DATRON
Smart Manufacturing Solutions

DATRON CNC Milling Tools

NEW! Single Flute End Mills, polished - Milling CountersinkTools - MultiThread Mills

Terms of Payment and Delivery for Tool Deliveries*

Prices are ex works, excluding VAT, packing, freight, and insurance. Minimum value of order: 50.00 EURO. Orders above 50.00 EURO will be delivered free. For orders up to 50.00 EURO to be delivered within Germany we will charge a lump sum of 9.00 EURO for packing and freight. Packing and freight charges for deliveries abroad will be calculated on the actual expenses on the day of delivery. Fees for foreign payments have to be borne by the customer. On payment by direct debit we will grant a discount of 4%. These special terms of payment apply to tool deliveries only. Deliveries of other DATRON products are expressly excluded from these special conditions. DATRON offers and deliveries are subject to the "General Terms of Payment and Delivery".
Payments are to be made within 14 days on receipt of invoice less 2 % discount or within 30 days net.
*Exclusive VacuCard / VacuCard++

Every care has been taken that the information stated in this catalogue is correct at the time of publication. However, in the case of any information being incorrect no responsibility can be accepted by the company. At any time, information in this catalogue may be subject to technical alterations.

Catalogue, as of: November 2011

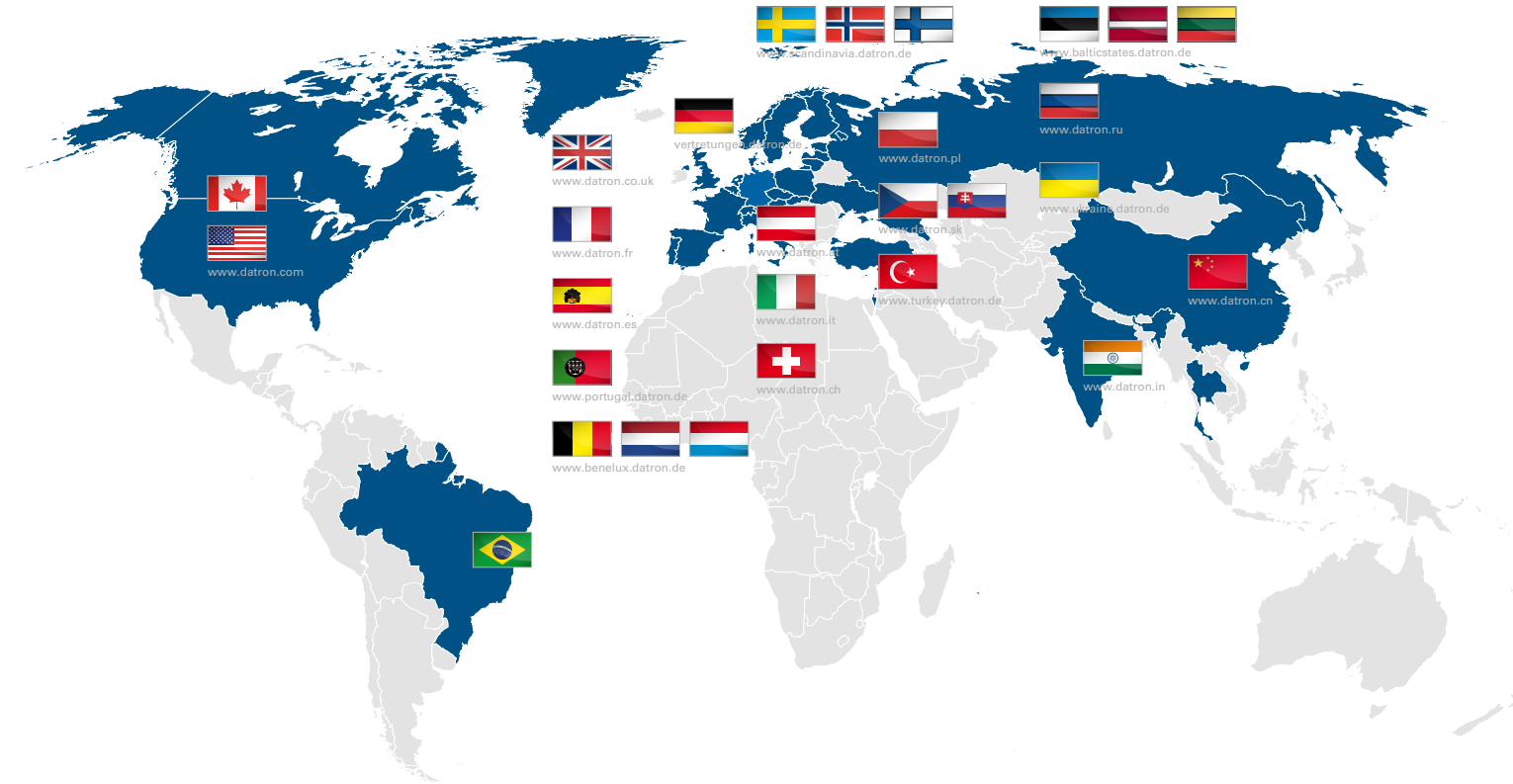
DATRON CNC Milling Tools

For more than 20 years DATRON has designed and supplied top-quality Solid Carbide tools.

As a manufacturer of high-precision CNC milling, drilling, engraving machines, cutting technology has always been a key issue of our research. The technological design and quality of the CNC tools determine to a large extent the economic efficiency and quality of the CNC machining process. This catalogue presents our latest product range.
As a result of our own development and research as well as our customers' experience we are able to offer you tools optimised for high-speed machining applications.

DATRON AG

DATRON has a worldwide presence!
For more than 20 years DATRON has designed and supplied top-quality Solid Carbide tools. DATRON distributes CNC milling tools via 6 national and 20 international agencies worldwide. Thereby DATRON is in a position to grant fast delivery, partly within 24 hours.*



* Only selected standard tools

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Quality and Precision "Made in Germany"

The tools are manufactured on top-of-the-range, fully automatic grinding machines which results in constant high quality and an excellent price/efficiency ratio. Permanent quality control and research on our inhouse milling machines – also under extreme milling conditions – are your guarantee for the extraordinary quality and efficiency of the DATRON tool.

- Development
- Testing
- Production
- Drilling from 0.1 mm
- Milling from 0.1 mm
- Thread milling from M1

Profitability:

Using DATRON's high-quality micrograin Solid Carbide tools will result in especially long tool life. The tool's efficiency is further increased by a new coating.

- Maximum milling ability
- Maximum tool life
- Maximum process reliability

DATRON Technology:

The cutting geometry of the DATRON milling tools contains the DATRON know-how of more than 20 years in HSC cutting. Constant advancement and optimisation stand for state-of-the-art tools.

- Intelligent geometry
- Latest grinding machines
- Top-quality micro-grain Solid Carbide

Individual Tool Service:

DATRON special-purpose tools will solve your machining problem! On the basis of your drawings or specifications we will manufacture a Solid Carbide special-purpose tool in the high DATRON quality you can expect. Here we offer e. g. special mills for musical instruments, multi-level drills and special tools for forms and moulds.

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ALCRONA Coating

Low frictional value and hot hardness

Layer properties	
Material	AlCrN
Micro hardness	3200 HV
Frictional value	0,35 (dry against steel)
Max. application temperature	1100°C
Colour	light-gray

Excellent wear-resistance, thermal shock stability and hot hardness – those are the properties, which have been decisively modified, in order to further improve the proven ALCRONA layer. By optimising the process parameters and modifying the layer structure, the performance profile of the new layer is significantly increased. ALCRONA is the new top allrounder in chip removal.

X.CEED Coating

Hardness and high coating adhesion

Layer properties	
Material	AlTiN
Micro hardness	3300 HV
Frictional value	0,4 (dry against steel)
Max. application temperature	900°C
Colour	blue-grey

Hardness, oxidation-resistance and thermal stability of X.CEED have been optimised for use in hard and high-speed machining. Even for high-strength and hard-to-cut materials, the layer protects against abrasion and adhesion over the entire cutting speed range. The good sliding properties reduce the cutting forces.

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ALDURA Coating – ALDURA Coating

Hardness and high coating adhesion

Layer properties	
Material	AlCrN-based
Micro hardness	3300 HV
Frictional value	0,35 - 0,40 (dry against steel)
Max. application temperature	>1100°C
Colour	blue-grey

The high-performance layer ALDURA has been purpose-fully developed for VHM shaft milling tools for roughing and finishing hardened steels and hard-to-cut materials. Decisive competitive advantages can be achieved in tool and die construction thanks to the cutting machining of steels with a hardness of > 60 HRC.

Diamond Coating

High hardness and chamical resistance

Layer properties	
Material	Diamond
Micro hardness	10.000 HV
Frictional value	0,40 (dry against steel)
Max. application temperature	700°C
Colour	dark-grey

The unique material properties of multilayer diamond coatings offer considerable performance potential, which can be used for machining graphite as well as carbide and ceramic green compacts. These highly abrasive materials can be machined very efficiently today, thanks to exactly constructed CVD diamond layers on carbide.

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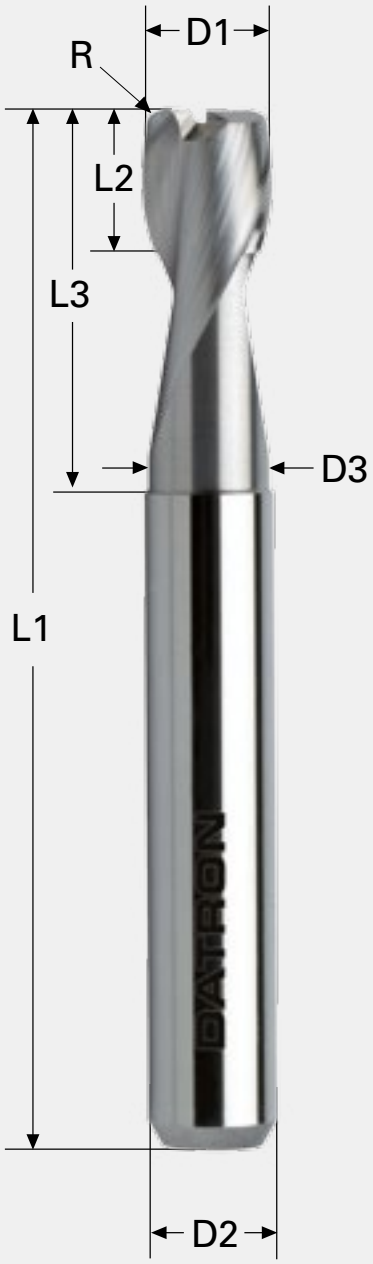
Do you need a special tool?
This is no problem at DATRON!
DATRON will produce individual tools for your special application starting from a batch size of 1 in a minimum amount of time. The tools are produced at top DATRON quality according to your drawings/specifications on the most modern, fully automatic grinding machines. A few examples for this are stepped milling tool, stepped drill, special die and micro tools.
Simply enter the desired characteristic data in the table below and send it to us via fax or e-mail.
Please note that we charge an additional machining fee for the regrinding service.

By fax to: +49 (0) 61 51 - 14 19 - 39
By e-mail to: mini-tools@datron.de



Name	Your individual data
Milling tool comparable with article number	**Art. No.:**
D1 Cutting edge diameter	
D2 Shaft diameter	
D3 Toric cut diameter	
L1 Total length	
L2 Cutting edge length	
L3 Effective length, toric cut	
R Radius	
CT Coating	

Remarks:

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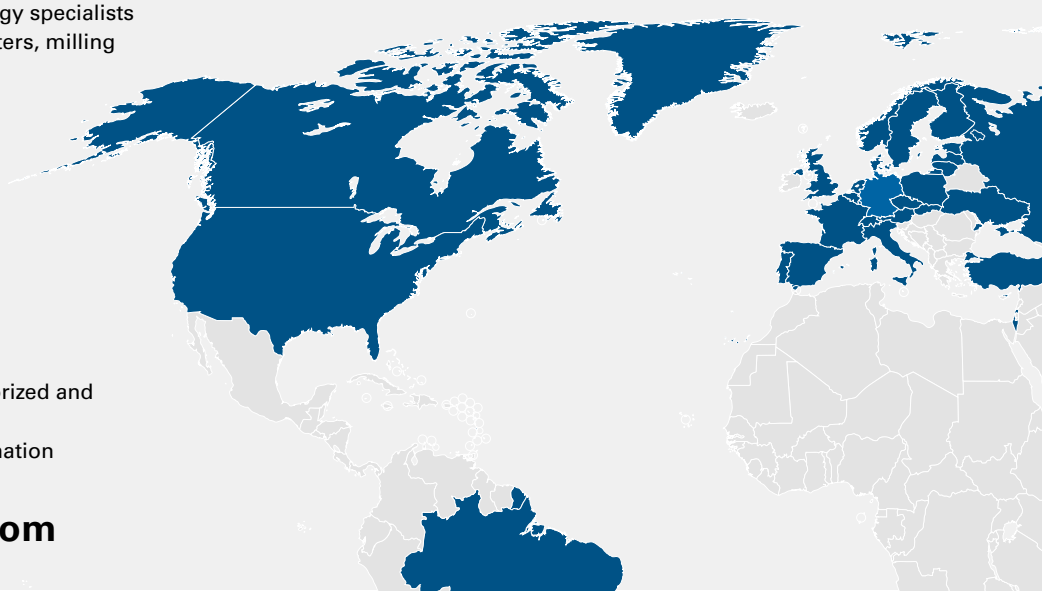
DATRON **Individual Consulting**

We'll be happy to advise you! Our technology specialists will help you choose the right tool, parameters, milling strategy or clamping technique.



