SELECTION

EcoCut – Multifunctional Tools

The efficient all-rounder to tackle various applications and materials

CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

ceratizit.com

CERATIZIT GROUP

Welcome!

It couldn’t be easier

Ordering via the Online Shop

https://cuttingtools.ceratizit.com

On-site technical support

Your Local Technical Sales Engineer

Your customer number

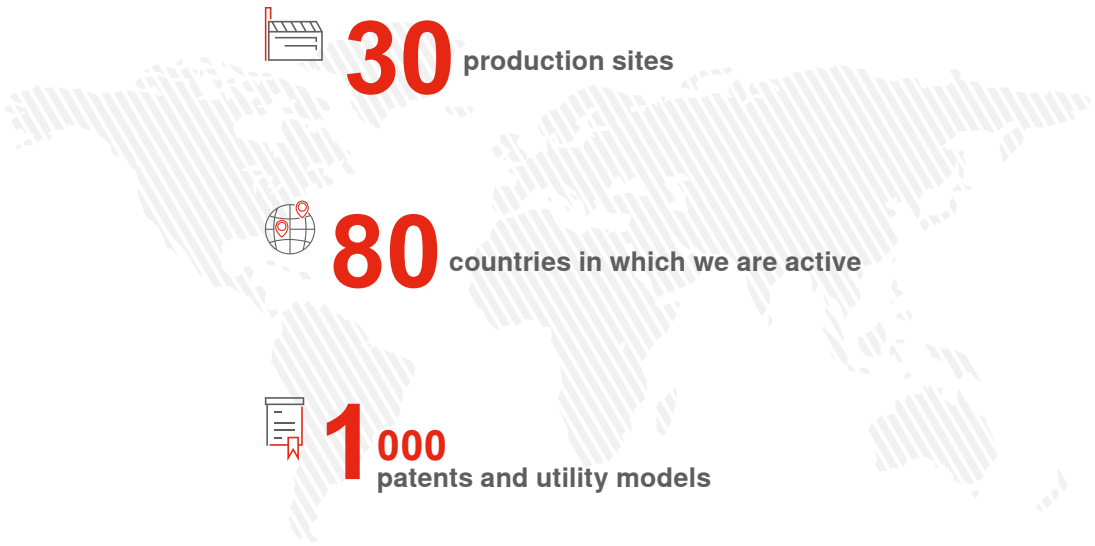
Tooling a Sustainable Future

CERATIZIT: a specialist in sustainable cutting tools and hard material solutions.

Are you looking for a reliable partner for your tooling and machining-process needs?
Then look no further! CERATIZIT is not just a tool supplier. Our experts are also on hand to advise you with extensive industry knowledge and decades of experience.

What's more, anyone who wants to pay particular attention to their CO_2 balance, will find in us a sustainability-conscious partner with a concrete strategy and target set out in our vision of becoming the number 1 sustainable company in our industry.

For more than 100 years, CERATIZIT has been a pioneer in the field of ambitious hard material solutions for machining and protection against wear. This allows us to guarantee our customers the highest levels of quality and access to the latest developments in the carbide sector – all-round cutting tools expertise from a single source.



30 production sites

80 countries in which we are active

1 000 patents and utility models

Editorial

Dear customers,

EcoCut has held its own as a multi-functional all-rounder in a multiplicity of applications for an impressive three decades. Our EcoCut family is divided into four different tool types.

EcoCut – Mini is the smallest of them all and is suitable for face turning, outside and inside profile turning, and drilling. The solid carbide product is available in diameters of 2 to 8 mm. EcoCut – Classic covers the same applications as the EcoCut – Mini, but is a combination of holder and indexable inserts. Our EcoCut – Classic is available in diameters of 8 to 32 mm and in lengths of 1.5xD, 2.25xD and 3xD.

A further member of the family is the EcoCut – ProfileMaster, likewise a holder/indexable insert combination. This tool allows you to perform the same range of applications as with the EcoCut – Classic, but it can also be used to carry out radial and axial grooving. A new member has now joined the family: the EcoCut – Solid, a tool that dampens process-related vibrations. In diameters of 10 mm up to 25 mm and a length of 4xD, its strengths are apparent where conventional boring bars are often not up to the job.

Any questions? Our turning specialists will be happy to help.

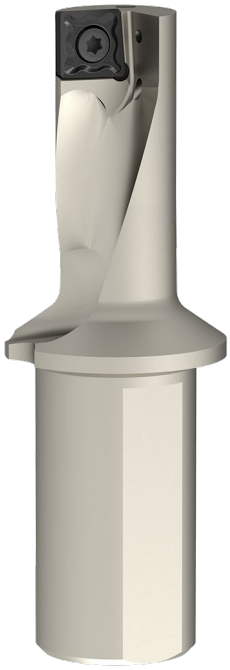
Your CERATIZIT Team

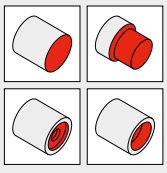
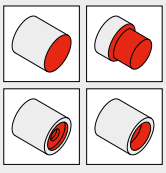
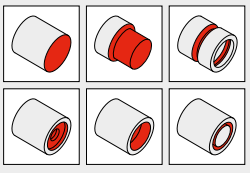
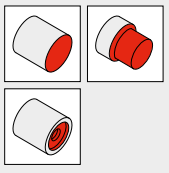
Introducing the EcoCut family

EcoCut is the leading tool for a whole host of different applications – from turning flat, inside or outside profiles to drilling with a stationary or rotating tool. EcoCut tools are available in four versions:
EcoCut – Mini, EcoCut – Classic, EcoCut – ProfileMaster and the new EcoCut – Solid.

- ▲ reduced machining time
- ▲ reduced need for tool positions
- ▲ generates flat bottom of hole
- ▲ less programming
- ▲ lower set-up costs / reduced setting time
- ▲ time savings due to fewer tool changes

Turning Tool
+
Drill
+
Boring Bar



EcoCut – Mini	EcoCut – Classic		EcoCut – ProfileMaster	EcoCut – Solid
				
Ø 2 – 8 mm	Ø 8 – 32 mm	Ø 16 – 32 mm	Ø 10 – 32 mm	Ø 10 – 25 mm
2,25xD / 4xD	1,5xD / 2,25xD / 3xD	2,25xD	1,5xD / 2,25xD	4xD
Cylindrical shank	Cylindrical shank	HSK-T / PSC	Cylindrical shank	Cylindrical shank
				

CERATIZIT is complementing the classic range with the low-vibration EcoCut – Solid

EcoCut – Solid completes the successful EcoCut series with a tool that can replace a whole host of boring bars in diameters from 10 mm.

Not only that, the EcoCut – Solid really comes into its own in demanding processes where stability is a priority. To pre-empt and avoid chip issues in a wide range of materials, we use asymmetric indexable inserts on the EcoCut – Solid that crush the chips and swiftly move them out of the "hot" zone. And with premium component surface quality often a fundamental requirement, the EcoCut – Solid delivers further benefits here too.

The carbide tool holders mean fabricators can stop worrying about the impact of vibrations and profit from indexable inserts that enjoy a long service life.

Advantages

No vibrations

→ Perform deeper machining operations with process security
→ High-quality surfaces
→ For demanding tolerances
→ Longer service life of the indexable insert

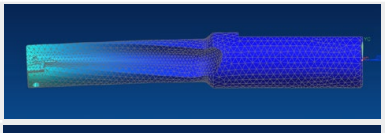
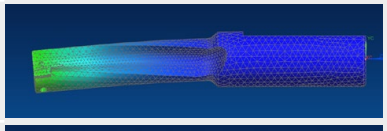
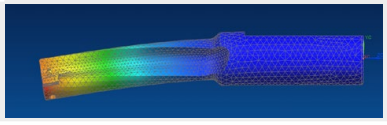
Solid carbide holder

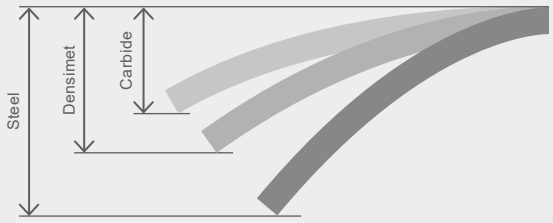
→ Longer tool life
→ Stable and robust
→ No or very little displacement

Availability of different indexable inserts for a wide range of materials and applications. The EcoCut – Solid is available in diameters from 10 to 25 mm and in a length of 4xD.

Stability Comparison

The entire tool holder, including the insert seat, is made of solid carbide, which has a high density and a higher modulus of elasticity. The material properties of carbide contribute in particular to vibration damping. A comparison of the three different holder materials (solid carbide, Densimet, steel) is set out below.

Material Young's modulus (modulus of elasticity) Density	
Carbide 550.000 MPa 14,1 g/cm³	
Densimet 360.000 MPa 17,5 g/cm³	
Steel 210.000 MPa 7,85 g/cm³	



It clearly shows that the various materials behave in different ways under the same load.

EcoCut – Classic

- ▲ Several applications covered with one tool
  → saves time and tool slots in the machine
- ▲ The EcoCut – Classic is very powerful and robust
  → optimised tool geometry and reduced wear
- ▲ Unbeatable process security
  → indexable inserts with reliable chip breaker

Various indexable inserts available for a wide range of materials and different applications.

The EcoCut – Classic is available in diameters from 8 to 32 mm and in lengths of 1.5xD / 2.25xD / 3xD.

EcoCut – Mini

- ▲ For small component dimensions
  → various sizes available
- ▲ Several applications with one tool
  → saves time and tool slots in the machine
- ▲ Made from solid carbide
  → increased stability even with interrupted cuts
- ▲ Thro' coolant supply
  → less wear and fewer jammed chips

Various sizes available for a wide range of materials and different applications.

The EcoCut – Mini is available in diameters from 2 to 8 mm and in lengths of 2.25xD and 4xD.

EcoCut – ProfileMaster

- ▲ Saves time and tool slots in the machine
- ▲ Small radial and axial grooving operations possible
- ▲ Machining of undercuts
- ▲ Turning of inside profiles

Different indexable inserts available for a wide range of materials and applications. The EcoCut – ProfileMaster is available in diameters from 10 to 32 mm and in lengths of 1.5xD and 2.25xD.

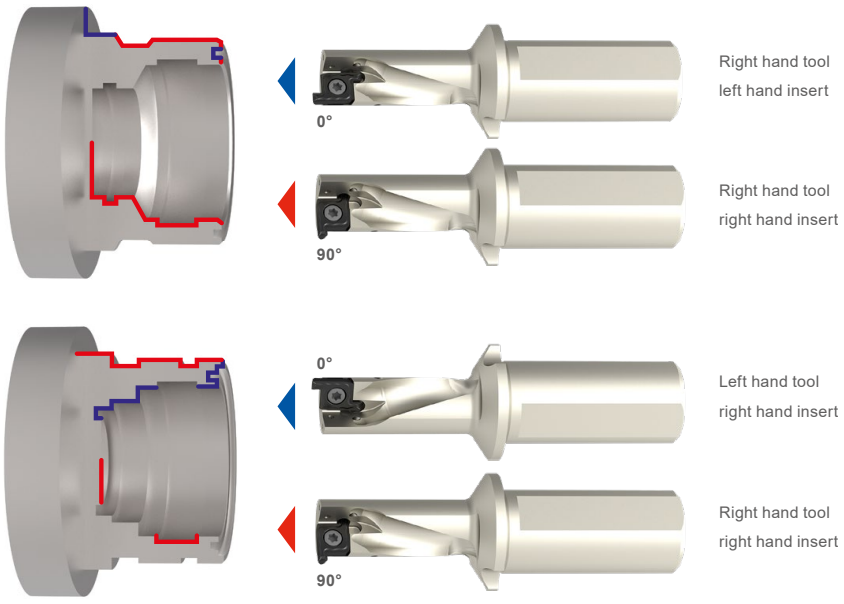


Table of contents

CERATIZIT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation


Face turning


Longitudinal turning, external


Drilling into full material


Longitudinal turning, internal


External / internal radial grooving


Axial grooving

F Fine Machining
M Medium Machining
R Rough Machining


Int. coolant supply

-28P H216T
Polished chip breaker
Carbide Grade


Smooth cut
Irregular cutting depth
Interrupted cut

Toolfinder

EcoCut

System	Inserts	Smooth cut	Irregular cutting depth	Interrupted cut	Fine Machining	Medium Machining	Rough Machining	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metals	S Heat-resistant	H Tempered steel	O Non-metal materials	Page No.
EcoCut – Mini		○	○	○				●	●	○	○	●		○	28
Ø 2–8 mm, 2,25xD, 4xD, 28 – Adapter 29+30															
EcoCut – Mini		○	○	○						○	●	○		○	28
Ø 2–8 mm, 2,25xD, 4xD, 28 – Adapter MicroKom → Chapter 5															
EcoCut – Classic		○	○	○		M		●	○	○					14+22
Ø 8–32 mm, 1,5xD, 17 / 2,25xD, 18 / 3xD, 19															
EcoCut – Classic		○	○	○		M		●	○	○		○			14+22
Ø 16–32 mm, 2,25xD, HSK-T, 20 / PSC, 21															
EcoCut – Classic		○	○	○		M		●	●	○	○	○		○	14+22
EcoCut – Classic		○	○	○		M				●	●	○		○	14+22
EcoCut – Solid NEW		○	○	○		M				○	●	●		○	14+22
Ø 10–25 mm, 4xD, 13															
EcoCut – ProfileMaster		○	○	○		M		●	●	○	○	●		○	36
Ø 10–32 mm, 1,5xD, 34 (90°, 0°) / 2,25xD, 35 (90°, 0°)															

