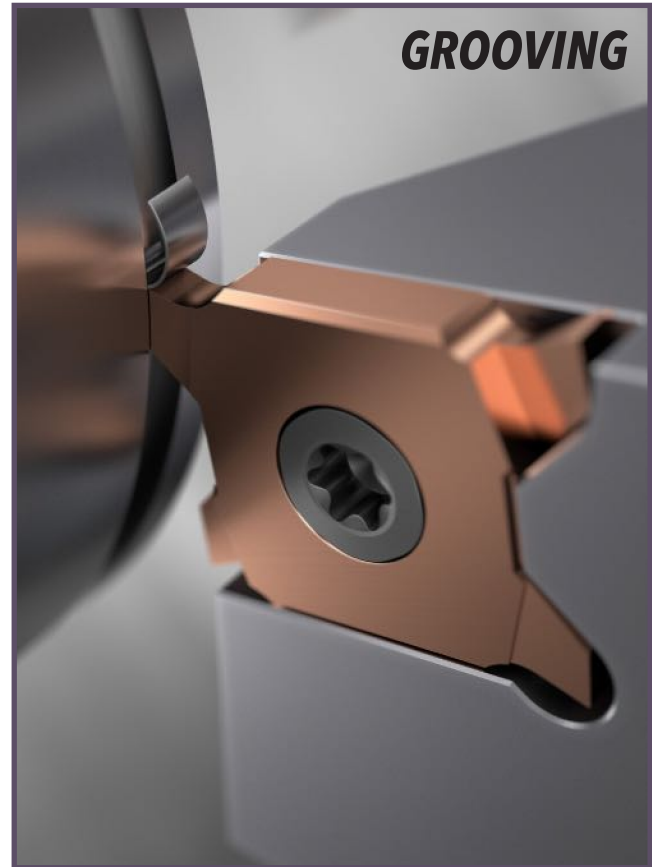


FourCut



Same toolholder for THREADING and GROOVING!

LC - New FourCut Grade
see page 43

HC
AlTiSiN coating



LC
AlCrN coating



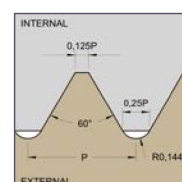
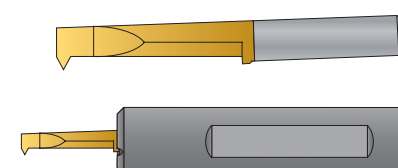
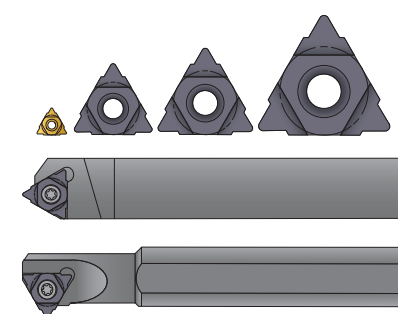
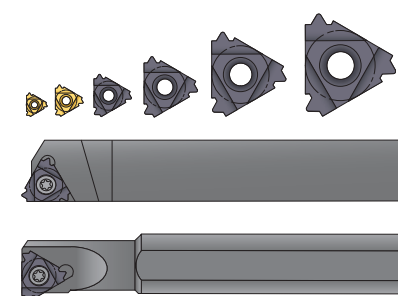
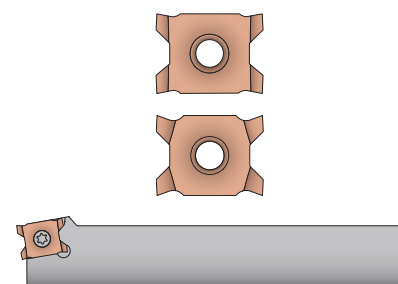
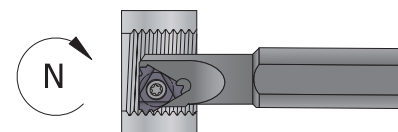
*Choose between the grades HC and LC
for maximal productivity.*

THREAD TURNING

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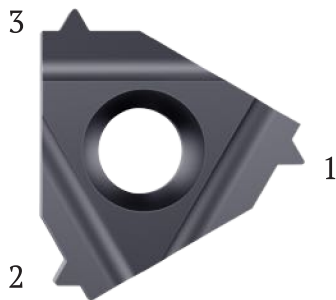


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Advantages

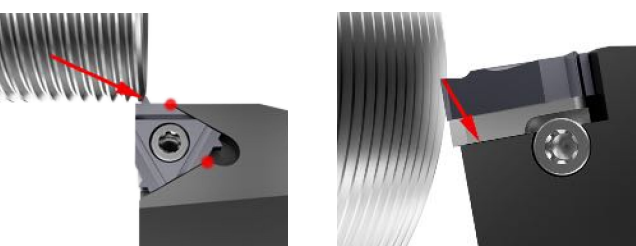
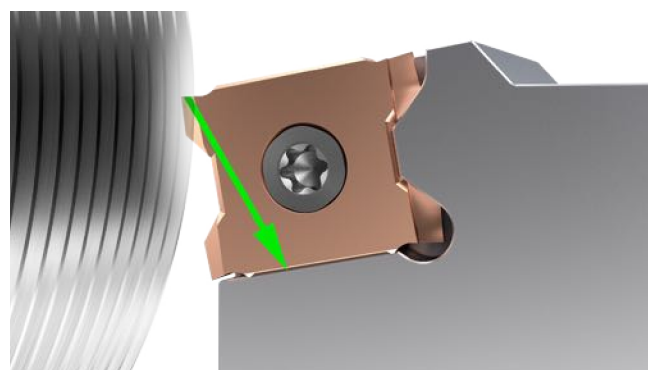
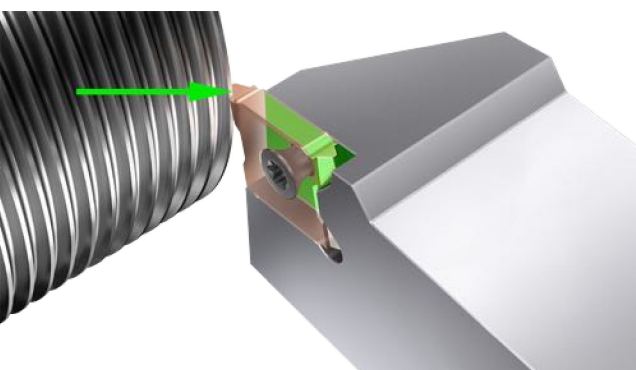
Cost-effective



Four Cutting Edges - for the Price of Three

As the price for the inserts are the same, the FourCut threading insert is 25% cheaper as it has four cutting edges instead of three.

Strength

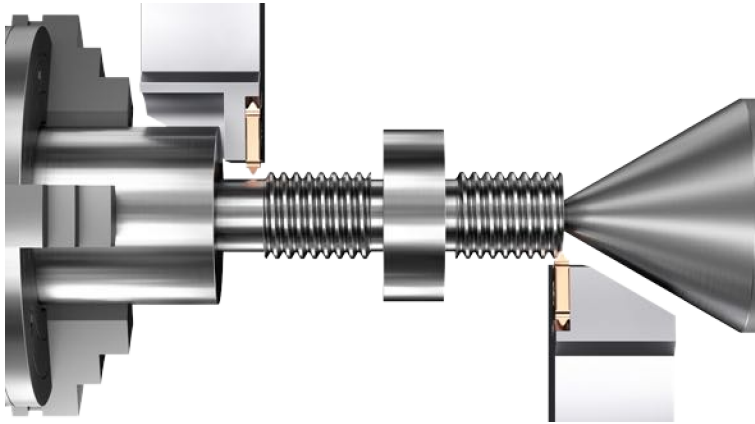


Strong and Stable Machining

FourCut is a vertical insert. This gives a very strong insert. The cutting forces go in to the insert and you don't need any anvil as the carbide insert take up the forces.

- No problem with the side forces as the flat surface of the insert take up these forces.
- No weak point on the toolholder.

Accessibility

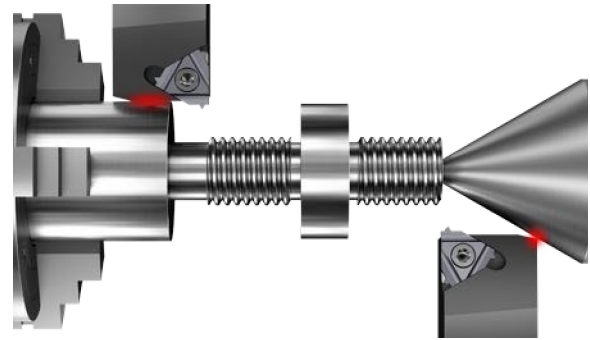


Minimum
Waste of
Material

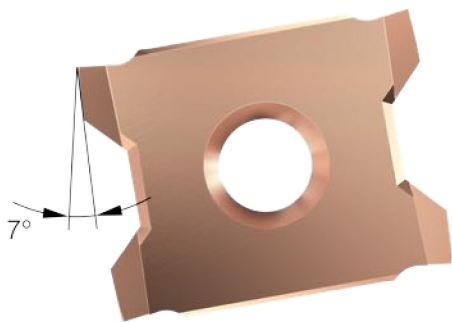
Problem Solver with Benefits

With a vertical insert the accessibility gives you two main advantages.

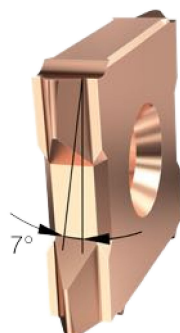
- Less waste of material as you don't need to turn away material to be able to make the thread.
- As you have more space you can use a live center when you are threading small diameters. This will give you a stable machining and a better quality of the thread.



Optimal Clearance



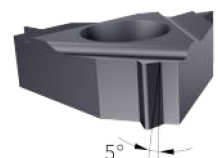
7° is optimal



No need for Anvils - Only One Toolholder

The inserts are ground on all sides with a complex grinding technology on 6-axis grinding machines to get a 7° clearance angle all around the thread profile which gives the following advantages:

- Extra clearance on the flanks gives better cutting conditions.
- Same toolholder for different helix angles as the extra clearance allow you to have bigger difference in helix angle.
- Less clearance on the radius gives stronger cutting edge and longer tool life.

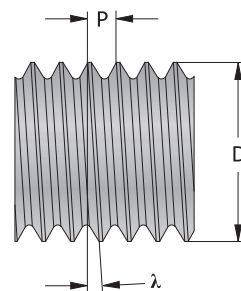


THREAD TURNING

Helix Angle

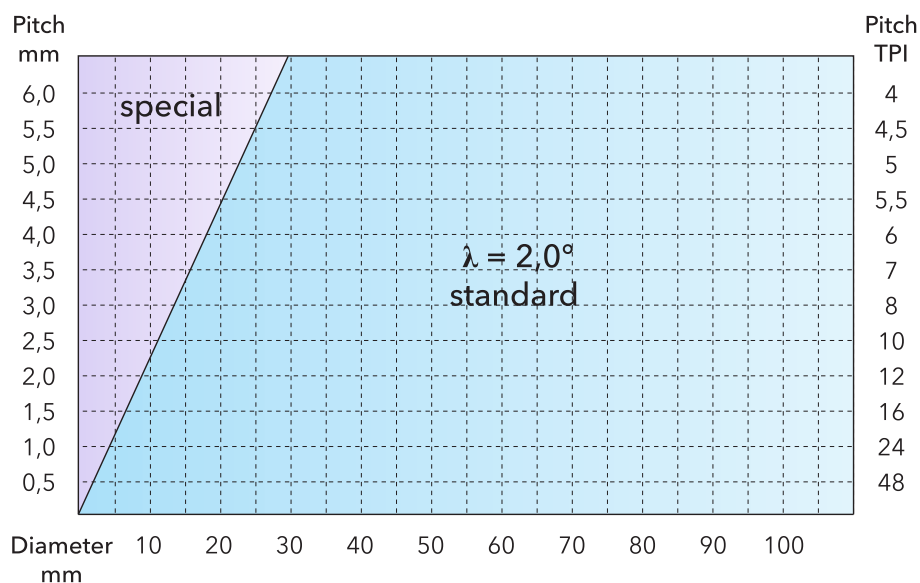
To get good cutting conditions the threading insert has to be inclined into the toolholder at approximately the same angle as the helix angle of the thread.

$$\tan \lambda = \frac{P}{\pi \times D}$$



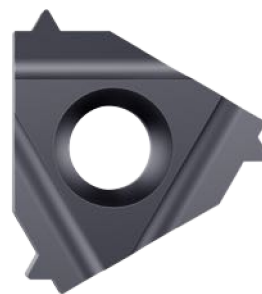
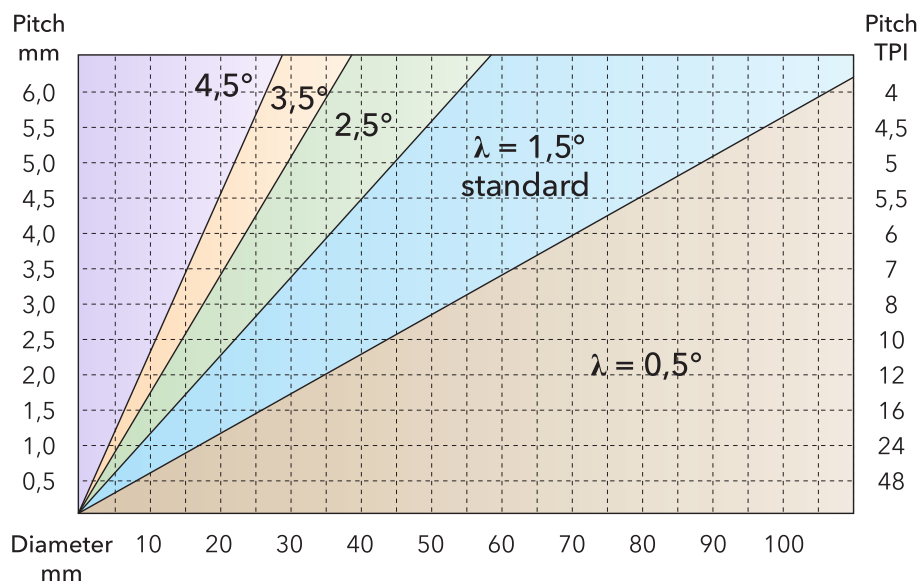
FourCut

The FourCut inserts has extra clearance on the flanks and therefore it is not so important to have correct helix angle. The standard toolholder has 2° helix angle and it is possible to make almost all threads with the same holder.