DATRON tools are available from our authorized and technically experienced distributors.
For our latest survey with all contact information please refer to:

www.agencies.datron.com

DATRON tool consulting service:

Dipl.-Ing. (FH)
Sebastian Seelmann
Sales Manager International

+49 (0) 6151 - 1419 - 38

Do you need expert advice on the right choice of tools, milling parameters, strategy as well as standard or special-purpose tools? We look forward to your call!

by E-Mail:
sebastian.seelmann@datron.de

DATRON fax:
+49 (0) 6151 - 1419 - 39

DATRON Table of Abbreviations

Legend

Alu-minium	machinable materials		ball nose	DIN 6535 Form HB	shank form
1 flute	number of flutes		flute with edge radius		point angle
HRC <50	Steel hardness grade		sharp-edged flute		spiral angle
Micro Grain	solid carbide		feed direction		spherical geometry

D1	Flute Diameter
D2	Shank Diameter
D3	Toric Cut
L1	Total Length
L2	Flute Length
L3	Usable Length
α	Angle
R	Radius
CT	Coating
DG	Discount Group
C	Code
A/R	Angle/Radius

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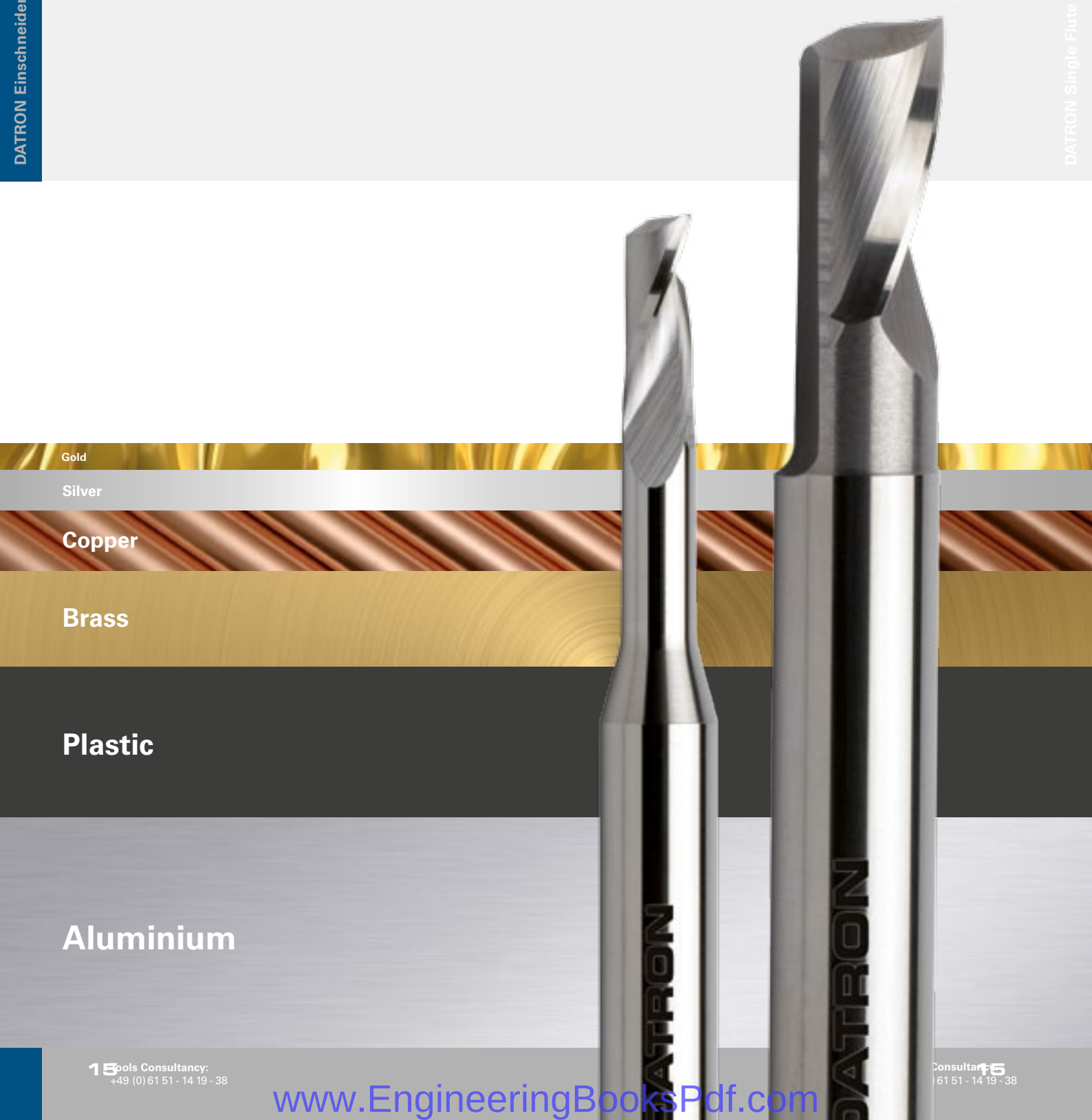
DATRON **Single Flute End Mill**

These tools are available with various cutting lengths and shank diameters. The balanced single flute end mill – an exclusive DATRON product.
Powerful, economical and patent panding.



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DATRON **Single Flute End Mill**

Alu-minium	Plastic
Brass	Copper
Gold	
1 flute	Micro Grain
30°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

This specially-cut end mill is designed for very fast feed rates and very high chip removal capacity.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068003E	**0.3**	3.0	40.0	1.0		2
0068004E	**0.4**	3.0	40.0	1.0		1
0068005E	**0.5**	3.0	40.0	1.5		1
0068006E	**0.6**	3.0	40.0	2.5		1
0068606E	**0.6**	3.175	40.0	2.5		1
0068008E	**0.8**	3.0	40.0	3.0		1
0068608E	**0.8**	3.175	40.0	3.0		1
0068010E	**1.0**	3.0	40.0	4.0		1
0068610E	**1.0**	3.175	40.0	3.0		1
0068410E	**1.0**	6.0	50.0	4.0		2
0068612E	**1.2**	3.175	40.0	4.0		1
0068015E	**1.5**	3.0	40.0	5.0		1
0068615E	**1.5**	3.175	40.0	4.0		1
0068415Y	**1.5**	4.0	40.0	5.0		2
0068415E	**1.5**	6.0	50.0	7.0		2
0068415A	**1.5**	6.0	50.0	3.0		2
0078415E	**1.5**	6.0	58.0	7.0		2
0068016E	**1.6**	3.0	38.0	5.0		1
0068020G	**2.0**	3.0	40.0	6.0		2
0068020E	**2.0**	3.0	40.0	8.0		1
0068020L	**2.0**	3.0	40.0	10.0		1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068620G	**2.0**	3.175	40.0	5.0		1
0068620E	**2.0**	3.175	40.0	8.0		1
0068620F	**2.0**	3.175	40.0	11.5		1
0068432Y	**2.0**	4.0	40.0	8.0		2
0068432A	**2.0**	6.0	50.0	5.0		2
0068432E	**2.0**	6.0	50.0	7.0		2
0068932E	**2.0**	6.0	50.0	7.0	x	2
0068432L	**2.0**	6.0	50.0	12.0		2
0078420E	**2.0**	6.0	58.0	7.0		2
0068024E	**2.4**	3.0	40.0	8.0		1
0068624E	**2.4**	3.175	40.0	8.0		1
0068024L	**2.4**	3.0	40.0	10.0		2
0078424E	**2.4**	6.0	50.0	8.0		2
0068425A	**2,5**	6.0	50.0	5.0		2
0078425E	**2,5**	6.0	58.0	8.0		2
0068030E	**3.0**	3.0	40.0	10.0		1
0068030Y	**3.0**	3.0	65.0	10.0		2
0068630E	**3.0**	3.175	40.0	9.0		1
0068630F	**3.0**	3.175	40.0	11.5		1
0068430Y	**3.0**	4.0	40.0	10.0		2
0068430A	**3.0**	6.0	50.0	5.0		2

DG = Discount Group **CT** = Alcrona Coating

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DATRON **Single Flute End Mill**

- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

This specially-cut end mill is designed for very fast feed rates and very high chip removal capacity.

Alu-minium | Plastic | Brass | Copper | Gold

1 flute | Micro Grain

30°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068430E	3.0	6.0	50.0	8.0		2
0068930E	3.0	6.0	50.0	8.0	x	2
0068430S	3.0	6.0	50.0	10.0		2
0068930S	3.0	6.0	50.0	10.0	x	2
0068430L	3.0	6.0	50.0	12.0		2
0068930L	3.0	6.0	50.0	12.0	x	2
0078430E	3.0	6.0	58.0	8.0		2
0078430S	3.0	6.0	58.0	10.0		2
0078435E	3.5	6.0	58.0	10.0		2
0068434Y	4.0	4.0	40.0	10.0		2
0068434Z	4.0	6.0	45.0	14.0		2
0068434A	4.0	6.0	50.0	5.0		2
0068434B	4.0	6.0	50.0	7.0		2
0068434E	4.0	6.0	50.0	10.0		2
0068934E	4.0	6.0	50.0	10.0	x	2
0068434L	4.0	6.0	50.0	12.0		2
0068934S	4.0	6.0	50.0	14.0		2
0078440E	4.0	6.0	58.0	10.0		2
0078440L	4.0	6.0	58.0	18.0		2
0068934L	4.0	6.0	58.0	20.0	x	2
0068434S	4.0	6.0	60.0	14.0		2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068435B	5.0	6.0	50.0	8.0		2
0068435E	5.0	6.0	50.0	12.0		2
0068935E	5.0	6.0	50.0	12.0	x	2
0068435L	5.0	6.0	60.0	22.0		2
0068935L	5.0	6.0	60.0	22.0	x	2
0068460C	6.0	6.0	50.0	8.0		2
0068460E	6.0	6.0	50.0	14.0		2
0068960E	6.0	6.0	50.0	14.0	x	2
0068460L	6.0	6.0	60.0	20.0		2
0068960L	6.0	6.0	60.0	20.0	x	2
0068460A	6.0	6.0	60.0	25.0		2
0068460B	6.0	6.0	65.0	30.0		2
0068079E	7.0	8.0	60.0	14.0		2
0068080E	8.0	8.0	60.0	14.0		2
0068080L	8.0	8.0	60.0	20.0		2
0068080A	8.0	8.0	60.0	25.0		2
0068080B	8.0	8.0	80.0	32.0		2
0068470E	10.0	10.0	60.0	20.0		2
0068470L	10.0	10.0	100.0	40.0		2

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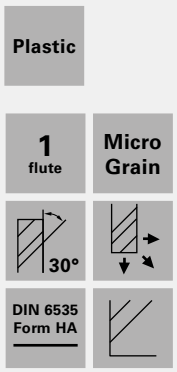
DATRON **Single Flute End Mill** with Polished Cutting Edge



- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

For this tool, optimised for plastic machining, in addition to the additional polish-grinding, the cutting geometry was also reworked, the cutting angles are now designed much sharper. Compared to universal single-flutes, this leads to a considerably more sharp cutting edge. With this, top-quality surface results can be realised on plastic contours.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG DG
0078320E	**2.0**	6.0	50.0	7.0	2
0078330E	**3.0**	6.0	50.0	8.0	2
0078334E	**4.0**	6.0	50.0	10.0	2
0078335E	**5.0**	6.0	50.0	12.0	2
0078360E	**6.0**	6.0	50.0	14.0	2

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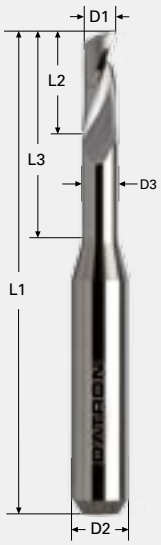
DATRON **Single Flute End Mill with Toric Cut**

- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA
- toric cut

With this specially ground milling tool, you can perform particularly deep milling work with high feed rates in the material. The large chip groove allows optimal chip removal.



