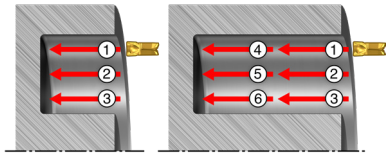
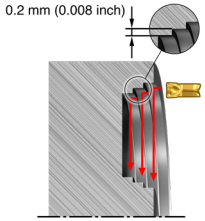
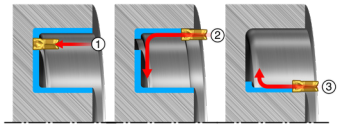
Face grooving methods



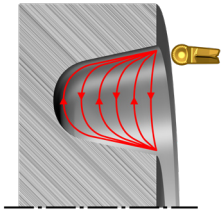
Roughing with axial feed
Start with largest diameter (1) and work inwards. Further cuts (2, 3) should be 0.5–0.8×insert width. Machine deep grooves in two steps.



Roughing with side turning
Use for vibration-prone operations. Start with largest diameter and machine towards centre. Leave 0.2 mm (0.008 inch) steps between the passes.



Finishing
Make three cuts to separate material:
1. 1st axial cut close to corner radius on largest diameter
2. Start 2nd cut on largest diameter, machine to corner radius on inner diameter.
3. 3rd cut finishes inner diameter and corner radius.



Non-linear tool path
Good method for machining with round inserts. Distributes wear along cutting edge and maximizes tool life to ensure good chip control and chip breaking.

Code keys

CoroTurn® SL heads

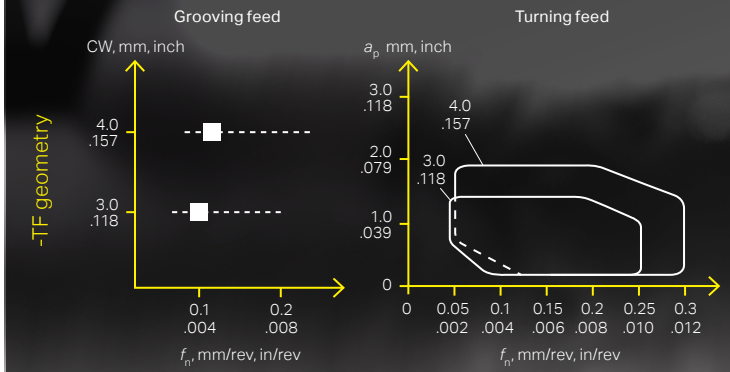
SL	-	QF	T	-	R	H	20	C	32	-	030	B
1		2	3		4	6	7	8	9		10	11

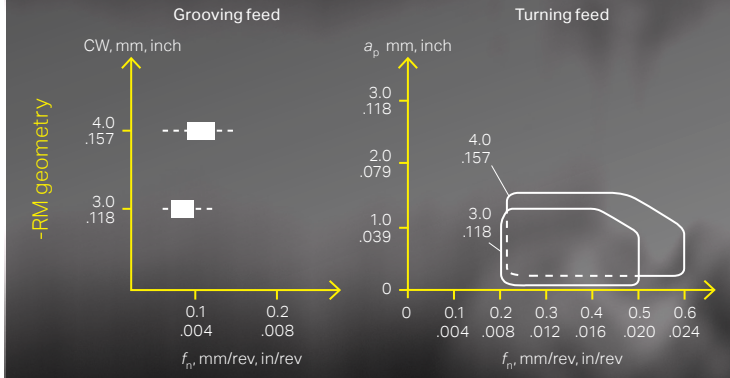
QS™ shanks

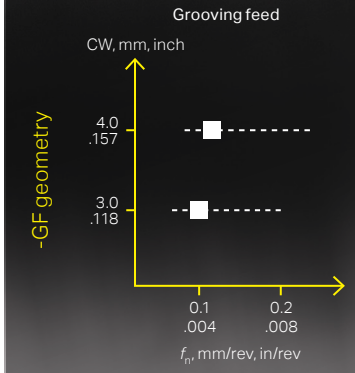
QF	T	-	R	F	H	30	C	2525	-	030	B
2	3		4	5	6	7	8	9		10	11

1. Coupling
2. Product family
3. Spindle rotation
4. Tool in hand
5. Holder style
6. Insert seat size
7. Cutting depth maximum (CDX)
8. Coolant
9. Machine coupling size
10. Minimum diameter for first cut in mm (DAXIN)
11. Type of curve

