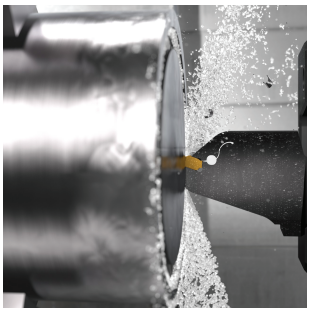
SANDVIK Coromant

PRIME TOOLING

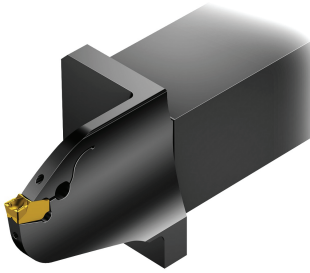
Prime Tooling's Recommended Tools & Inserts



CoroCut® QF

Secure face grooving

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.



Insert grade:

- TF geometry for grooving & side turning

Application area:

- Face grooving

Recommendations:

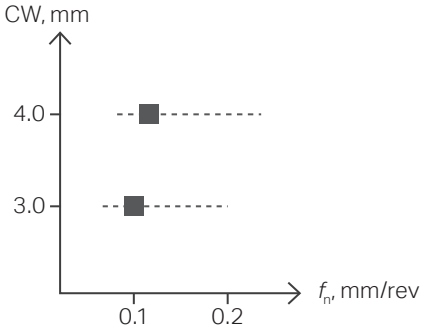
Cutting width (CW), mm	Range of maximum cutting depth (CDX), mm	Minimum first cut diameters (DAXIN), mm	Minimum corner radius, mm
3	20–30	30	0.2
4	22–38	30	0.2
6	26–38	45	0.4
8	33–50	60	0.8

Insert geometries and grades

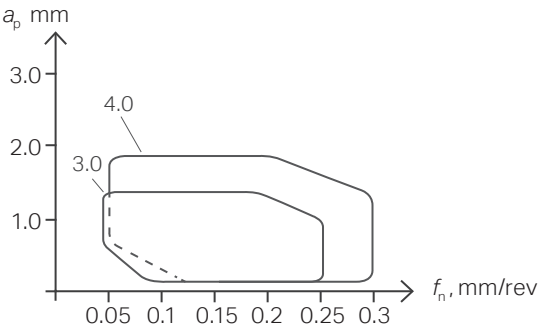
				
Workpiece material	Deep and wide groove	Deep and narrow groove	Finishing forged material	Profiling
ISO P	-TF GC1125	-TF GC1145	-TF GC1125	-RM GC1125
ISO M	-TF GC1135	-TF GC1145	-TF GC1125	-RM GC1135

Feed recommendations for TF geometry

Grooving feed



Turning feed



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CoroCut® QF Insert

	QFT 	Dimensions, mm			Good conditions ○				Average conditions ◑				Difficult conditions ●			
	Ordering code	CW	RE	DAXIN	Geometry	Grade	v_c m/min	f_n mm/r	Geometry	Grade	v_c m/min	f_n mm/r	Geometry	Grade	v_c m/min	f_n mm/r
M	QFT-G-0300-03	3	0.3	30	-TF	1105	180	0.10	-TF	1125	145	0.10	-TF	1135	105	0.10
	QFT-H-0400-03	4	0.3	30	-TF	1105	180	0.10	-TF	1125	145	0.10	-TF	1135	105	0.10

	QFU 	Dimensions, mm			Good conditions ○				Average conditions ◑				Difficult conditions ●			
	Ordering code	CW	RE	DAXIN	Geometry	Grade	v_c m/min	f_n mm/r	Geometry	Grade	v_c m/min	f_n mm/r	Geometry	Grade	v_c m/min	f_n mm/r
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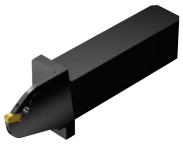
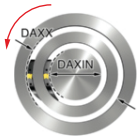
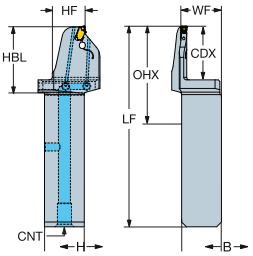
	QFU-H-0400-03	4	0.3	30	-TF	1105	180	0.10	-TF	1125	145	0.10	-TF	1135	105	0.10