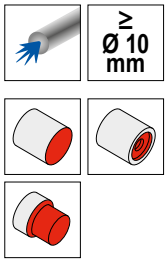
EcoCut – Solid

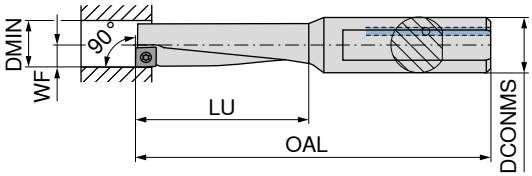
EcoCut – Solid 4xD

▲ Low-vibration turning tool
▲ Wear-resistant

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver





Illustrations show right-hand versions

NEW

Left-hand

70 807 ...

NEW

Right-hand

70 806 ...

ISO designation	DMIN mm	DCONMS mm	OAL mm	LU mm	WF mm	torque moment Nm	Insert			
ECS 10 L 4,0D 04 C	10	12	101	40	5,0	0,4	XC.T 0401..EL	**01000**[2]		
ECS 10 R 4,0D 04 C	10	12	101	40	5,0	0,4	XC.T 0401..ER			**01000**[1]
ECS 12 R/L 4,0D 05 C	12	16	111	48	6,0	0,7	XC.T 0502..	**01200**		**01200**
ECS 16 R/L 4,0D 06 C	16	20	126	64	8,0	1,0	XC.T 0602..	**01600**		**01600**
ECS 20 R/L 4,0D 08 C	20	25	152	80	10,0	2,2	XC.T 0803..	**02000**		**02000**
ECS 25 R/L 4,0D 10 C	25	32	175	100	12,5	3,2	XC.T 10T3..	**02500**		**02500**

1) Note! Right-hand insert on right-hand tool
2) Note! Left-hand insert on left-hand tool

Key D

80 950 ...

Clamping screw

70 950 ...

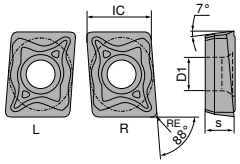
Spare parts Insert				
XC.T 0401..EL	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0401..ER	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0502..	T06 - IP	**123**	M2x4,3 - IP	**863**
XC.T 0602..	T07 - IP	**124**	M2,2x5 - IP	**856**
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**

→ **Page 15**
You'll find information on the cutting depth and feed rate here.

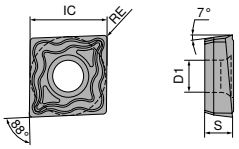
→ **Page 14**
Find suitable indexable inserts here.

XCNT / XCET

Designation	S	D1	IC
	mm	mm	mm
XC.T 0401..	1,80	2,10	4,5
XC.T 0502..	2,10	2,25	5,8
XC.T 0602..	2,38	2,50	6,5
XC.T 0803..	3,18	3,40	8,5
XC.T 10T3..	3,97	4,40	10,6

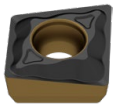
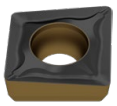
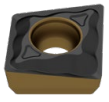
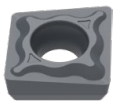
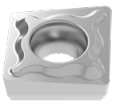
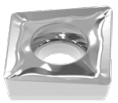


XC. T 04..



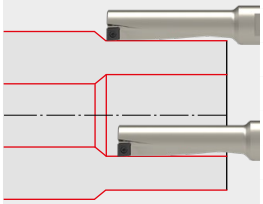
XC. T 05../06../08../10..

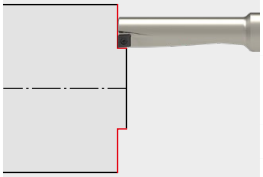
XCNT / XCET

	-EN	-M50Q	-EN	-EN	-27P	-27Q
	CTCP425-P	CTCP425-P	CTCP435-P	CTPP430	H216T	H210T
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		
						
	M	M	M	M	M	M
	XCNT	XCNT	XCNT	XCNT	XCET	XCET
	70 386 ...	70 386 ...	70 386 ...	70 386 ...	70 286 ...	70 286 ...
ISO	RE mm											
040102EL	0,2	72001		82001	920		
040102ER	0,2	72201		82201	922		
040102FL	0,2					620	120
040102FR	0,2					622	122
040104EL	0,4	70001	75001	80001	900		
040104ER	0,4	70201	75201	80201	902		
040104FL	0,4					600	100
040104FR	0,4					602	102
050202EN	0,2	72301		82301	923		
050202FN	0,2					623	123
050204EN	0,4	70301	75301	80301	903		
050204FN	0,4					603	103
060202EN	0,2	72401		82401	924		
060202FN	0,2					624	124
060204EN	0,4	70401	75401	80401	904		
060204FN	0,4					604	104
080304EN	0,4	70601	75601	80601	906		
080304FN	0,4					606	106
10T304EN	0,4	70801	75801	80801	908		
10T304FN	0,4					608	108
10T308EN	0,8	73801	78801	83801	938		
10T308FN	0,8					628	128
P		●	●	●	●		
M		○	○	○	●		
K		○	○	○	○	●	○
N					○	●	●
S				○	○	○	●
H							
O					○	○	○

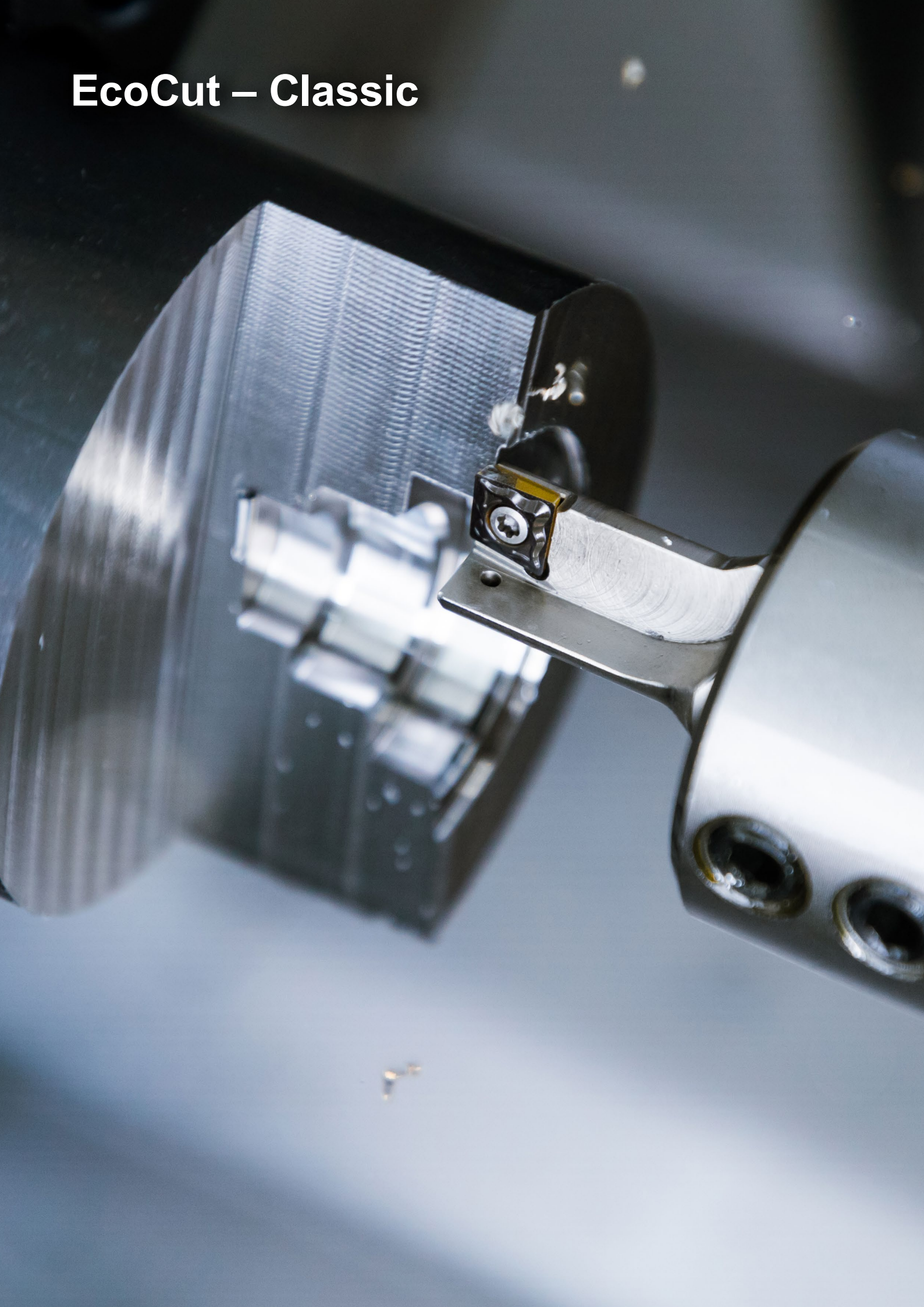
→ v_c Page 41

EcoCut – Solid – Depths of Cut and Feedrates

Turning	4xD					
	Size	Cutting depth a_p (mm)					
		1,0	2,0	2,5	3,0	3,5	4,0
		Feed rate f (mm/rev.)					
	ECS 10	0,05–0,10	0,02–0,06				
	ECS 12	0,06–0,11	0,03–0,07				
	ECS 16	0,06–0,12	0,04–0,10	0,02–0,08			
	ECS 20	0,07–0,15	0,06–0,14	0,04–0,12	0,02–0,09		
	ECS 25	0,09–0,18	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,03–0,12

Face turning	4xD		
	Size	Cutting depth a_p max. (mm)	Feed rate f (mm/rev)
	ECS 10	1,1	0,04–0,07
	ECS 12	1,2	0,04–0,09
	ECS 16	1,4	0,05–0,11
	ECS 20	1,9	0,06–0,13
	ECS 25	2,2	0,08–0,15

EcoCut – Classic

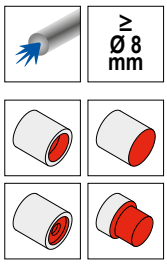


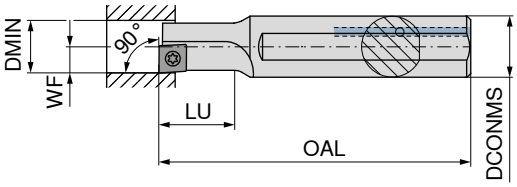
EcoCut – Classic 1.5xD

▲ Drilling and turning tool

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver





Illustrations show right-hand versions

Left-hand

Right-hand

ISO designation	DMIN mm	DCONMS mm	OAL mm	LU mm	WF mm	torque moment Nm	Insert	70 805 ...	70 804 ...
ECC 08 L 1,5D 04	8	12	80	12,0	4,0	0,4	XC.T 0401..EL	**008** [2]	
ECC 08 R 1,5D 04	8	12	80	12,0	4,0	0,4	XC.T 0401..ER		**008** [1]
ECC 10 R/L 1,5D 05	10	12	90	15,0	5,0	0,7	XC.T 0502..	**010**	**010**
ECC 12 R/L 1,5D 06	12	16	100	18,0	6,0	1,0	XC.T 0602..	**012**	**012**
ECC 14 R/L 1,5D 07	14	16	110	21,0	7,0	1,2	XC.T 0703..	**014**	**014**
ECC 16 R/L 1,5D 08	16	20	125	24,0	8,0	2,2	XC.T 0803..	**016**	**016**
ECC 18 R/L 1,5D 09	18	25	135	27,0	9,0	2,2	XC.T 09T3..	**018**	**018**
ECC 20 R/L 1,5D 10	20	25	150	30,0	10,0	3,2	XC.T 10T3..	**020**	**020**
ECC 25 R/L 1,5D 13	25	32	180	37,5	12,5	5,0	XC.T 1304..	**025**	**025**
ECC 32 R/L 1,5D 17	32	40	200	48,0	16,0	5,0	XC.T 1705..	**032**	**032**

1) Note! Right-hand insert on right-hand tool
2) Note! Left-hand insert on left-hand tool

Key D

Clamping screw

Spare parts Insert		80 950 ...		70 950 ...
XC.T 0401..EL	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0401..ER	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0502..	T06 - IP	**123**	M2x4,3 - IP	**863**
XC.T 0602..	T07 - IP	**124**	M2,2x5 - IP	**856**
XC.T 0703..	T08 - IP	**125**	M2,5x6 - IP	**857**
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 09T3..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**
XC.T 1304..	T20 - IP	**129**	M4,5x10,5 - IP	**864**
XC.T 1705..	T20 - IP	**129**	M4,5x10,5 - IP	**864**

→ **Page 23+24**
You'll find information on the cutting depth and feed rate here.