Triangular Insert

On the triangular inserts it is more important to have a similar helix angle on the toolholder as the thread. The standard toolholder has an anvil which gives 1,5° helix angle. If you need bigger or smaller, you just change the anvil.



THREAD TURNING

Carbide Grades



FourCut

With FourCut you choose between two different grades for best performance.

HC is best for harder materials and high-heat applications, while LC offers a balance of toughness and heat resistance, ideal for a wide range of applications and materials.

HC

Micrograin Carbide with AlTiSiN coating.
All-round grade, high hardness and heat resistance.
Use cutting data according to the tables.

LC

Micrograin Carbide with AlCrN coating.
All-round grade, combination of toughness and heat resistance. Use cutting data according to the tables.

Triangular Insert

You don't need to choose a grade for our triangular inserts. We use FC as our all-round grade, which performs great in most applications.

For internal thread turning of small dimensions, we utilize the BC grade.

FC

Micrograin Carbide with TiAlN coating.
All-round grade with high heat resistance.
Use cutting data according to the tables.

BC

Micrograin Carbide with TiN coating.
Suitable for internal thread turning of small dimensions. Cutting speed 40% less than FC.

Select Grade

Select Grade				FourCut		Triangular
MATERIAL		Hardness HB	Tensile Strenght N/mm ²	First Choice	Second Choice	First Choice
Steel	Low carbon, C < 0,25%	< 120	< 400	LC	HC	FC
	Medium carbon, C < 0,55%	< 200	< 700	LC	HC	FC
	High carbon, C < 0,85%	< 250	< 850	LC	HC	FC
	Low alloy	< 250	< 850	LC	HC	FC
	High alloy	< 350	< 1200	HC	LC	FC
	Hardened, HRC < 45			HC	LC	FC
	Hardened, HRC < 55			HC	LC	FC
	Hardened, HRC < 65			HC	LC	FC
Cast iron	Lamellar graphite	< 150	< 500	LC	HC	FC
	Lamellar graphite	< 300	< 1000	LC	HC	FC
	Nodular graphite, malleable	< 200	< 700	LC	HC	FC
	Nodular graphite, malleable	< 300	< 1000	LC	HC	FC
Stainless steel	Free machining	< 250	< 850	HC	LC	FC
	Austenitic	< 250	< 850	HC	LC	FC
	Ferritic and austenitic	< 300	< 1000	HC	LC	FC
Titanium	Unalloyed	< 200	< 700	HC	LC	FC
	Alloyed	< 270	< 900	HC	LC	FC
	Alloyed	< 350	< 1250	HC	LC	FC
Nickel	Unalloyed	< 150	< 500	LC	HC	FC
	Alloyed	< 270	< 900	HC	LC	FC
	Alloyed	< 350	< 1250	HC	LC	FC
Copper	Unalloyed	< 100	< 350	LC	HC	FC
	Brass, bronze	< 200	< 700	LC	HC	FC
	High strength bronze	< 470	< 1500	HC	LC	FC
Aluminium	Unalloyed	< 100	< 350	LC	HC	FC
	Alloyed, Si < 0.5%	< 150	< 500	LC	HC	FC
	Alloyed, Si < 10%	< 120	< 400	LC	HC	FC
	Alloyed, Si > 10%	< 120	< 400	LC	HC	FC
Inconel	718	< 370		HC	LC	FC
Graphite				LC	HC	FC

Cutting Speed (V_c) and Material Factor (F_m)

MATERIAL		Hardness HB	Tensile Strength N/mm ²	Cutting Speed (V_c) m/min	Material Factor (F_m)
Steel	Low carbon, C < 0,25%	< 120	< 400	150 - 200	1,2
	Medium carbon, C < 0,55%	< 200	< 700	120 - 170	1,1
	High carbon, C < 0,85%	< 250	< 850	110 - 150	1,0
	Low alloy	< 250	< 850	100 - 140	1,0
	High alloy	< 350	< 1200	70 - 110	0,9
	Hardened, HRC < 45			60 - 100	0,8
	Hardened, HRC < 55			30 - 60	0,7
	Hardened, HRC < 65			20 - 40	0,6
Cast iron	Lamellar graphite	< 150	< 500	130 - 180	1,2
	Lamellar graphite	< 300	< 1000	100 - 150	1,1
	Nodular graphite, malleable	< 200	< 700	100 - 150	1,0
	Nodular graphite, malleable	< 300	< 1000	80 - 120	0,9
Stainless steel	Free machining	< 250	< 850	130 - 180	1,0
	Austenitic	< 250	< 850	90 - 140	0,9
	Ferritic and austenitic	< 300	< 1000	80 - 120	0,8
Titanium	Unalloyed	< 200	< 700	60 - 80	0,8
	Alloyed	< 270	< 900	50 - 70	0,7
	Alloyed	< 350	< 1250	30 - 50	0,6
Nickel	Unalloyed	< 150	< 500	80 - 120	0,8
	Alloyed	< 270	< 900	60 - 80	0,7
	Alloyed	< 350	< 1250	50 - 70	0,6
Copper	Unalloyed	< 100	< 350	150 - 250	1,0
	Brass, bronze	< 200	< 700	130 - 180	1,0
	High strength bronze	< 470	< 1500	60 - 80	0,8
Aluminium	Unalloyed	< 100	< 350	500 - 900	1,4
	Alloyed, Si < 0.5%	< 150	< 500	400 - 800	1,3
	Alloyed, Si < 10%	< 120	< 400	300 - 500	1,2
	Alloyed, Si > 10%	< 120	< 400	200 - 400	1,1
Inconel	718	< 370		50 - 70	0,6
Graphite				300 - 500	1,0

Code Key

INSERTS

12

insert size

E

E = external
I = internal
R = right hand
L = left hand
U = U-type

2.0

pitch

ISO

thread profile

HC

carbide grade

TOOLHOLDERS

S

S = screw

E

E = external
I = internal

R

R = right hand
L = left hand

2525

shank dimension

M

holder length

12

insert size

Example

2525 = □
0025 = ○

F = 80 mm R = 200 mm
H = 100 mm S = 250 mm
K = 125 mm T = 300 mm
L = 140 mm U = 350 mm
M = 150 mm V = 400 mm
P = 170 mm

Number of Passes

ISO	Pitch			Material Factor (F_m)								
	UN	W	NPT	0,6	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4
0,5				7	6	5	4	4	4	4	4	4
0,75	32	28		8	6	6	5	4	4	4	4	4
1,0	28-24	19		8	7	6	6	5	5	4	4	4
1,25	20			9	8	7	6	6	5	5	4	4
1,5	18-16	14		10	9	8	7	6	5	5	5	4
1,75	14			12	10	9	8	7	6	6	5	5
2,0	13-12		27	14	12	11	9	8	8	7	7	6
2,5	11-10	11	18	16	14	13	11	10	9	8	8	7
3,0	9-8		14	18	16	14	12	11	10	9	8	8
3,5	7			20	17	15	13	12	11	10	9	9
4,0	6		11,5	22	19	16	14	13	12	11	10	9
4,5				23	20	17	15	14	12	11	10	10
5,0	5			24	20	18	16	14	13	12	11	10
5,5	4,5		8	25	21	19	17	15	14	13	12	11
6,0	4			27	23	20	18	16	15	13	12	11

Radial Infeed of Each Pass in %

PASS	% of the total infeed																
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	33	28	25	22	20	19	18	16	14	12	11	11	11	11	10	10	9
2	27	24	20	18	17	16	15	14	13	11	10	10	10	10	10	9	9
3	22	19	17	16	15	14	13	12	11	10	9	9	9	9	9	8	8
4	18	16	15	14	13	12	11	10	9	9	9	8	8	9	8	8	8
5		13	13	12	11	10	9	8	8	8	8	8	8	8	8	7	7
6			10	10	10	9	8	8	8	8	8	7	7	7	7	6	6
7				8	8	8	7	8	8	7	7	7	7	6	6	6	6
8					6	7	7	7	7	7	7	7	6	6	6	6	6
9						5	7	7	7	7	7	6	6	5	6	5	5
10							5	6	6	6	6	6	5	5	5	5	5
11								4	5	6	6	5	5	5	5	5	5
12									4	5	5	5	5	4	4	5	5
13										4	4	4	4	4	4	4	4
14											3	4	4	4	3	4	4
15												3	3	3	3	4	3
16													2	2	2	3	3
17														2	2	2	2
18															2	1,5	2
19																1,5	1,5
20																	1,5

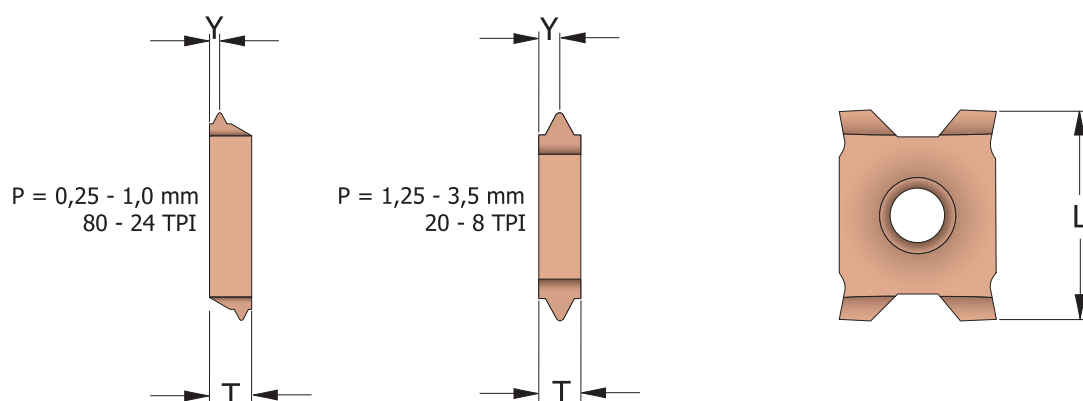
Threading Methods

EXTERNAL RIGHT HAND THREAD			
Tool	Anvil	Rotation	Direction
SER	AE +	M03	IN
SER	AE +	M04	OUT
SEL	AI -	M04	OUT
SEL	AI -	M03	IN
INTERNAL RIGHT HAND THREAD			
Tool	Anvil	Rotation	Direction
SIR	AI +	M03	IN
SIL	AE -	M04	OUT

EXTERNAL LEFT HAND THREAD			
Tool	Anvil	Rotation	Direction
SEL	AI +	M04	IN
SEL	AI +	M03	OUT
SER	AE -	M03	OUT
SER	AE -	M04	IN
INTERNAL LEFT HAND THREAD			
Tool	Anvil	Rotation	Direction
SIL	AE +	M04	IN
SIR	AI -	M03	OUT

