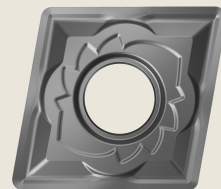


SANDVIK
Coromant

CoroCut[®] 2 CoroCut[®] QD Y-axis GC 1205 & GC 1210 CoroTurn[™] Prime II gen.

Turning



CoroCut® 2



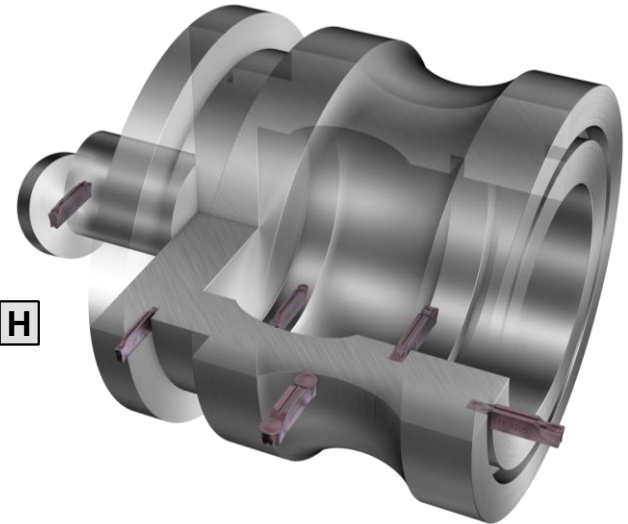
CoroCut[®] 2 – our new platform

CoroCut[®] 2 is a cost-efficient solution for cutting depths where two-edged inserts can be used.

- Parting off
- External grooving
- Face grooving
- Internal grooving
- Profiling
- Hard part turning
- Roughing to finishing

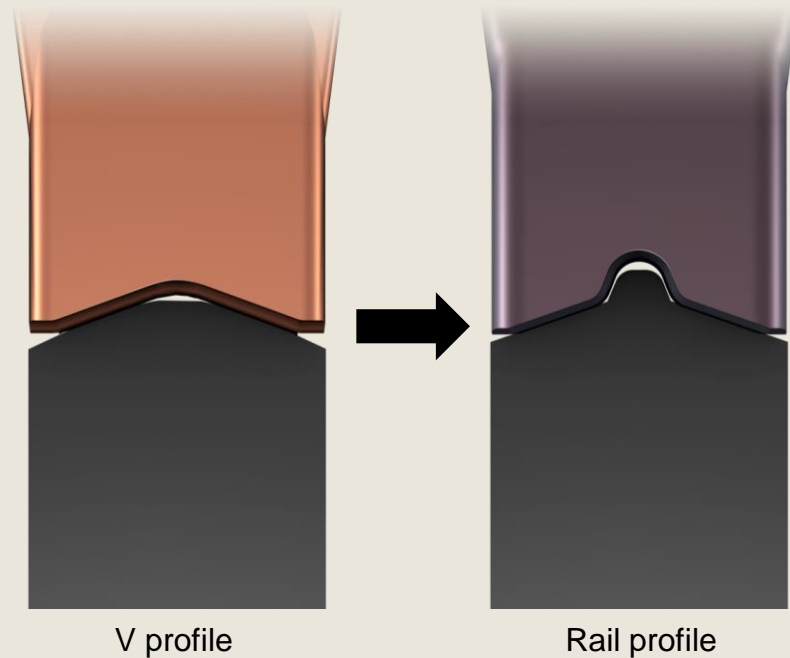
P M K N S H

ISO application area















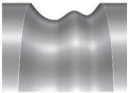











Improved stability for small insert seats

- CoroCut® 2 features the well-established rail interface for all insert sizes, even the smaller ones
- The rail design provides a more precise insert position and minimizes insert movement for improved stability, especially when putting side forces on the inserts