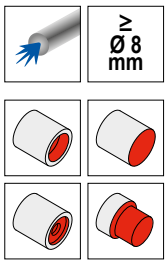
→ **Page 22**
Find suitable indexable inserts here.

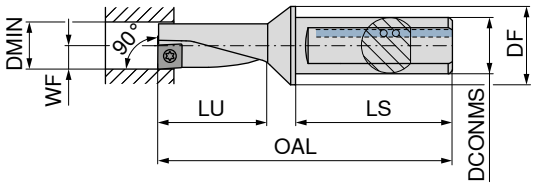
EcoCut – Classic 2.25xD

▲ Drilling and turning tool

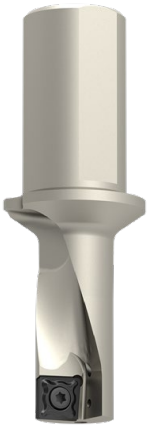
Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver

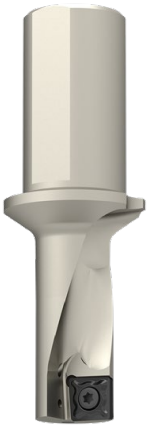




Illustrations show right-hand versions



Left-hand



Right-hand

ISO designation	DMIN mm	DCONMS mm	DF mm	OAL mm	LU mm	LS mm	WF mm	torque moment Nm	Insert	70 805 ...	70 804 ...
ECC 08 L 2,25D 04	8	10	15	60,0	18,0	38	4,0	0,4	XC.T 0401..EL	**108** [2]	
ECC 08 R 2,25D 04	8	10	15	60,0	18,0	38	4,0	0,4	XC.T 0401..ER		**108** [1]
ECC 10 R/L 2,25D 05	10	12	18	69,5	22,5	42	5,0	0,7	XC.T 0502..	**110**	**110**
ECC 12 R/L 2,25D 06	12	16	22	78,0	27,0	45	6,0	1,0	XC.T 0602..	**112**	**112**
ECC 14 R/L 2,25D 07	14	16	23	83,5	31,5	45	7,0	1,2	XC.T 0703..	**114**	**114**
ECC 16 R/L 2,25D 08	16	20	28	94,0	36,0	50	8,0	2,2	XC.T 0803..	**116**	**116**
ECC 18 R/L 2,25D 09	18	25	36	109,5	40,5	56	9,0	2,2	XC.T 09T3..	**118**	**118**
ECC 20 R/L 2,25D 10	20	25	35	111,0	45,0	56	10,0	3,2	XC.T 10T3..	**120**	**120**
ECC 25 R/L 2,25D 13	25	32	44	129,0	56,5	60	12,5	5,0	XC.T 1304..	**125**	**125**
ECC 32 R/L 2,25D 17	32	40	54	158,0	72,0	70	16,0	5,0	XC.T 1705..	**132**	**132**

1) Note! Right-hand insert on right-hand tool
2) Note! Left-hand insert on left-hand tool

Key D

Clamping screw

Spare parts Insert		80 950 ...		70 950 ...
XC.T 0401..EL	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0401..ER	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0502..	T06 - IP	**123**	M2x4,3 - IP	**863**
XC.T 0602..	T07 - IP	**124**	M2,2x5 - IP	**856**
XC.T 0703..	T08 - IP	**125**	M2,5x6 - IP	**857**
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 09T3..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**
XC.T 1304..	T20 - IP	**129**	M4,5x10,5 - IP	**864**
XC.T 1705..	T20 - IP	**129**	M4,5x10,5 - IP	**864**

→ **Page 23+24**
You'll find information on the cutting depth and feed rate here.

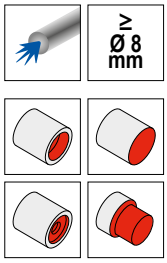
→ **Page 22**
Find suitable indexable inserts here.

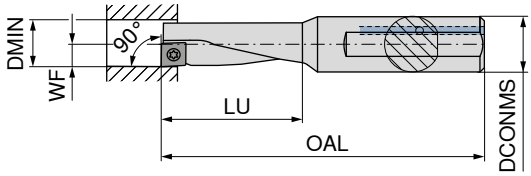
EcoCut – Classic 3xD – Heavy metal

▲ Drilling and turning tool
▲ vibration-damped

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver





Illustrations show right-hand versions

Left-hand

Right-hand

ISO designation	DMIN mm	DCONMS mm	OAL mm	LU mm	WF mm	torque moment Nm	Insert	70 805 ...	70 804 ...
ECC 08 L 3,00D 04 H	8	12	80	24	4,0	0,4	XC.T 0401..EL	**608** [2]	
ECC 08 R 3,00D 04 H	8	12	80	24	4,0	0,4	XC.T 0401..ER		**608** [1]
ECC 10 R/L 3,00D 05 H	10	12	85	30	5,0	0,7	XC.T 0502..	**610**	**610**
ECC 12 R/L 3,00D 06 H	12	16	95	36	6,0	1,0	XC.T 0602..	**612**	**612**
ECC 14 R/L 3,00D 07 H	14	16	100	42	7,0	1,2	XC.T 0703..	**614**	**614**
ECC 16 R/L 3,00D 08 H	16	20	110	48	8,0	2,2	XC.T 0803..	**616**	**616**
ECC 18 R/L 3,00D 09 H	18	25	125	54	9,0	2,2	XC.T 09T3..	**618**	**618**
ECC 20 R/L 3,00D 10 H	20	25	130	60	10,0	3,2	XC.T 10T3..	**620**	**620**
ECC 25 R/L 3,00D 13 H	25	32	150	75	12,5	5,0	XC.T 1304..	**625**	**625**
ECC 32 R/L 3,00D 17 H	32	40	185	96	16,0	5,0	XC.T 1705..	**632**	**632**

1) Note! Right-hand insert on right-hand tool
2) Note! Left-hand insert on left-hand tool

Key D

Clamping screw

Spare parts Insert		80 950 ...		70 950 ...
XC.T 0401..EL	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0401..ER	T06 - IP	**123**	M1,8x3,6 - IP	**862**
XC.T 0502..	T06 - IP	**123**	M2x4,3 - IP	**863**
XC.T 0602..	T07 - IP	**124**	M2,2x5 - IP	**856**
XC.T 0703..	T08 - IP	**125**	M2,5x6 - IP	**857**
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 09T3..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**
XC.T 1304..	T20 - IP	**129**	M4,5x10,5 - IP	**864**
XC.T 1705..	T20 - IP	**129**	M4,5x10,5 - IP	**864**

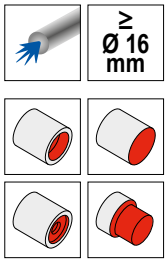
→ **Page 23+24**
You'll find information on the cutting depth and feed rate here.

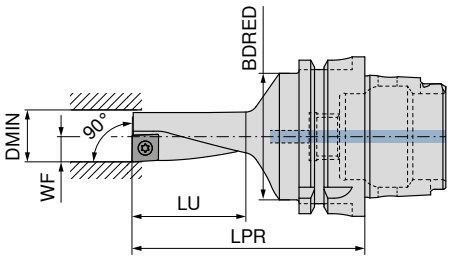
→ **Page 22**
Find suitable indexable inserts here.

EcoCut – Classic HSK-T 2.25xD

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver





Illustrations show right-hand versions

									Left-hand	Right-hand
									74 591 ...	**74 590 ...**
ISO designation	Adapter	LPR mm	LU mm	BDRED mm	WF mm	DMIN mm	torque moment Nm	Insert		
HSK-T 63 ECC 16 R/L 2,25D 08	HSK-T 63	84	36,00	50	8,0	16	2,2	XC.T 0803..	**51637**	**51637**
HSK-T 63 ECC 20 R/L 2,25D 10	HSK-T 63	92	45,00	50	10,0	20	3,2	XC.T 10T3..	**52037**	**52037**
HSK-T 63 ECC 25 R/L 2,25D 13	HSK-T 63	104	56,25	50	12,5	25	5,0	XC.T 1304..	**52537**	**52537**
HSK-T 63 ECC 32 R/L 2,25D 17	HSK-T 63	120	72,00	50	16,0	32	5,0	XC.T 1705..	**53237**	**53237**

Key D

80 950 ...

Clamping screw

70 950 ...

Spare parts				
Insert				
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**
XC.T 1304..	T20 - IP	**129**	M4,5x10,5 - IP	**864**
XC.T 1705..	T20 - IP	**129**	M4,5x10,5 - IP	**864**

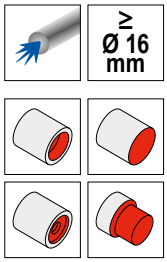
→ **Page 23+24**
You'll find information on the cutting depth and feed rate here.

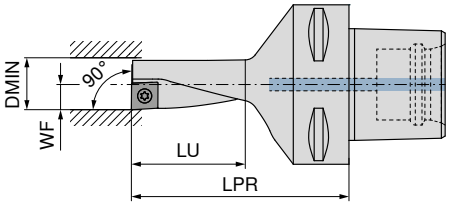
→ **Page 22**
Find suitable indexable inserts here.

EcoCut – Classic PSC 2.25xD

Scope of supply:

Toolholder with 1 clamping screw + 2 spare screws and screwdriver





Illustrations show right-hand versions

								Left-hand	Right-hand
								74 591 ...	**74 590 ...**
ISO designation	Adapter	LPR mm	LU mm	WF mm	DMIN mm	torque moment Nm	Insert		
PSC 50 ECC 16 R/L 2,25D 08	PSC 50	70	36,00	8,0	16	2,2	XC.T 0803..	**51694**	**51694**
PSC 50 ECC 20 R/L 2,25D 10	PSC 50	81	45,00	10,0	20	3,2	XC.T 10T3..	**52094**	**52094**
PSC 50 ECC 25 R/L 2,25D 13	PSC 50	93	56,25	12,5	25	5,0	XC.T 1304..	**52594**	**52594**
PSC 50 ECC 32 R/L 2,25D 17	PSC 50	110	72,00	16,0	32	5,0	XC.T 1705..	**53294**	**53294**
PSC 63 ECC 16 R/L 2,25D 08	PSC 63	75	36,00	8,0	16	2,2	XC.T 0803..	**51693**	**51693**
PSC 63 ECC 20 R/L 2,25D 10	PSC 63	86	45,00	10,0	20	3,2	XC.T 10T3..	**52093**	**52093**
PSC 63 ECC 25 R/L 2,25D 13	PSC 63	97	56,25	12,5	25	5,0	XC.T 1304..	**52593**	**52593**
PSC 63 ECC 32 R/L 2,25D 17	PSC 63	114	72,00	16,0	32	5,0	XC.T 1705..	**53293**	**53293**

Key D

Clamping screw

		80 950 ...		**70 950 ...**
Spare parts				
Insert				
XC.T 0803..	T09 - IP	**126**	M3x7 - IP	**819**
XC.T 10T3..	T15 - IP	**128**	M3,5x8,6 - IP	**859**
XC.T 1304..	T20 - IP	**129**	M4,5x10,5 - IP	**864**
XC.T 1705..	T20 - IP	**129**	M4,5x10,5 - IP	**864**

→ **Page 23+24**
You'll find information on the cutting depth and feed rate here.