THREAD TURNING INSERTS

FourCut



M

METRIC

Pitch mm	Part Number EXTERNAL	L mm	T mm	Y mm
0,25	12E_0.25ISO_HC/LC	12	2,4	0,2
0,3	12E_0.3ISO_HC/LC	12	2,4	0,2
0,35	12E_0.35ISO_HC/LC	12	2,4	0,25
0,4	12E_0.4ISO_HC/LC	12	2,4	0,3
0,45	12E_0.45ISO_HC/LC	12	2,4	0,4
0,5	12E_0.5ISO_HC/LC	12	2,4	0,4
0,6	12E_0.6ISO_HC/LC	12	2,4	0,4
0,7	12E_0.7ISO_HC/LC	12	2,4	0,4
0,75	12E_0.75ISO_HC/LC	12	2,4	0,4
0,8	12E_0.8ISO_HC/LC	12	2,4	0,5
1,0	12E_1.0ISO_HC/LC	12	2,4	0,6
1,25	12E_1.25ISO_HC/LC	12	2,4	1,2
1,5	12E_1.5ISO_HC/LC	12	2,4	1,2
1,75	12E_1.75ISO_HC/LC	12	2,4	1,2
2,0	12E_2.0ISO_HC/LC	12	2,4	1,2
2,5	12E_2.5ISO_HC/LC	12	3,6	1,8
3,0	12E_3.0ISO_HC/LC	12	3,6	1,8
3,5	12E_3.5ISO_HC/LC	12	3,6	1,8

UN

UNIFIED

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
80	12E_80UN_HC/LC	12	2,4	0,2
72	12E_72UN_HC/LC	12	2,4	0,25
64	12E_64UN_HC/LC	12	2,4	0,3
56	12E_56UN_HC/LC	12	2,4	0,4
48	12E_48UN_HC/LC	12	2,4	0,4
44	12E_44UN_HC/LC	12	2,4	0,4
40	12E_40UN_HC/LC	12	2,4	0,4
36	12E_36UN_HC/LC	12	2,4	0,4
32	12E_32UN_HC/LC	12	2,4	0,5
28	12E_28UN_HC/LC	12	2,4	0,6
24	12E_24UN_HC/LC	12	2,4	0,6
20	12E_20UN_HC/LC	12	2,4	1,2
18	12E_18UN_HC/LC	12	2,4	1,2
16	12E_16UN_HC/LC	12	2,4	1,2
14	12E_14UN_HC/LC	12	2,4	1,2
13	12E_13UN_HC/LC	12	2,4	1,2
12	12E_12UN_HC/LC	12	2,4	1,2
11	12E_11UN_HC/LC	12	3,6	1,8
10	12E_10UN_HC/LC	12	3,6	1,8
9	12E_9UN_HC/LC	12	3,6	1,8
8	12E_8UN_HC/LC	12	3,6	1,8

THREAD TURNING INSERTS



FourCut

60°

PARTIAL PROFILE 60°

Pitch mm	TPI	Part Number EXTERNAL	L mm	T mm	Y mm
0,25 - 1,0	100-24	12E_AAA60_HC/LC	12	2,4	0,6
0,35 - 1,0	72-24	12E_AA60_HC/LC	12	2,4	0,6
0,5 - 2,0	48-12	12E_A60_HC/LC	12	2,4	1,2
0,5 - 3,0	48-8	12E_AG60_HC/LC	12	3,6	1,8
1,75 - 3,0	14-8	12E_G60_HC/LC	12	3,6	1,8

55°

PARTIAL PROFILE 55°

Pitch mm	TPI	Part Number EXTERNAL	L mm	T mm	Y mm
0,35 - 1,0	72-24	12E_AA55_HC/LC	12	2,4	0,6
0,5 - 2,0	48-12	12E_A55_HC/LC	12	2,4	1,2
0,5 - 3,0	48-8	12E_AG55_HC/LC	12	3,6	1,8
1,75 - 3,0	14-8	12E_G55_HC/LC	12	3,6	1,8

BS/G/Rp

WHITWORTH PIPE THREAD

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
28	12E_28W_HC/LC	12	2,4	0,6
24	12E_24W_HC/LC	12	2,4	0,6
20	12E_20W_HC/LC	12	2,4	1,2
19	12E_19W_HC/LC	12	2,4	1,2
18	12E_18W_HC/LC	12	2,4	1,2
16	12E_16W_HC/LC	12	2,4	1,2
14	12E_14W_HC/LC	12	2,4	1,2
12	12E_12W_HC/LC	12	2,4	1,2
11	12E_11W_HC/LC	12	3,6	1,8
10	12E_10W_HC/LC	12	3,6	1,8
9	12E_9W_HC/LC	12	3,6	1,8
8	12E_8W_HC/LC	12	3,6	1,8

R/Rc

BSPT PIPE THREAD

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
28	12E_28BSPT_HC/LC	12	2,4	1,2
19	12E_19BSPT_HC/LC	12	2,4	1,2
14	12E_14BSPT_HC/LC	12	3,6	1,8
11	12E_11BSPT_HC/LC	12	3,6	1,8

NPT

NPT PIPE THREAD

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
27	12E_27NPT_HC/LC	12	2,4	0,6
18	12E_18NPT_HC/LC	12	2,4	1,2
14	12E_14NPT_HC/LC	12	2,4	1,2
11,5	12E_11,5NPT_HC/LC	12	3,6	1,8
8	12E_8NPT_HC/LC	12	3,6	1,8

NPTF

NPTF DRYSEAL PIPE THREAD

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
27	12E_27NPTF_HC/LC	12	2,4	0,6
18	12E_18NPTF_HC/LC	12	2,4	1,2
14	12E_14NPTF_HC/LC	12	2,4	1,2
11,5	12E_11,5NPTF_HC/LC	12	3,6	1,8
8	12E_8NPTF_HC/LC	12	3,6	1,8

■ All inserts have ground profile and chipbreaker. Choose grade between HC and LC. [See page 43.](#)

THREAD TURNING INSERTS

FourCut

PG

STEEL CONDUIT THREAD DIN 40430

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
20	12E_20PG_HC/LC	12	2,4	1,2
18	12E_18PG_HC/LC	12	2,4	1,2
16	12E_16PG_HC/LC	12	2,4	1,2

TR

TRAPEZ DIN 103

Pitch mm	Part Number EXTERNAL	L mm	T mm	Y mm
1,5	12E_1.5TR_HC/LC	12	2,4	1,2
2,0	12E_2.0TR_HC/LC	12	2,4	1,2
3,0	12E_3.0TR_HC/LC	12	2,4	1,2
4,0	12E_4.0TR_HC/LC	12	3,6	1,8

RD

ROUND DIN 405

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
10	12E_10RD_HC/LC	12	3,6	1,8
8	12E_8RD_HC/LC	12	3,6	1,8

ACME

ACME

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
16	12E_16ACME_HC/LC	12	2,4	1,2
14	12E_14ACME_HC/LC	12	2,4	1,2
12	12E_12ACME_HC/LC	12	2,4	1,2
10	12E_10ACME_HC/LC	12	2,4	1,2
8	12E_8ACME_HC/LC	12	2,4	1,2
6	12E_6ACME_HC/LC	12	3,6	1,8

STACME

STUB ACME

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm
16	12E_16STACME_HC/LC	12	2,4	1,2
14	12E_14STACME_HC/LC	12	2,4	1,2
12	12E_12STACME_HC/LC	12	2,4	1,2
10	12E_10STACME_HC/LC	12	2,4	1,2
8	12E_8STACME_HC/LC	12	2,4	1,2
6	12E_6STACME_HC/LC	12	3,6	1,8
5	12E_5STACME_HC/LC	12	3,6	1,8

MJ

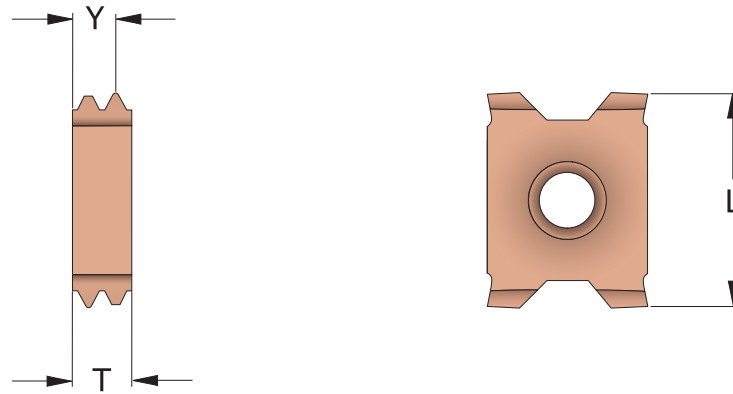
METRIC

Pitch mm	Part Number EXTERNAL	L mm	T mm	Y mm
1,0	12E_1.0MJ_HC/LC	12	2,4	0,6
1,5	12E_1.5MJ_HC/LC	12	2,4	1,2
2,0	12E_2.0MJ_HC/LC	12	3,6	1,8

■ All inserts have ground profile and chipbreaker. Choose grade between HC and LC. [See page 43.](#)

THREAD TURNING INSERTS

FourCut Multitooth



M

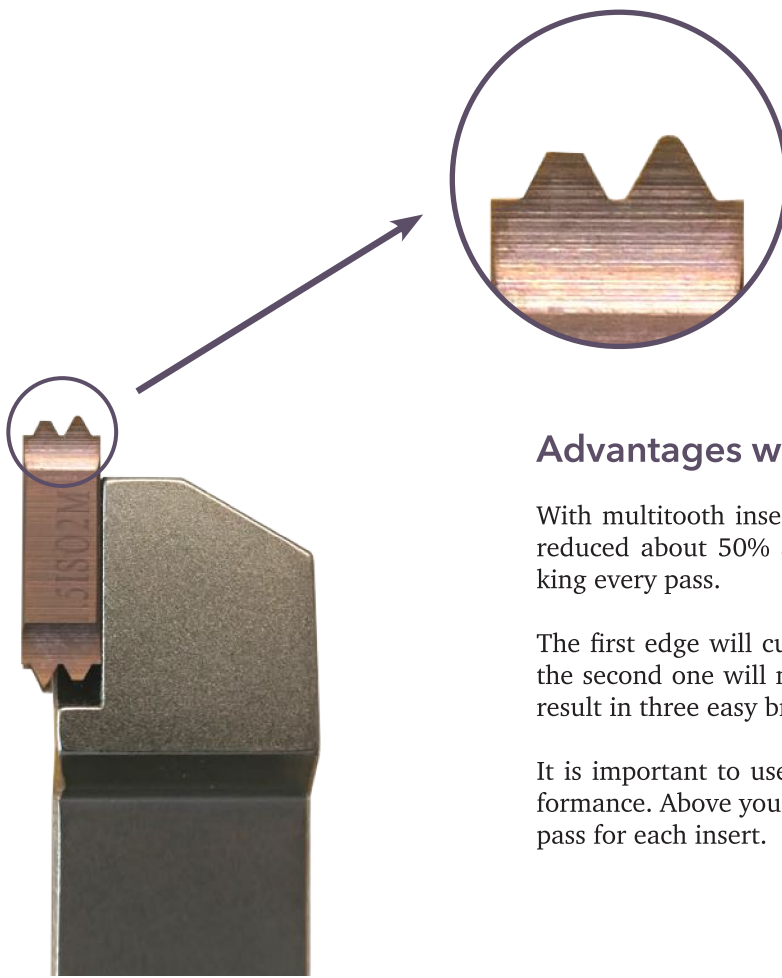
METRIC

Pitch mm	Part Number EXTERNAL	L mm	T mm	Y mm	Radial infeed per pass		
					1	2	3
1,0	12ER_1.0ISO2M _{HC/LC}	12	2,4	1,7	0,24	0,21	0,18
1,5	12ER_1.5ISO2M _{HC/LC}	12	3,6	2,55	0,43	0,30	0,21
2,0	12ER_2.0ISO2M _{HC/LC}	12	3,6	2,8	0,57	0,40	0,28

G/Rp

WHITWORTH PIPE THREAD

Pitch TPI	Part Number EXTERNAL	L mm	T mm	Y mm	Radial infeed per pass		
					1	2	3
14	12ER_14W2M _{HC/LC}	12	3,6	2,7	0,55	0,38	0,25



Advantages with Multitooth Inserts

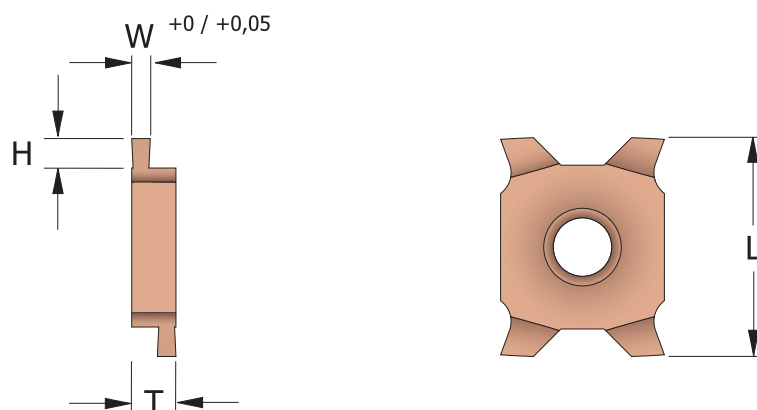
With multitooth inserts the machining time can be reduced about 50% as two cutting edges are working every pass.