Geometries and application

	-CM 	-GF 	-RM 	-TF 
Parting off 				
Grooving 				
Profiling 				
Turning 				



Main application



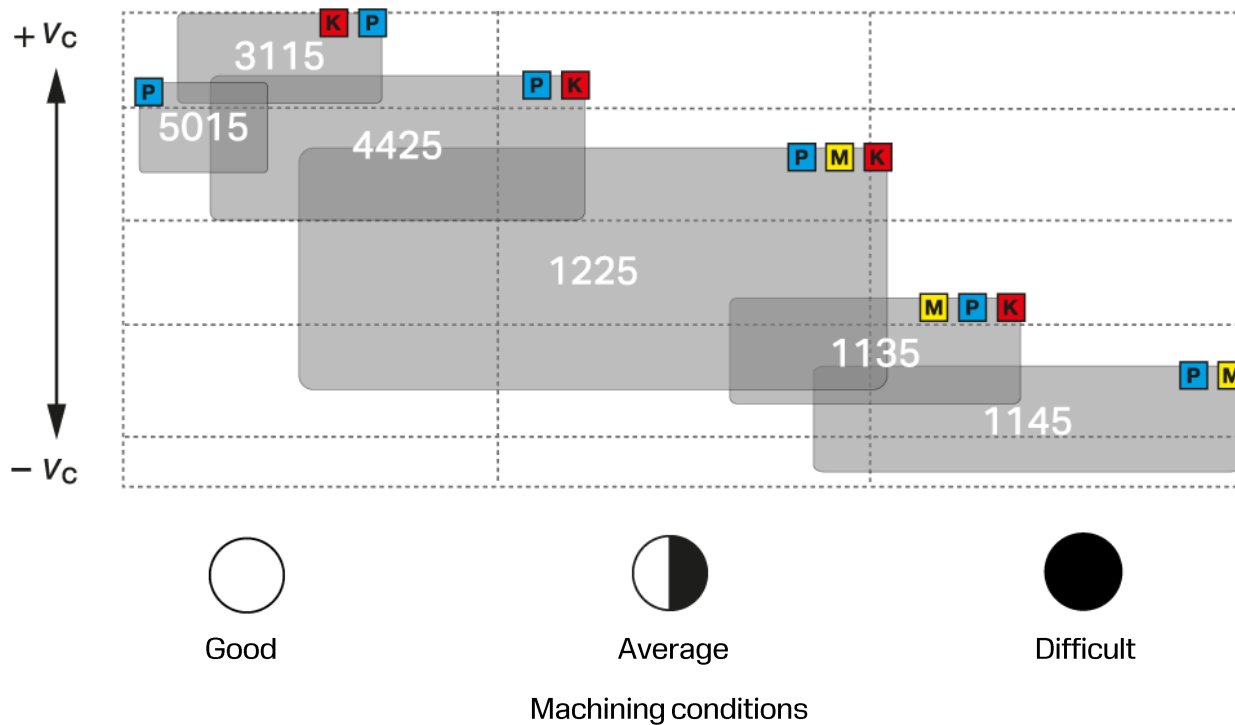
Complementary application



Not recommended

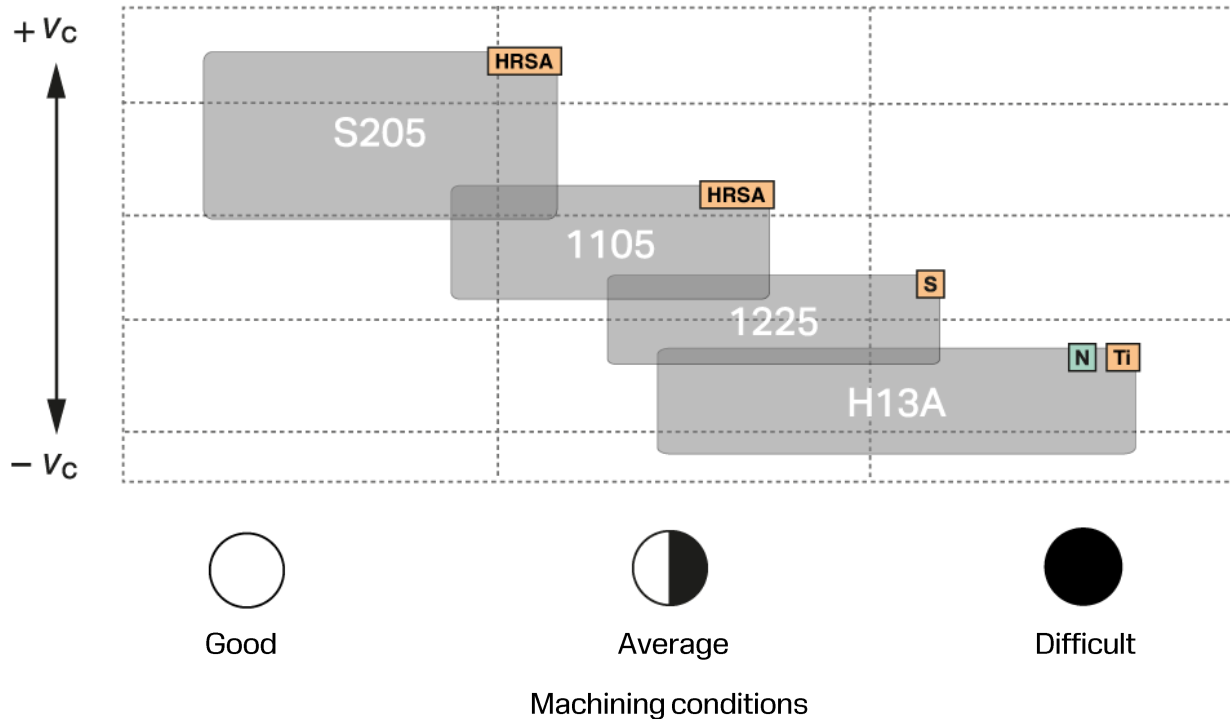
Grades positioning

Main grades and ISO P, M, K information



Grades positioning

Complementary grades and ISO S, N information



Improved clamping on precision coolant tools

CoroCut® 2 tool holders with precision coolant are updated with a screw clamp solution to replace the former spring lock mechanism.

