

CoroCut® XS

Designed for sliding head machines

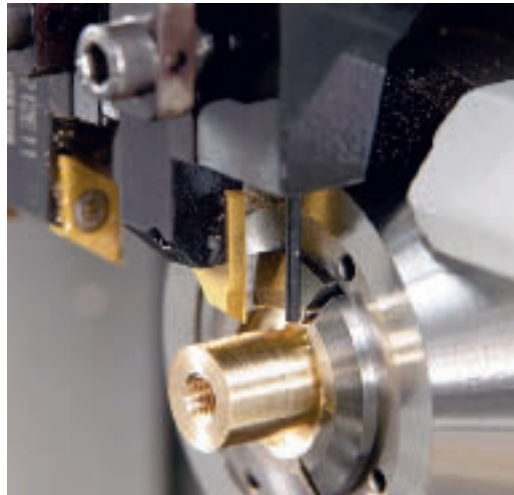
Component diameter 1-8 mm

Guaranteed precision in external parting off, grooving, threading and turning

CoroCut® XS

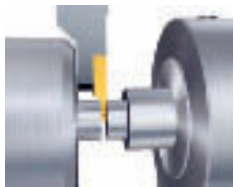
- Easy indexing
- Good accessibility when changing the insert
- Insert screw can be reached from both sides, reducing down time and increasing productivity

The smallest grooving width of 0.5 mm and parting width of only 0.7 mm makes it possible to save a considerable amount of workpiece material.

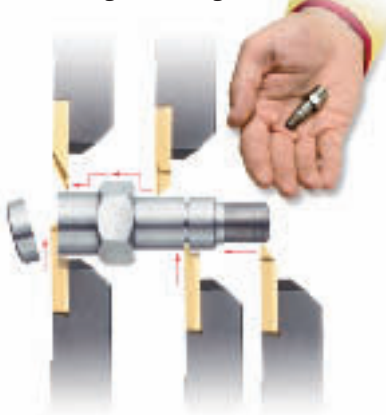


Accuracy

High quality ground inserts and holders. Extremely sharp cutting edges perform well at low feed.



Back turning Turning



Parting off Grooving Threading

Tool holders

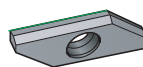
Holders available in shank sizes from 1010 to 1616. All inserts fit into the same holder.

Inserts

Inserts available for:
Parting off
Grooving
Turning
Back turning
Threading

All inserts are available in grade GC1025 with sharp cutting edges and a high security against chip hammering and giving an excellent surface finish.

High precision square shank holders including dedicated holders for parting off close to sub spindle are available.



Blanks for grinding

Insert blanks for "do-it-yourself" grinding are available allowing modification of the insert for any machining operation.

Practical hints



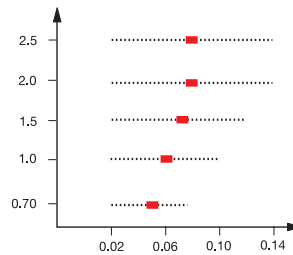
MACR insert

Parting

- When parting with a sub-spindle it is more productive to use a straight cutting edge. This is a more stable parting method and will generate the best surface finish.
- When parting without a sub-spindle we recommend you use an insert with a maximum 15° front angle to minimise the risk of burr and pips on the component.
- When parting off with 15° front angled inserts we recommend reducing the feed by approximately 30%.

Cutting data

Insert width (l_d), mm



Cutting speed

P	M	N	S
60-200	60-180	90-400	20-50

Grade GC1025, (v_c) m/min

■ = Recommended starting value

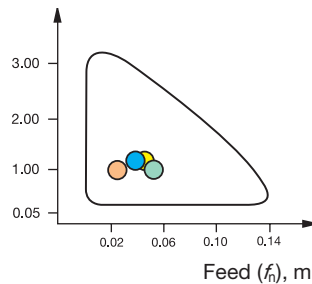


MAFR insert

Turning

- Do not exceed the feed value of the nose radius.
- Nose radius 0.1 mm, max feed 0.1 mm/rev.
- Try not to use a smaller cutting depth than the nose radius. This will generate higher radial forces and will result in inaccurate dimensions.
- Too low cutting speed will result in inadequate tool life and it is advisable to follow cutting speed recommendations shown on page F13