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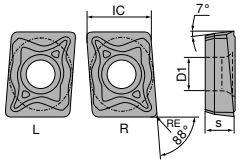
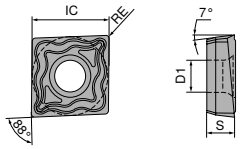
Find suitable indexable inserts here.

XCNT / XCET

Designation	S	D1	IC
	mm	mm	mm
XC.T 0401..	1,80	2,10	4,5
XC.T 0502..	2,10	2,25	5,8
XC.T 0602..	2,38	2,50	6,5
XC.T 0703..	3,18	2,80	7,6
XC.T 0803..	3,18	3,40	8,5
XC.T 09T3..	3,97	3,40	9,6
XC.T 10T3..	3,97	4,40	10,6
XC.T 1304..	4,76	5,30	13,5
XC.T 1705..	5,56	5,30	17,5

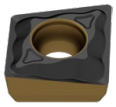
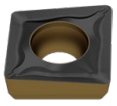
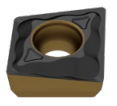
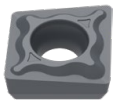
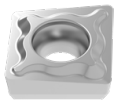


XC. T 04..



XC. T 05../06../07../08../09../10../13../17..

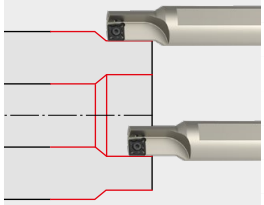
XCNT / XCET

	-EN CTCP425-P	-M50Q CTCP425-P	-EN CTCP435-P	-EN CTPP430	-27P H216T	-27Q H210T
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		
						
	M	M	M	M	M	M
	XCNT	XCNT	XCNT	XCNT	XCET	XCET
	70 386 ...	70 386 ...	70 386 ...	70 386 ...	70 286 ...	70 286 ...
ISO	RE mm					
040102EL	0,2	72001		82001	920		
040102ER	0,2	72201		82201	922		
040102FL	0,2					620	120
040102FR	0,2					622	122
040104EL	0,4	70001	75001	80001	900		
040104ER	0,4	70201	75201	80201	902		
040104FL	0,4					600	100
040104FR	0,4					602	102
050202EN	0,2	72301		82301	923		
050202FN	0,2					623	123
050204EN	0,4	70301	75301	80301	903		
050204FN	0,4					603	103
060202EN	0,2	72401		82401	924		
060202FN	0,2					624	124
060204EN	0,4	70401	75401	80401	904		
060204FN	0,4					604	104
070304EN	0,4	70501	75501	80501	905		
070304FN	0,4					605	105
080304EN	0,4	70601	75601	80601	906		
080304FN	0,4					606	106
09T304EN	0,4	70701	75701	80701	907		
09T304FN	0,4					607	107
10T304EN	0,4	70801	75801	80801	908		
10T304FN	0,4					608	108
10T308EN	0,8	73801	78801	83801	938		
10T308FN	0,8					628	128
130404EN	0,4	71001	76001	81001	910		
130404FN	0,4					610	110
130408EN	0,8	74001	79001	84001	940		
130408FN	0,8					611	111
170508EN	0,8	71201	76201	81201	912		
170508FN	0,8					612	112
P		●	●	●	●		
M		○	○	○	●		
K		○	○	○	○	●	○
N					○	●	●
S				○	○	○	●
H							
O					○	○	○

→ v_c Page 41

EcoCut – Classic – Depths of Cut and Feedrates

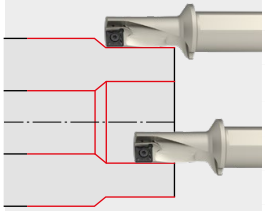
Turning



1,5xD												
	Cutting depth a_p (mm)											
Size	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0	12,0	14,0
	Feed rate f (mm/rev.)											
ECC 08	0,06–0,12	0,06–0,12	0,04–0,10	0,02–0,08								
ECC 10	0,07–0,15	0,07–0,15	0,05–0,13	0,04–0,11	0,02–0,09							
ECC 12	0,08–0,16	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12	0,02–0,10						
ECC 14	0,09–0,18	0,09–0,18	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,02–0,11					
ECC 16	0,10–0,20	0,10–0,20	0,10–0,20	0,10–0,20	0,08–0,18	0,06–0,16	0,04–0,14	0,02–0,12				
ECC 18	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,05–0,16	0,03–0,13			
ECC 20	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,11–0,23	0,09–0,21	0,07–0,19	0,05–0,17	0,03–0,15		
ECC 25	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,11–0,24	0,09–0,22	0,07–0,20	0,03–0,16	
ECC 32	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,14–0,30	0,15–0,30	0,15–0,30	0,13–0,28	0,11–0,26	0,07–0,22	0,03–0,18

Feed f may be increased by 50–75 % when using -M50Q and -27Q.

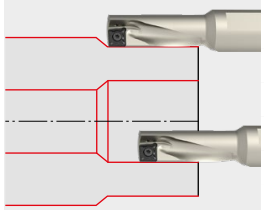
Turning



2,25xD											
	Cutting depth a_p (mm)										
Size	1,0	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	7,0
	Feed rate f (mm/rev.)										
ECC 08	0,06–0,12	0,04–0,10	0,02–0,08								
ECC 10	0,07–0,15	0,05–0,13	0,03–0,11	0,02–0,09							
ECC 12	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12	0,02–0,10						
ECC 14	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,04–0,13	0,02–0,11					
ECC 16	0,10–0,20	0,10–0,20	0,09–0,19	0,07–0,17	0,05–0,15	0,03–0,13					
ECC 18	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,05–0,16	0,03–0,14				
ECC 20	0,12–0,24	0,12–0,24	0,12–0,24	0,12–0,24	0,10–0,22	0,08–0,20	0,06–0,18	0,04–0,16			
ECC 25	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,13–0,26	0,12–0,25	0,10–0,23	0,08–0,21	0,06–0,19	0,04–0,17	
ECC 32	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,14–0,29	0,12–0,27	0,10–0,25	0,08–0,23	0,05–0,20

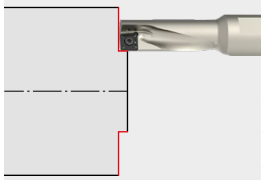
Feed f may be increased by 50–75 % when using -M50Q and -27Q.

Turning

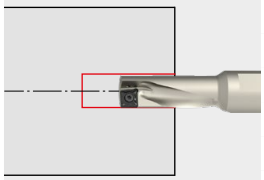


3xD							
	Cutting depth a_p (mm)						
Size	1,0	2,0	2,5	3,0	3,5	4,0	5,0
	Feed rate f (mm/rev.)						
ECC 08	0,05–0,10	0,02–0,06					
ECC 10	0,06–0,11	0,03–0,07					
ECC 12	0,06–0,12	0,04–0,10	0,02–0,08				
ECC 14	0,07–0,13	0,05–0,11	0,02–0,09				
ECC 16	0,07–0,15	0,06–0,14	0,04–0,12	0,02–0,09			
ECC 18	0,08–0,16	0,08–0,16	0,06–0,14	0,04–0,12			
ECC 20	0,09–0,18	0,09–0,18	0,09–0,18	0,07–0,16	0,05–0,14	0,03–0,12	
ECC 25	0,10–0,19	0,10–0,19	0,10–0,19	0,08–0,17	0,06–0,15	0,03–0,13	
ECC 32	0,11–0,22	0,11–0,22	0,11–0,22	0,11–0,22	0,09–0,20	0,07–0,18	0,03–0,14

EcoCut – Classic – Depths of Cut and Feedrates



Face turning	1,5xD		2,25xD		3xD	
Size	Cutting depth a_p (mm)	Feed rate f (mm/rev)	Cutting depth a_p (mm)	Feed rate f (mm/rev)	Cutting depth a_p (mm)	Feed rate f (mm/rev)
ECC 08	2,00	0,05–0,10	1,90	0,04–0,09	1,10	0,04–0,07
ECC 10	2,50	0,06–0,12	2,20	0,05–0,10	1,20	0,04–0,09
ECC 12	3,00	0,07–0,14	2,60	0,06–0,12	1,40	0,05–0,11
ECC 14	3,50	0,08–0,16	3,00	0,07–0,14	1,60	0,06–0,12
ECC 16	4,00	0,09–0,18	3,40	0,08–0,16	1,90	0,06–0,13
ECC 18	4,50	0,10–0,20	3,80	0,09–0,18	2,00	0,07–0,14
ECC 20	5,00	0,11–0,22	4,20	0,10–0,20	2,20	0,08–0,15
ECC 25	6,00	0,12–0,24	5,00	0,11–0,22	2,60	0,09–0,18
ECC 32	8,00	0,13–0,27	6,00	0,12–0,25	3,00	0,10–0,20

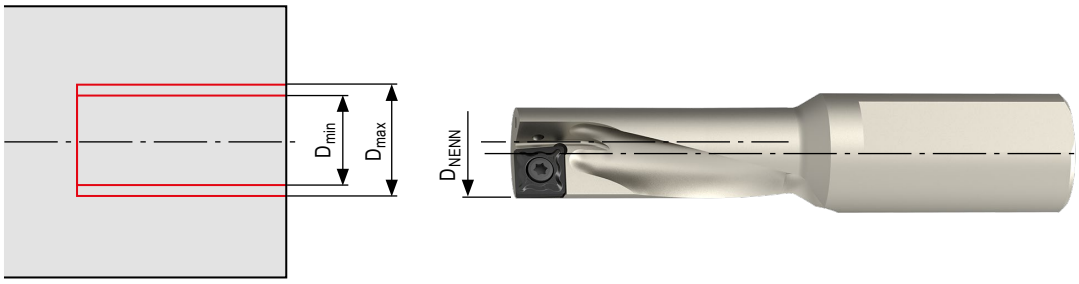


Drilling	1,5xD		2,25xD		3xD	
Size	Feed rate f (mm/rev)	max. bore depth (mm)	Feed rate f (mm/rev)	max. bore depth (mm)	Feed rate f (mm/rev)	max. bore depth (mm)
ECC 08	0,01–0,04	12,0	0,01–0,04	18,0	0,01–0,02	24,0
ECC 10	0,01–0,05	15,0	0,01–0,05	22,5	0,01–0,03	30,0
ECC 12	0,01–0,05	18,0	0,01–0,05	27,0	0,01–0,04	36,0
ECC 14	0,01–0,07	21,0	0,01–0,07	31,5	0,01–0,05	42,0
ECC 16	0,02–0,08	24,0	0,02–0,08	36,0	0,02–0,06	48,0
ECC 18	0,03–0,09	27,0	0,03–0,09	40,5	0,03–0,07	54,0
ECC 20	0,03–0,10	30,0	0,03–0,10	45,0	0,03–0,08	60,0
ECC 25	0,03–0,12	37,5	0,03–0,12	56,5	0,04–0,09	75,0
ECC 32	0,05–0,15	48,0	0,05–0,15	72,0	0,05–0,11	96,0

EcoCut – Classic – Application information

Drilling Off centre

The special design of the tool and indexable insert enables EcoCut tools to perform off-centre drilling. Therefore corresponding deviations from the nominal tool diameter can be achieved.

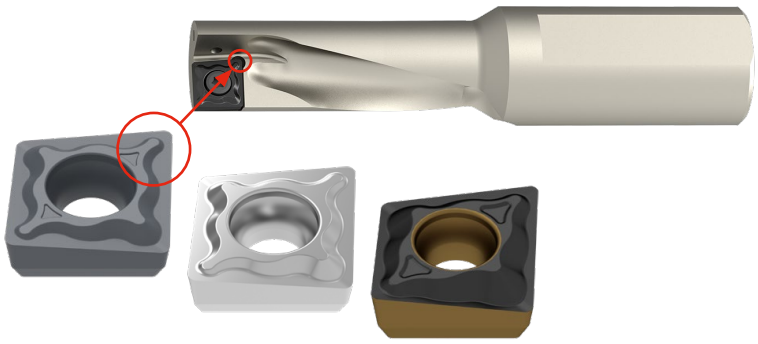


Size	Tool nominal-Ø	Work piece bore Ø	
	D_{NENN} (mm)	D_{min} (mm)	D_{max} (mm)
ECC 08	8	7,85	8,30
ECC 10	10	9,85	10,50
ECC 12	12	11,85	12,50
ECC 14	14	13,85	14,50
ECC 16	16	15,85	16,50
ECC 18	18	17,85	18,50
ECC 20	20	19,80	20,50
ECC 25	25	24,80	25,80
ECC 32	32	31,80	33,00

Mounting of the insert

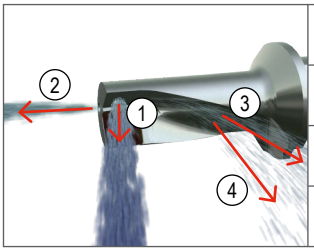
For tools up to Ø 8 mm right and left handed inserts are required.
From Ø 10–32 mm neutral inserts are used.