Feed recommendations







= Recommended start value

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C-1040:207 ENG

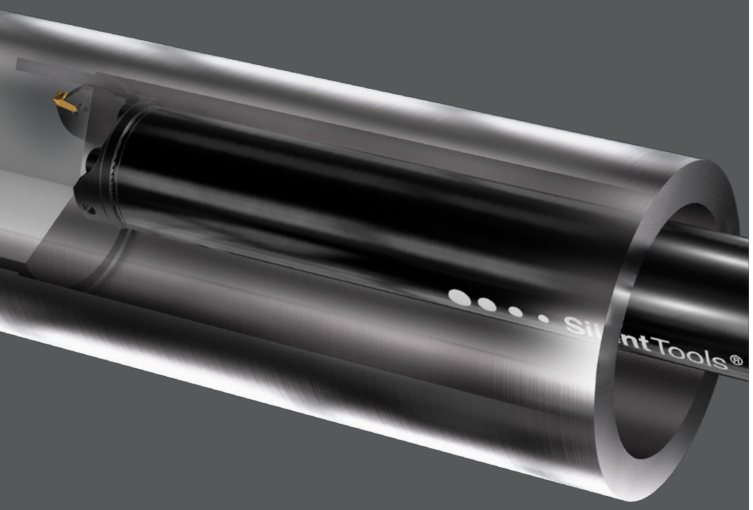
SANDVIK Coromant

CoroCut® QF

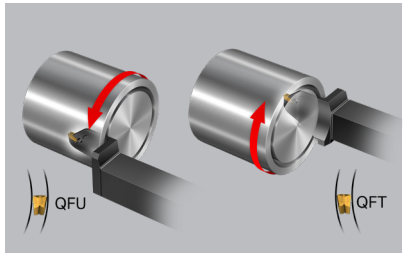
CoroCut® QF is a new face grooving concept, exclusively developed for face grooving. It delivers unmatched reliability and superior process security when machining deep and narrow grooves.

Designed for face grooving

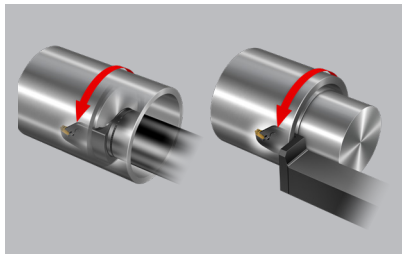
- Strong design ensuring high blade stiffness
- Precision coolant supply with plug and play coolant connection
- Stable, user-friendly insert clamping with correct force
- New version of CoroTurn® SL heads for stable face grooving
  - Axial mounting for increased stability and rigidity
  - Use with damped Silent Tools™ boring bars for increased accessibility, process security and groove quality



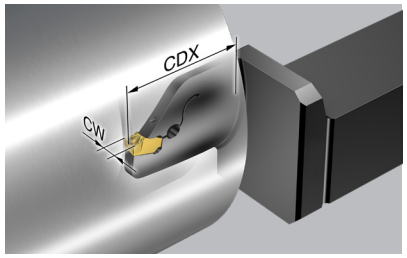
How to choose tool



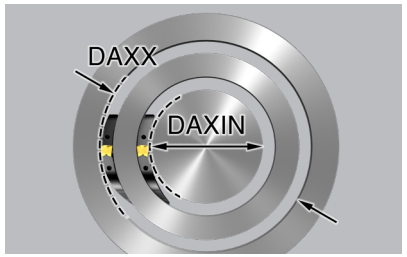
1. Choose QFU inserts for clockwise spindle rotation and QFT inserts for counter clockwise spindle rotation.



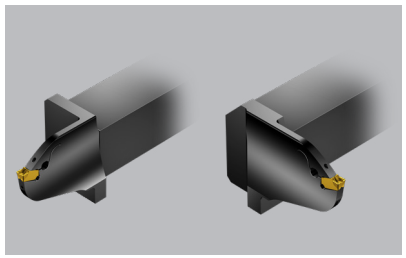
2. Choose A-curve for internal machining and B-curve for face grooving to boss.



3. Choose insert width (CW) and maximum cutting depth (CDX). Use the widest insert and tool with the shortest possible cutting depth for high stiffness and stability.

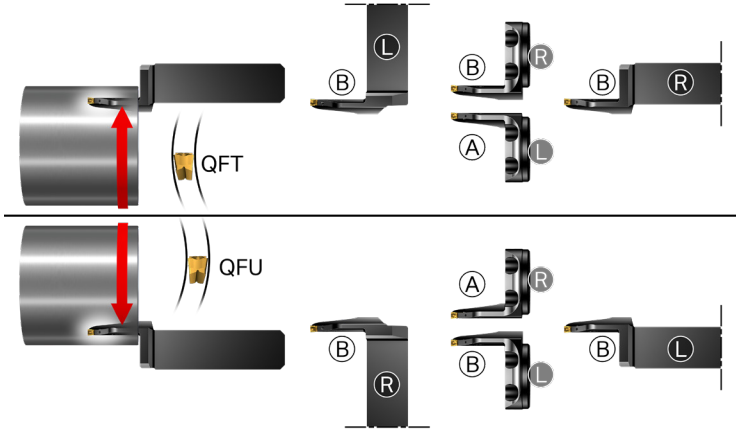


4. Choose diameter range of first cut (DAXIN and DAX). Use the tool for the largest diameter that fits your groove.



5. Choose machine interface and holder:
- QS shank, 0° or 90° holder, with B-curve only
- SL head, 0° holder, both A- and B-curve

6. Choose right or left hand tool depending on your previous choices.



First choice grades and geometries

Workpiece material	Deep and wide grooves	Deep and narrow grooves	Finishing forged material	Profiling
				
ISO P	-TF GC1125	-TF GC1145	-TF GC1125	-RM GC1125
ISO M	-TF GC1135	-TF GC1145	-TF GC1125	-RM GC1135
ISO K	-TF GC1135	-TF GC1135	-TF GC1135	-RM GC1135
ISO N	-GF H10F	-GF H10F	-GF H10F	-RM GC1105
ISO S	-GF GC1105	-GF GC1125	-TF GC1125	-RM GC1105

Tailor Made

The Tailor Made system makes it possible to build an optimized tool with the exact cutting depth and diameter range required for your component. Set the cutting depth and first cut diameter in accordance with your demands and obtain considerably higher blade stiffness.

Standard holder

Tailor Made holder