Cutting data



Cutting speed

P	M	N	S
60-200	60-180	90-400	20-50

Grade GC1025, (v_c) m/min



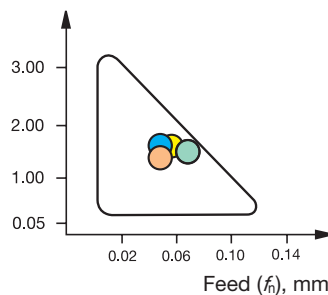
MABR insert

Back turning

- If running with a cutting depth larger than 2 mm we recommend you use the insert with 0.2 mm nose radius.
- When using a large cutting depth it is important to reduce the feed as there is a large amount of pressure on the actual insert tip.
- If a larger cutting depth than 3 mm is needed switch to the CoroTurn 107 and VCEX inserts which have more edge strength.

Cutting data

Depth of cut (a_p), mm

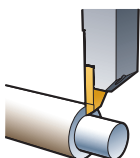


Cutting speed

P	M	N	S
60-200	60-180	90-400	20-50

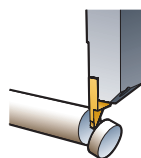
Grade GC1025, (v_c) m/min

First choice recommendation



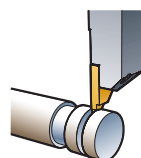
Turning

Insert: MAFR 3 010 1025
 Holder: SMALR 1212K3
 Material: low alloy steel
 v_c m/min: 100
 a_p mm: 1
 f_n mm/rev: 0.08



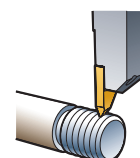
Parting off

Insert: MACR 3 100 1025
 Holder: SMALR 1212K3-X
 Material: low alloy steel
 v_c m/min: 100
 f_n mm/rev: 0.05



Grooving

Insert: MAGR 3 200 1025
 Holder: SMALR 1212K3
 Material: low alloy steel
 v_c m/min: 100
 f_n mm/rev: 0.05



Threading

Insert: MATR 3 60-N 1025
 Holder: SMALR 1212K3
 Material: low alloy steel
 v_c m/min: 100
 nap : 3-9

For more specific cutting data, see pages F13

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General Information

EXTERNAL MACHINING CoroCut® XS

Shank tools

Turning, parting & grooving and threading

CoroCut® XS screw clamp design

SMALR/L

Right hand style shown

Insert size ¹⁾	Ordering code	Dimensions, mm						Gauge inserts	Nm ²⁾
		<i>b</i>	<i>f</i> ₁	<i>h</i>	<i>h</i> ₁	<i>l</i> ₁	<i>l</i> ₃		
3	SMALR/L 1010K 3	10	10	10	10	125	27	MAxL 3..	1.2
3	SMALR/L 1212K 3	12	12	12	12	125	27	MAxL 3..	1.2
3	SMALR/L 1616K 3	16	16	16	16	125	27	MAxL 3..	1.2

¹⁾ To correspond with seat size on insert.

R = Right hand, L = Left hand

²⁾ Insert tightening torque Nm.

Shank holders

Cut off holder when using sub-spindle

CoroCut® XS screw clamp design

SMALR-X

Right hand style shown

<i>a</i> ₂ max. for holder	Insert size ¹⁾	Ordering code	Dimensions, mm						Gauge inserts	Nm ²⁾	
			<i>b</i>	<i>f</i> ₁	<i>f</i> ₂	<i>h</i>	<i>h</i> ₁	<i>l</i> ₁			<i>l</i> ₃
20	3	SMALR 1010K 3-X	10	10	7.5	10	10	125	27	MAxR 3..	1.2
20	3	SMALR 1212K 3-X	12	12	7.5	12	12	125	27	MAxR 3..	1.2

¹⁾ To correspond with seat size on insert.