Note!
Ensure correct installation position.



Innovative chip removal – Chip-Booster

EcoCut tools are equipped with a unique coolant and chip removal system.



1	Cooling of the indexable insert
2	General coolant stream
3	Chip booster for improved chip transport
4	Chip booster prevents chips from getting stuck between tool and workpiece

For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

EcoCut – Classic – Application as the most stable boring tool

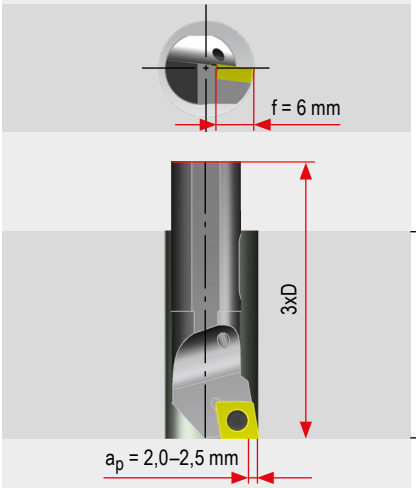
EcoCut can be used not only as a multifunctional tool. In comparison with a boring bar EcoCut used as a pure boring tool gives the user enormous benefits.

Example: machining bores, 16 mm diameter by 36 mm depth

Differences in the tool

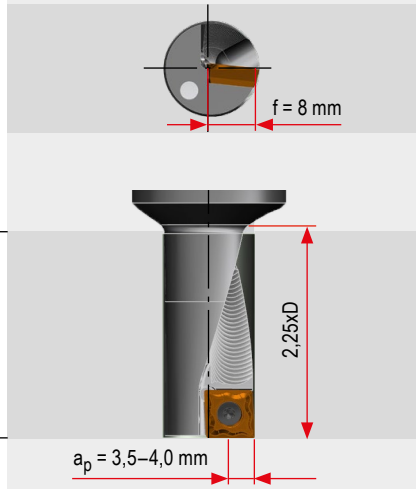
Boring Bar

A12K SCFCR 06



EcoCut – Classic

ECC 16R-2.25D 08



Your Advantages

Large, stable toolholder

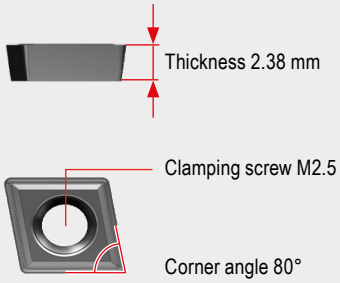
- Absorption of high cutting forces
- Low vibration
- Chip Booster for perfect cooling and chip evacuation

Benefits

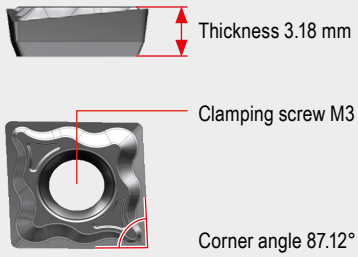
- High surface quality
- Perfect chip control
- Max. process security

Differences in the insert

CCMT 060204



XCNT 080304



Large and stable insert

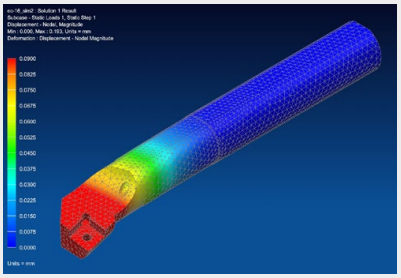
- Increased process security
- Enables large depths of cut
- Higher cutting data
- Higher tool life

Benefits

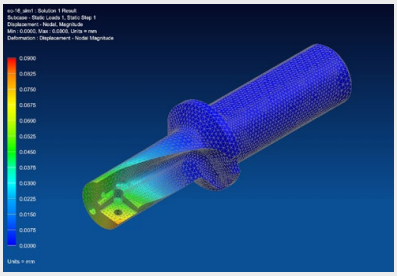
- Reduction in machining time
- Increased productivity
- Reduced tooling costs

Stability Comparison

Calculation using FEM
A load of 1000 N on the insert seat corresponds to an approx. a_p of 2.0 mm and f 0.2 mm



Deflection 0.19 mm

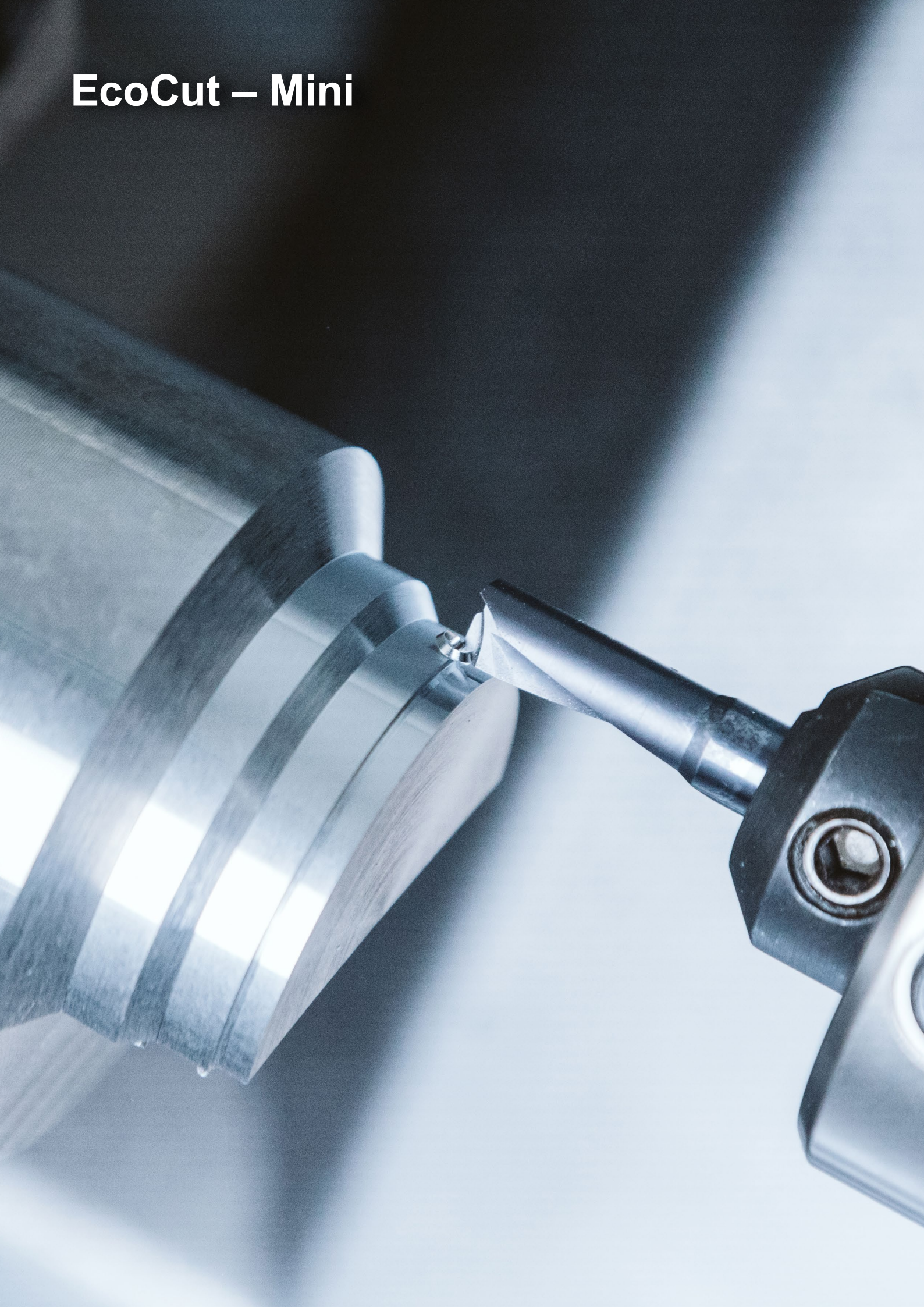


Deflection 0.08 mm

Practical experience shows:

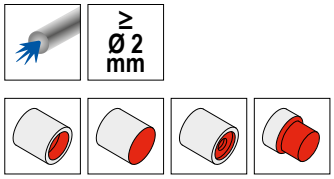
- Reduced machining time by up to **75 %**
- Increase in tool life by **400 %** possible