The first edge will cut the flanks of the thread and the second one will make the root radius. This will result in three easy breakable chips.

It is important to use radial infeed to get best performance. Above you have recommended infeed per pass for each insert.

GROOVING INSERTS

FourCut



SQ

GROOVING

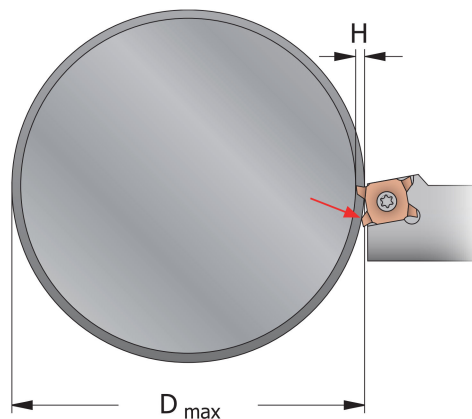
W +0 / +0,05	EXTERNAL Part Number	L mm	T mm	H mm
0,4	12ER_0.4SQ_HC/LC	12	2,4	0,8
0,5	12ER_0.5SQ_HC/LC	12	2,4	1,0
0,6	12ER_0.6SQ_HC/LC	12	2,4	1,2
0,7	12ER_0.7SQ_HC/LC	12	2,4	1,4
0,8	12ER_0.8SQ_HC/LC	12	2,4	1,6
0,9	12ER_0.9SQ_HC/LC	12	2,4	1,8
1,0	12ER_1.0SQ_HC/LC	12	2,4	2,0
1,1	12ER_1.1SQ_HC/LC	12	2,4	2,0
1,2	12ER_1.2SQ_HC/LC	12	2,4	2,0
1,3	12ER_1.3SQ_HC/LC	12	2,4	2,0
1,4	12ER_1.4SQ_HC/LC	12	2,4	2,0
1,5	12ER_1.5SQ_HC/LC	12	2,4	2,0
1,6	12ER_1.6SQ_HC/LC	12	2,4	2,0
1,7	12ER_1.7SQ_HC/LC	12	2,4	2,0
1,85	12ER_1.85SQ_HC/LC	12	2,4	2,0
2,0	12ER_2.0SQ_HC/LC	12	2,4	2,0
2,15	12ER_2.15SQ_HC/LC	12	2,4	2,0
2,3	12ER_2.3SQ_HC/LC	12	2,4	2,0
2,5	12ER_2.5SQ_HC/LC	12	3,6	2,0
2,65	12ER_2.65SQ_HC/LC	12	3,6	2,0
2,8	12ER_2.8SQ_HC/LC	12	3,6	2,0
3	12ER_3.0SQ_HC/LC	12	3,6	2,0
3,15	12ER_3.15SQ_HC/LC	12	3,6	2,0
3,3	12ER_3.3SQ_HC/LC	12	3,6	2,0
3,5	12ER_3.5SQ_HC/LC	12	3,6	2,0

■ All inserts have ground profile and chipbreaker. Choose grade between HC and LC. [See page 43.](#)

Maximum Grooving Diameter

You are not able to use the maximum grooving depth when the diameter is bigger then D_{max} as the cutting edge below will touch the part.

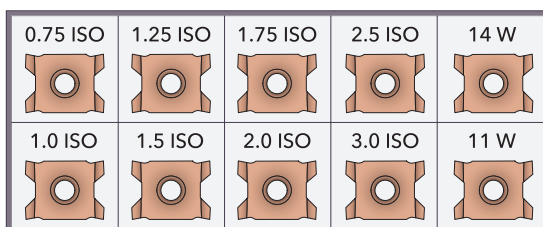
H mm	D_{max} mm
2,0	70
1,9	80
1,8	93
1,7	111
1,6	139
1,5	185



THREADING AND GROOVING INSERTS

Kits with Different Inserts

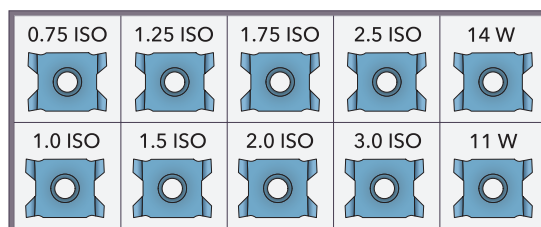
Threading Inserts Kits



Part Number

10X12E_HC

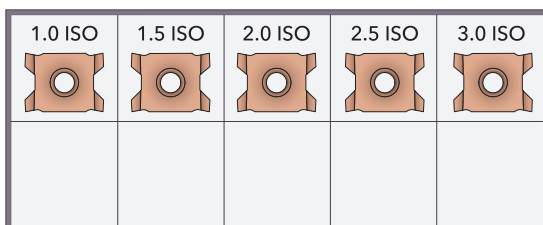
■ 10 different inserts in one box.



Part Number

10X12E_LC

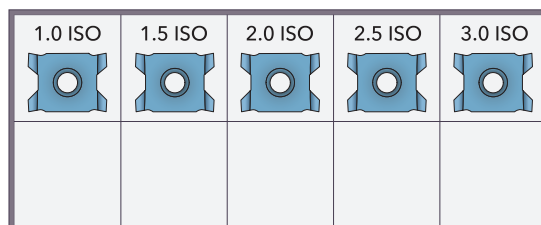
■ 10 different inserts in one box.



Part Number

5X12E_HC

■ 5 different inserts in one box.

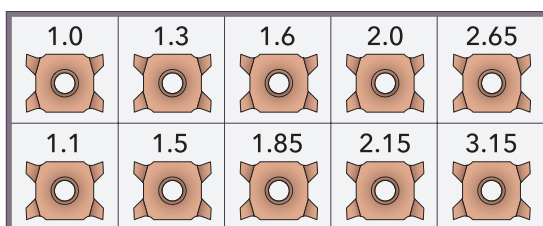


Part Number

5X12E_LC

■ 5 different inserts in one box.

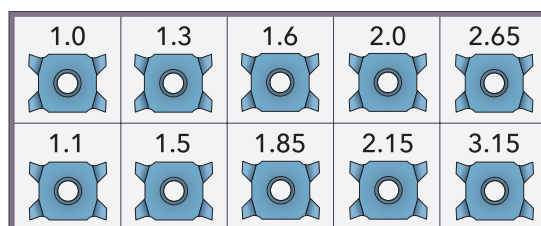
Grooving Inserts Kits



Part Number

10X12SQ_HC

■ 10 different inserts in one box.



Part Number

10X12SQ_LC

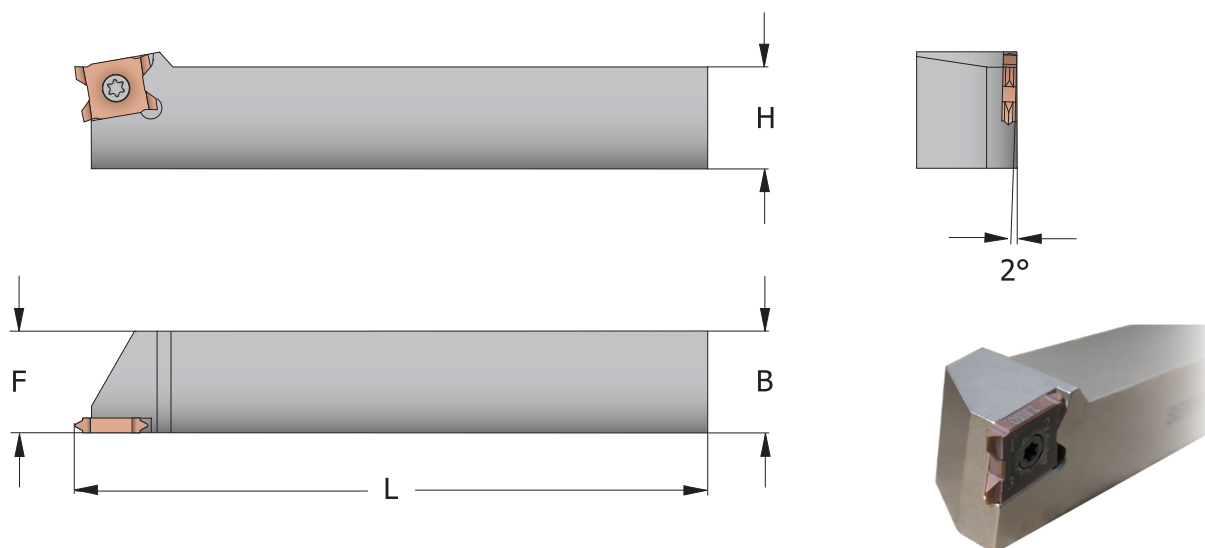
■ 10 different inserts in one box.



FourCut uses the same toolholder for grooving and threading.

THREAD TURNING TOOLHOLDERS

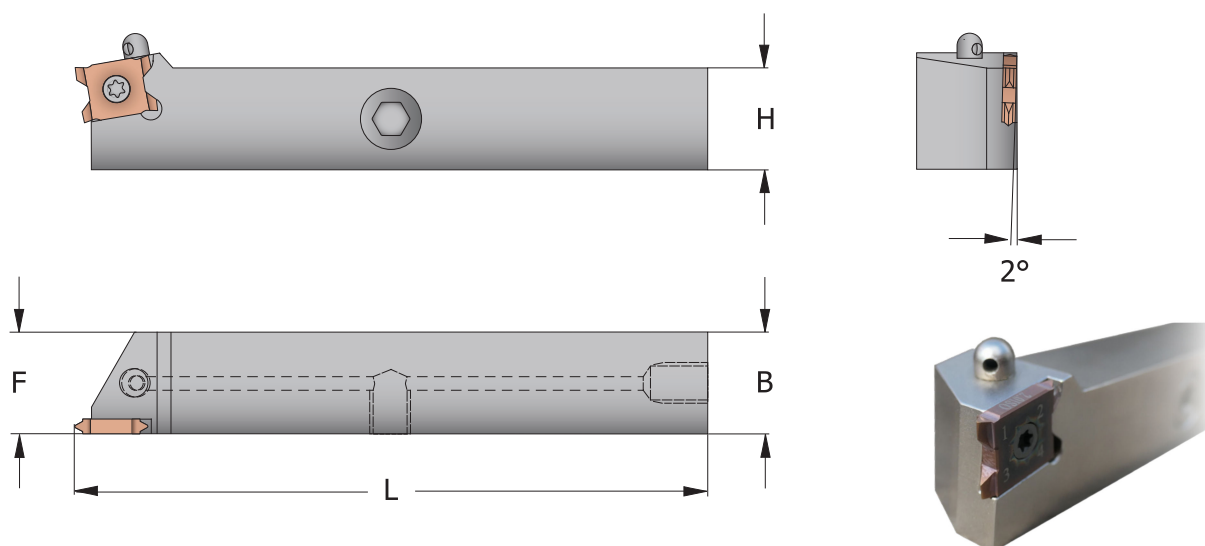
FourCut External



Insert mm	Part Number	B/H mm	L mm	F mm
12	SER0808H12	8	100	8
12	SER1010H12	10	100	10
12	SER1212H12	12	100	12
12	SER1616H12	16	100	16
12	SER2020K12	20	125	20
12	SER2525M12	25	150	25
12	SER3232P12	32	170	32

■ The Part Numbers are for Right Hand Toolholders. For Left Hand specify L instead of R. The Price is 10% higher for L.

with Internal Coolant

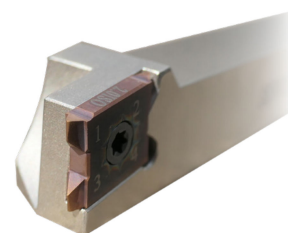
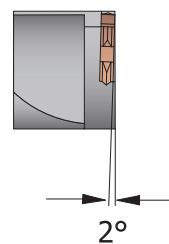
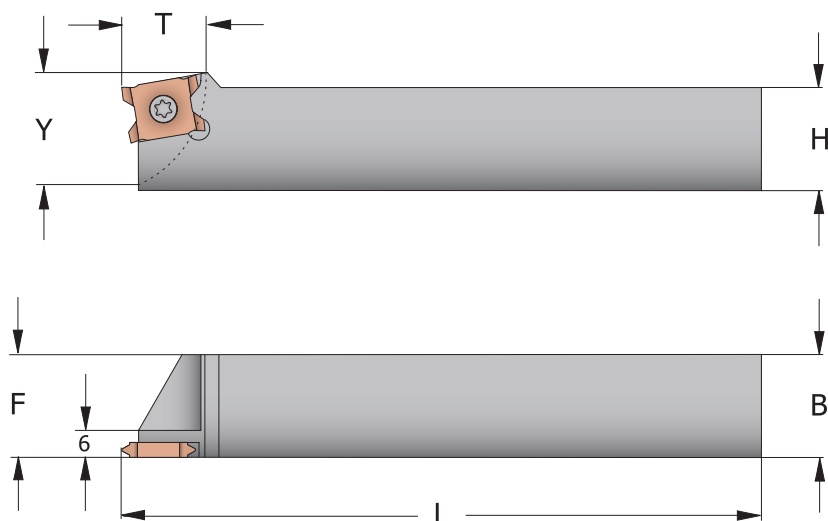


Insert mm	Part Number	B/H mm	L mm	F mm	PLUG
12	SER1212H12-J*	12	100	12	M8x1
12	SER1616H12-J	16	100	16	G1/8
12	SER2020K12-J	20	125	20	G1/8
12	SER2525M12-J	25	150	25	G1/8

* This toolholder also has a plug on the backside, totally three plugs.