R = Right hand, L = Left hand

²⁾ Insert tightening torque Nm.

Main spare parts

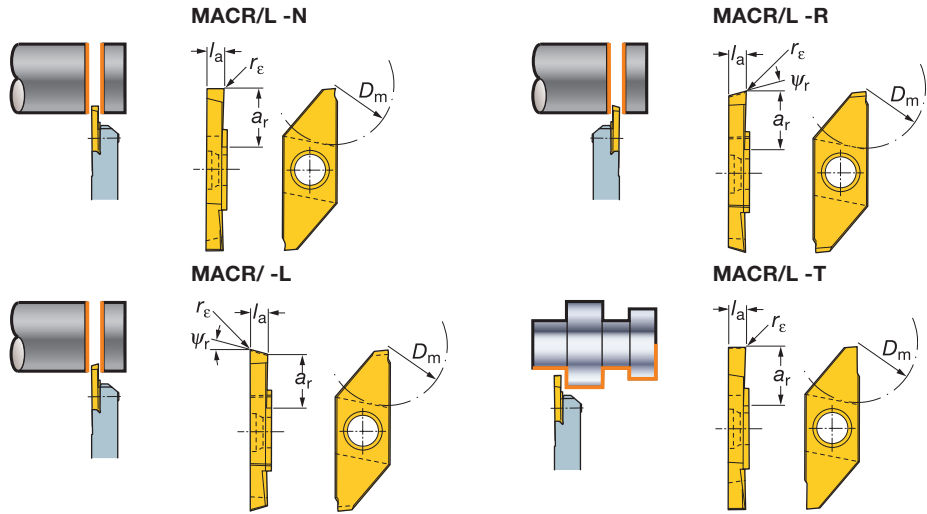
Holder type	Screw	Key (Torx Plus)
SMALR K3	5513 027-01	5680 046-01 (8IP)
SMALR K3-X	5513 027-02	5680 046-01 (8IP)

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CoroCut® XS inserts

Parting off



Tolerances, mm:

$l_a = \pm 0.025$

$r_\epsilon = \pm 0.02$

Repeatability:

± 0.025

Centre height:

± 0.025

Right hand style shown

	Selection criteria, mm						Insert size ¹⁾	Ordering code	P	M	N	S
	l_a	ψ_f	r_ϵ	D_m max	a_f max				GC	GC	GC	GC
	0.70	0°	0.05	8	4.3	03	MACR/L 3 070-N	★	★	★	★	
	1.00	0°	0.05	12	6.3		MACL 3 100-N	★	★	★	★	
	1.50	0°	0.05	12	6.3		MACL 3 150-N	★	★	★	★	
	2.00	0°	0.05	16	8.5		MACL 3 200-N	★	★	★	★	
	0.70	15°	0.05	8	4.3	03	MACR/L 3 070-R	★	★	★	★	
	1.00	15°	0.05	12	6.3		MACR/L 3 100-R	★	★	★	★	
	1.50	15°	0.05	12	6.3		MACR/L 3 150-R	★	★	★	★	
	2.00	15°	0.05	16	8.5		MACR/L 3 200-R	★	★	★	★	
	0.70	15°	0.05	8	4.3	03	MACR/L 3 070-L	★	★	★	★	
	1.00	15°	0.05	12	6.3		MACR/L 3 100-L	★	★	★	★	
	1.50	15°	0.05	12	6.3		MACR/L 3 150-L	★	★	★	★	
	2.00	15°	0.05	16	8.5		MACR/L 3 200-L	★	★	★	★	
	1.00	0°	0.05	12	6.3	03	MACR/L 3 100-T	★	★	★	★	
	1.50	0°	0.05	12	6.3		MACR/L 3 150-T	★	★	★	★	
	2.00	0°	0.05	16	8.2		MACR/L 3 200-T	★	★	★	★	
	2.50	0°	0.05	16	8.2		MACR/L 3 250-T	★	★	★	★	
								P25	M25	N25	S25	

¹⁾ To correspond with insert size on holder.