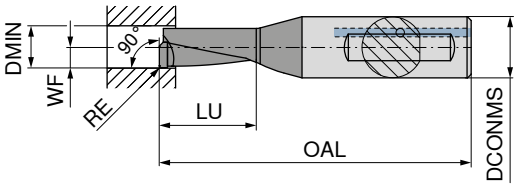
EcoCut – Mini



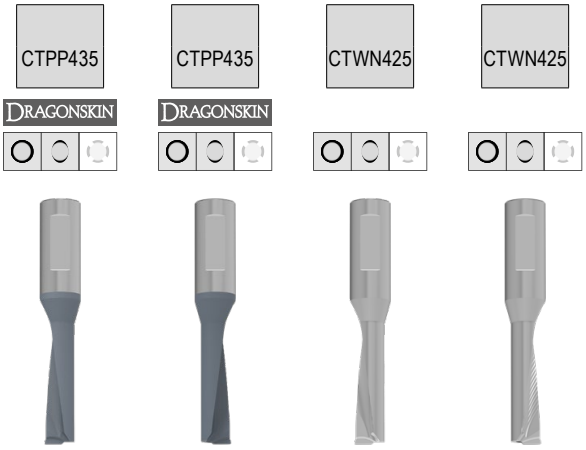
EcoCut – Mini

▲ Drilling and turning tool for small diameters





Illustrations show right-hand versions



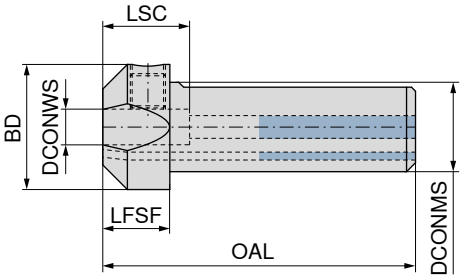
ISO designation	DMIN mm	DCONMS mm	OAL mm	LU mm	WF mm	RE mm	Solid carbide Left-hand 70 805 ...	Solid carbide Right-hand 70 804 ...	Solid carbide Left-hand 70 805 ...	Solid carbide Right-hand 70 804 ...
ECM 02 R/L 2,25D	2,0	4	28	4,50	1,00	0,1	320	320		
ECM 02 R/L 2,25D AL	2,0	4	28	4,50	1,00	0,1			420	420
ECM 02 R/L 4,00D	2,0	4	31	8,00	1,00	0,1	321	321		
ECM 02 R/L 4,00D AL	2,0	4	31	8,00	1,00	0,1			421	421
ECM 02,5 R/L 2,25D	2,5	4	29	5,63	1,25	0,1	325	325		
ECM 02,5 R/L 2,25D AL	2,5	4	29	5,63	1,25	0,1			425	425
ECM 02,5 R/L 4,00D	2,5	4	33	10,00	1,25	0,1	326	326		
ECM 02,5 R/L 4,00D AL	2,5	4	33	10,00	1,25	0,1			426	426
ECM 03 R/L 2,25D	3,0	4	31	6,75	1,50	0,1	330	330		
ECM 03 R/L 2,25D AL	3,0	4	31	6,75	1,50	0,1			430	430
ECM 03 R/L 4,00D	3,0	4	35	12,00	1,50	0,1	331	331		
ECM 03 R/L 4,00D AL	3,0	4	35	12,00	1,50	0,1			431	431
ECM 03,5 R/L 2,25D	3,5	4	32	7,88	1,75	0,1	335	335		
ECM 03,5 R/L 2,25D AL	3,5	4	32	7,88	1,75	0,1			435	435
ECM 03,5 R/L 4,00D	3,5	4	37	14,00	1,75	0,1	336	336		
ECM 03,5 R/L 4,00D AL	3,5	4	37	14,00	1,75	0,1			436	436
ECM 04 R/L 2,25D	4,0	6	35	9,00	2,00	0,2	300	300		
ECM 04 R/L 2,25D AL	4,0	6	35	9,00	2,00	0,2			450	450
ECM 04 R/L 4,00D	4,0	6	41	16,00	2,00	0,2	301	301		
ECM 04 R/L 4,00D AL	4,0	6	41	16,00	2,00	0,2			451	451
ECM 05 R/L 2,25D	5,0	6	37	11,25	2,50	0,2	302	302		
ECM 05 R/L 2,25D AL	5,0	6	37	11,25	2,50	0,2			452	452
ECM 05 R/L 4,00D	5,0	6	45	20,00	2,50	0,2	303	303		
ECM 05 R/L 4,00D AL	5,0	6	45	20,00	2,50	0,2			453	453
ECM 06 R/L 2,25D	6,0	8	38	13,50	3,00	0,2	306	306		
ECM 06 R/L 2,25D AL	6,0	8	38	13,50	3,00	0,2			456	456
ECM 06 R/L 4,00D	6,0	8	49	24,00	3,00	0,2	312	312		
ECM 06 R/L 4,00D AL	6,0	8	49	24,00	3,00	0,2			462	462
ECM 07 R/L 2,25D	7,0	8	42	15,75	3,50	0,2	308	308		
ECM 07 R/L 2,25D AL	7,0	8	42	15,75	3,50	0,2			458	458
ECM 07 R/L 4,00D	7,0	8	53	28,00	3,50	0,2	314	314		
ECM 07 R/L 4,00D AL	7,0	8	53	28,00	3,50	0,2			464	464
ECM 08 R/L 2,25D	8,0	8	45	18,00	4,00	0,2	310	310		
ECM 08 R/L 2,25D AL	8,0	8	45	18,00	4,00	0,2			460	460
ECM 08 R/L 4,00D	8,0	8	57	32,00	4,00	0,2	316	316		
ECM 08 R/L 4,00D AL	8,0	8	57	32,00	4,00	0,2			466	466
P							●	●		
M							●	●		
K							○	○	○	○
N							○	○	●	●
S							●	●	○	○
H										
O							○	○	○	○

→ v_c Page 41

→ **Page 31**
You'll find information on the cutting depth and feed rate here.

EcoCut – Adapter Mini

Scope of supply:
Toolholder with one clamping screw



Designation	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm	70 800 ...
EC-ADX16-04	4	16	22	59	14	18	**716**
EC-ADX20-04	4	20	25	64	14	18	**720**
EC-ADX16-06	6	16	22	59	14	18	**976**
EC-ADX20-06	6	20	25	64	14	18	**996**
EC-ADX16-08	8	16	22	59	14	18	**978**
EC-ADX20-08	8	20	25	64	14	18	**998**

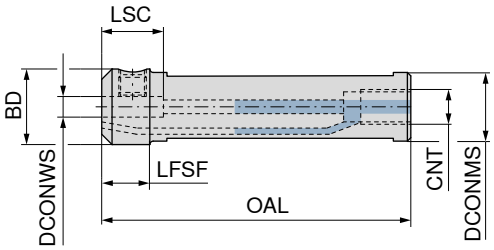

Clamping screw

Spare parts DCONWS		70 950 ...
4	M5x10 ISO 4026	**867**
6	M8x1x8 - SW4	**123**
8	M8x1x8 - SW4	**123**

EcoCut – Mini adapter with coolant connection thread

Scope of supply:

Toolholder with one clamping screw

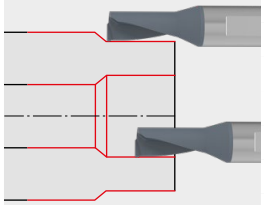


Designation	DCONWS mm	DCONMS mm	BD mm	OAL mm	LFSF mm	LSC mm	CNT	70 801 ...
ECA 16-04	4	16	20,0	75	14	18	G 1/8	**716**
ECA 20-04	4	20	19,6	90	14	18	G 1/8	**720**
ECA 22-04	4	22	21,6	110	14	18	G 1/8	**722**
ECA 16-06	6	16	22,0	75	14	18	G 1/8	**816**
ECA 20-06	6	20	22,0	90	14	18	G 1/8	**820**
ECA 22-06	6	22	21,6	110	14	18	G 1/8	**822**
ECA 16-08	8	16	22,0	75	14	18	G 1/8	**916**
ECA 20-08	8	20	22,0	90	14	18	G 1/8	**920**
ECA 22-08	8	22	21,6	110	14	18	G 1/8	**922**

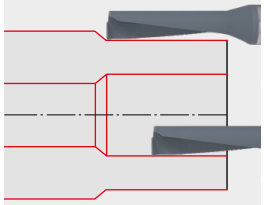
Clamping screw

Spare parts DCONWS		70 950 ...
4	M5X8 - DIN 913	**13200**
6	M8x1x8 - SW4	**123**
8	M8x1x8 - SW4	**123**

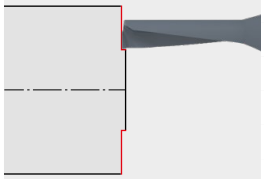
EcoCut – Mini – Depths of Cut and Feedrates



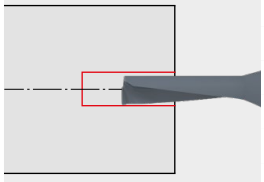
Turning	2,25xD									
	Cutting depth a_p (mm)									
Size	0,25	0,5	0,75	1,0	1,5	2,0	2,5	3,0	3,5	4,0
	Feed rate f (mm/rev.)									
ECM 02	0,02–0,07	0,02–0,07								
ECM 02,5	0,02–0,07	0,02–0,07	0,02–0,05							
ECM 03	0,02–0,07	0,02–0,07	0,02–0,05	0,02–0,05						
ECM 03,5	0,02–0,07	0,02–0,07	0,02–0,05	0,02–0,05	0,02–0,05					
ECM 04	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,07	0,01–0,05				
ECM 05	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,02–0,06	0,01–0,04			
ECM 06	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,02–0,06	0,01–0,04		
ECM 07	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,02–0,06	0,01–0,04	
ECM 08	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,02–0,06	0,01–0,04



Turning	4xD							
	Cutting depth a_p (mm)							
Size	0,25	0,5	0,75	1,0	1,5	2,0	2,5	3,0
	Feed rate f (mm/rev.)							
ECM 02	0,02–0,05	0,01–0,05						
ECM 02,5	0,02–0,05	0,01–0,05						
ECM 03	0,02–0,05	0,02–0,05	0,01–0,05					
ECM 03,5	0,02–0,05	0,02–0,05	0,02–0,05	0,01–0,05				
ECM 04	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,01–0,05			
ECM 05	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,085	0,02–0,06	0,01–0,04		
ECM 06	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,085	0,02–0,06	0,01–0,04		
ECM 07	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,03–0,08	0,02–0,06	0,01–0,04	
ECM 08	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,1	0,04–0,095	0,03–0,08	0,02–0,06	0,01–0,04



Face turning	2,25xD		4xD	
Size	Cutting depth a_p max. (mm)	Feed rate f (mm/rev)	Cutting depth a_p max. (mm)	Feed rate f (mm/rev)
ECM 02	0,30	0,01–0,05	0,30	0,01–0,03
ECM 02,5	0,30	0,01–0,05	0,30	0,01–0,03
ECM 03	0,50	0,01–0,06	0,50	0,01–0,04
ECM 03,5	0,50	0,01–0,06	0,50	0,01–0,04
ECM 04	0,70	0,03–0,07	0,70	0,02–0,05
ECM 05	0,70	0,03–0,07	0,70	0,02–0,05
ECM 06	0,70	0,03–0,07	0,70	0,02–0,05
ECM 07	1,00	0,04–0,08	1,00	0,03–0,06
ECM 08	1,00	0,04–0,08	1,00	0,03–0,06

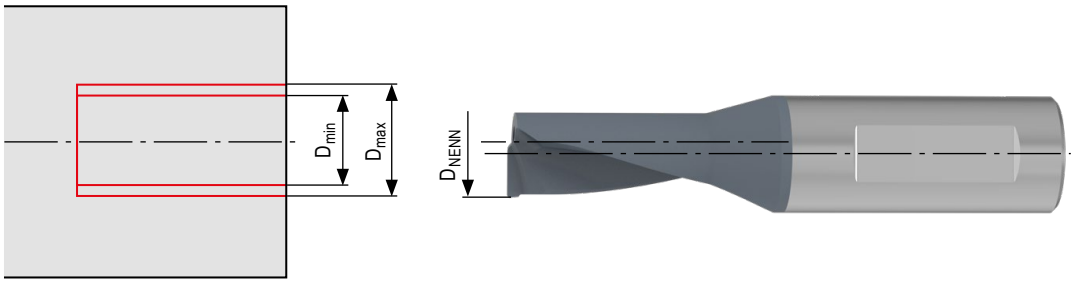


Drilling	2,25xD		4xD	
Size	Feed rate f (mm/rev)	max. bore depth (mm)	Feed rate f (mm/rev)	max. bore depth (mm)
ECM 02	0,0025–0,0075	4,50	0,0025–0,005	8,0
ECM 02,5	0,0025–0,010	5,63	0,0025–0,005	10,0
ECM 03	0,0025–0,0125	6,75	0,0025–0,010	12,0
ECM 03,5	0,0025–0,0150	7,88	0,0025–0,010	14,0
ECM 04	0,005–0,030	9,0	0,005–0,0125	16,0
ECM 05	0,005–0,030	11,25	0,005–0,015	20,0
ECM 06	0,005–0,030	13,5	0,005–0,020	24,0
ECM 07	0,005–0,035	15,75	0,005–0,025	28,0
ECM 08	0,005–0,040	18,0	0,005–0,030	32,0

EcoCut – Mini – Application information

Drilling Off centre

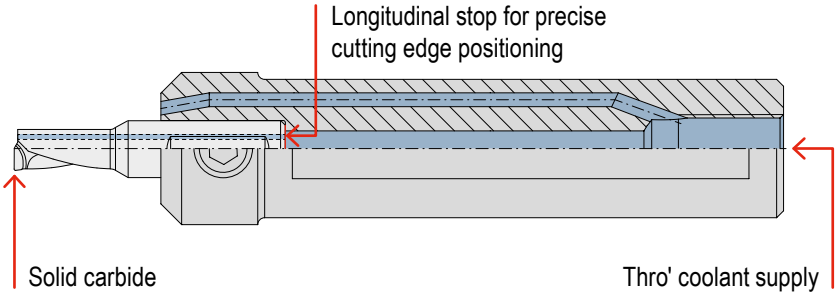
Thanks to the special design, EcoCut tools can perform off-centre drilling. Therefore corresponding deviations from the nominal tool diameter can be achieved.