Alu-minium | Plastic
Brass | Copper
Gold

1 flute | Micro Grain

30°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	DG
0068492K	**2.0**	6.0	1.8	50.0	4.0	12.00	2
0068492E	**2.0**	6.0	1.8	50.0	7.0	12.00	2
0068493K	**3.0**	6.0	2.8	50.0	4.0	14.00	2
0068493E	**3.0**	6.0	2.8	50.0	8.0	14.00	2
0068493D	**3.0**	6.0	2.8	50.0	4.0	17.00	2
0068493S	**3.0**	6.0	2.8	50.0	8.0	17.00	2
0068493F	**3.0**	6.0	2.8	50.0	4.0	21.00	2
0068493L	**3.0**	6.0	2.8	50.0	8.0	21.00	2
0068494K	**4.0**	6.0	3.8	50.0	5.0	18.00	2
0068494E	**4.0**	6.0	3.8	50.0	10.0	18.00	2
0068494D	**4.0**	6.0	3.8	50.0	5.0	21.00	2
0068494S	**4.0**	6.0	3.8	50.0	10.0	21.00	2
0068495K	**5.0**	6.0	4.8	60.0	5.0	22.00	2
0068495E	**5.0**	6.0	4.8	50.0	12.0	22.00	2
0068496K	**6.0**	6.0	5.8	60.0	5.0	24.00	2
0068496E	**6.0**	6.0	5.8	50.0	14.0	24.00	2
0068496F	**6.0**	6.0	5.8	60.0	5.0	30.00	2
0068496L	**6.0**	6.0	5.8	60.0	14.0	30.00	2

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DATRON **Single Flute End Mill,** Specially Balanced

Alu-minium	Plastic
Brass	Copper
Gold	
1 flute	Micro Grain
30°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA
- specially balanced
- toric cut

This balanced specially balanced end mill is designed for high revolutions, very fast feed rates and has a very high chip removal capacity.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	DG
0068085E	**5.0**	6.0	4.8	50.0	8.0	13.0	2
0068085S	**5.0**	8.0	4.8	50.0	8.0	13.0	2
0068086E	**6.0**	6.0	5.5	50.0	10.0	16.0	2
0068086S	**6.0**	8.0	5.5	50.0	10.0	16.0	2
0068086L	**6.0**	6.0	5.5	50.0	16.0	23.0	2
0068086X	**6.0**	6.0	5.5	55.0	21.0	27.0	2
0068088K	**8.0**	8.0	7.4	50.0	8.0	12.0	2
0068088E	**8.0**	8.0	7.4	60.0	14.0	22.0	2
0068088S	**8.0**	8.0	7.4	60.0	21.0	31.0	2
0068088L	**8.0**	8.0	7.4	60.0	26.0	34.0	2
0068080D	**8.0**	8.0	7.4	70.0	13.0	42.0	2
0068088X	**8.0**	8.0	7.4	70.0	31.0	42.0	2
0068090K	**10.0**	10.0	9.2	50.0	10.0	15.0	2
0068090E	**10.0**	10.0	9.2	60.0	17.0	27.0	2
0068090L	**10.0**	10.0	9.2	60.0	26.0	33.0	2
0068090X	**10.0**	10.0	9.2	70.0	32.0	42.0	2
0068090S	**10.0**	10.0	9.2	80.0	17.0	52.0	2

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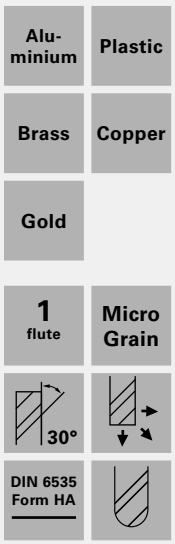
DATRON **Single Flute End Mill with Ball Nose**

- Micrograin solid carbide end mill
- with single flute and radius bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

With this specially ground milling tool, with a small flute and ball nose end very outstanding results can be performed with high feed rates in the material. The large chip groove allows for optimal chip removal and an excellent surface finish.



Art. No.	D1 (mm)	D2 (mm)	R (mm)	L1 (mm)	L2 (mm)	DG
0068172E	2.0	6.0	1.0	50.0	7.0	2
0068173E	3.0	6.0	1.5	50.0	8.0	2
0068174E	4.0	6.0	2.0	50.0	10.0	2
0068175E	5.0	6.0	2.5	50.0	12.0	2
0068176E	6.0	6.0	3.0	50.0	14.0	2
0068178E	8.0	8.0	4.0	60.0	14.0	2
0068179E	10.0	10.0	5.0	60.0	20.0	2

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DATRON **Single Flute End Mill,** Left Hand Spiral, Right Hand Cutting

Alu-minium	Plastic
Brass	Copper
Gold	
1 flute	Micro Grain
30°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with single flute and flat bottom
- 30° Downcut spiral
- shank without clamping surface DIN 6535-HA

Due to the downcut spiral, the cutting pressure during milling is exerted downward, preventing especially delicate work pieces from being lifted.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068471E	**1.5**	6.0	50.0	7.0	2
0068472E	**2.0**	6.0	50.0	7.0	2
0068473E	**3.0**	6.0	50.0	8.0	2
0068474E	**4.0**	6.0	50.0	10.0	2
0068475E	**5.0**	6.0	50.0	12.0	2
0068476E	**6.0**	6.0	50.0	14.0	2
0068476L	**6.0**	6.0	60.0	20.0	2

DG = Discount Group

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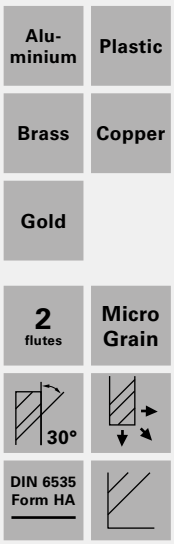
DATRON **Double Flute End Mill**

DATRON double flute end mills are available in special models.
With extra short cutting edge, toric cut, or stepped.
New DATRON products: coated micro-tools for steel machining with extra short flutes.

DATRON **Double Flute End Mill, 3 mm Shank**



- Micrograin solid carbide end mill
- with double flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

Compared to tools of a standard flute length, the tools with a specially short flute (Article Nos "K") are much more robust and have a longer tool life.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
00680010	**0.1**	3.0	40.0	0.2	2
00680020	**0.2**	3.0	40.0	0.4	2
00680025	**0.25**	3.0	40.0	0.4	2
0068003	**0.3**	3.0	40.0	0.9	2
0068004K	**0.4**	3.0	40.0	0.6	2
0068004	**0.4**	3.0	40.0	2.5	2
0068604	**0.4**	3.175	38.0	2.5	2
0068005K	**0.5**	3.0	40.0	1.0	2
0068005	**0.5**	3.0	40.0	2.5	2
0068605	**0.5**	3.175	38.0	3.0	2
0068006K	**0.6**	3.0	40.0	1.0	2
0068006	**0.6**	3.0	40.0	3.0	1
0068606	**0.6**	3.175	40.0	3.0	1
0068008	**0.8**	3.0	40.0	4.0	1
0068608	**0.8**	3.175	40.0	5.0	1
0068009	**0.9**	3.0	40.0	5.0	1
0068609	**0.9**	3.175	40.0	5.0	1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068010S	**1.0**	3.0	40.0	2.3	1
0068010K	**1.0**	3.0	40.0	3.0	1
0068010	**1.0**	3.0	40.0	5.0	1
0068010L	**1.0**	3.0	40.0	8.0	2
0068610K	**1.0**	3.175	40.0	3.0	1
0068610	**1.0**	3.175	40.0	4.0	1
0068012S	**1.2**	3.0	38.0	2.3	1
0068012	**1.2**	3.0	40.0	5.0	1
0068613	**1.3**	3.175	38.0	5.0	1
0068612	**1.2**	3.175	40.0	5.0	1
0068015	**1.5**	3.0	40.0	5.0	1
0068615	**1.5**	3.175	40.0	6.0	1
0068015S	**1.5**	3.0	38.0	10.0	2
0068016	**1.6**	3.0	38.0	6.0	1
0068616	**1.6**	3.175	38.0	6.0	1
0068617	**1.7**	3.175	38.0	6.0	1

DG = Discount Group

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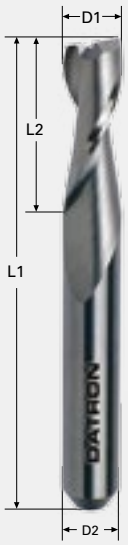
DATRON **Double Flute End Mill, 3 mm Shank**

- Micrograin solid carbide end mill
- with double flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

Compared to tools of a standard flute length, the tools with a specially short flute (Article Nos “K”) are much more robust and have a longer tool life.



Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain | 30° | DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068618	**1.8**	3.175	38.0	6.0	1
0068020K	**2.0**	3.0	40.0	4.0	1
0068020	**2.0**	3.0	40.0	9.0	1
0068620K	**2.0**	3.175	40.0	4.0	1
0068620	**2.0**	3.175	40.0	8.0	1
0068024K	**2.4**	3.0	40.0	5.0	1
0068024	**2.4**	3.0	40.0	8.0	1
0068624K	**2.4**	3.175	40.0	5.0	1
0068624	**2.4**	3.175	40.0	8.0	1
0068030K	**3.0**	3.0	40.0	6.0	1
0068030A	**3.0**	3.0	40.0	10.0	1
0068030L	**3.0**	3.0	40.0	12.0	2
0068030X	**3.0**	3.0	60.0	25.0	2
0068630K	**3.0**	3.175	40.0	6.0	1
0068630	**3.0**	3.175	40.0	10.0	1

DG = Discount Group

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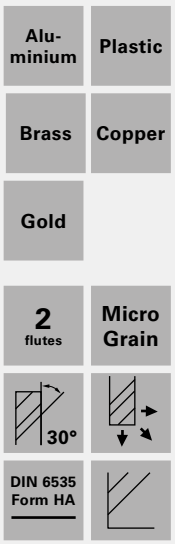
DATRON **Double Flute End Mill, 6 mm Shank**



- Micrograin solid carbide end mill
- with double flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

Compared to tools of a standard flute length, the tools with a specially short flute (Article Nos "K") are much more robust and have a longer tool life.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068430K	**3.0**	6.0	40.0	6.0	2
0068430	**3.0**	6.0	50.0	7.0	2
0068430G	**3.0**	6.0	50.0	11.0	2
0068434K	**4.0**	6.0	40.0	6.0	2
0068434	**4.0**	6.0	50.0	8.0	2
0068435K	**5.0**	6.0	40.0	6.0	2
0068435A	**5.0**	6.0	50.0	8.0	2
0068435	**5.0**	6.0	50.0	10.0	2
0068460Y	**6.0**	6.0	40.0	6.0	2
0068460K	**6.0**	6.0	50.0	10.0	2
0068460	**6.0**	6.0	50.0	18.0	2
0068460G	**6.0**	6.0	60.0	20.0	2
0068460X	**6.0**	6.0	75.0	30.0	2
0068460W	**6.0**	6.0	75.0	40.0	2
0068460Z	**6.0**	6.0	100.0	40.0	2
0068081L	**8.0**	8.0	60.0	32.0	2
0068081	**8.0**	8.0	63.0	16.0	2
0068082	**8.0**	8.0	100.0	40.0	2
0068100	**10.0**	10.0	40.0	10.0	2
0068100A	**10.0**	10.0	72.0	25.0	2

DG = Discount Group

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DATRON **Double Flute End Mill** with Edge Radius

- Micrograin solid carbide end mill
- with double flute and flat bottom
- edge radius
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

This tool has an edge radius, which increases the tool life.
Models with toric cut have a large useable depth.

Alu-minium | Plastic
Brass | Copper
Gold

2 flutes | Micro Grain

30°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	R (mm)	DG
0068460S	**6.0**	6.0	50.0	6.0	0.5	2
0068080K	**8.0**	8.0	50.0	12.0	1.0	2
0068442	**12.0**	6.0	50.0	6.0	0.5	2
0068443	**14.0**	8.0	50.0	6.0	0.5	2
0068444	**20.0**	8.0	50.0	8.0	0.5	2
0068442S	Regrind service up to 12 mm					
0068443S	Regrind service up to 20 mm					

DG = Discount Group

Tools Consultancy:
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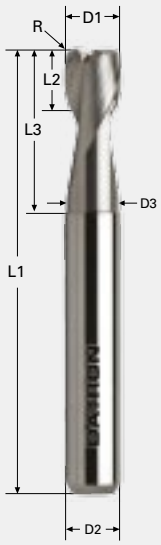
DATRON **Double Flute End Mill** with Edge Radius

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
25°	
DIN 6535 Form HA	



- Micrograin solid carbide end mill
- with double flute and flat bottom
- edge radius
- 25° upcut spiral
- shank without clamping surface DIN 6535-HA

This tool has an edge radius, which increases the tool life.
Models with toric cut have a large useable depth.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	CT	R (mm)	DG
00781043	**3.0**	3.0	2.7	50.0	4.0	14.0	x	0.3	2
00781063	**3.0**	3.0	2.7	50.0	4.0	14.0	x	1.0	2
00781044	**4.0**	4.0	3.7	50.0	5.0	16.0	x	0.4	2
00781064	**4.0**	4.0	3.7	50.0	5.0	16.0	x	1.0	2
00781045	**5.0**	5.0	4.6	54.0	6.0	18.0	x	0.5	2
00781065	**5.0**	5.0	4.6	54.0	6.0	18.0	x	1.0	2
0068460F	**6.0**	6.0	5.8	50.0	7.0	21.0		1.0	2
00781046	**6.0**	6.0	5.5	58.0	7.0	21.0	x	0.5	2
00781066	**6.0**	6.0	5.5	58.0	7.0	21.0	x	1.0	2
0068080	**8.0**	8.0	7.8	60.0	9.0	23.0		1.0	2
00781048	**8.0**	8.0	7.4	63.0	9.0	27.0	x	0.5	2
00781068	**8.0**	8.0	7.4	63.0	9.0	27.0	x	1.0	2
00781050	**10.0**	10.0	9.2	72.0	11.0	32.0	x	0.5	2
00781070	**10.0**	10.0	9.2	72.0	11.0	32.0	x	1.0	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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DATRON **Double Flute End Mill, Stepped**

- Micrograin solid carbide end mill
- with double flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

With stepped double flute end mills, the cutting edge diameter is considerably larger than the shaft diameter. This tool is ideally suited for milling over. With high feed rates and low infeed, large surfaces can be milled over in a short time. Due to the sharp-edged corners, it is also possible to perform contour machining.

Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain

30°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0078806	**6.0**	6.0	60.0	10.0	2
0068441	**8.0**	6.0	50.0	10.0	2
0078808	**8.0**	8.0	60.0	10.0	2
0078808R	**8.0**	8.0	60.0	12.0	2
0068440	**10.0**	6.0	50.0	10.0	2
0078810	**10.0**	10.0	50.0	10.0	2
0078810L	**10.0**	10.0	70.0	35.0	2
0068083	**10.0**	10.0	100.0	40.0	2
0068442G	**12.0**	6.0	50.0	6.0	2
0078812A	**12.0**	10.0	50.0	10.0	2
0078812	**12.0**	12.0	50.0	10.0	2
0078812L	**12.0**	12.0	50.0	20.0	2
0078812B	**12.0**	12.0	70.0	30.0	2
0068442A	**14.0**	6.0	50.0	6.0	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068443G	14.0	8.0	50.0	6.0	2
0078814A	14.0	10.0	50.0	10.0	2
0078814	14.0	12.0	50.0	10.0	2
0078816A	16.0	10.0	50.0	10.0	2
0078816B	16.0	10.0	50.0	6.0	2
0078816C	16.0	10.0	125.0	10.0	2
0078816	16.0	12.0	50.0	10.0	2
0078818A	18.0	10.0	50.0	10.0	2
0078818B	18.0	10.0	125.0	10.0	2
0078818	18.0	12.0	50.0	10.0	2
0068444G	20.0	8.0	50.0	8.0	2
0078820A	20.0	10.0	50.0	10.0	2
0078820	20.0	12.0	50.0	10.0	2

DG = Discount Group

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DATRON **Double Flute End Mill with Toric Cut**

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with two flutes and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA
- toric cut

The shank's toric cut permits deeper machining.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)		DG
00781005	**0.5**	3.0	0.45	40.0	0.75	4.0		2
00781006	**0.6**	3.0	0.55	40.0	0.90	4.0		2
00781007	**0.7**	3.0	0.65	40.0	1.05	4.0		2
00781008	**0.8**	3.0	0.75	40.0	1.20	6.0		2
00781009	**0.9**	3.0	0.85	40.0	1.30	6.0		2
00781010	**1.0**	3.0	0.95	40.0	1.50	6.0		2
00781011	**1.0**	3.0	0.95	40.0	1.50	9.0		2
00781012	**1.2**	3.0	1.15	40.0	1.80	9.0		2
00781015	**1.5**	3.0	1.45	40.0	2.2	9.0		2
00781020	**2.0**	3.0	1.95	40.0	3.0	12.0		2
00781034	**4.0**	6.0	3.80	50.0	8.0	16.0		2
00781035	**6.0**	6.0	5.60	125.0	20	105.0	for Rigid Foam	2
00781036	**6.0**	6.0	5.70	60.0	20.0	33.0		2
00781001	**10.0**	10.0	9.40	125.0	20.0	105.0	for Rigid Foam	2

DG = Discount Group

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DATRON **Double Flute End Mill,** Contour Milling

- Micrograin solid carbide end mill
- with two flutes and flat bottom
- 45° upcut spiral
- shank without clamping surface DIN 6535-HA

Thanks to the 45° upcut spiral these tools are specially suited for the machining of contours.

Alu-minium | Plastic
Brass | Copper
Gold
2 flutes | Micro Grain
45°
DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068033	**3.0**	6.0	57.0	8.0	2
0068034	**4.0**	6.0	57.0	11.0	2
0068035	**5.0**	6.0	57.0	13.0	2
0068036	**6.0**	6.0	57.0	13.0	2
0068040	**8.0**	8.0	60.0	20.0	2
0068041	**8.0**	8.0	60.0	25.0	2
0068042	**10.0**	10.0	70.0	25.0	2
0068043	**12.0**	12.0	70.0	25.0	2

DG = Discount Group

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DATRON **Double Flute End Mill, HSC+**

Alu-minium	Plastic
Brass	Copper
2 flutes	Micro Grain
15°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with double flute and flat bottom
- 15° upcut spiral
- shank without clamping surface DIN 6535-HA

The special feature of this mill is the steep upcut angle. The chips are removed very quickly from the work piece. In many cases this results in extremely high feed rates.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG DG
0068815A	**1.5**	3.0	40.0	6.0	2
0068815	**1.5**	3.175	40.0	6.0	2
0068866	**1.9**	6.0	50.0	6.0	2
0068820A	**2.0**	3.0	40.0	6.0	2
0068820	**2.0**	3.175	40.0	6.0	2
0068862K	**2.0**	6.0	50.0	4.0	2
0068862	**2.0**	6.0	50.0	6.0	2
0068824	**2.4**	3.175	40.0	8.0	2
0068867	**2.4**	6.0	50.0	5.0	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG DG
0068830A	**3.0**	3.0	40.0	10.0	2
0068830K	**3.0**	3.175	40.0	6.0	2
0068830	**3.0**	3.175	40.0	10.0	2
0068863K	**3.0**	6.0	50.0	6.0	2
0068863	**3.0**	6.0	50.0	10.0	2
0068864	**4.0**	6.0	50.0	8.0	2
0068865	**5.0**	6.0	50.0	10.0	2
0068860K	**6.0**	6.0	50.0	7.0	2
0068860	**6.0**	6.0	50.0	12.0	2

DG = Discount Group

Tools Consultancy:
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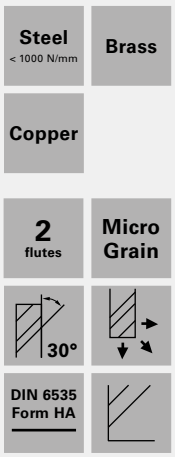
DATRON **Double Flute End Mill** for Steel Machining

- Micrograin solid carbide end mill
- with double flute and flat bottom
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

The cutting geometry of these micro tools is designed for Steel machining. In combination with the standard X.CEED coating, these tools have a high tool life and provide excellent surface quality.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078009K	**0.9**	3.0	38.0	1.8	x	2
0078010K	**1.0**	3.0	38.0	2.0	x	2
0078011K	**1.1**	3.0	38.0	2.2	x	2
0078012K	**1.2**	3.0	38.0	2.4	x	2
0078013K	**1.3**	3.0	38.0	2.6	x	2
0078014K	**1.4**	3.0	38.0	2.8	x	2
0078015K	**1.5**	3.0	38.0	3.0	x	2
0078016K	**1.6**	3.0	38.0	3.2	x	2
0078017K	**1.7**	3.0	38.0	3.4	x	2
0078018K	**1.8**	3.0	38.0	3.6	x	2
0078019K	**1.9**	3.0	38.0	4.0	x	2
0078020K	**2.0**	3.0	38.0	6.0	x	2
0078025K	**2.5**	3.0	38.0	7.0	x	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078009S	**0.9**	3.0	38.0	1.1	x	2
0078010S	**1.0**	3.0	38.0	1.2	x	2
0078011S	**1.1**	3.0	38.0	1.2	x	2
0078012S	**1.2**	3.0	38.0	1.2	x	2
0078013S	**1.3**	3.0	38.0	1.2	x	2
0078014S	**1.4**	3.0	38.0	1.4	x	2
0078015S	**1.5**	3.0	38.0	1.4	x	2
0078016S	**1.6**	3.0	38.0	1.4	x	2
0078017S	**1.7**	3.0	38.0	1.4	x	2
0078018S	**1.8**	3.0	38.0	1.5	x	2
0078019S	**1.9**	3.0	38.0	1.5	x	2
0078020S	**2.0**	3.0	38.0	1.8	x	2
0078025S	**2.5**	3.0	38.0	2.0	x	2

DG = Discount Group **CT** = X.CEED Coating

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DATRON Three, Four, Six, Eight and Twelve Flute End Mill

Whether with three, four, six, eight or twelve cutting edges – all DATRON tools developed for Steel machining have a stable cutting geometry and heavy-duty coatings.

Consultancy:
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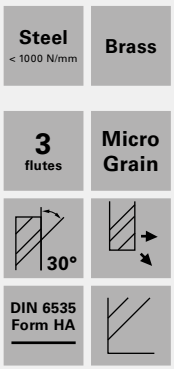
DATRON **Triple Flute End Mill**



- Micrograin solid carbide end mill
- with three flutes
- 30° upcut spiral
- shank without clamping surface DIN 6535-HA

This SC end mill has a very short flute length and a special coating, which results in a very long tool life.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068551	**1.75**	3.0	40.0	3.0	x	2
0068552	**2.0**	6.0	50.0	6.0	x	2
0068553	**3.0**	6.0	50.0	6.0	x	2
0068554	**4.0**	6.0	50.0	8.0	x	2
0068555	**5.0**	6.0	50.0	10.0	x	2
0068556	**6.0**	6.0	50.0	10.0	x	2

DG = Discount Group **CT** = X.CEED Coating

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DATRON **Triple Flute End Mill with Toric Cut**

- Micrograin solid carbide end mill
- with three flutes and flat bottom
- 45° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with one long flute

Thanks to the toric cut these tools are specially suited for the machining without interfering contour.

Alu-minium | Brass | Copper | 3 flutes | Micro Grain | 45° | DIN 6535 Form HB

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	DG
0068033A	**3.0**	6.0	2.8	58.0	8.0	12.00	2
0068034A	**4.0**	6.0	3.8	58.0	11.0	16.00	2
0068035A	**5.0**	6.0	4.8	58.0	13.0	19.00	2
0068036A	**6.0**	6.0	5.7	58.0	13.0	19.00	2
0068040A	**8.0**	8.0	7.8	63.0	19.0	27.00	2
0068042A	**10.0**	10.0	9.8	72.0	22.0	32.00	2
0068043A	**12.0**	12.0	11.8	83.0	26.0	38.00	2

DG = Discount Group

Tools Consultancy:
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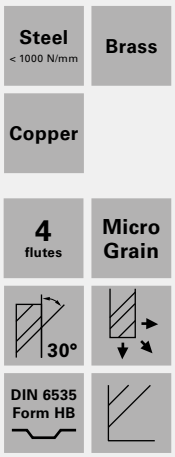
DATRON **Four Flute End Mill,** short version



- Micrograin solid carbide end mill
- with four flutes
- 30° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut

This SC end mill has a very short flute length and a special coating, which results in a very long tool life.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078402	**2.0**	6.0	50.0	7.0	x	2
00784025	**2.5**	6.0	50.0	8.0	x	2
0078403	**3.0**	6.0	58.0	8.0	x	2
00784035	**3.5**	6.0	58.0	10.0	x	2
0078404	**4.0**	6.0	58.0	11.0	x	2
00784045	**4.5**	6.0	58.0	11.0	x	2
0078405	**5.0**	6.0	58.0	13.0	x	2
00784055	**5.5**	6.0	58.0	13.0	x	2
0078406	**6.0**	6.0	58.0	13.0	x	2
00784065	**6.5**	8.0	63.0	16.0	x	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078407	**7.0**	8.0	63.0	16.0	x	2
0078408	**8.0**	8.0	63.0	18.0	x	2
0078409	**9.0**	10.0	72.0	19.0	x	2
0078410	**10.0**	10.0	72.0	22.0	x	2
0078412	**12.0**	12.0	83.0	26.0	x	2
0078414	**14.0**	14.0	83.0	26.0	x	2
0078416	**16.0**	16.0	92.0	32.0	x	2
0078418	**18.0**	18.0	92.0	32.0	x	2
0078420	**20.0**	20.0	104.0	38.0	x	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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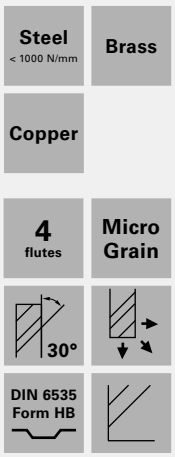
DATRON **DATRON Four Flute End Mill,** long version

- Micrograin solid carbide end mill
- with four flutes
- 30° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with two long front side flutes