THREAD TURNING TOOLHOLDERS

with Extra Accessibility



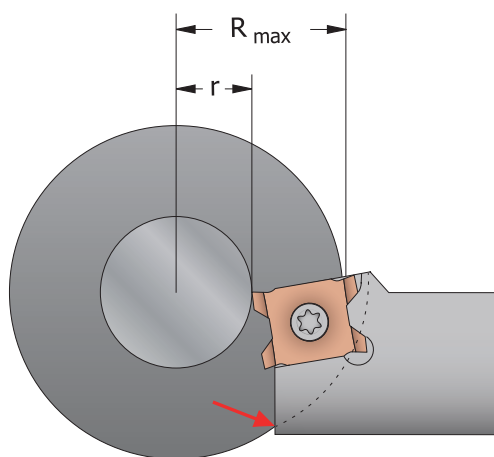
Insert mm	Part Number	B/H mm	L mm	F mm	T mm	Y mm
12	SER1212T09H12	12	100	12	9	11,0
12	SER1616T11H12	16	100	16	11	14,7
12	SER2020T14K12	20	125	20	14	18,7
12	SER2525T18M12	25	150	25	18	23,8

Maximum Allowable Access

When you are working between shoulders there is a limit of the accessibility which depends on the toolholder and the diameters of the workpiece.

$$R_{\max} = \sqrt{(r + 2,5)^2 + Y^2}$$

$$T = R - r$$



You should never exceed the calculated $R_{\max}$ or the T dimension of the toolholder. If you need better accessibility you have to modify the holder.

For diagram of accessibility go to smicut.com/acc

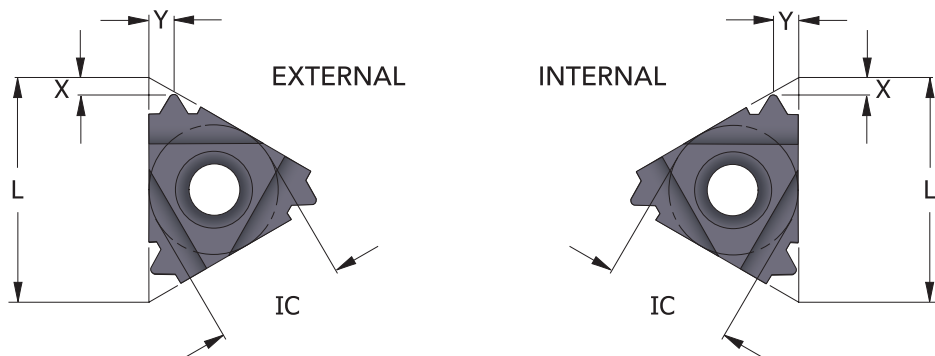


Spare Parts

Insert mm	Screw to insert	Torx key
12	T9XM3	TORX_T9

THREAD TURNING INSERTS

Triangular



M

METRIC

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
0,5	6	5/32				06IR_0.5ISO_BC	0,9	0,5
0,5	16	3/8	16ER_0.5ISO_FC	0,6	0,6			
0,7	16	3/8	16ER_0.7ISO_FC	0,6	0,6			
0,75	6	5/32				06IR_0.75ISO_BC	0,8	0,5
0,75	8	3/16				08IR_0.75ISO_BC	0,6	0,5
0,75	16	3/8	16ER_0.75ISO_FC	0,6	0,6			
0,8	16	3/8	16ER_0.8ISO_FC	0,6	0,6			
1,0	6	5/32				06IR_1.0ISO_BC	0,7	0,6
1,0	8	3/16				08IR_1.0ISO_BC	0,6	0,6
1,0	11	1/4				11IR_1.0ISO_FC	0,6	0,7
1,0	16	3/8	16ER_1.0ISO_FC	0,7	0,7	16IR_1.0ISO_FC	0,6	0,7
1,25	6	5/32				06IR_1.25ISO_BC	0,6	0,6
1,25	8	3/16				08IR_1.25ISO_BC	0,6	0,7
1,25	11	1/4				11IR_1.25ISO_FC	0,8	0,8
1,25	16	3/8	16ER_1.25ISO_FC	0,8	0,9	16IR_1.25ISO_FC	0,8	0,9
1,5	8	3/16				08IR_1.5ISO_BC	0,6	0,7
1,5	11	1/4				11IR_1.5ISO_FC	0,8	1,0
1,5	16	3/8	16ER_1.5ISO_FC	0,8	1,0	16IR_1.5ISO_FC	0,8	1,0
1,75	8	3/16				08IR_1.75ISO_BC	1,0	0,8
1,75	16	3/8	16ER_1.75ISO_FC	0,9	1,2	16IR_1.75ISO_FC	0,9	1,2
2,0	11	1/4				11IR_2.0ISO_FC	0,8	0,9
2,0	16	3/8	16ER_2.0ISO_FC	1,0	1,3	16IR_2.0ISO_FC	1,0	1,3
2,5	16	3/8	16ER_2.5ISO_FC	1,1	1,5	16IR_2.5ISO_FC	1,1	1,5
3,0	16	3/8	16ER_3.0ISO_FC	1,2	1,6	16IR_3.0ISO_FC	1,1	1,5
3,5	16	3/8	16ER_3.5ISO_FC	1,2	1,7	16IR_3.5ISO_FC	1,2	1,7
3,5	22	1/2	22ER_3.5ISO_FC	1,6	2,3	22IR_3.5ISO_FC	1,6	2,3
4,0	22	1/2	22ER_4.0ISO_FC	1,6	2,3	22IR_4.0ISO_FC	1,6	2,3
4,5	22	1/2	22ER_4.5ISO_FC	1,7	2,4	22IR_4.5ISO_FC	1,6	2,4
5,0	22	1/2	22ER_5.0ISO_FC	1,7	2,5	22IR_5.0ISO_FC	1,6	2,3
5,5	22	1/2	22ER_5.5ISO_FC	1,7	2,6	22IR_5.5ISO_FC	1,6	2,3
5,5	27	5/8	27ER_5.5ISO_FC	1,9	2,7	27IR_5.5ISO_FC	1,6	2,3
6,0	22	1/2	22ER_6.0ISO_FC	1,9	2,7	22IR_6.0ISO_FC	1,6	2,4
6,0	27	5/8	27ER_6.0ISO_FC	2,0	2,9	27IR_6.0ISO_FC	1,8	2,5
WITH SINTERED CHIPBREAKER								
1,0	16	3/8	16ER_1.0ISO CB_FC	0,7	0,7	16IR_1.0ISO CB_FC	0,6	0,7
1,25	16	3/8	16ER_1.25ISO CB_FC	0,8	0,9			
1,5	16	3/8	16ER_1.5ISO CB_FC	0,8	1,0	16IR_1.5ISO CB_FC	0,8	1,0
1,75	16	3/8	16ER_1.75ISO CB_FC	0,9	1,2			
2,0	16	3/8	16ER_2.0ISO CB_FC	1,0	1,3	16IR_2.0ISO CB_FC	1,0	1,3
2,5	16	3/8	16ER_2.5ISO CB_FC	1,1	1,5	16IR_2.5ISO CB_FC	1,1	1,5
3,0	16	3/8	16ER_3.0ISO CB_FC	1,2	1,6	16IR_3.0ISO CB_FC	1,1	1,5

THREAD TURNING INSERTS

UN

UNIFIED

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
32	6	5/32				06IR_32UN_BC	0,8	0,5
32	8	3/16				08IR_32UN_BC	0,6	0,5
32	11	1/4				11IR_32UN_FC	0,6	0,6
32	16	3/8	16ER_32UN_FC	0,6	0,6	16IR_32UN_FC	0,6	0,6
28	6	5/32				06IR_28UN_BC	0,8	0,6
28	8	3/16				08IR_28UN_BC	0,6	0,6
28	11	1/4				11IR_28UN_FC	0,6	0,7
28	16	3/8	16ER_28UN_FC	0,6	0,7	16IR_28UN_FC	0,6	0,7
24	6	5/32				06IR_24UN_BC	0,7	0,6
24	8	3/16				08IR_24UN_BC	0,6	0,6
24	11	1/4				11IR_24UN_FC	0,7	0,8
24	16	3/8	16ER_24UN_FC	0,7	0,8			
20	6	5/32				06IR_20UN_BC	0,6	0,6
20	8	3/16				08IR_20UN_BC	0,6	0,7
20	11	1/4				11IR_20UN_FC	0,8	0,9
20	16	3/8	16ER_20UN_FC	0,8	0,9	16IR_20UN_FC	0,8	0,9
18	6	5/32				06IR_18UN_BC	0,6	0,7
18	11	1/4				11IR_18UN_FC	0,8	1,0
18	16	3/8	16ER_18UN_FC	0,8	1,0			
16	8	3/16				08IR_16UN_BC	0,6	0,7
16	11	1/4				11IR_16UN_FC	0,9	1,1
16	16	3/8	16ER_16UN_FC	0,9	1,1	16IR_16UN_FC	0,9	1,1
14	8	3/16				08IR_14UN_BC	0,6	0,8
14	16	3/8	16ER_14UN_FC	1,0	1,2	16IR_14UN_FC	0,9	1,2
13	16	3/8	16ER_13UN_FC	1,0	1,3			
12	11	1/4				11IR_12UN_FC	0,9	1,1
12	16	3/8	16ER_12UN_FC	1,1	1,4	16IR_12UN_FC	1,1	1,4
11	11	1/4				11IR_11UN_FC	0,8	1,1
11	16	3/8	16ER_11UN_FC	1,1	1,5			
10	16	3/8	16ER_10UN_FC	1,1	1,5	16IR_10UN_FC	1,1	1,5
9	16	3/8	16ER_9UN_FC	1,2	1,7	16IR_9UN_FC	1,2	1,7
8	16	3/8	16ER_8UN_FC	1,2	1,6	16IR_8UN_FC	1,1	1,5
7	22	1/2	22ER_7UN_FC	1,6	2,3	22IR_7UN_FC	1,6	2,3
6	22	1/2	22ER_6UN_FC	1,6	2,3	22IR_6UN_FC	1,6	2,3
5	22	1/2	22ER_5UN_FC	1,7	2,5	22IR_5UN_FC	1,6	2,3
4,5	27	5/8	27ER_4.5UN_FC	1,9	2,7	27IR_4.5UN_FC	1,7	2,4
4	27	5/8	27ER_4UN_FC	2,1	3,0	27IR_4UN_FC	1,8	2,7

- The Part Numbers are for Right Hand Inserts. For Left Hand specify L instead of R. The Price is 10% higher for L.
- All inserts have ground profile and chipbreaker if nothing else is indicated.