The screw clamp solution and the new tool holders' rigid rail insert seat design make machining more reliable than ever, keeping insert movement to a minimum without any clamping force lost. Ultimately, this new solution will prolong tool life, increase performance and help you cut costs.



Parting blades with new clamping finger design

The updated blades have an improved clamping finger design.

The shorter clamping finger provides higher clamping force and better side stability. This results in better performance when making chamfers before parting off.

The new blades also come with internal coolant that increases tool life and helps chip evacuation.





Inserts

C	2	I	-	G	2	N	-	0	3	0	0	-	0	0	0	2	-	C	M	4	4	2	5
1	2	3		4	5	6		7					8		9			10		11			

Parting and grooving tools

C	2	R	-	B	N	2	5	-	R	E	2	0	D	E	2
1	2	3		4		5			6	7	8		9	10	11

Face grooving tools

C	2	A	-	C	C	5	-	L	F	H	1	8	B	-	2	2	0	C	B
1	2	3		4		5		6	7	8	9		10		11			12	13

External grooving and parting off

CoroCut® 3

For cost-efficient shallow parting and grooving and narrow precision and circlip grooving down to the smallest widths.

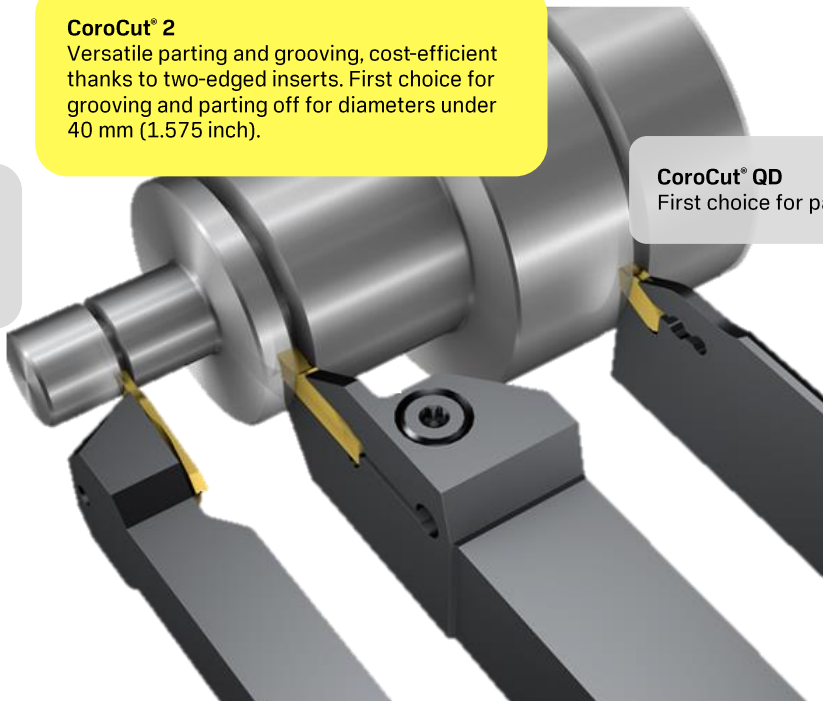
CoroCut® 2

Versatile parting and grooving, cost-efficient thanks to two-edged inserts. First choice for grooving and parting off for diameters under 40 mm (1.575 inch).

CoroCut® QD

First choice for parting off and deep grooving.

System	CDX, mm (inch)	CW, mm (inch)
CoroCut® QD	15–80 (0.591-3.147)	2–8 (0.079-0.315)
CoroCut® 2	13–28 (0.512-1.102)	1.5–8 (0.059-0.315)
CoroCut® 3	1.5–6.4 (0.059-0.252)	0.5–3.18 (0.020-0.125)



Internal grooving

CoroTurn® XS

Precision-ground tools. First choice for the narrowest grooves in the smallest diameters, 2–10 mm (0.079–0.394 inch).

CoroCut® MB

A cost-efficient option for narrow grooves in small diameters.

CoroCut® QI

First choice for secure internal grooving for small diameters, 12–60 mm (0.472–2.362 inch). Ensures high process security and reliable grooving operations with high surface quality.

CoroCut® 2

Versatile parting and grooving concept. First choice for internal grooving for larger diameters, 60 mm (2.362 inch) and above. Cost-efficient thanks to two-edged inserts.

System	DMIN, mm (inch)	CDX, mm (inch)
CoroTurn® XS	2–7.2 (0.079–0.283)	0.4–2.5 (0.016–0.098)
CoroCut® MB	10–20 (0.394–0.787)	0.7–8 (0.028–0.315)
CoroCut® QI	12–60 (0.472–2.362)	2–19 (0.079–0.748)
CoroCut® 2	25–150 (0.984–5.905)	4.5–23 (0.177–0.906)

Face grooving

CoroCut® MB

A cost-efficient option for narrow grooves in small diameters.

CoroCut® QF

First choice for secure deep face grooving over diameter 30 mm (1.181 inch). Provides unmatched reliability even for deep narrow grooves.