Thanks to the long flute length thick materials can be very well machined. As a standard, these tools are supplied with an Alcrona coating.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078403A	**3.0**	6.0	57.0	19.0	x	2
0078404A	**4.0**	6.0	57.0	19.0	x	2
0078404B	**4.0**	6.0	75.0	25.0	x	2
0078405A	**5.0**	6.0	75.0	30.0	x	2
0078406A	**6.0**	6.0	75.0	30.0	x	2
0078406B	**6.0**	6.0	100.0	40.0	x	2
0078408A	**8.0**	8.0	75.0	30.0	x	2
0078410A	**10.0**	10.0	75.0	30.0	x	2
0078410B	**10.0**	10.0	100.0	40.0	x	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078412A	**12.0**	12.0	100.0	45.0	x	2
0078412B	**12.0**	12.0	150.0	65.0	x	2
0078414A	**14.0**	14.0	100.0	45.0	x	2
0078416A	**16.0**	16.0	100.0	45.0	x	2
0078416B	**16.0**	16.0	150.0	65.0	x	2
0078418A	**18.0**	18.0	100.0	45.0	x	2
0078420A	**20.0**	20.0	100.0	45.0	x	2
0078420B	**20.0**	20.0	150.0	65.0	x	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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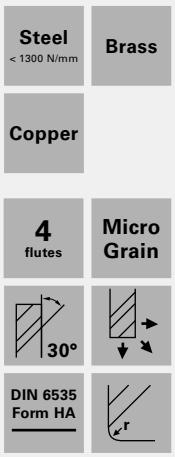
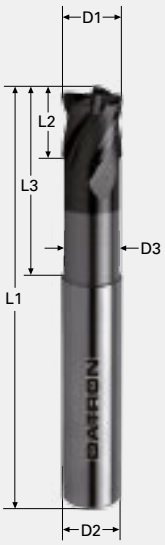
DATRON **Four Flute End Mill with Edge Radius**





- Micrograin solid carbide end mill
- with four flutes
- 30° upcut spiral
- edge radius
- shank without clamping surface DIN 6535-HA
- centre cut
- toric cut

The special characteristics of this end mill are the rounded edges and the standard toric cut. These tools have a special X.CEED coating.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
0078620	**2.0**	6.0	1.8	50.0	4.0	12.0	0.2	x	2
0078623	**3.0**	6.0	2.7	50.0	4.0	14.0	0.3	x	2
0078624	**4.0**	6.0	3.7	50.0	5.0	16.0	0.4	x	2
0078625	**5.0**	6.0	4.6	54.0	6.0	18.0	0.5	x	2
0078625A	**5.0**	6.0	4.6	54.0	6.0	18.0	1.0	x	2
0078626	**6.0**	6.0	5.5	57.0	7.0	21.0	0.5	x	2
0078626A	**6.0**	6.0	5.5	57.0	7.0	21.0	1.0	x	2
0078628	**8.0**	8.0	7.4	63.0	9.0	27.0	0.5	x	2
0078628A	**8.0**	8.0	7.4	63.0	9.0	27.0	1.0	x	2
0078630	**10.0**	10.0	9.2	72.0	11.0	32.0	0.5	x	2
0078630A	**10.0**	10.0	9.2	72.0	11.0	32.0	1.0	x	2

DG = Discount Group **CT** = X.CEED Coating

Tools Consultancy:
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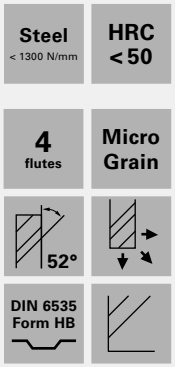
DATRON **Four Flute End Mill,** Contour Milling

- Micrograin solid carbide end mill
- with four flutes
- 52° upcut spiral
- special chip space cavities
- radial under cut
- shank with clamping surface DIN 6535-HB
- centre cut

This SC end mill has a very short flute length and a X.CEED coating, which results in a very long tool life.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078424	**4.0**	6.0	54.0	8.0	x	2
0078424A	**4.0**	6.0	57.0	11.0	x	2
0078425	**5.0**	6.0	54.0	9.0	x	2
0078425A	**5.0**	6.0	57.0	13.0	x	2
0078426	**6.0**	6.0	54.0	10.0	x	2
0078426A	**6.0**	6.0	57.0	13.0	x	2
0078428	**8.0**	8.0	58.0	12.0	x	2
0078428A	**8.0**	8.0	63.0	19.0	x	2
0078430	**10.0**	10.0	66.0	14.0	x	2
0078430A	**10.0**	10.0	72.0	22.0	x	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078432	**12.0**	12.0	73.0	16.0	x	2
0078432A	**12.0**	12.0	83.0	26.0	x	2
0078434	**14.0**	14.0	75.0	18.0	x	2
0078434A	**14.0**	14.0	83.0	26.0	x	2
0078436	**16.0**	16.0	82.0	22.0	x	2
0078436A	**16.0**	16.0	92.0	32.0	x	2
0078438	**18.0**	18.0	84.0	24.0	x	2
0078438A	**18.0**	18.0	92.0	32.0	x	2
0078440	**20.0**	20.0	92.0	26.0	x	2
0078440A	**20.0**	20.0	104.0	38.0	x	2

DG = Discount Group **CT** = X.CEED Coating

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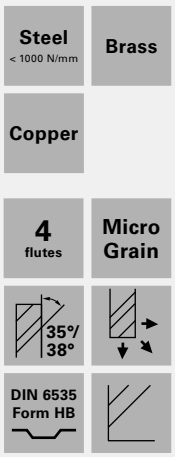
DATRON **Four Flute End Mill,** Pitch 35°/38°, Short Version



- Micrograin solid carbide end mill
- with four flutes
- 35°/38° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with two long front side flutes

Due to its different helical pitch, this milling tool runs extremely smoothly and chips are removed very quickly. As standard these tools are supplied with an Alcrona coating.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078456	**6.0**	6.0	54.0	10.0	x	2
0078458	**8.0**	8.0	58.0	12.0	x	2
0078460	**10.0**	10.0	66.0	14.0	x	2
0078460B	**12.0**	12.0	73.0	16.0	x	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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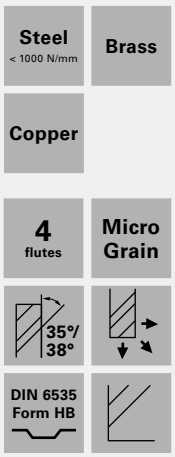
DATRON **Four Flute End Mill,** Pitch 35°/38°, Long Version

- Micrograin solid carbide end mill
- with four flutes
- 35°/38° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with two long front side flutes

Due to its different helical pitch, this milling tool runs extremely smoothly and chips are removed very quickly. As standard these tools are supplied with an Aldura coating.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078456A	**6.0**	6.0	57.0	13.0	x	2
0078458A	**8.0**	8.0	63.0	19.0	x	2
0078460A	**10.0**	10.0	72.0	22.0	x	2
0078460C	**12.0**	12.0	83.0	26.0	x	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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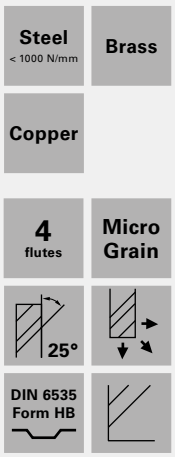
DATRON **Four Flute End Mill,** Roughing Mill, Short Version



- Micrograin solid carbide end mill
- with four flutes
- 25° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with two long front side flutes

Thanks to a new coating and its special cutting geometry this tool is optimally suited for rough machining.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078474	**4.0**	6.0	54.0	8.0	x	2
0078475	**5.0**	6.0	54.0	8.0	x	2
0078476	**6.0**	6.0	54.0	8.0	x	2
0078478	**8.0**	8.0	58.0	11.0	x	2
0078480	**10.0**	10.0	66.0	13.0	x	2
0078482	**12.0**	12.0	73.0	16.0	x	2

DG = Discount Group **CT** = X.CEED Coating

Tools Consultancy:
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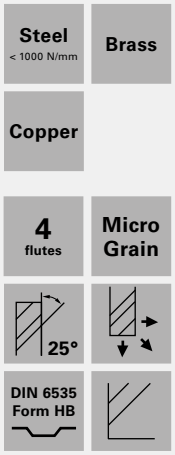
DATRON **Four Flute End Mill,** Roughing Mill, Long Version

- Micrograin solid carbide end mill
- with four flutes
- 25° upcut spiral
- shank with clamping surface DIN 6535-HB
- centre cut with two long front side flutes

Thanks to a new coating and its special cutting geometry this tool is optimally suited for rough machining.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0078474A	**4.0**	6.0	57.0	8.0	x	2
0078475A	**5.0**	6.0	57.0	10.0	x	2
0078476A	**6.0**	6.0	57.0	13.0	x	2
0078478A	**8.0**	8.0	63.0	19.0	x	2
0078480A	**10.0**	10.0	72.0	22.0	x	2
0078482A	**12.0**	12.0	83.0	26.0	x	2

DG = Discount Group **CT** = X.CEED Coating

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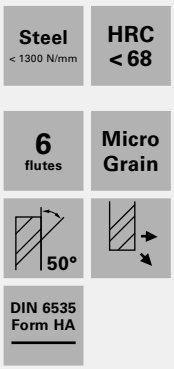
DATRON **Six Flute End Mill**



- Micrograin solid carbide end mill
- with six flutes
- 50° upcut spiral
- radial under cut
- shank without clamping surface DIN 6535-HA
- without centre cut
- partly with edge radius

This end mill has a very short flute length and a special coating, which results in a very long tool life.

Art. No.	D1 (mm)	D2 (mm)	R (mm)	L1 (mm)	L2 (mm)	CT	DG
0078605	**5.0**	6.0		57.0	13.0	x	2
0078606	**6.0**	6.0		57.0	13.0	x	2
0078606A	**6.0**	6.0	1.0	57.0	13.0	x	2
0078608	**8.0**	8.0		63.0	16.0	x	2
0078608A	**8.0**	8.0	1.0	63.0	16.0	x	2
0078610	**10.0**	10.0		72.0	19.0	x	2
0078610A	**10.0**	10.0	1.5	72.0	19.0	x	2
0078612	**12.0**	12.0		83.0	22.0	x	2
0078612A	**12.0**	12.0	1.5	83.0	22.0	x	2
0078614	**14.0**	14.0		83.0	22.0	x	2

DG = Discount Group **CT** = X.CEED Coating

Tools Consultancy:
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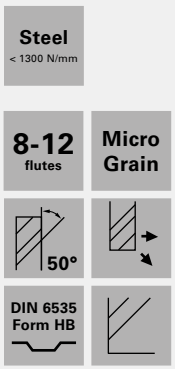
DATRON **Eight up to Twelve Flute End Mill,** Short Version

- Micrograin solid carbide end mill
- with eight up to twelve flutes
- 50° upcut spiral
- shank with clamping surface DIN 6535-HB

Thanks to the X.CEED coating, the big helix angle and the large number of flutes an extremely high surface quality of the work piece can be achieved.



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	F	CT	DG
0078646	**6.0**	6.0	57.0	13.0	8	x	2
0078648	**8.0**	8.0	63.0	19.0	10	x	2
0078650	**10.0**	10.0	72.0	22.0	12	x	2
0078652	**12.0**	12.0	83.0	26.0	12	x	2

DG = Discount Group **CT** = X.CEED Coating **F** = Number of Flutes

Tools Consultancy:
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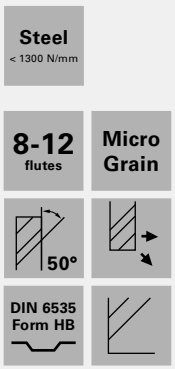
DATRON **Eight up to Twelve Flute End Mill,** Long Version



- Micrograin solid carbide end mill
- with eight up to twelve flutes
- 50° upcut spiral
- shank with clamping surface DIN 6535-HB

Thanks to the X.CEED coating, the big helix angle and the large number of flutes an extremely high surface quality of the work piece can be achieved.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	F	CT	DG
0078646A	**6.0**	6.0	62.0	18.0	8	x	2
0078648A	**8.0**	8.0	68.0	24.0	10	x	2
0078650A	**10.0**	10.0	80.0	30.0	12	x	2
0078652A	**12.0**	12.0	93.0	36.0	12	x	2