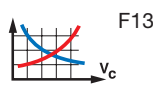
R = Right hand, L = Left hand
★ = First choice



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G5

A

EXTERNAL MACHINING CoroCut® XS

CoroCut® XS inserts


B

Grooving

MAGR/L

C

Right hand style shown

Selection criteria, mm	Insert size ¹⁾	Ordering code	P	M	N	S	
			GC	GC	GC	GC	
	a	r_ϵ	a_r max	1025	1025	1025	1025
	0.50	0.05	1.3	★	★	★	★
	0.75	0.05	2.5	★	★	★	★
	1.00	0.05	2.7	★	★	★	★
	1.25	0.05	2.7	★	★	★	★
	1.50	0.05	3.7	★	★	★	★
	1.75	0.05	3.7	★	★	★	★
	2.00	0.05	3.7	★	★	★	★
	2.50	0.05	3.7	★	★	★	★
				P25	M25	N25	S25

¹⁾ To correspond with insert size on holder.

R = Right hand, L = Left hand
★ = First choice

D

Internal machining

Milling

Turning, back turning

Entering angle:

Turning
MAFR/L

κ_r 90°

Back turning
MABR/L

κ_r 59°

Tolerances, mm:

$r_\epsilon = +0$
 -0.05 mm

Repeatability:

±0.025 mm

Centre height:

±0.025 mm



E

Drilling

F

Cutting data

Right hand style shown

Selection criteria, mm	Insert size ¹⁾	Ordering code	P	M	N	S
			GC	GC	GC	GC
	r_ϵ		1025	1025	1025	1025
	0.03	03	★	★	★	★
	0.1		★	★	★	★
	0.2		★	★	★	★
		03	★	★	★	★
	0.05		★	★	★	★
	0.2		★	★	★	★
			P25	M25	N25	S25

¹⁾ To correspond with insert size on holder.

R = Right hand, L = Left hand
★ = First choice

Grades

H

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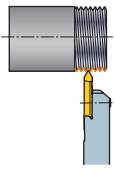
G5

B 48

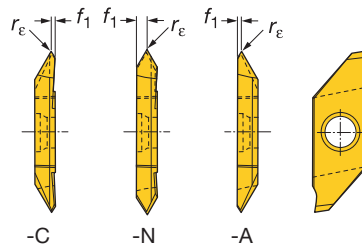
General Information

CoroCut® XS inserts

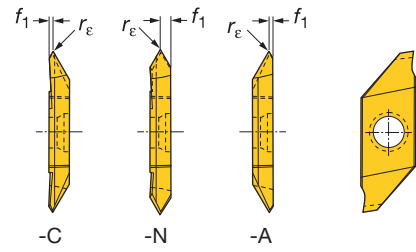
Threading
V-profile 60°



MATR Right hand cutting insert



MATL Left hand cutting insert



Tolerances, mm:

- $r_e = \pm 0.02$
- Repeatability: ± 0.025
- Centre height: ± 0.025

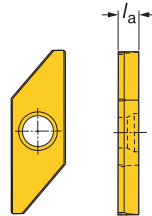
	Selection criteria, mm	Pitch range, mm		Insert size ¹⁾	Ordering code	Dimensions, mm				
		min	max				P	M	N	S
	r_e						GC	GC	GC	GC
	0.05	0.20	1.00	03	MATR/L 3 60-A	0.6	★	★	★	★
	0.05	0.20	1.00		MATR/L 3 60-C	0.6	★	★	★	★
	0.05	0.20	2.00		MATR/L 3 60-N	1.59	★	★	★	★
							P25	M25	N25	S25

¹⁾ To correspond with insert size on holder.

R = Right hand, L = Left hand
★ = First choice

Blanks

MAXR/L



Right hand style shown

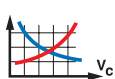
	Insert size ¹⁾	Ordering code	Dimensions, mm	
			a	H10F
	03	MAXR/L 3300	3.18	★

¹⁾ To correspond with insert size on holder.

R = Right hand, L = Left hand
★ = First choice



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