THREAD TURNING INSERTS

60°

PARTIAL PROFILE 60°

Pitch mm	TPI	L mm	IC inch	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm
0,5-1,25	48-20	6	5/32		06IR_A60_BC	0,6	0,6
0,5-1,5	48-16	8	3/16		08IR_A60_BC	0,6	0,7
0,5-1,5	48-16	11	1/4		11IR_A60_FC	0,8	0,9
0,5-1,5	48-16	16	3/8	16ER_A60_FC	16IR_A60_FC	0,8	0,9
1,75-3,0	14-8	16	3/8	16ER_G60_FC	16IR_G60_FC	1,2	1,7
0,5-3,0	48-8	16	3/8	16ER_AG60_FC	16IR_AG60_FC	1,2	1,7
3,5-5,0	7-5	22	1/2	22ER_N60_FC	22IR_N60_FC	1,7	2,5
5,5-6,0	4,5-4	27	5/8	27ER_Q60_FC	27IR_Q60_FC	2,1	3,1

55°

PARTIAL PROFILE 55°

Pitch mm	TPI	L mm	IC inch	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm
0,5-1,25	48-20	6	5/32		06IR_A55_BC	0,5	0,6
0,5-1,5	48-16	8	3/16		08IR_A55_BC	0,6	0,7
0,5-1,5	48-16	11	1/4		11IR_A55_FC	0,8	0,9
0,5-1,5	48-16	16	3/8	16ER_A55_FC	16IR_A55_FC	0,8	0,9
1,75-3,0	14-8	16	3/8	16ER_G55_FC	16IR_G55_FC	1,2	1,7
0,5-3,0	48-8	16	3/8	16ER_AG55_FC	16IR_AG55_FC	1,2	1,7
3,5-5,0	7-5	22	1/2	22ER_N55_FC	22IR_N55_FC	1,7	2,5
5,5-6,0	4,5-4	27	5/8	27ER_Q55_FC	27IR_Q55_FC	2,0	2,9

MJ

METRIC

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
1,0	11	1/4				11IR_1.0MJ_FC	0,6	0,7
1,0	16	3/8	16ER_1.0MJ_FC	0,7	0,7	16IR_1.0MJ_FC	0,6	0,7
1,25	11	1/4				11IR_1.25MJ_FC	0,8	0,8
1,25	16	3/8	16ER_1.25MJ_FC	0,8	0,9	16IR_1.25MJ_FC	0,8	0,9
1,5	11	1/4				11IR_1.5MJ_FC	0,8	1,0
1,5	16	3/8	16ER_1.5MJ_FC	0,8	1,0	16IR_1.5MJ_FC	0,8	1,0
2,0	11	1/4				11IR_2.0MJ_FC	0,8	0,9
2,0	16	3/8	16ER_2.0MJ_FC	1,0	1,3	16IR_2.0MJ_FC	1,0	1,3

UNJ

UNIFIED

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
32	11	1/4				11IR_32UNJ_FC	0,6	0,6
32	16	3/8	16ER_32UNJ_FC	0,6	0,6	16IR_32UNJ_FC	0,6	0,6
28	11	1/4				11IR_28UNJ_FC	0,6	0,7
28	16	3/8	16ER_28UNJ_FC	0,6	0,7	16IR_28UNJ_FC	0,6	0,7
24	11	1/4				11IR_24UNJ_FC	0,7	0,8
24	16	3/8	16ER_24UNJ_FC	0,7	0,8			
20	11	1/4				11IR_20UNJ_FC	0,8	0,9
20	16	3/8	16ER_20UNJ_FC	0,8	0,9	16IR_20UNJ_FC	0,8	0,9
18	11	1/4				11IR_18UNJ_FC	0,8	1,0
18	16	3/8	16ER_18UNJ_FC	0,8	1,0			
16	11	1/4				11IR_16UNJ_FC	0,9	1,1
16	16	3/8	16ER_16UNJ_FC	0,9	1,1	16IR_16UNJ_FC	0,9	1,1
14	16	3/8	16ER_14UNJ_FC	1,0	1,2	16IR_14UNJ_FC	0,9	1,2
13	16	3/8	16ER_13UNJ_FC	1,0	1,3			
12	16	3/8	16ER_12UNJ_FC	1,1	1,4	16IR_12UNJ_FC	1,1	1,4
11	16	3/8	16ER_11UNJ_FC	1,1	1,5			
10	16	3/8	16ER_10UNJ_FC	1,1	1,5	16IR_10UNJ_FC	1,1	1,5
9	16	3/8	16ER_9UNJ_FC	1,2	1,7	16IR_9UNJ_FC	1,2	1,7
8	16	3/8	16ER_8UNJ_FC	1,2	1,6	16IR_8UNJ_FC	1,1	1,5

THREAD TURNING INSERTS

BS/G/Rp

WHITWORTH

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
32	16	3/8	16ER_32W_FC	0,6	0,6			
28	6	5/32				06IR_28W_BC	0,6	0,6
28	8	3/16				08IR_28W_BC	0,6	0,6
28	16	3/8	16ER_28W_FC	0,6	0,7			
26	6	5/32				06IR_26W_BC	0,7	0,6
26	16	3/8	16ER_26W_FC	0,7	0,7			
24	16	3/8	16ER_24W_FC	0,7	0,8			
22	06	5/32				06IR_22W_BC	0,6	0,6
22	16	3/8	16ER_22W_FC	0,8	0,9			
20	08	3/16				08IR_20W_BC	0,6	0,7
20	16	3/8	16ER_20W_FC	0,8	0,9	16IR_20W_FC	0,8	0,9
19	8	3/16				08IR_19W_BC	0,6	0,7
19	11	1/4				11IR_19W_FC	0,8	1,0
19	16	3/8	16ER_19W_FC	0,8	1,0	16IR_19W_FC	0,8	1,0
18	08	3/16				08IR_18W_BC	0,6	0,7
18	16	3/8	16ER_18W_FC	0,8	1,0	16IR_18W_FC	0,8	1,0
16	08	3/16				08IR_16W_BC	0,6	0,7
16	16	3/8	16ER_16W_FC	0,9	1,1	16IR_16W_FC	0,9	1,1
14	11	1/4				11IR_14W_FC	0,9	1,1
14	16	3/8	16ER_14W_FC	1,0	1,2	16IR_14W_FC	1,0	1,2
12	11	1/4				11IR_12W_FC	0,1	1,1
12	16	3/8	16ER_12W_FC	1,1	1,4	16IR_12W_FC	1,1	1,4
11	16	3/8	16ER_11W_FC	1,1	1,5	16IR_11W_FC	1,1	1,5
10	16	3/8	16ER_10W_FC	1,1	1,5	16IR_10W_FC	1,1	1,5
9	16	3/8	16ER_9W_FC	1,2	1,7	16IR_9W_FC	1,2	1,7
8	16	3/8	16ER_8W_FC	1,2	1,5	16IR_8W_FC	1,2	1,5
7	22	1/2	22ER_7W_FC	1,6	2,3	22IR_7W_FC	1,6	2,3
6	22	1/2	22ER_6W_FC	1,6	2,3	22IR_6W_FC	1,6	2,3
5	22	1/2	22ER_5W_FC	1,7	2,4	22IR_5W_FC	1,7	2,4
4,5	27	5/8	27ER_4.5W_FC	1,8	2,6	27IR_4.5W_FC	1,8	2,6
4	27	5/8	27ER_4W_FC	2,0	2,9	27IR_4W_FC	2,0	2,9
WITH SINTERED CHIPBREAKER								
19	16	3/8	16ER_19WCB_FC	0,8	1,0			
14	16	3/8	16ER_14WCB_FC	1,0	1,2	16IR_14WCB_FC	1,0	1,2
11	16	3/8	16ER_11WCB_FC	1,1	1,5	16IR_11WCB_FC	1,1	1,5

R/Rc

BSPT PIPE THREAD

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
28	6	5/32				06IR_28BSPT_BC	0,7	0,6
28	16	3/8	16ER_28BSPT_FC	0,6	0,6			
19	8	3/16				08IR_19BSPT_BC	0,6	0,6
19	16	3/8	16ER_19BSPT_FC	0,8	0,9			
14	16	3/8	16ER_14BSPT_FC	1,0	1,2	16IR_14BSPT_FC	1,0	1,2
11	16	3/8	16ER_11BSPT_FC	1,1	1,5	16IR_11BSPT_FC	1,1	1,5

- The Part Numbers are for Right Hand Inserts. For Left Hand specify L instead of R. The Price is 10% higher for L.
- All inserts have ground profile and chipbreaker if nothing else is indicated.

THREAD TURNING INSERTS

NPT

NPT PIPE THREAD

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
27	6	5/32				06IR_27NPT_BC	0,6	0,6
27	8	3/16				08IR_27NPT_BC	0,6	0,6
27	16	3/8	16ER_27NPT_FC	0,7	0,8			
18	8	3/16				08IR_18NPT_BC	0,6	0,6
18	11	1/4				11IR_18NPT_FC	0,8	1,0
18	16	3/8	16ER_18NPT_FC	0,8	1,0			
14	16	3/8	16ER_14NPT_FC	0,9	1,2	16IR_14NPT_FC	0,9	1,2
11,5	16	3/8	16ER_11.5NPT_FC	1,1	1,5	16IR_11.5NPT_FC	1,1	1,5
8	16	3/8	16ER_8NPT_FC	1,3	1,8	16IR_8NPT_FC	1,3	1,8

NPTF

NPTF DRYSEAL PIPE THREAD

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
27	6	5/32				06IR_27NPTF_BC	0,7	0,6
27	8	3/16				08IR_27NPTF_BC	0,6	0,6
27	16	3/8	16ER_27NPTF_FC	0,7	0,7			
18	8	3/16				08IR_18NPTF_BC	0,6	0,6
18	11	1/4				11IR_18NPTF_FC	0,8	1,0
18	16	3/8	16ER_18NPTF_FC	0,8	1,0			
14	16	3/8	16ER_14NPTF_FC	0,9	1,2	16IR_14NPTF_FC	0,9	1,2
11,5	16	3/8	16ER_11.5NPTF_FC	1,1	1,5	16IR_11.5NPTF_FC	1,1	1,5
8	16	3/8	16ER_8NPTF_FC	1,3	1,8	16IR_8NPTF_FC	1,3	1,8

ABUT

AMERICAN BUTTRESS

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
20	11	1/4				11IR_20ABUT_FC	1,0	1,3
16	11	1/4				11IR_16ABUT_FC	1,0	1,5
20	16	3/8	16ER_20ABUT_FC	1,0	1,3	16IR_20ABUT_FC	1,0	1,3
16	16	3/8	16ER_16ABUT_FC	1,0	1,5	16IR_16ABUT_FC	1,0	1,5
12	16	3/8	16ER_12ABUT_FC	1,4	2,0	16IR_12ABUT_FC	1,4	2,0
10	16	3/8	16ER_10ABUT_FC	1,5	2,3	16IR_10ABUT_FC	1,5	2,3
8	22	1/2	22ER_8ABUT_FC	2,1	3,3	22IR_8ABUT_FC	2,1	3,3
6	22	1/2	22ER_6ABUT_FC	2,1	3,4	22IR_6ABUT_FC	2,1	3,4

SG

BUTTRESS (SÄGENGEWINDE) DIN 513/514

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
2,0	16	3/8	16ER_2.0SG_FC	1,1	1,6	16IR_2.0SG_FC	1,2	1,7
3,0	22	3/8	22ER_3.0SG_FC	1,5	2,4	22IR_3.0SG_FC	1,9	2,9
4,0	22	1/2	22ER_4.0SG_FC	1,9	3,1	22IR_4.0SG_FC	2,3	3,5

PG

STEEL CONDUIT THREAD DIN 40430

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
20	8	3/16				08IR_20PG_BC	0,6	0,7
18	11	1/4				11IR_18PG_FC	0,8	0,9
20	16	3/8	16ER_20PG_FC	0,7	0,8			
18	16	3/8	16ER_18PG_FC	0,8	0,9	16IR_18PG_FC	0,8	0,9
16	16	3/8	16ER_16PG_FC	0,8	1,0	16IR_16PG_FC	0,8	1,0

THREAD TURNING INSERTS

TR

TRAPEZ DIN 103

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
1,5	16	3/8	16ER_1.5TR_FC	1,0	1,1			
2,0	16	3/8	16ER_2.0TR_FC	1,0	1,3	16IR_2.0TR_FC	1,0	1,3
3,0	16	3/8	16ER_3.0TR_FC	1,3	1,5	16IR_3.0TR_FC	1,3	1,5
4,0	22	1/2	22ER_4.0TR_FC	1,8	1,9	22IR_4.0TR_FC	1,8	1,9
5,0	22	1/2	22ER_5.0TR_FC	2,0	2,4	22IR_5.0TR_FC	2,0	2,4
6,0	22	1/2	22ER_6.0TR_FC	2,0	2,4	22IR_6.0TR_FC	2,0	2,4
6,0	27	5/8	27ER_6.0TR_FC	2,3	2,7	27IR_6.0TR_FC	2,3	2,7
7,0	27	5/8	27ER_7.0TR_FC	2,2	2,6	27IR_7.0TR_FC	2,2	2,6

RD

ROUND DIN 405

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
10	16	3/8	16ER_10RD_FC	1,1	1,2	16IR_10RD_FC	1,1	1,2
8	16	3/8	16ER_8RD_FC	1,4	1,3	16IR_8RD_FC	1,4	1,4
6	16	3/8	16ER_6RD_FC	1,5	1,7	16IR_6RD_FC	1,4	1,5
6	22	1/2	22ER_6RD_FC	1,5	1,7	22IR_6RD_FC	1,5	1,7
4	22	1/2	22ER_4RD_FC	2,2	2,3	22IR_4RD_FC	2,2	2,3
4	27	5/8	27ER_4RD_FC	2,2	2,3	27IR_4RD_FC	2,2	2,3