CoroTurn® XS

Precision-ground tools. First choice for the most narrow grooves in the smallest diameters.

CoroCut® 2

Versatile parting and grooving product family. Cost-efficient thanks to two-edged inserts. First choice for shallow face grooving for diameters over 35 mm (1.378 inch).

CoroCut® QI

First choice for secure face grooving under diameter 30 mm (1.181 inch). Ensures high process security and reliable grooving operations with high surface quality.

System	DAXIN, mm (inch)	CDX, mm (inch)	CW, mm (inch)
CoroTurn® XS	0.2–24 (0.008-0.945)	2–30 (0.079-1.181)	1–5 (0.039-0.197)
CoroCut® MB	5.64–12 (0.222-0.472)	1.5–10 (0.059-0.394)	1–4 (0.039-0.158)
CoroCut® QI	16–35 (0.623-1.378)	5.5–20 (0.197-0.787)	3–6 (0.118-0.236)
CoroCut® QF	30–500 (1.181-19.685)	20–50 (0.787-1.969)	3–8 (0.118-0.315)
CoroCut® 2	34–200 (1.339-7.874)	12–28 (0.472-1.102)	2.5–8 (0.098-0.315)

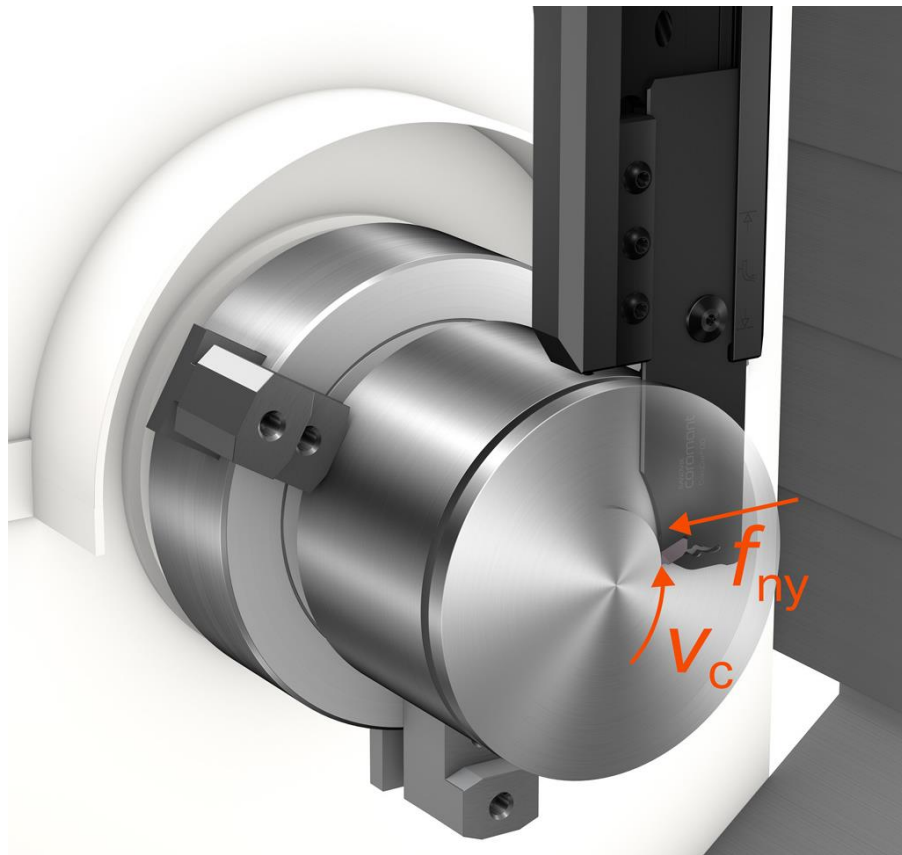
CoroCut® QD Y-axis parting



Background Y-axis parting

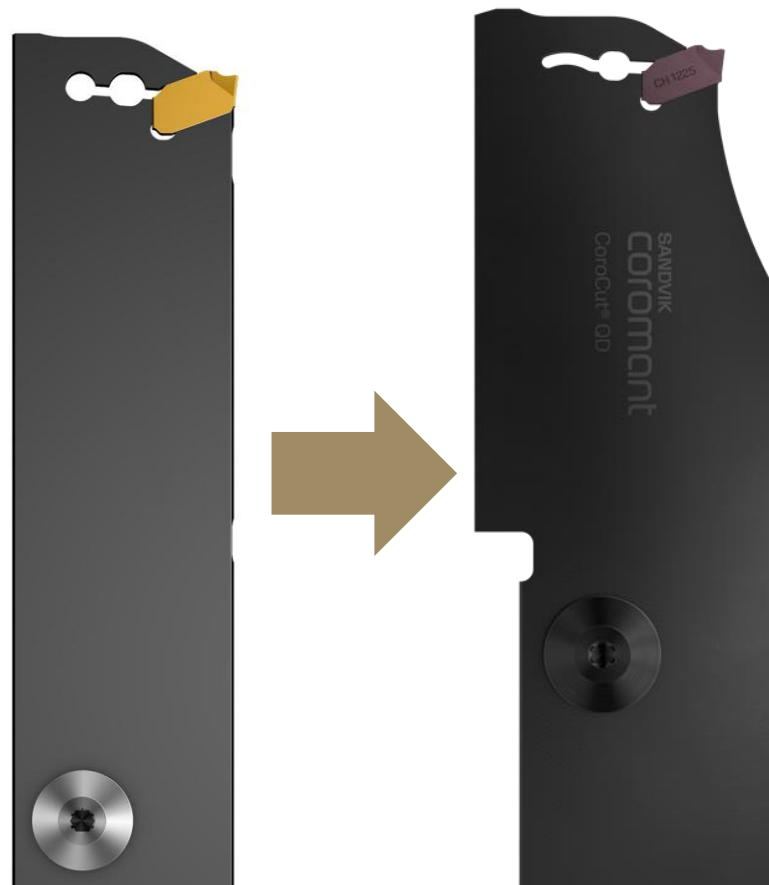
Y-axis parting with CoroCut® QD was initially introduced in CoroPak 17.2. Starting off with a small assortment of 3 blades in sizes 3 and 4 mm (0.118 and 0.157 inch), we have seen a very good sales development.