DG = Discount Group **CT** = X.CEED Coating **F** = Number of Flutes

Tools Consultancy:
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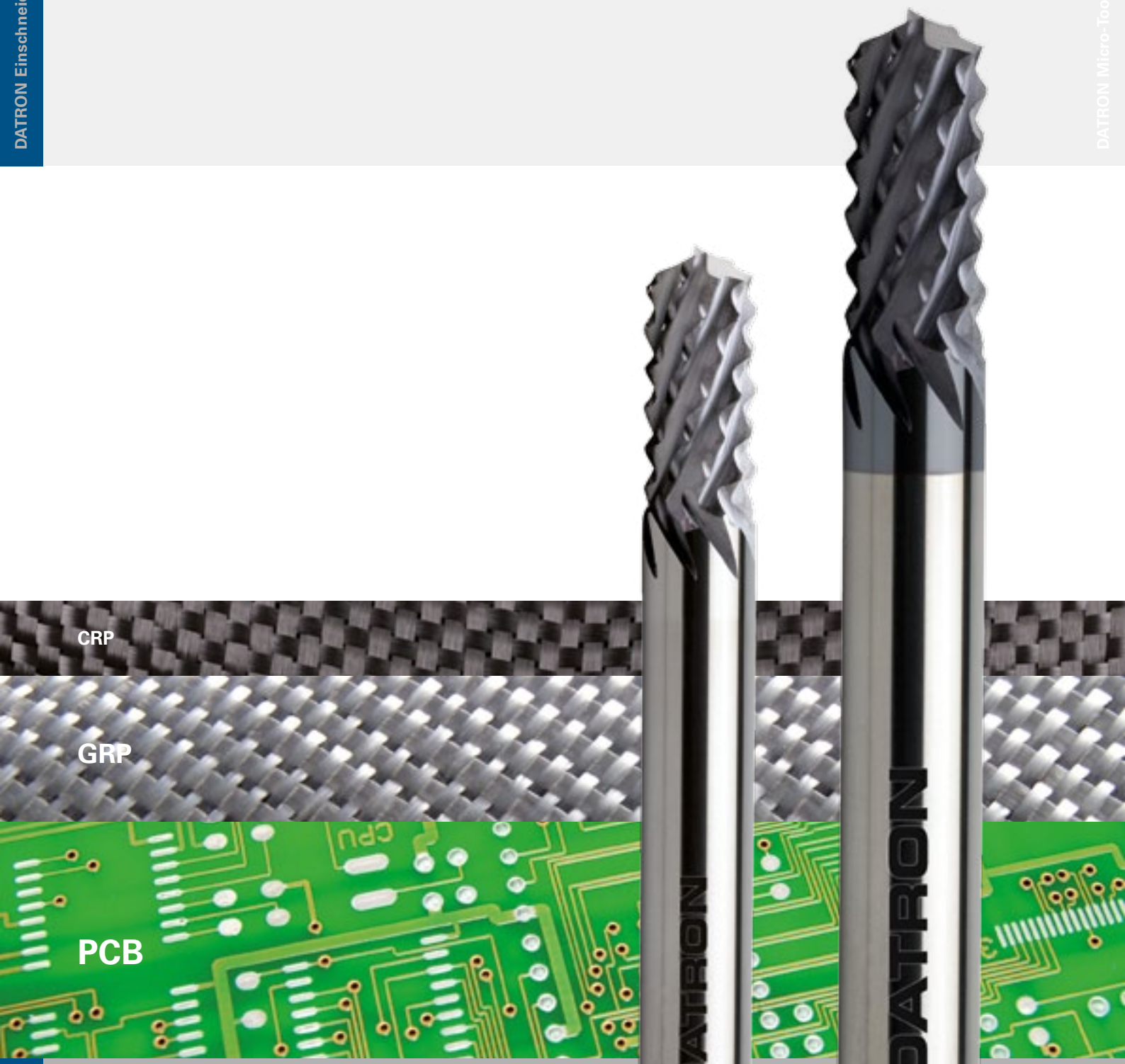
DATRON **Micro-Toothed End Mill**

Abrasive materials, such as CRP, GRP or printed circuit board material, can be reliably machined at low cost with the micro-toothed end mills from DATRON.



DATRON **Micro-Toothed End Mill**

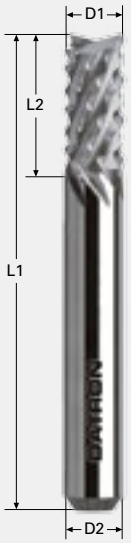
GRP/CRP **FR4**

Fabric-Base Laminate

8 flutes

Micro Grain

DIN 6535 Form HA



- Micrograin solid carbide end mill
- micro-toothed
- fish tail-grinded bottom
- shank without clamping surface DIN 6535-HA

These tools are highly suitable for machining printed circuit boards or test adapters.

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0068106	**0.6**	3.0	40.0	3.0		1
00686506	**0.6**	3.175	40.0	3.0		1
0068107	**0.7**	3.0	40.0	3.5		1
0068108	**0.8**	3.0	40.0	5.0		1
00686508	**0.8**	3.175	40.0	5.0		1
0068110	**1.0**	3.0	40.0	5.0		1
00686510	**1.0**	3.175	40.0	5.0		1
0068111	**1.1**	3.0	38.0	5.0		2
00686511	**1.1**	3.175	38.0	7.0		1
0068112	**1.2**	3.0	40.0	5.0		1
00686512	**1.2**	3.175	40.0	5.0		1
00686513	**1.3**	3.175	38.0	7.0		1
00686514	**1.4**	3.175	38.0	7.0		1
0068115	**1.5**	3.0	40.0	8.0		1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
00686515	**1.5**	3.175	40.0	8.0	1
00686516	**1.6**	3.175	38.0	8.5	1
00686517	**1.7**	3.175	38.0	8.5	1
00686518	**1.8**	3.175	38.0	8.5	1
00686519	**1.9**	3.175	38.0	8.5	1
0068120	**2.0**	3.0	40.0	8.0	1
00686520	**2.0**	3.175	40.0	8.0	1
00686521	**2.1**	3.175	38.0	9.0	1
00686522	**2.2**	3.175	38.0	9.0	1
00686523	**2.3**	3.175	38.0	9.0	1
0068124	**2.4**	3.0	40.0	8.0	1
00686524	**2.4**	3.175	40.0	8.0	1
0068130	**3.0**	3.0	40.0	10.0	1
00686530	**3.0**	3.175	40.0	10.0	1

DG = Discount Group

Tools Consultancy:
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DATRON **Micro-Toothed End Mill,** coated

- Micrograin solid carbide end mill
- micro-toothed
- fish tail-grinded bottom
- shank without clamping surface DIN 6535-HA
- X.CEED Coating/Diamond Coating

Due to micro-toothing and coating, these tools have a high tool life even with extremely abrasive materials.

GRP/CRP **FR4**

Fabric-Base Laminate

8 flutes

Micro Grain

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
006T106	**0.6**	3.0	40.0	3.0	X.CEED	2
006T107	**0.7**	3.0	40.0	3.5	X.CEED	2
006T110	**1.0**	3.0	40.0	5.0	X.CEED	2
006T115	**1.5**	3.0	40.0	8.0	X.CEED	2
006T120	**2.0**	3.0	40.0	8.0	X.CEED	2
006T124	**2.4**	3.0	40.0	8.0	X.CEED	2
006T130	**3.0**	3.0	40.0	10.0	X.CEED	2
0068164	**4.0**	6.0	50.0	16.0	X.CEED	2
0068165	**5.0**	6.0	50.0	22.0	X.CEED	2
0068166S	**6.0**	6.0	50.0	12.0	X.CEED	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	DG
0073126B	**2.0**	3.175	40.0	9.0	Diamond	2
0073126C	**2.4**	3.175	40.0	9.0	Diamond	2
0073126D	**3.0**	3.175	40.0	9.0	Diamond	2

DG = Discount Group **CT** = X.CEED Coating/Diamond Coating

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Tools Consultancy:
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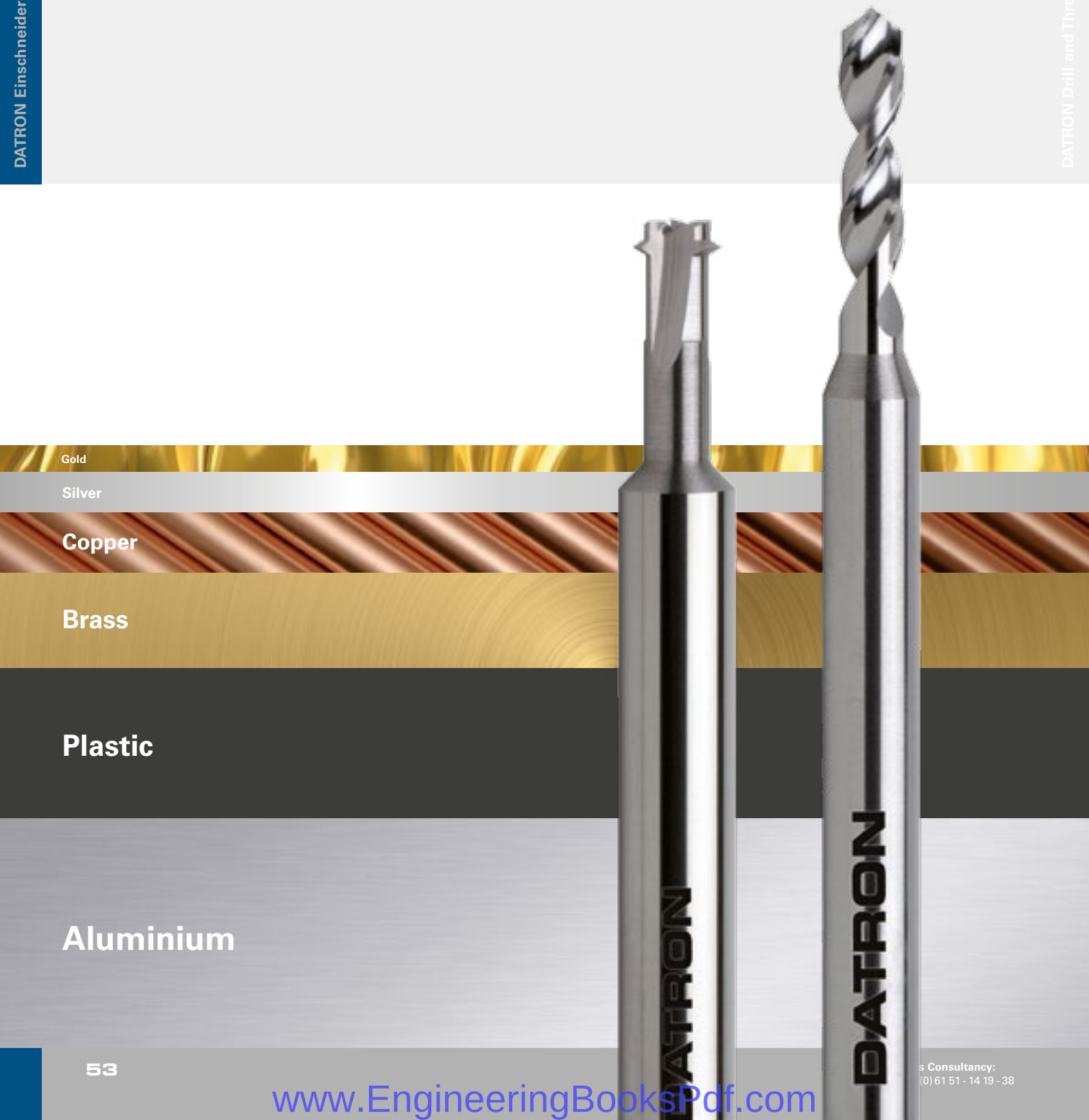
DATRON **Drill and Thread Mill**

Reliable drilling from a diameter of 0.1 mm. Thread milling in a flash from M1.0. Innovative milling thread mill: core hole drilling and thread milling with only one tool, in a single work step.



DATRON **Drill, 3 mm Shank**

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	130°

- Micrograin solid carbide drill
- with 130° point angle
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
00682015	**0.15**	3.0	40.0	2.0	2
0068202	**0.2**	3.0	40.0	3.5	1
00682025	**0.25**	3.0	40.0	3.5	2
0068203	**0.3**	3.0	40.0	3.5	1
00682035	**0.35**	3.0	40.0	3.5	1
0068204	**0.4**	3.0	40.0	6.0	2
00682045	**0.45**	3.0	40.0	6.0	2
0068205	**0.5**	3.0	40.0	6.0	2
00682055	**0.55**	3.0	40.0	6.0	2
0068206	**0.6**	3.0	40.0	6.5	2
00682065	**0.65**	3.0	40.0	6.5	2
0068207	**0.7**	3.0	40.0	10.5	2
00682075	**0.75**	3.0	40.0	10.5	2
0068208	**0.8**	3.0	40.0	10.5	2
00682085	**0.85**	3.0	40.0	10.5	2
0068209	0.9	3.0	40.0	10.5	2
00682095	0.95	3.0	40.0	10.5	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068210	1.0	3.0	40.0	10.5	2
00682105	1.05	3.0	40.0	10.5	2
0068211	**1.1**	3.0	40.0	10.5	2
00682115	**1.15**	3.0	40.0	10.5	2
0068212	**1.2**	3.0	40.0	10.5	2
00682125	**1.25**	3.0	40.0	10.5	2
0068213	**1.3**	3.0	40.0	10.5	2
00682135	**1.35**	3.0	40.0	10.5	2
0068214	**1.4**	3.0	40.0	10.5	2
00682145	**1.45**	3.0	40.0	10.5	2
0068215	**1.5**	3.0	40.0	10.5	2
00682155	**1.55**	3.0	40.0	10.5	2
0068216	**1.6**	3.0	40.0	10.5	2
00682165	**1.65**	3.0	40.0	10.5	2
0068217	**1.7**	3.0	40.0	10.5	2
00682175	**1.75**	3.0	40.0	10.5	2

DG = Discount Group

Tools Consultancy:
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DATRON **Drill, 3 mm Shank**

- Micrograin solid carbide drill
- with 130° point angle
- shank without clamping surface DIN 6535-HA

Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain

30° | 130°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068218	1.8	3.0	40.0	10.5	2
00682185	1.85	3.0	40.0	10.5	2
0068219	1.9	3.0	40.0	10.5	2
00682195	1.95	3.0	40.0	10.5	2
0068220	2.0	3.0	40.0	10.5	2
00682205	2.05	3.0	40.0	10.5	2
0068221	2.1	3.0	40.0	10.5	2
00682215	2.15	3.0	40.0	10.5	2
0068222	2.2	3.0	40.0	10.5	2
00682225	2.25	3.0	40.0	10.5	2
0068223	2.3	3.0	40.0	10.5	2
00682235	2.35	3.0	40.0	10.5	2
0068224	2.4	3.0	40.0	10.5	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
00682245	2.45	3.0	40.0	10.5	2
0068225	2.5	3.0	40.0	10.5	2
00682255	2.55	3.0	40.0	10.5	2
0068226	2.6	3.0	40.0	10.5	2
00682265	2.65	3.0	40.0	10.5	2
0068227	2.7	3.0	40.0	10.5	2
00682275	2.75	3.0	40.0	10.5	2
0068228	2.8	3.0	40.0	10.5	2
00682285	2.85	3.0	40.0	10.5	2
0068229	2.9	3.0	40.0	10.5	2
00682295	2.95	3.0	40.0	10.5	2
0068230	3.0	3.0	40.0	10.5	2

DG = Discount Group

Tools Consultancy:
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DATRON **Drill, 3 mm Shank**

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	165°

- Micrograin solid carbide drill
- with 165° point angle
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068231	3.1	3.0	40.0	12.0	2
0068232	3.2	3.0	40.0	12.0	2
0068233	3.3	3.0	40.0	12.0	2
0068234	3.4	3.0	40.0	12.0	2
0068235	3.5	3.0	40.0	12.0	2
0068236	3.6	3.0	40.0	12.0	2
0068237	3.7	3.0	40.0	12.0	2
0068238	3.8	3.0	40.0	12.0	2
0068239	3.9	3.0	40.0	12.0	2
0068240	4.0	3.0	40.0	12.0	2
0068241	4.1	3.0	40.0	12.0	2
0068242	4.2	3.0	40.0	12.0	2
0068243	4.3	3.0	40.0	12.0	2
0068244	4.4	3.0	40.0	12.0	2
0068245	4.5	3.0	40.0	12.0	2
0068246	4.6	3.0	40.0	12.0	2
0068247	4.7	3.0	40.0	12.0	2
0068248	4.8	3.0	40.0	12.0	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068249	4.9	3.0	40.0	12.0	2
0068250	5.0	3.0	40.0	12.0	2
0068251	5.1	3.0	40.0	12.0	2
0068252	5.2	3.0	40.0	12.0	2
0068253	5.3	3.0	40.0	12.0	2
0068254	5.4	3.0	40.0	12.0	2
0068255	5.5	3.0	40.0	12.0	2
0068256	5.6	3.0	40.0	12.0	2
0068257	5.7	3.0	40.0	12.0	2
0068258	5.8	3.0	40.0	12.0	2
0068259	5.9	3.0	40.0	12.0	2
0068260	6.0	3.0	40.0	12.0	2
0068261	6.1	3.0	40.0	12.0	2
0068262	6.2	3.0	40.0	12.0	2
0068263	6.3	3.0	40.0	12.0	2
0068264	6.4	3.0	40.0	12.0	2
0068265	6.5	3.0	40.0	12.0	2

DG = Discount Group

Tools Consultancy:
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DATRON **Drill, 1/8" Shank**

- Micrograin solid carbide drill
- with 130° point angle
- shank without clamping surface DIN 6535-HA

Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain | 30° | DIN 6535 Form HA | 130°

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068701	0.1	3.175	38.0	1.0	1
00687015	0.15	3.175	38.0	2.5	1
0068702	0.2	3.175	38.0	3.2	1
00687025	0.25	3.175	38.0	3.5	1
0068703	0.3	3.175	40.0	5.5	1
00687035	0.35	3.175	38.0	5.5	1
0068704	0.4	3.175	40.0	5.5	1
00687045	0.45	3.175	40.0	5.5	1
0068705	0.5	3.175	40.0	5.5	1
00687055	0.55	3.175	40.0	5.5	1
0068706	0.6	3.175	40.0	7.0	1
00687065	0.65	3.175	40.0	8.5	1
0068707	0.7	3.175	40.0	10.5	1
00687075	0.75	3.175	40.0	10.5	1
0068708	0.8	3.175	40.0	10.5	1
00687085	0.85	3.175	40.0	10.5	1
0068709	0.9	3.175	40.0	10.5	1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
00687095	0.95	3.175	40.0	10.5	1
0068710	1.0	3.175	40.0	10.5	1
00687105	1.05	3.175	40.0	10.5	1
0068711	1.1	3.175	40.0	10.5	1
00687115	1.15	3.175	40.0	10.5	1
0068712	1.2	3.175	40.0	10.5	1
00687125	1.25	3.175	40.0	10.5	1
0068713	1.3	3.175	40.0	10.5	1
00687135	1.35	3.175	40.0	10.5	1
0068714	1.4	3.175	40.0	10.5	1
00687145	1.45	3.175	40.0	10.5	1
0068715	1.5	3.175	40.0	10.5	1
00687155	1.55	3.175	40.0	10.5	1
0068716	1.6	3.175	40.0	10.5	1
00687165	1.65	3.175	40.0	10.5	1
0068717	1.7	3.175	40.0	10.5	1
00687175	1.75	3.175	40.0	10.5	1

DG = Discount Group

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DATRON **Drill, 1/8" Shank**

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	130°

- Micrograin solid carbide drill
- with 130° point angle
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068718	1.8	3.175	40.0	10.5	1
00687185	1.85	3.175	40.0	10.5	1
0068719	1.9	3.175	40.0	10.5	1
00687195	1.95	3.175	40.0	10.5	1
0068720	2.0	3.175	40.0	10.5	1
00687205	2.05	3.175	40.0	10.5	1
0068721	2.1	3.175	40.0	10.5	1
00687215	2.15	3.175	40.0	10.5	1
0068722	2.2	3.175	40.0	10.5	1
00687225	2.25	3.175	40.0	10.5	1
0068723	2.3	3.175	40.0	10.5	1
00687235	2.35	3.175	40.0	10.5	1
0068724	2.4	3.175	40.0	10.5	1
00687245	2.45	3.175	40.0	10.5	1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068725	2.5	3.175	40.0	10.5	1
00687255	2.55	3.175	40.0	10.5	1
0068726	2.6	3.175	40.0	10.5	1
00687265	2.65	3.175	40.0	10.5	1
0068727	2.7	3.175	40.0	10.5	1
00687275	2.75	3.175	40.0	10.5	1
0068728	2.8	3.175	40.0	10.5	1
00687285	2.85	3.175	40.0	10.5	1
0068729	2.9	3.175	40.0	10.5	1
00687295	2.95	3.175	40.0	10.5	1
0068730	3.0	3.175	40.0	10.5	1
00687305	3.05	3.175	40.0	10.5	1
0068731	3.1	3.175	40.0	10.5	1

DG = Discount Group

Tools Consultancy:
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DATRON **Drill, 1/8" Shank**

- Micrograin solid carbide drill
- with 165° point angle
- Shank without clamping surface DIN 6535-HA

Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain

30° | DIN 6535 Form HA | 165°

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068732	3.2	3.175	40.0	12.0	1
0068733	3.3	3.175	40.0	12.0	1
0068734	3.4	3.175	40.0	12.0	1
0068735	3.5	3.175	40.0	12.0	1
0068736	3.6	3.175	40.0	12.0	1
0068737	3.7	3.175	40.0	12.0	1
0068738	3.8	3.175	40.0	12.0	1
0068739	3.9	3.175	40.0	12.0	1
0068740	4.0	3.175	40.0	12.0	1
0068741	4.1	3.175	40.0	12.0	1
0068742	4.2	3.175	40.0	12.0	1
0068743	4.3	3.175	40.0	12.0	1
0068744	4.4	3.175	40.0	12.0	1
0068745	4.5	3.175	40.0	12.0	1
0068746	4.6	3.175	40.0	12.0	1
0068747	4.7	3.175	40.0	12.0	1
0068748	4.8	3.175	40.0	12.0	1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068749	4.9	3.175	40.0	12.0	1
0068750	5.0	3.175	40.0	12.0	1
0068751	5.1	3.175	40.0	12.0	1
0068752	5.2	3.175	40.0	12.0	1
0068753	5.3	3.175	40.0	12.0	1
0068754	5.4	3.175	40.0	12.0	1
0068755	5.5	3.175	40.0	12.0	1
0068756	5.6	3.175	40.0	12.0	1
0068757	5.7	3.175	40.0	12.0	1
0068758	5.8	3.175	40.0	12.0	1
0068759	5.9	3.175	40.0	12.0	1
0068760	6.0	3.175	40.0	12.0	1
0068761	6.1	3.175	40.0	12.0	1
0068762	6.2	3.175	40.0	12.0	1
0068763	6.3	3.175	40.0	12.0	1
0068764	6.4	3.175	40.0	12.0	1
0068765	6.5	3.175	40.0	12.0	1

DG = Discount Group

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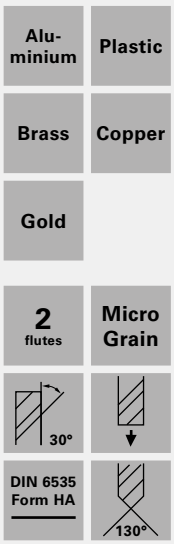
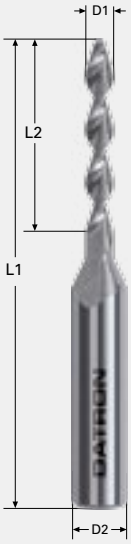
DATRON **Drill, 6 mm Shank**





- Micrograin solid carbide drill
- with 130° point angle
- shank without clamping surface DIN 6535-HA
- suitable for thick sheet metal material up to 20 mm

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068231L	3.1	6.0	50.0	21.0	2
0068232L	3.2	6.0	50.0	21.0	2
0068233L	3.3	6.0	50.0	21.0	2
0068234L	3.4	6.0	50.0	21.0	2
0068235L	3.5	6.0	50.0	21.0	2
0068236L	3.6	6.0	50.0	21.0	2
0068237L	3.7	6.0	50.0	21.0	2
0068238L	3.8	6.0	50.0	21.0	2
0068239L	3.9	6.0	50.0	21.0	2
0068240L	4.0	6.0	50.0	21.0	2
0068241L	4.1	6.0	50.0	21.0	2
0068242L	4.2	6.0	50.0	21.0	2
0068243L	4.3	6.0	50.0	21.0	2
0068244L	4.4	6.0	50.0	21.0	2
0068245L	4.5	6.0	50.0	21.0	2

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	DG
0068246L	4.6	6.0	50.0	21.0	2
0068247L	4.7	6.0	50.0	21.0	2
0068248L	4.8	6.0	50.0	21.0	2
0068249L	4.9	6.0	50.0	21.0	2
0068250L	5.0	6.0	50.0	21.0	2
0068251L	5.1	6.0	50.0	21.0	2
0068252L	5.2	6.0	50.0	21.0	2
0068253L	5.3	6.0	50.0	21.0	2
0068254L	5.4	6.0	50.0	21.0	2
0068255L	5.5	6.0	50.0	21.0	2
0068256L	5.6	6.0	50.0	21.0	2
0068257L	5.7	6.0	50.0	21.0	2
0068258L	5.8	6.0	50.0	21.0	2
0068259L	5.9	6.0	50.0	21.0	2
0068260L	6.0	6.0	50.0	21.0	2

DG = Discount Group

Tools Consultancy:
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DATRON **Thread Mill**

- Micrograin solid carbide special-purpose mill for the milling of threads
- with four flutes
- shank without clamping surface DIN 6535-HA

With this tool, threads from M1.0 onwards can be milled directly with an HF spindle.
Threads no longer need to be machined outside the high-speed milling machine.