ACME

ACME

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
16	11	1/4				11IR_16ACME_FC	0,9	1,0
16	16	3/8	16ER_16ACME_FC	0,9	1,0	16IR_16ACME_FC	0,9	1,0
14	16	3/8	16ER_14ACME_FC	1,0	1,2	16IR_14ACME_FC	1,0	1,2
12	16	3/8	16ER_12ACME_FC	1,1	1,2	16IR_12ACME_FC	1,1	1,2
10	16	3/8	16ER_10ACME_FC	1,3	1,3	16IR_10ACME_FC	1,3	1,3
8	16	3/8	16ER_8ACME_FC	1,5	1,5	16IR_8ACME_FC	1,5	1,5
6	16	3/8	16ER_6ACME_FC	1,7	1,8	16IR_6ACME_FC	1,7	1,8
6	22	1/2	22ER_6ACME_FC	1,8	2,1	22IR_6ACME_FC	1,8	2,1
5	22	1/2	22ER_5ACME_FC	2,0	2,3	22IR_5ACME_FC	2,0	2,3
4	27	5/8	27ER_4ACME_FC	2,3	2,7	27IR_4ACME_FC	2,3	2,7

STACME

STUB ACME

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
16	16	3/8	16ER_16STACME_FC	1,0	1,0	16IR_16STACME_FC	1,0	1,0
14	16	3/8	16ER_14STACME_FC	1,1	1,1	16IR_14STACME_FC	1,1	1,1
12	16	3/8	16ER_12STACME_FC	1,2	1,2	16IR_12STACME_FC	1,2	1,2
10	16	3/8	16ER_10STACME_FC	1,3	1,3	16IR_10STACME_FC	1,3	1,3
8	16	3/8	16ER_8STACME_FC	1,5	1,5	16IR_8STACME_FC	1,5	1,5
6	16	1/2	16ER_6STACME_FC	1,8	1,8	16IR_6STACME_FC	1,8	1,8
5	22	1/2	22ER_5STACME_FC	2,0	2,3	22IR_5STACME_FC	2,0	2,3
4	27	5/8	27ER_4STACME_FC	2,3	2,4	27IR_4STACME_FC	2,3	2,4
3	27	5/8	27ER_3STACME_FC	2,8	2,9	27IR_3STACME_FC	2,8	2,9

- The Part Numbers are for Right Hand Inserts. For Left Hand specify L instead of R. The Price is 10% higher for L.
- All inserts have ground profile and chipbreaker if nothing else is indicated.

THREAD TURNING INSERTS

API RD

API ROUND OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm
10	16	3/8	0,75	16ER_10APIRD_FC	16IR_10APIRD_FC	1,5	1,4
8	16	3/8	0,75	16ER_8APIRD_FC	16IR_8APIRD_FC	1,3	1,6

V-0.040

V-0.040 OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm	Connection or Size
5	22	1/2	3	22ER_5API403_FC	22IR_5API403_FC	1,8	2,5	2 3/8 - 4 1/2 REG

V-0.038R

V-0.038R OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm	Connection or Size
4	27	5/8	2	27ER_4API382_FC	27IR_4API382_FC	2,1	2,8	NC23-NC50
4	27	5/8	3	27ER_4API383_FC	27IR_4API383_FC	2,1	2,8	NC56-NC77

V-0.050

V-0.050 OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm	Connection or Size
4	27	5/8	2	27ER_4API502_FC	27IR_4API502_FC	2,0	3,0	6 5/8 REG
4	27	5/8	3	27ER_4API503_FC	27IR_4API503_FC	2,0	3,0	5 1/2, 7 5/8, 8 5/8 REG

EL

EXTREME - LINE CASING OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm	Connection or Size
6	22	1/2	1,50	22ER_6EL1.5_FC	22IR_6EL1.5_FC	1,9	1,9	5 - 7 5/8
5	22	1/2	1,25	22ER_5EL1.25_FC	22IR_5EL1.25_FC	2,4	2,3	8 5/8 - 10 3/4

BUT

BUTTRESS CASING OIL THREAD

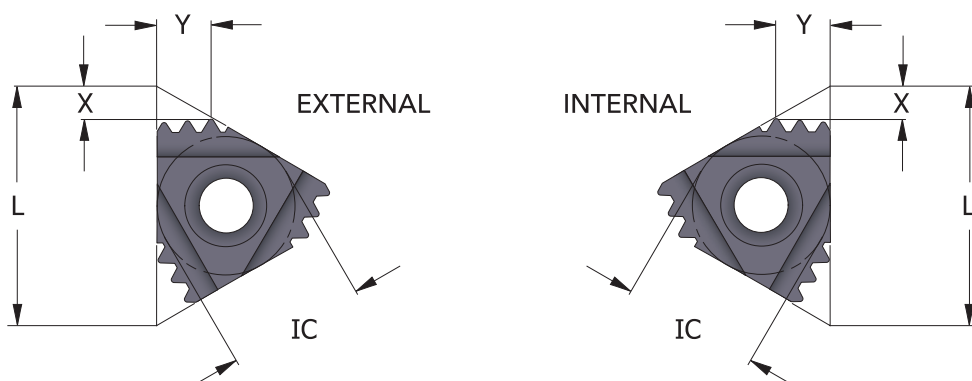
Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm	Connection or Size
5	22	1/2	0,75	22ER_5BUT0.75_FC	22IR_5BUT0.75_FC	2,2	2,4	4 1/2 - 13 3/8
5	22	1/2	1,00	22ER_5BUT1.0_FC	22IR_5BUT1.0_FC	2,3	2,4	16 - 20

■ The Part Numbers are for Right Hand Inserts. For Left Hand specify L instead of R. The Price is 10% higher for L.

■ All inserts have ground profile and chipbreaker if nothing else is indicated.

THREAD TURNING INSERTS

Triangular Multitooth



M

METRIC

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
1,0	16	3/8	16ER_1.0ISO3M_FC	1,7	2,5	16IR_1.0ISO3M_FC	1,7	2,5
1,5	16	3/8	16ER_1.5ISO2M_FC	1,5	2,3	16IR_1.5ISO2M_FC	1,5	2,3
1,5	22	1/2	22ER_1.5ISO3M_FC	2,3	3,7	22IR_1.5ISO3M_FC	2,3	3,7
2,0	22	1/2	22ER_2.0ISO2M_FC	2,0	3,0	22IR_2.0ISO2M_FC	2,0	3,0
2,0	22	1/2	22ER_2.0ISO3M_FC	3,1	5,0	22IR_2.0ISO3M_FC	3,1	5,0
3,0	27	5/8	27ER_3.0ISO2M_FC	2,9	4,5	27IR_3.0ISO2M_FC	2,9	4,5

UN

UNIFIED

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
16	16	3/8	16ER_16UN2M_FC	1,5	2,3	16IR_16UN2M_FC	1,5	2,3
16	16	3/8	22ER_16UN3M_FC	2,5	4,0	22IR_16UN3M_FC	2,5	4,0
12	22	1/2	22ER_12UN2M_FC	2,2	3,4	22IR_12UN2M_FC	2,2	3,4
12	22	1/2	22ER_12UN3M_FC	3,3	5,3	22IR_12UN3M_FC	3,3	5,3
8	27	5/8	27ER_8UN2M_FC	3,1	4,9	27IR_8UN2M_FC	3,1	4,9

G/Rp

WHITWORTH PIPE THREAD

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
14	16	3/8	16ER_14W2M_FC	1,7	2,7	16IR_14W2M_FC	1,7	2,7
14	22	1/2	22ER_14W3M_FC	2,8	4,5	22IR_14W3M_FC	2,8	4,5
11	22	1/2	22ER_11W2M_FC	2,3	3,4	22IR_11W2M_FC	2,3	3,4

NPT

NPT PIPE THREAD

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
11,5	22	1/2	22ER_11.5NPT2M_FC	2,3	3,5	22IR_11.5NPT2M_FC	2,3	3,5
11,5	27	5/8	27ER_11.5NPT3M_FC	3,3	5,5	27IR_11.5NPT3M_FC	3,3	5,5
8	27	5/8	27ER_8NPT2M_FC	3,1	5,0	27IR_8NPT2M_FC	3,1	5,0

API RD

API ROUND OIL THREAD

Pitch TPI	L mm	IC inch	Taper IPF	EXTERNAL Part Number	INTERNAL Part Number	X mm	Y mm
10	22	1/2	0,75	22ER_10APIRD2M_FC	22IR_10APIRD2M_FC	2,4	3,7
10	27	5/8	0,75	27ER_10APIRD3M_FC	27IR_10APIRD3M_FC	3,8	6,2
8	27	5/8	0,75	27ER_8APIRD2M_FC	27IR_8APIRD2M_FC	3,0	4,5

THREAD TURNING INSERTS

Kits with Different Inserts

External Threading Inserts Kits

0.75 ISO	1.25 ISO	1.75 ISO	2.5 ISO	AG55
				
1.0 ISO	1.5 ISO	2.0 ISO	3.0 ISO	AG60
				

Part Number
10X16ER_FC

3.5 ISO	4.0 ISO	4.5 ISO	5.0 ISO	N60
				
3.5 ISO	4.0 ISO	4.5 ISO	5.0 ISO	N60
				

Part Number
10X22ER_FC

External Toolholder



THREAD TURNING INSERTS

Kits with Different Inserts

Internal Threading Inserts Kits

0.5 ISO	0.75 ISO	1.0 ISO	1.25 ISO	A60
				
0.5 ISO	0.75 ISO	1.0 ISO	1.25 ISO	A60
				

Part Number

10X06IR_Ø5_BC

■ Recommended holder: SIR_0005_H06

1.0 ISO	1.5 ISO	1.75 ISO	28W	A60
				
1.0 ISO	1.5 ISO	1.75 ISO	28W	A60
				

Part Number

10X08IR_Ø7_BC

■ Recommended holder: SIR_0007_K08

1.0 ISO	1.5 ISO	2.0 ISO	19W	A60
				
1.0 ISO	1.5 ISO	2.0 ISO	19W	A60
				

Part Number

10X11IR_Ø10_FC

■ Recommended holder: SIR_0010_K11

1.5 ISO	2.0 ISO	2.5 ISO	3.0 ISO	14W
				
1.5 ISO	2.0 ISO	2.5 ISO	3.0 ISO	14W
				

Part Number

10X16IR_Ø13_FC

■ Recommended holder: SIR_0013_M16

1.5 ISO	2.0 ISO	3.0 ISO	11W	AG60
				
1.5 ISO	2.0 ISO	3.0 ISO	11W	AG60
				

Part Number

10X16IR_Ø20_FC

■ Recommended holder: SIR_0020_P16

3.5 ISO	4.0 ISO	4.5 ISO	5.0 ISO	N60
				
3.5 ISO	4.0 ISO	4.5 ISO	5.0 ISO	N60
				

Part Number

10X22IR_Ø25_FC

■ Recommended holder: SIR_0025_R22

Internal Toolholder



THREAD TURNING TOOLHOLDERS

External



Insert mm	Part Number	B/H mm	L mm	F mm
16	SER_1212_F16	12	80	16
16	SER_1616_H16	16	100	16
16	SER_2020_K16	20	125	20
16	SER_2525_M16	25	150	25
16	SER_3232_P16	32	170	32
22	SER_2525_M22	25	150	25
22	SER_3232_P22	32	170	32
22	SER_4040_R22	40	200	40
27	SER_2525_M27	25	150	32
27	SER_3232_P27	32	170	32
27	SER_4040_R27	40	200	40

Spare Parts

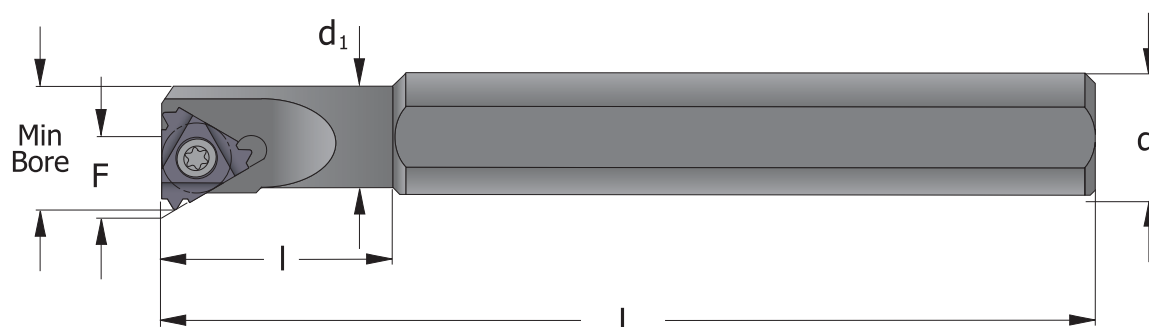
Insert mm	Screw to insert	Torx key	Screw to anvil	Anvil
16	S16	K16	A16	AE16...
22	S22	K22	A22	AE22...
27	S27	K27	A27	AE27...