The new method shows impressive productivity gains due to the massive increase in stability. However, the programming and set-up has proven to be the challenge.



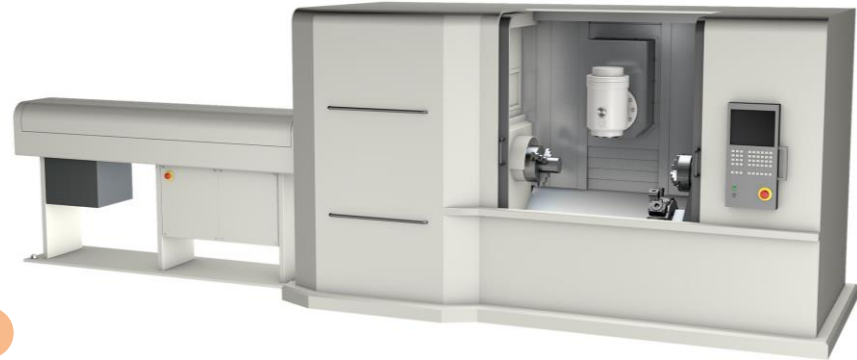
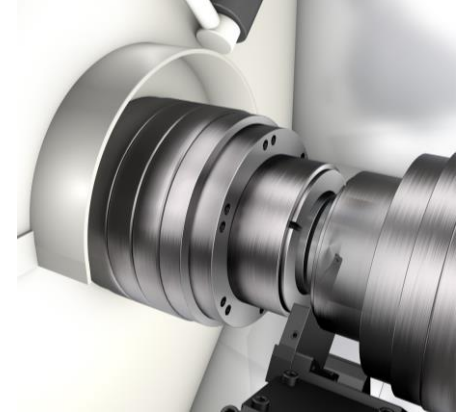
Updates CoroPak 24.1

- Extended assortment of blades and new shank tools
- New upgraded design
 - Easier set-up and machining
 - More stable against deflection caused by side forces
- New high feed insert
 - Wiper technology for excellent surface finish
 - 2–4 mm (0.079–0.157 inch) cutting width



Application

- First choice for parting off in turning centres and multi-task machines with Y-axis
- Parting off in sliding head machines
- Large diameters, up to diameter 120 mm (4.72 inch) – Ø180 for the older H 90mm
- Long overhangs to reach between main- and sub chuck



ISO application areas



New CH geometry in QD

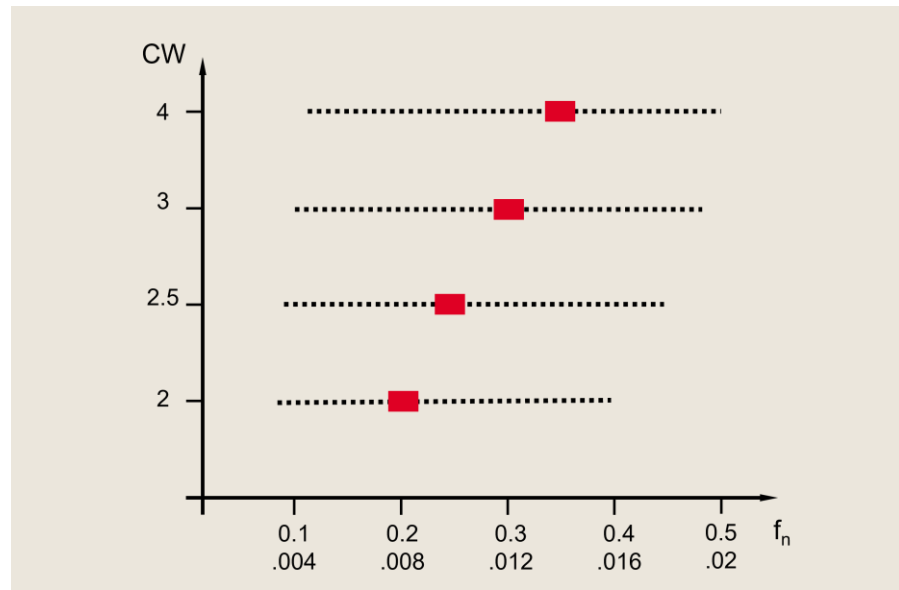
Size, mm (inch)	Grades
2 (0.079)	1225, 1135 and 1145
2.5 (0.098)	1225, 1135 and 1145
3 (0.118)	H13A, 1225, 1135, 1145 and 4425
4 (0.157)	H13A, 1225, 1135, 1145 and 4425