Size	Tool nominal-Ø D_{NENN} (mm)	Work piece bore Ø D_{min} (mm)	Work piece bore Ø D_{max} (mm)
ECM 02	2	1,95	2,1
ECM 02,5	2,5	2,45	2,6
ECM 03	3	2,95	3,15
ECM 03,5	3,5	3,45	3,65
ECM 04	4	3,90	4,20
ECM 05	5	4,90	5,20
ECM 06	6	5,90	6,20
ECM 07	7	6,90	7,20
ECM 08	8	7,90	8,20

Mini – Adapter

Cross-section rotated by 90° for clarity



For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

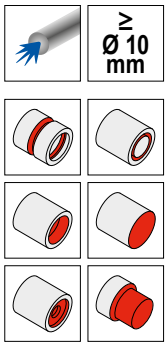
EcoCut – ProfileMaster

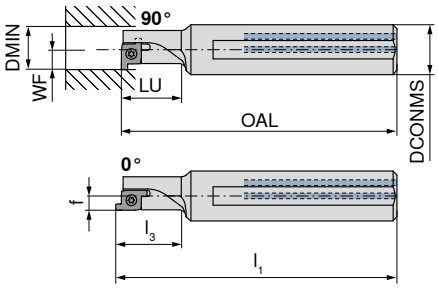
EcoCut – ProfileMaster 1.5xD

▲ Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver





Illustrations show right-hand versions

											Left-hand	Right-hand
											70 821 ...	**70 820 ...**
ISO designation	DMIN	DCONMS	OAL	LU	WF	l_1	l_3	f	torque moment	Insert		
	mm	mm	mm	mm	mm	mm	mm	mm	Nm			
PMC 10 R/L 1,5D	10	12	80	15	5,0				0,4	PM 10R/L	**010** [1]	**010** [1]
PMC 12 R/L 1,5D	12	16	90	18	6,0				1,0	PM 12R/L	**012** [1]	**012** [1]
PMC 16 R/L 1,5D	16	20	125	24	8,0	127,3	26,3	5,7	2,2	PM 16R/L	**016**	**016**
PMC 20 R/L 1,5D	20	25	150	30	10,0	152,8	32,8	7,2	2,2	PM 20R/L	**020**	**020**
PMC 25 R/L 1,5D	25	32	180	38	12,5	183,3	40,8	9,2	3,2	PM 25R/L	**025**	**025**
PMC 32 R/L 1,5D	32	40	200	48	16,0	204,3	52,3	11,7	5,0	PM 32R/L	**032**	**032**

1) only usable as 90° version

Key D

Clamping screw

		80 950 ...		**70 950 ...**
Spare parts				
Insert				
PM 10R/L	T06 - IP	**123**	M1,8x3,6 - IP	**862**
PM 12R/L	T07 - IP	**124**	M2,2x4,2 - IP	**137**
PM 16R/L	T09 - IP	**126**	M3x5,7 - IP	**008**
PM 20R/L	T15 - IP	**128**	M3x5,7 - IP	**009**
PM 25R/L	T15 - IP	**128**	M3,5x8,6 - IP	**859**
PM 32R/L	T20 - IP	**129**	M5x10,8 - IP	**010**

→ **Page 37+38**
You'll find information on the cutting depth and feed rate here.

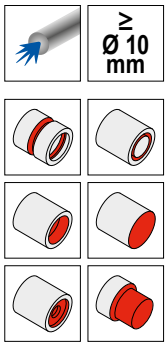
→ **Page 36**
Find suitable indexable inserts here.

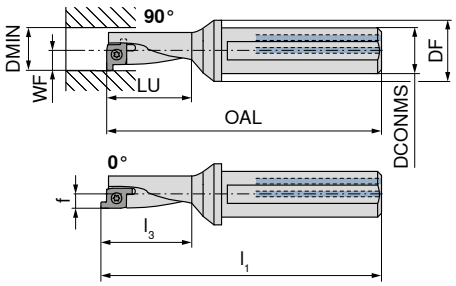
EcoCut – ProfileMaster 2.25xD

▲ Drilling, turning and grooving tool

Scope of supply:

Toolholder with one clamping screw and one screwdriver





Illustrations show right-hand versions

												Left-hand		Right-hand	
												70 821 ...		**70 820 ...**	
ISO designation	DMIN	DCONMS	DF	OAL	LU	WF	l_1	l_3	f	torque moment	Insert				
	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm					
PMC 10 R/L 2,25D	10	12	18	72,4	22,50	5,0				0,4	PM 10R/L	**110**	1)	**110**	1)
PMC 12 R/L 2,25D	12	16	22	78,0	27,00	6,0				1,0	PM 12R/L	**112**	1)	**112**	1)
PMC 16 R/L 2,25D	16	20	28	96,5	36,00	8,0	98,8	38,3	5,7	2,2	PM 16R/L	**116**		**116**	
PMC 20 R/L 2,25D	20	25	32	111,0	45,00	10,0	113,8	47,8	7,2	2,2	PM 20R/L	**120**		**120**	
PMC 25 R/L 2,25D	25	32	44	132,6	56,25	12,5	135,9	59,6	9,2	3,2	PM 25R/L	**125**		**125**	
PMC 32 R/L 2,25D	32	40	54	158,0	72,00	16,0	162,3	76,3	11,7	5,0	PM 32R/L	**132**		**132**	

1) only usable as 90° version

Key D

Clamping screw

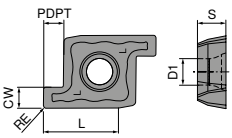
		80 950 ...		**70 950 ...**
Spare parts				
Insert				
PM 10R/L	T06 - IP	**123**	M1,8x3,6 - IP	**862**
PM 12R/L	T07 - IP	**124**	M2,2x4,2 - IP	**137**
PM 16R/L	T09 - IP	**126**	M3x5,7 - IP	**008**
PM 20R/L	T15 - IP	**128**	M3x5,7 - IP	**009**
PM 25R/L	T15 - IP	**128**	M3,5x8,6 - IP	**859**
PM 32R/L	T20 - IP	**129**	M5x10,8 - IP	**010**

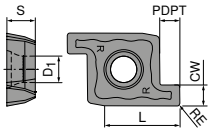
→ **Page 37+38**
You'll find information on the cutting depth and feed rate here.

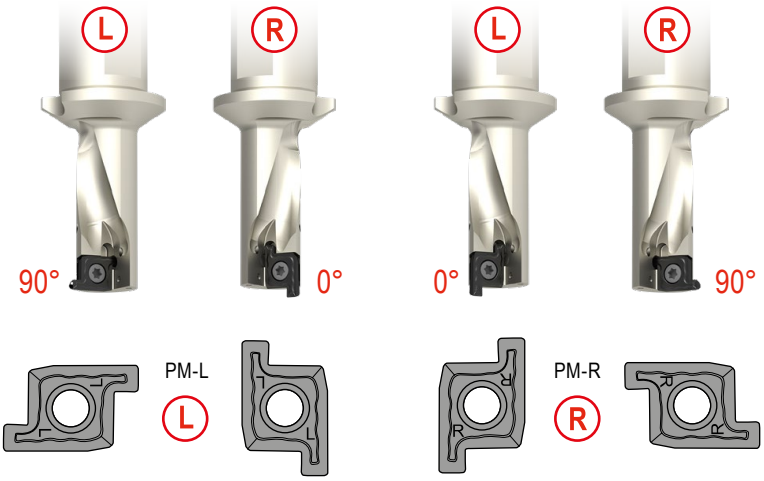
→ **Page 36**
Find suitable indexable inserts here.

PM-L / PM-R

Designation	CW	PDPT	L	S	D1
	mm	mm	mm	mm	mm
PM 10 G 201504	2,0	1,5	5,0	2,10	2,1
PM 12 G 201804	2,0	1,8	6,0	2,30	2,5
PM 16 G 252004	2,5	2,0	8,0	2,80	3,4
PM 20 G 302504	3,0	2,5	10,0	3,70	4,0
PM 25 G 353004	3,5	3,0	12,5	4,50	4,4
PM 32 G 404004	4,0	4,0	16,0	5,60	6,0







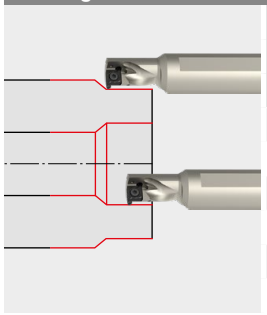
PM-L / PM-R

ISO	RE	M PM-L 70 289 ...	M PM-R 70 289 ...
	mm		
PM 10 G 201504	0,4	510	511
PM 12 G 201804	0,4	515	516
PM 16 G 252004	0,4	520	521
PM 20 G 302504	0,4	525	526
PM 25 G 353004	0,4	530	531
PM 32 G 404004	0,4	535	536
P		●	●
M		●	●
K		○	○
N		○	○
S		●	●
H			
O		○	○

→ v_c Page 41

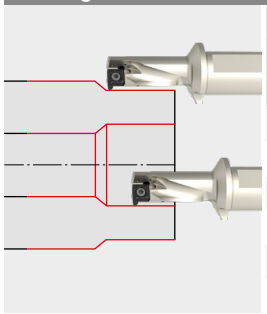
EcoCut – ProfileMaster 90° – Depths of Cut and Feedrates

Turning



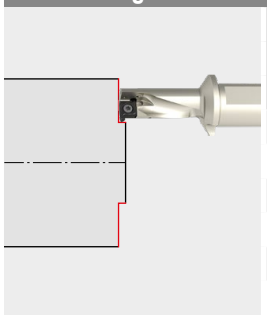
Size	1,5xD							
	Cutting depth a_p (mm)							
	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0
	Feed rate f (mm/rev.)							
PMC 10	0,07–0,20	0,05–0,17	0,02–0,12					
PMC 12	0,07–0,20	0,05–0,17	0,02–0,12					
PMC 16	0,10–0,25	0,07–0,23	0,05–0,21	0,02–0,17				
PMC 20	0,12–0,27	0,10–0,26	0,07–0,24	0,05–0,20	0,02–0,14			
PMC 25	0,15–0,30	0,15–0,30	0,13–0,28	0,10–0,26	0,05–0,22	0,02–0,18		
PMC 32	0,15–0,30	0,15–0,30	0,15–0,30	0,15–0,30	0,10–0,27	0,07–0,24	0,05–0,21	0,02–0,15

Turning



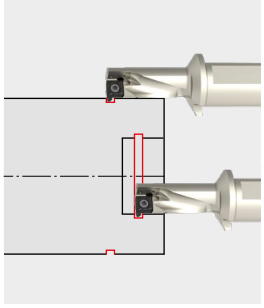
Size	2,25xD				
	Cutting depth a_p (mm)				
	1,0	2,0	3,0	4,0	5,0
	Feed rate f (mm/rev.)				
PMC 10	0,07–0,19	0,02–0,13			
PMC 12	0,07–0,19	0,02–0,13			
PMC 16	0,10–0,25	0,07–0,21	0,02–0,13		
PMC 20	0,12–0,27	0,07–0,24	0,05–0,19		
PMC 25	0,15–0,30	0,10–0,27	0,07–0,23	0,02–0,15	
PMC 32	0,15–0,30	0,15–0,30	0,10–0,27	0,07–0,23	0,02–0,15

Face turning



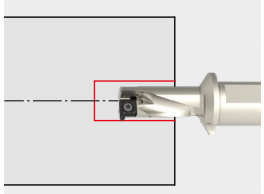
Size	1,5xD / 2,25xD					
	Cutting depth a_p (mm)					
	1,0	1,5	2,0	2,5	3,0	3,5
	Feed rate f (mm/rev.)					
PMC 10	0,02–0,15	0,02–0,15				
PMC 12	0,02–0,15	0,02–0,15				
PMC 16	0,05–0,20	0,05–0,20	0,05–0,20			
PMC 20	0,08–0,22	0,08–0,22	0,08–0,22	0,08–0,22		
PMC 25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	
PMC 32	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25

Radial grooving



Size	1,5xD / 2,25xD
	Feed rate f (mm/rev)
PMC 10	0,01–0,08
PMC 12	0,02–0,10
PMC 16	0,04–0,15
PMC 20	0,04–0,16
PMC 25	0,07–0,20
PMC 32	0,08–0,22

Drilling

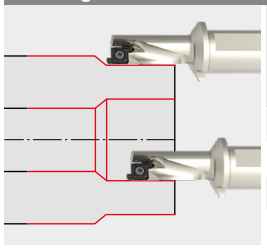


Size	1,5xD		2,25xD	
	Feed rate f (mm/rev)	max. bore depth (mm)	Feed rate f (mm/rev)	max. bore depth (mm)
PMC 10	0,01–0,05	15,0	0,01–0,05	22,5
PMC 12	0,01–0,06	18,0	0,01–0,06	27,0
PMC 16	0,02–0,09	24,0	0,02–0,09	36,0
PMC 20	0,03–0,10	30,0	0,03–0,10	45,0
PMC 25	0,04–0,12	37,5	0,04–0,12	56,3
PMC 32	0,04–0,14	48,0	0,04–0,14	72,0

EcoCut – ProfileMaster 0° – Depths of Cut and Feedrates

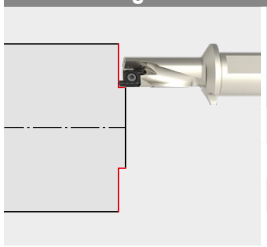
EcoCut ProfileMaster Sizes 10 and 12 can not be used as 0° version.