CoroCut® QF Shank tool

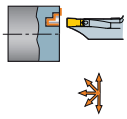
Spring clamp design
B curve







Metric version

	SSC	CZC_{MS}	CDX	DAXIN	DAXX	OHX	CNSC	Ordering code	Dimensions, mm B	H	LF	WF	HF	HBL	CNT	BAR	KG	MIID
	QFT-G	25 x 25	20.0	30.0	42.0	29.6	3	QFT-RFG20C2525-030B	25.0	25.0	113.6	25.5	25.0	29.6	G1/8	150	0.50	QFT-G-0300-03-TF
		25 x 25	25.0	35.0	52.0	34.6	3	QFT-RFG25C2525-035B	25.0	25.0	118.6	25.5	25.0	34.6	G1/8	150	0.48	QFT-G-0300-03-TF
		25 x 25	25.0	45.0	60.0	34.6	3	QFT-RFG25C2525-045B	25.0	25.0	118.6	25.5	25.0	34.6	G1/8	150	0.48	QFT-G-0300-03-TF
		25 x 25	25.0	55.0	70.0	34.6	3	QFT-RFG25C2525-055B	25.0	25.0	118.6	25.5	25.0	34.6	G1/8	150	0.48	QFT-G-0300-03-TF
		25 x 25	30.0	70.0	100.0	39.6	3	QFT-RFG30C2525-070B	25.0	25.0	123.6	25.5	25.0	39.6	G1/8	150	0.48	QFT-G-0300-03-TF
		25 x 25	30.0	100.0	156.0	39.6	3	QFT-RFG30C2525-100B	25.0	25.0	123.6	25.5	25.0	39.6	G1/8	150	0.48	QFT-G-0300-03-TF
		25 x 25	30.0	150.0	310.0	39.6	3	QFT-RFG30C2525-150B	25.0	25.0	123.6	25.5	25.0	39.6	G1/8	150	0.50	QFT-G-0300-03-TF
	QFT-H	25 x 25	22.0	30.0	45.0	31.6	3	QFT-RFH22C2525-030B	25.0	25.0	115.6	25.5	25.0	31.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	22.0	35.0	55.0	31.6	3	QFT-RFH22C2525-035B	25.0	25.0	115.6	25.5	25.0	31.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	25.0	35.0	55.0	34.6	3	QFT-RFH25C2525-035B	25.0	25.0	118.6	25.5	25.0	34.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	45.0	75.0	35.6	3	QFT-RFH26C2525-045B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	65.0	108.0	35.6	3	QFT-RFH26C2525-065B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	100.0	160.0	35.6	3	QFT-RFH26C2525-100B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	150.0	310.0	35.6	3	QFT-RFH26C2525-150B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	300.0	510.0	35.6	3	QFT-RFH26C2525-300B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	26.0	500.0	2000.0	35.6	3	QFT-RFH26C2525-500B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	32.0	45.0	75.0	41.6	3	QFT-RFH32C2525-045B	25.0	25.0	125.6	25.5	25.0	41.6	G1/8	150	0.56	QFT-H-0400-04-TF
		25 x 25	32.0	65.0	108.0	41.6	3	QFT-RFH32C2525-065B	25.0	25.0	125.6	25.5	25.0	41.6	G1/8	150	0.50	QFT-H-0400-04-TF
		25 x 25	38.0	100.0	160.0	47.6	3	QFT-RFH38C2525-100B	25.0	25.0	131.6	25.5	25.0	47.6	G1/8	150	0.56	QFT-H-0400-04-TF
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SSC = To correspond with SSC on insert.

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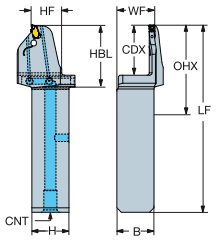
Spring clamp design
B curve



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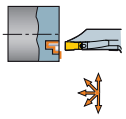	QFU-G	25 x 25	20.0	30.0	42.0	29.6	3	QFU-LFG20C2525-030B	25.0	25.0	113.6	25.5	25.0	29.6	G1/8	150	0.50	QFU-G-0300-03-TF
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		25 x 25	25.0	35.0	55.0	34.6	3	QFU-LFH25C2525-035B	25.0	25.0	118.6	25.5	25.0	34.6	G1/8	150	0.56	QFU-H-0400-04-TF
		25 x 25	26.0	45.0	75.0	35.6	3	QFU-LFH26C2525-045B	25.0	25.0	119.6	25.5	25.0	35.6	G1/8	150	0.56	QFU-H-0400-04-TF
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		25 x 25	38.0	100.0	160.0	47.6	3	QFU-LFH38C2525-100B	25.0	25.0	131.6	25.5	25.0	47.6	G1/8	150	0.56	QFU-H-0400-04-TF
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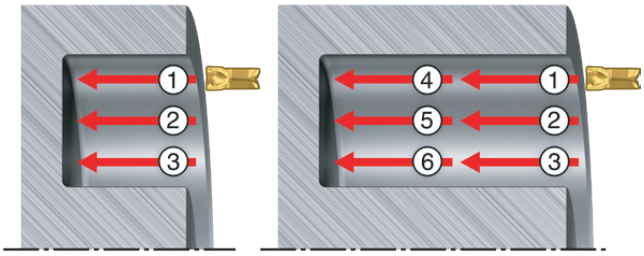
SSC = To correspond with SSC on insert.

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.

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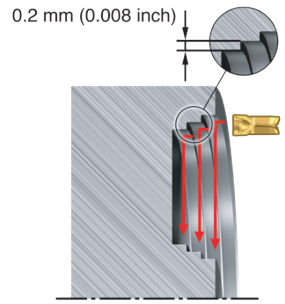
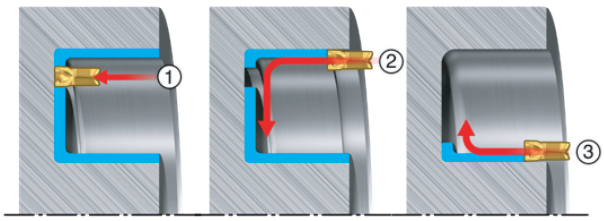
Face grooving methods:

Roughing with side turning



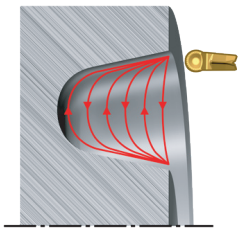
Use for vibration-prone operations.
Start with largest diameter and machine towards centre.
Leave 0.2 mm (0.008 inch) steps between the passes.

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 tord corner radius on inner diameter.
3. 3 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.

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