The blades for Y-axis parting use the same inserts and the same plug-and-play coolant adaptors as CoroCut® QD.



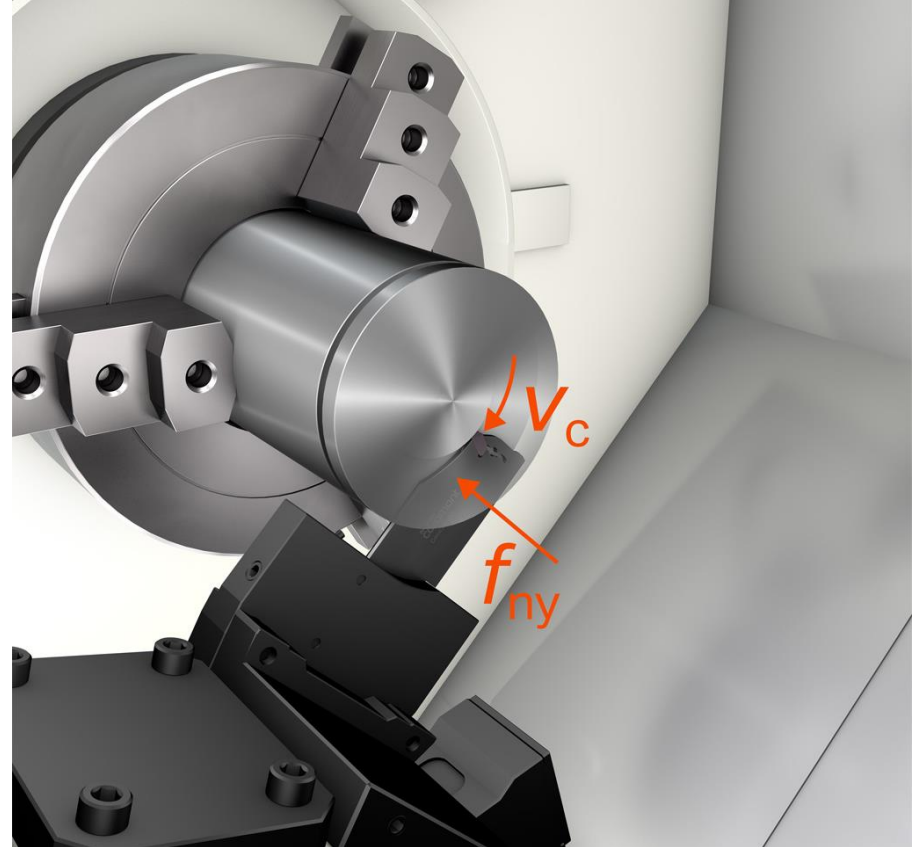
Cutting data recommendation –CH geometry

Insert code	CW [mm]	Min feed [mm/rev]	Nom feed [mm/rev]	Max feed [mm/rev]
QD-NE-0200-0003-CH	2	0,080	0,200	0,350
QD-NF-0250-0003-CH	2,5	0,090	0,240	0,380
QD-NG-0300-0003-CH	3	0,100	0,280	0,420
QD-NH-0400-0003-CH	4	0,110	0,350	0,500

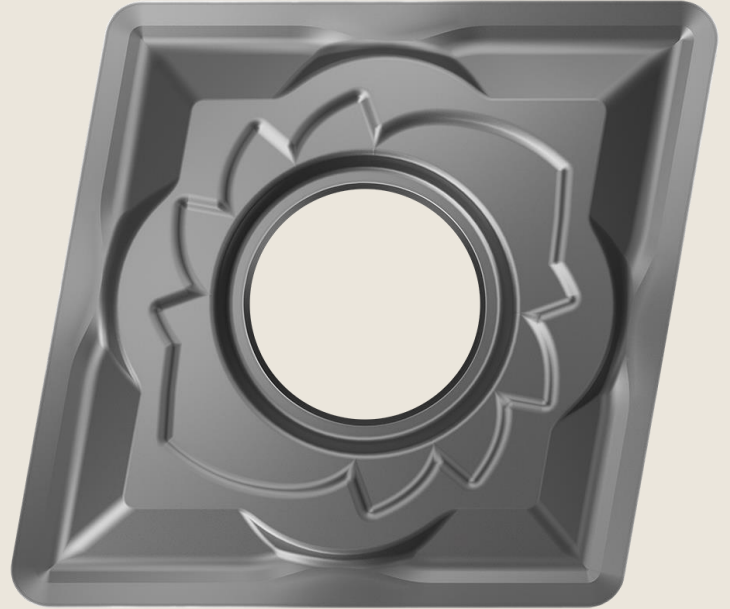


Positioning

- CoroCut® QD for Y-axis parting is a complementary product within the CoroCut® QD product family
- The new tool and the Y-axis parting method are first choice in parting off applications where a machine with Y-axis is used