Turning



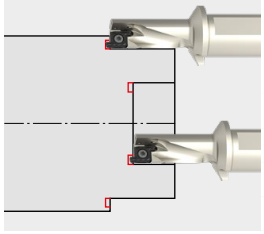
Size	1,5xD / 2,25xD					
	Cutting depth a_p (mm)					
	1,0	1,5	2,0	2,5	3,0	3,5
	Feed rate f (mm/rev.)					
PMC 16	0,04–0,20	0,04–0,20	0,04–0,20			
PMC 20	0,06–0,22	0,06–0,22	0,06–0,22	0,06–0,22		
PMC 25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	0,08–0,25	
PMC 32	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28	0,10–0,28

Face turning



Size	1,5xD / 2,25xD						
	Cutting depth a_p (mm)						
	1,0	1,5	2,0	2,5	3,0	3,5	4,0
	Feed rate f (mm/rev.)						
PMC 16	0,05–0,20	0,05–0,20	0,05–0,20				
PMC 20	0,05–0,20	0,05–0,20	0,05–0,20	0,05–0,20			
PMC 25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25		
PMC 32	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25	0,10–0,25

Axial grooving

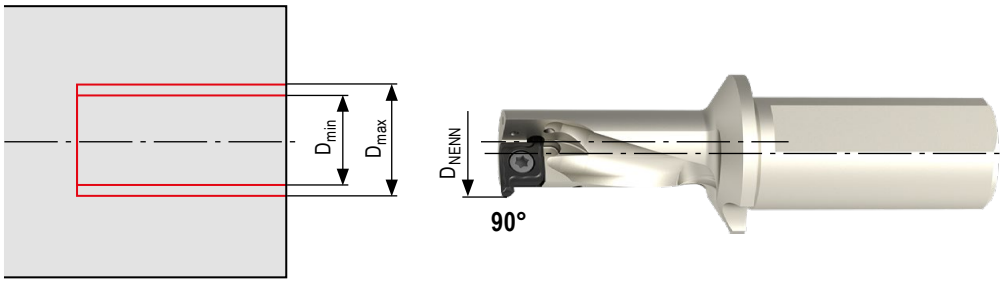


Size	1,5xD / 2,25xD
	Feed rate f (mm/rev)
PMC 16	0,02–0,12
PMC 20	0,04–0,14
PMC 25	0,06–0,18
PMC 32	0,08–0,20

EcoCut – ProfileMaster – Application information

ProfileMaster 90° – Drilling Off centre

The special design of the tool and indexable insert enables EcoCut tools to perform off-centre drilling. Therefore corresponding deviations from the nominal tool diameter can be achieved.

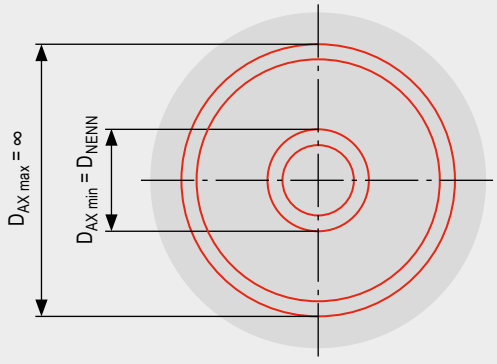


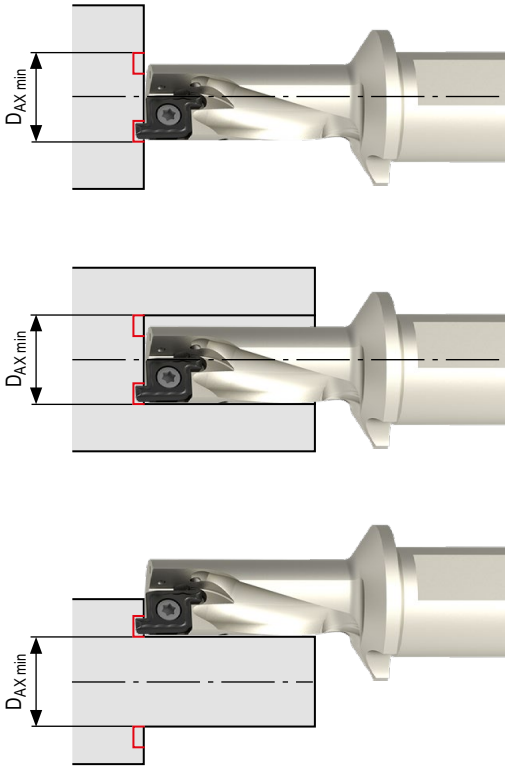
Size	Tool nominal-Ø D_{NENN} (mm)	Work piece bore Ø D_{min} (mm)	Work piece bore Ø D_{max} (mm)
PMC 10	10	9,85	12
PMC 12	12	11,85	15
PMC 16	16	15,85	19
PMC 20	20	19,80	24
PMC 25	25	24,80	29
PMC 32	32	31,80	38

ProfileMaster 0° – Not suitable for drilling!

ProfileMaster 0° – Axial grooving

$D_{AX\ min} = D_{NENN}$





Size	Tool nominal-Ø D_{NENN} (mm)	smallest diameter for axial grooving $D_{AX\ min}$ (mm)	largest diameter for axial grooving $D_{AX\ max}$ (mm)
PMC 16	16	16	> 16
PMC 20	20	20	> 20
PMC 25	25	25	> 25
PMC 32	32	32	> 32

For maximum chip transport efficiency when drilling, coolant pressure must be 3–6 bar minimum (optimal 7–10 bar).

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
H	Hardened steel	H.1.1		Hardened and tempered	46–55 HRC				
		H.1.2		Hardened and tempered	56–60 HRC				
		H.1.3		Hardened and tempered	61–65 HRC				
		H.1.4		Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

*** Tensile strength**

Cutting data standard values for EcoCut

Index	**EcoCut** – Mini		**EcoCut** – Classic / **EcoCut** – Solid					**EcoCut** – ProfileMaster
	CTWN425	CTPP435 DRAGONSKIN	CTCP425-P DRAGONSKIN	CTCP435-P DRAGONSKIN	CTPP430 DRAGONSKIN	H210T	H216T	CTPP430 DRAGONSKIN
	v_c (m/min)		v_c (m/min)					v_c (m/min)
P.1.1		**145**	**270**	**230**	**180**			**170**
P.1.2		**125**	**235**	**200**	**155**			**140**
P.1.3		**105**	**200**	**165**	**130**			**115**
P.1.4		**100**	**190**	**155**	**125**			**105**
P.1.5		**90**	**175**	**140**	**110**			**95**
P.2.1		**130**	**240**	**200**	**160**			**145**
P.2.2		**100**	**185**	**155**	**120**			**105**
P.2.3		**90**	**175**	**140**	**110**			**95**
P.2.4		**70**	**130**	**105**	**80**			**60**
P.3.1		**105**	**185**	**160**	**115**			**110**
P.3.2		**70**	**135**	**110**	**85**			**75**
P.3.3		**30**	**80**	**60**	**55**			**40**
P.4.1		**105**	**185**	**160**	**115**			**110**
P.4.2		**85**	**160**	**130**	**100**			**95**
M.1.1		**105**	160	160	**115**			**110**
M.2.1		**65**			**85**			**75**
M.3.1		**95**			**110**			**100**
K.1.1	140	140	205	185	160	110	**170**	180
K.1.2	115	120	205	185	140	90	**130**	260
K.2.1	150	140	200	180	160	120	**180**	160
K.2.2	110	120	200	180	140	85	**130**	250
K.3.1	170	150	195	175	125	140	**190**	130
K.3.2	140	125	195	175	110	110	**160**	230
N.1.1	**300**	40			40	**40**	**60**	300
N.1.2	**50**	290			290	**290**	**310**	200
N.2.1	**300**	290			290	**290**	**60**	300
N.2.2	**300**	190			190	**190**	**460**	200
N.2.3	**450**	340			340	**340**	**60**	150
N.3.1	**350**	240			240	**240**	**460**	300
N.3.2	**350**	240			240	**240**	**460**	300
N.3.3	**250**	190			190	**190**	**360**	200
N.4.1	**200**	140			140	**140**	**260**	200
S.1.1	40	**35**		35	55	**35**	45	**35**
S.1.2	30	**30**		30	55	**25**	35	**30**
S.2.1	30	**20**		20	55	**25**	35	**20**
S.2.2	25	**15**		15	55	**20**	25	**15**
S.2.3	20	**15**		15	55	**20**	20	**15**
S.3.1	90	**85**		85	70	**65**	110	**85**
S.3.2	55	**40**		40	60	**45**	70	**40**
S.3.3	40	**30**		30	40	**30**	50	**30**
H.1.1								
H.1.2								
H.1.3								
H.1.4								
H.2.1								
H.3.1								
O.1.1	130	110			110	110	155	130
O.1.2								
O.2.1	105	95			95	95	140	105
O.2.2								
O.3.1								

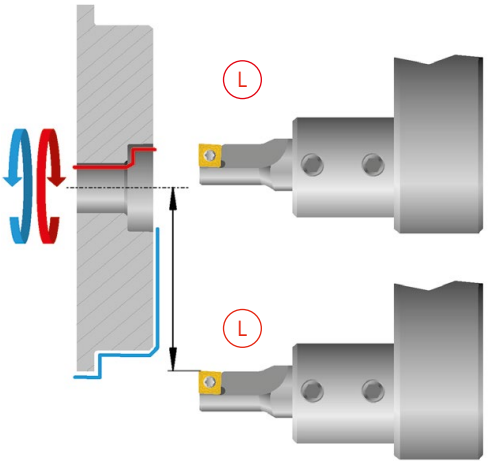
The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine. The specified values represent guideline cutting data that can be adjusted by approx. **±20%** according to the usage conditions.

EcoCut – Troubleshooting

Machining over centre

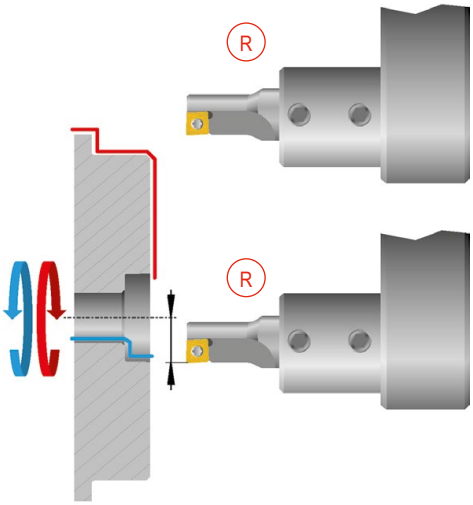
Problems

In case of insufficient movement of the machine across the centre line, the external diameter can not be machined with the same tool.



Solution

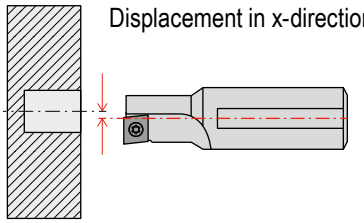
Use a right hand EcoCut tool.



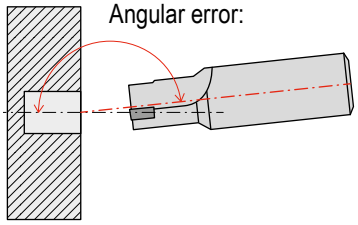
With axial displacement there is the danger of collision!

Problems

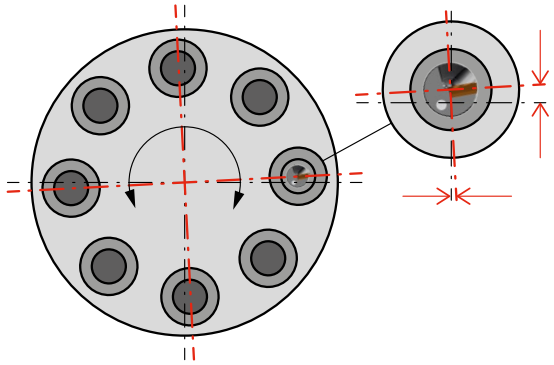
Displacement in x-direction:



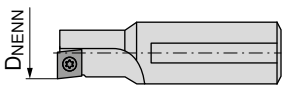
Angular error:



Turret position error:

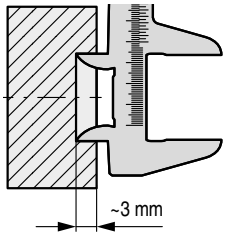


Remedy



When pre-setting the tool:

- ▲ Definition as an internal turning tool for programming
- ▲ Enter the tool nominal Ø as bore target Ø



At the machine:

- ▲ Make measuring cut, approx. 3 mm deep
- ▲ Measure drilled diameter produced
- ▲ If necessary correct drilling Ø
- ▲ Start machining

We reserve the right to make technical changes and product improvements.

CERATIZIT GROUP

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