■ The Part Numbers are for Right Hand Toolholders. For Left Hand specify L instead of R. The Price is 10% higher for L.

■ Toolholders are supplied with anvil for helix angle 1,5°. [For other helix angles, see page 42.](#) Ex. anvil part number: AE16+0.5

THREAD TURNING TOOLHOLDERS

Internal



Insert mm	Min Bore mm	Part Number	d mm	d ₁ mm	l mm	L mm	F mm
6	6,3	SIR_0005_H06*	12	5,1	12	100	4,3
8	8	SIR_0007_K08*	16	6,6	18	125	5,3
11	12	SIR_0010_H11*	10	10		100	7,4
11	12	SIR_0010_K11*	16	10	25	125	7,4
11	15	SIR_0013_L11*	16	13	32	140	8,9
16	16	SIR_0013_M16*	16	13	32	150	10,2
16	19	SIR_0016_P16*	20	16	40	170	11,7
16	23	SIR_0020_P16	20	20		170	13,7
16	28	SIR_0025_R16	25	25		200	16,2
16	35	SIR_0032_S16	32	32		250	19,7
16	43	SIR_0040_T16	40	40		300	23,7
22	24	SIR_0020_P22*	20	20		170	15,6
22	29	SIR_0025_R22	25	25		200	18,1
22	36	SIR_0032_S22	32	32		250	21,6
22	44	SIR_0040_T22	40	40		300	25,6
27	37	SIR_0032_S27	32	32		250	22,6
27	45	SIR_0040_T27	40	40		300	26,6
27	55	SIR_0050_U27	50	50		350	31,6
27	65	SIR_0060_V27	60	60		400	36,6

with Carbide Shank and Internal Coolant

Insert mm	Min Bore mm	Part Number	d mm	d ₁ mm	l mm	L mm	F mm
6	6,3	SIR_0005_H06CB*	6	5,1	26	100	4,3
8	8	SIR_0007_K08CB*	8	6,6	31	125	5,3
11	12	SIR_0010_M11CB*	10	10		150	7,4
11	14	SIR_0012_P11CB*	12	12		170	8,4
16	19	SIR_0016_R16CB*	16	16		200	11,7
16	23	SIR_0020_S16CB	20	20		250	13,7
16	28	SIR_0025_S16CB	25	25		250	16,2
22	24	SIR_0020_S22CB*	20	20		250	15,6

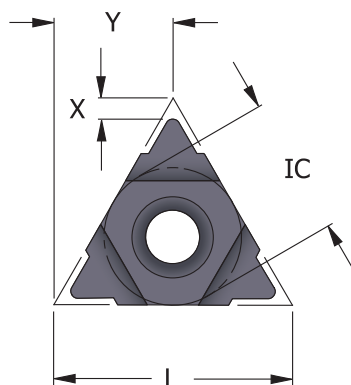
Spare Parts

Insert mm	Screw to insert	Torx key	Screw to anvil	Anvil
06	S6	K6		
08	S8	K8		
11	S11	K11		
16	S16	K16	A16	AI16...
22	S22	K22	A22	AI22...
27	S27	K27	A27	AI27...

* Toolholder without anvil (helix angle 1,5°)

THREAD TURNING INSERTS

U-type



M

METRIC

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
2,0	8	3/16				08UI_2.0ISO_BC	0,9	4,0
5,5	22	1/2	22UE_5.5ISO_FC	2,3	11,0	22UI_5.5ISO_FC	2,4	11,0
6,0	22	1/2	22UE_6.0ISO_FC	2,6	11,0	22UI_6.0ISO_FC	2,1	11,0
8,0	27	5/8	27UE_8.0ISO_FC	2,4	13,7	27UI_8.0ISO_FC	2,4	13,7
12,0	33	3/4	33UE_12.0ISO_FC	2,5	16,5	33UI_12.0ISO_FC	3,5	16,9

UN

UNIFIED

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
13	8	3/16				08UI_13UN_BC	1,0	4,0
12	8	3/16				08UI_12UN_BC	0,9	4,0
11	8	3/16				08UI_11UN_BC	0,9	4,0
4,5	22	1/2	22UE_4.5UN_FC	2,0	11,0	22UI_4.5UN_FC	2,4	11,0
4	22	1/2	22UE_4UN_FC	2,0	11,0	22UI_4UN_FC	2,4	11,0
3	27	5/8	27UE_3UN_FC	2,5	13,7	27UI_3UN_FC	2,7	13,7
2	33	3/4	33UE_2UN_FC	2,8	16,5	33UI_2UN_FC	3,6	16,9

TR

TRAPEZ DIN 103

Pitch mm	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
2,0	8					08UI_2.0TR_BC	0,9	4,0
6,0	22	1/2	22UE_6.0TR_FC	2,0	11,0	22UI_6.0TR_FC	2,0	11,0
7,0	22	1/2	22UE_7.0TR_FC	2,3	11,0	22UI_7.0TR_FC	2,3	11,0
8,0	22	1/2	22UE_8.0TR_FC	2,5	11,0	22UI_8.0TR_FC	2,5	11,0
8,0	27	5/8	27UE_8.0TR_FC	2,5	13,7	27UI_8.0TR_FC	2,5	13,7
9,0	27	5/8	27UE_9.0TR_FC	3,0	13,7	27UI_9.0TR_FC	3,0	13,7
10,0	27	5/8	27UE_10.0TR_FC*	3,2	13,7	27UI_10.0TR_FC*	3,2	13,7
12,0	33	3/4	33UE_12.0TR_FC	3,9	16,9	33UI_12.0TR_FC	3,9	16,9

■ All inserts have ground profile and chipbreaker.

★ Only one cutting edge

ACME

ACME

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
14	8	3/16				08UI_14ACME_BC	0,8	4,0
12	8	3/16				08UI_12ACME_BC	0,8	4,0
10	8	3/16				08UI_10ACME_BC	0,8	4,0
4	22	1/2	22UE_4ACME_FC	2,3	11,0	22UI_4ACME_FC	2,3	11,0
3	27	5/8	27UE_3ACME_FC	2,8	13,7	27UI_3ACME_FC	2,8	13,7
2	33	3/4	33UE_2ACME_FC	4,3	16,9	33UI_2ACME_FC	4,3	16,9

STACME

STUB ACME

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
14	8	3/16				08UI_14STACME_BC	0,8	4,0
12	8	3/16				08UI_12STACME_BC	0,9	4,0
10	8	3/16				08UI_10STACME_BC	1,0	4,0
4	22	1/2	22UE_4STACME_FC	2,5	11,0	22UI_4STACME_FC	2,5	11,0
3	22	1/2	22UE_3STACME_FC	3,3	11,0	22UI_3STACME_FC	3,3	11,0
2	33	3/4	33UE_2STACME_FC	5,0	16,9	33UI_2STACME_FC	5,0	16,9

BS/G/Rp

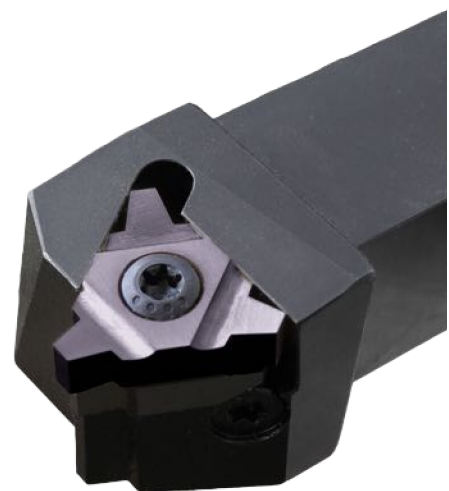
WHITWORTH

Pitch TPI	L mm	IC inch	EXTERNAL Part Number	X mm	Y mm	INTERNAL Part Number	X mm	Y mm
12	8	3/16				08UI_12W_BC	0,9	4,0
4,5	22	1/2	22U_4.5W_FC	2,3	11,0	22U_4.5W_FC	2,3	11,0
4	22	1/2	22U_4W_FC	2,8	11,0	22U_4W_FC	2,8	11,0
3,5	27	5/8	27U_3.5W_FC	2,1	13,7	27U_3.5W_FC	2,1	13,7
3,25	27	5/8	27U_3.25W_FC	2,0	13,7	27U_3.25W_FC	2,0	13,7
3	27	5/8	27U_3W_FC	2,3	13,7	27U_3W_FC	2,3	13,7
2,75	27	5/8	27U_2.75W_FC	2,4	13,7	27U_2.75W_FC	2,4	13,7

U-type vs conventional inserts

The advantage of U-type inserts is that it is possible to make a larger thread profile than on a conventional insert. For example, on size 22 you can make 8.0TR with U-type, but maximum with conventional insert is 6.0TR.

The disadvantage is that you cannot thread against a shoulder because the thread profile is in the center of the insert.



THREAD TURNING TOOLHOLDERS

U-type External



Insert mm	Part Number	B/H mm	L mm	F mm
22	SER_2525_M22U	25	150	28
22	SER_3232_P22U	32	170	32
22	SER_4040_R22U	40	200	40
27	SER_2525_M27U	25	150	32
27	SER_3232_P27U	32	170	32
27	SER_4040_R27U	40	200	40
33	SER_2525_M33U*	25	150	32
33	SER_3232_P33U*	32	170	32

Spare Parts

Insert mm	Screw to insert	Torx key	Screw to anvil	Anvil
22	S22	K22	A22	AE22U...
27	S27	K27	A27	AE27U...
33	S33	K33		

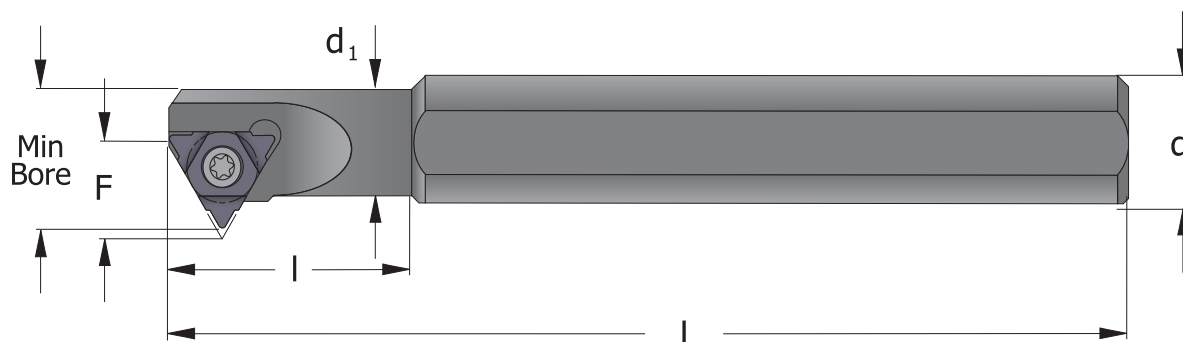
■ The Part Numbers are for Right Hand Toolholders. For Left Hand specify L instead of R. The Price is 10% higher for L.

■ Toolholders are supplied with anvil for helix angle 1,5°. [For other helix angles, see page 42.](#) Ex. anvil part number: AE22U+0.5

★ Toolholder without anvil (helix angle 1,5°)

THREAD TURNING TOOLHOLDERS

U-type Internal



Insert mm	Min Bore mm	Part Number	d mm	d ₁ mm	l mm	L mm	F mm
8	9,5	SIR_0008_K08U*	16	7,3	21	125	6,6
22	39	SIR_0032_S22U	32	32	-	250	24,4
22	46	SIR_0040_T22U	40	40	-	300	28,1
27	40	SIR_0032_S27U	32	32	-	250	25,8
27	47	SIR_0040_T27U	40	40	-	300	29,4
27	57	SIR_0050_U27U	50	50	-	350	34,3
27	68	SIR_0060_V27U	60	60	-	400	39,7
33	59	SIR_0050_U33U*	50	50	-	350	37,5

with Carbide Shank and Internal Coolant

Insert mm	Min Bore mm	Part Number	d mm	d ₁ mm	l mm	L mm	F mm
8	9,5	SIR_0008_K08UCB*	8	7,3	35	125	6,6

Spare Parts

Insert mm	Screw to insert	Torx key	Screw to anvil	Anvil
08	S8	K8		
22	S22	K22	A22	AI22U...
27	S27	K27	A27	AI27U...
33	S33	K33		

■ The Part Numbers are for Right Hand Toolholders. For Left Hand specify L instead of R. The Price is 10% higher for L.

■ Toolholders are supplied with anvil for helix angle 1,5°. [For other helix angles, see page 42](#). Ex. anvil part number: AI22U+0.5

* Toolholder without anvil (helix angle 1,5°)