HRSA grades GC1205 and GC1210



Introduction

Introducing PVD grades GC1205 and GC1210, developed for turning of aged nickel-based HRSA materials.

With the latest technology of substrate and coatings, these grades have the ability to withstand wear, leading to high productivity gains.

GC1205 and GC1210 complement each other and offer a large application area in both last stage machining (LSM) and intermediate stage machining (ISM).



Application



ISO application area

- For aged nickel-based HRSA materials
- The main industry segment to target is aerospace engine
- Typical aerospace engine components are
 - Gas turbine discs – IP/HP/HPC
 - Casings
 - Blisks
 - Spools
 - Shafts – HPC
 - Blades
- Other industries: turbines for power generation and other industries using similar HRSA materials
- Medical cobalt-chrome implants

CoroTurn Prime™ II generation B-type



This is PrimeTurning™

This turning concept consists of a completely new method, tools and software, unlike anything ever seen before.

THE METHOD

PrimeTurning™



A new methodology that enables you to do turning in all directions in a much more efficient and productive way as compared to conventional turning.

THE TOOLS

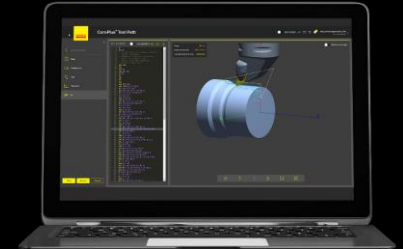
CoroTurn® Prime



Two innovative and multipurpose turning tools, CoroTurn® Prime A-type and B-type, to achieve extraordinary productivity with PrimeTurning™.

THE SOFTWARE

CoroPlus® ToolPath for PrimeTurning™



The software generates optimized CNC code for smooth implementation of the PrimeTurning™ method and CoroTurn® Prime tools in your turning applications.

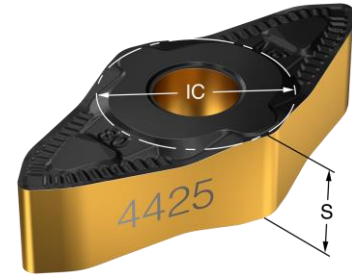
CoroTurn™ Prime B – II generation

Double-sided negative inserts with four cutting edges

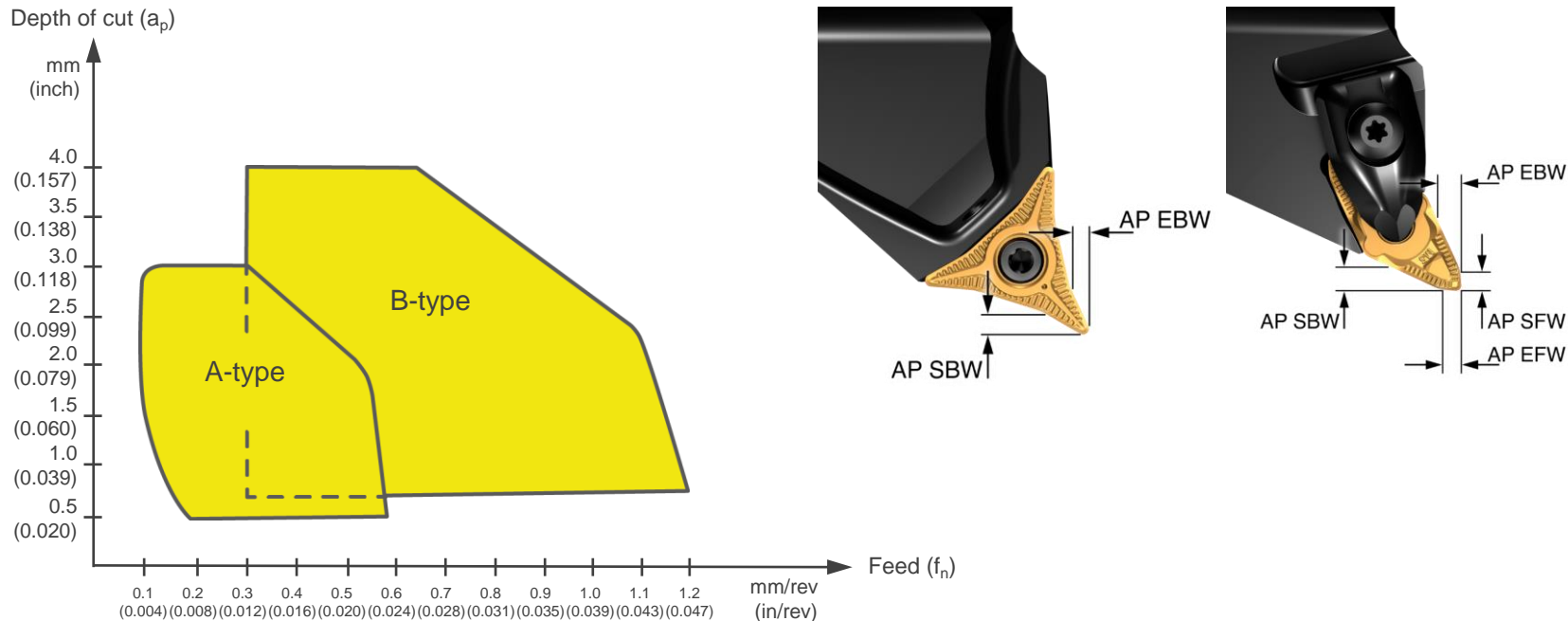
Larger insert

- 12 mm (0.472 inch) IC provides extra margin /tool body clearance at maximum DOC
- 6 mm (0.236 inch) thick, double-sided insert
- 4 cutting edges
- 4 mm ap in all directions

Improved tip seat and coolant exit



CoroTurn™ Prime B – II generation



The application area is the same as for existing Prime B — maximum feed and depth of cut are not increased, but the system is much more robust.

CoroTurn™ Prime B – II generation

Target applications

Aerospace and ISO S

- PrimeTurning™ provides a significant tool life and productivity increase in HRSA and titanium materials thanks to the low entering angle with excellent chip control. Great potential to grow.

Automotive and ISO P

- Drastically improved chip control in clean steels and ductile, forged steels
- Improved dimensional stability and capability for all-directional turning

Stainless steel

- The low entering angle eliminates notch wear and gives us the opportunity to take market share in ISO M turning



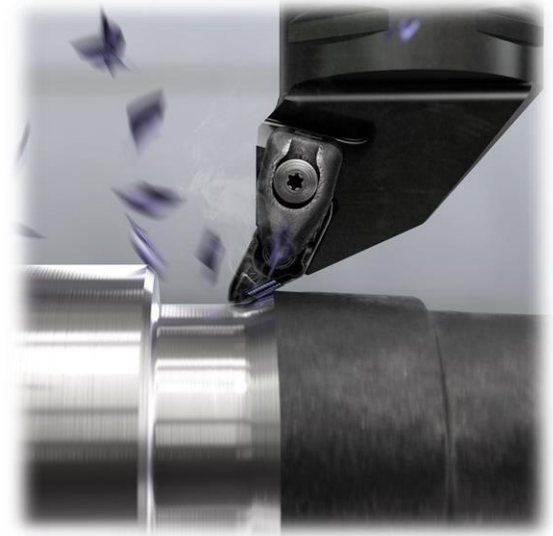
CoroTurn™ Prime B – II generation

Target customers

New projects and investments

Working with PrimeTurning™ for new machine investments will help customers and partners/machine suppliers to become successful:

- **Chip control** in ductile/low carbon steel, duplex stainless steel etc.
- **Cost per part:** Four edges instead of two ensures that we can get business also when cost per part reduction is prioritized before increased productivity
- **Process- and dimensional stability:** The updated version is much more stable



Don't forget finishing: CoroTurn™ Prime B is not only a roughing tool, great surface finish can be achieved with very high productivity (fn 0,5 mm/rev are good start values for high feed finishing)

Demo

Convenzionale & Prime Turning™



CNMG 12 04 08-MM 2025

Start values (KAPR 95 deg)

M

a_p 3 mm (0.5 - 5.7)
 f_n 0.25 mm/r (0.1 - 0.45)
 h_{ex} 0.25 mm/r (0.1 - 0.45)
 v_c 180 m/min (235 - 135)

$$A = a_p \cdot f_n$$

$$A_{\text{convenzionale}} = 3 \cdot 0,25 = 0,75 \text{ mm}^2$$

$$A_{\text{PrimeTurning}^{\text{TM}}} = 2 \cdot 0,59 = 1,18 \text{ mm}^2$$

$$A_{\text{PrimeTurning}^{\text{TM}}} = 2 \cdot 0,90 = 1,80 \text{ mm}^2$$



CP-B1208D-M5 2025

Start values (KAPR 25 deg)

M

a_p 2 mm (0.5 - 4)
 f_n 0.59 mm/r (0.31 - 1.21)
 h_{ex} 0.25 mm/r (0.13 - 0.51)
 v_c 180 m/min (225 - 125)

Start values (KAPR 95 deg)

M

a_p 2 mm (0.5 - 3)
 f_n 0.25 mm/r (0.13 - 0.51)
 h_{ex} 0.25 mm/r (0.13 - 0.51)
 v_c 180 m/min (225 - 125)

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