Alu-minium | Plastic
Brass | Copper
Gold
4 flutes | Micro Grain
DIN 6535 Form HA

Art. No.	Thread	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	α Degree	DG
0068418	M1.0 - M1.2	**0.8**	3.0	0.49	40.0	0.09	3.0	60	2
0068418L	M1.0 - M1.2	**0.8**	3.0	0.49	40.0	0.09	6.0	60	2
0068418S	M1.4	**0.95**	3.0	0.65	40.0	0.09	3.0	60	2
0068419	M1.6 - M2.5	**1.4**	3.0	0.9	40.0	0.1	6.0	60	2
0068419L	M1.6 - M2.5	**1.4**	3.0	0.9	40.0	0.1	10.0	60	2
0068419X	M1.6-M2.5	**1.4**	3.0	0.9	60.0	0.1	6.0	60	2
0068420	M2.5 - M4	**2.0**	3.0	1.0	40.0	0.2	8.0	60	2
0068420L	M2.5 - M4	**2.0**	3.0	1.0	40.0	0.2	12.0	60	2
0068420X	M2.5-M4	**2.0**	3.0	1.0	50.0	0.2	8.0	60	2
0068451	M5 - M10	**4.0**	6.0	2.0	50.0	0.5	12.0	60	2
0068451L	M5 - M10	**4.0**	6.0	2.0	50.0	0.5	16.0	60	2
0068451X	M5-M10	**4.0**	6.0	2.0	60.0	0.5	30.0	60	2
0068451A	M10 - M16	**8.0**	6.0	3.0	50.0	1.6	12.0	60	2
0068450	Whitworth < 1/2"	**6.0**	6.0	3.0	50.0	0.7	12.0	55	2
0068450A	Whitworth > 1/2"	**8.0**	6.0	3.0	50.0	1.55	12.0	55	2
0068452	PG7 - PG48	**6.0**	6.0	3.0	50.0	1.3	12.0	80	2

DG = Discount Group

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Thread Mill Parameters Tool Database

Recommended thread mill parameters in the DATRON tool database

Art. No.	Nominal Dia	Actual Dia	RPM	C	D2	L2	S/R
0068418/L	0.80	0.80	35.000	40	0.49	0.09	60
0068418S	0.95	0.95	35.000	40	0.65	0.09	60
0068419/L/X	1.4	1.4	35.000	40	0.8	0.1	60
0068420/L/X	2.0	2.0	35.000	40	1.0	0.2	60
0068450	6.0	6.0	25.000	40	1.9	0.7	55
0068450A	8.0	8.0	25.000	40	3.0	1.55	55
0068451/L/X	4.0	4.08	25.000	40	1.97	0.5	60
0068451A	8.0	8.0	25.000	40	3.0	1.6	60
0068452	6.0	5.95	25.000	40	2.98	1.3	80

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DATRON **Milling Thread Mill**

- Micrograin solid carbide special-purpose mill for the milling of threads
- with three flutes
- shank without clamping surface DIN 6535-HA

Specially effective thread milling can be done with the innovative milling thread mill from DATRON. With this tool the centre hole and milling thread can be machined at one time. This special tool is legally protected by a utility paten.

Alu-minium	Plastic
Brass	Copper
3 flutes	Micro Grain
	DIN 6535 Form HA

Art. No.	Threads	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	α Degree	DG
0068419A	M2.5 - M3	**1.4**	3.0	1.4	40.0	1.0	8.0	60	2
0068420A	M4 - M5	**2.1**	3.0	2.1	40.0	1.0	10.0	60	2
0068456	M6	**3.3**	6.0	3.5	50.0	1.3	12.0	60	2
0068457	M8 - M10	**3.9**	6.0	4.0	50.0	2.0	12.0	60	2
0068458	M12 - M16	**5.2**	6.0	5.4	50.0	2.0	12.0	60	2
0068454	PG7 - PG 48	**4.0**	6.0	4.2	50.0	2.5	12.0	80	2
0068454A	metric cable thread	**3.9**	6.0	4.0	50.0	2.5	12.0	60	2

DG = Discount Group

Tools Consultancy:
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DATRON **Multi Thread Mill**

Alu-minium	Plastic
Brass	Copper
Micro Grain	
DIN 6535 Form HA	

- Micrograin solid carbide special-purpose mill for the milling of threads
- shank without clamping surface DIN 6535-HA
- with 45° countersink section

The multi-toothing of this tool allows a complete thread cut within one helix. This way, threads can be produced in an optimum amount of time and extremely efficiently.
The integrated 45° countersink chamfer is for automatic deburring.

Art. No.	Threads	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	α Degree	DG
00684503	M3	**2.3**	6.0	50.0	8.0	60	2
00684504	M4	**3.0**	6.0	50.0	8.0	60	2
00684544	M4	**3.0**	6.0	50.0	12.0	60	2
00684505	M5	**3.8**	6.0	50.0	12.0	60	2
00684555	M5	**3.8**	6.0	50.0	16.0	60	2
00684506	M6	**4.5**	8.0	50.0	12.0	60	2
00684566	M6	**4.5**	8.0	60.0	16.0	60	2
00684508	M8	**6.0**	10.0	50.0	12.0	60	2
00684588	M8	**6.0**	10.0	50.0	16.0	60	2

DG = Discount Group

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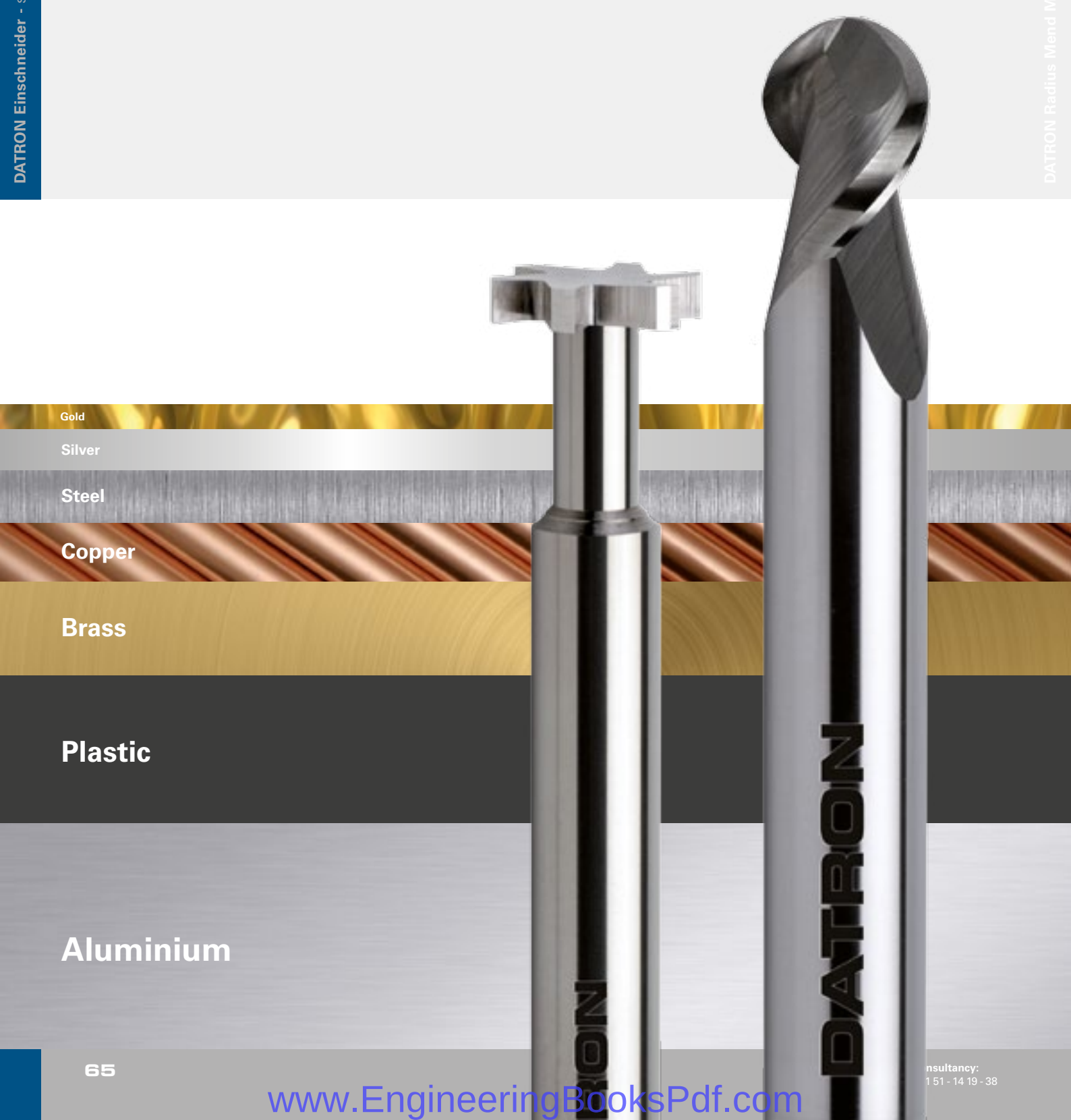
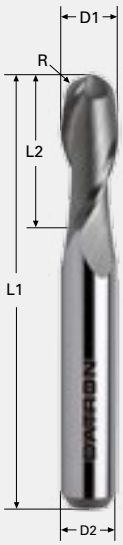
DATRON **Ball Nose End Mill, External Radius End Mill, Slotting Mill and Dovetail Milling Tool**

For 3D machining, DATRON offers ball nose end mills with toric cut, micro milling tools, as well as a milling tool for machining Steel.
With the solid carbide outer radius milling tool, you can produce high-quality visible surfaces.



DATRON **Ball Nose End Mill,** Double Flute

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	



- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	R (mm)	DG
00684003	**0.3**	3.0	40.0	0.5		0.15	2
00684004	**0.4**	3.0	40.0	1.2	x	0.2	2
00684005	**0.5**	3.0	40.0	0.8		0.25	2
00684010	**0.5**	3.0	40.0	1.5	x	0.25	2
00684006	**0.6**	3.0	40.0	1.8	x	0.3	2
00684007	**0.7**	3.0	40.0	2.1		0.35	2
00684008	**0.8**	3.0	40.0	2.4	x	0.4	2
0068400	**1.0**	3.0	40.0	3.0		0.50	2
00684015	**1.5**	3.0	40.0	3.0	x	0.75	2
0068402	**2.0**	3.0	40.0	4.0	x	1.0	2
00684025	**2.5**	3.0	40.0	5.0	x	1.25	2
0068401	**3.0**	3.0	40.0	6.0	x	1.5	2
0068403	**3.0**	6.0	50.0	4.0		1.5	2
0068404	**4.0**	6.0	50.0	5.0		2.0	2
0068405	**5.0**	6.0	50.0	8.0		2.5	2
0068406	**6.0**	6.0	50.0	10.0		3.0	2
0068408	**8.0**	8.0	50.0	12.0		4.0	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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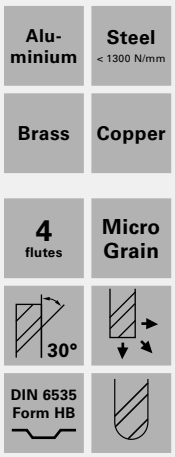
DATRON **Ball Nose End Mill, Four Flutes,** Short Version

- Micrograin solid carbide end mill
- with four flutes
- 30° upcut spiral
- centre cut, full radius
- shank with clamping surface DIN 6535-HB



Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	R (mm)	DG
0078542	**2.0**	6.0	57.0	6.0	x	1.0	2
0078543	**3.0**	6.0	57.0	8.0	x	1.5	2
0078544	**4.0**	6.0	57.0	11.0	x	2.0	2
0078545	**5.0**	6.0	57.0	13.0	x	2.5	2
0078546	**6.0**	6.0	57.0	13.0	x	3.0	2
0078548	**8.0**	8.0	63.0	19.0	x	4.0	2
0078550	**10.0**	10.0	72.0	22.0	x	5.0	2
0078552	**12.0**	12.0	83.0	26.0	x	6.0	2
0078554	**14.0**	14.0	83.0	26.0	x	7.0	2
0078556	**16.0**	16.0	92.0	32.0	x	8.0	2
0078558	**18.0**	18.0	92.0	32.0	x	9.0	2
0078560	**20.0**	20.0	104.0	38.0	x	10.0	2

DG = Discount Group **CT** = Alcrona Coating

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DATRON **Ball Nose End Mill,** Four Flutes, Long Version

Alu-minium	Steel < 1300 N/mm
Brass	Copper
4 flutes	Micro Grain
30°	
DIN 6535 Form HB	

- Micrograin solid carbide end mill
- with four flutes
- 30° upcut spiral
- centre cut, full radius
- shank with clamping surface DIN 6535-HB

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	CT	R (mm)	DG
0078543A	**3.0**	6.0	57.0	20.0	x	1.5	2
0078544A	**4.0**	6.0	57.0	20.0	x	2.0	2
0078545A	**5.0**	6.0	75.0	30.0	x	2.5	2
0078546A	**6.0**	6.0	75.0	30.0	x	3.0	2
0078548A	**8.0**	8.0	75.0	30.0	x	4.0	2
0078550A	**10.0**	10.0	75.0	30.0	x	5.0	2
0078552A	**12.0**	12.0	100.0	45.0	x	6.0	2
0078554A	**14.0**	14.0	100.0	45.0	x	7.0	2
0078556A	**16.0**	16.0	100.0	45.0	x	8.0	2
0078558A	**18.0**	18.0	100.0	45.0	x	9.0	2
0078560A	**20.0**	20.0	100.0	45.0	x	10.0	2

DG = Discount Group **CT** = Alcrona Coating

Tools Consultancy:
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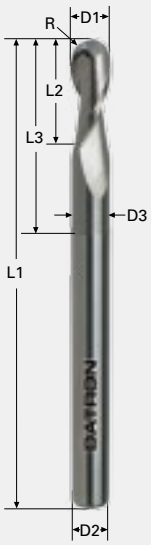
DATRON **Ball Nose End Mill,** Two Flutes with Toric Cut

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

Thanks to the toric cut of the shaft the work piece can be machined more deeply.



Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain

30°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	DG
0078502	**2.0**	6.0	1.8	75.0	5.0	20.0	1.0	2
0078503	**3.0**	6.0	2.8	75.0	6.0	20.0	1.5	2
0078504	**4.0**	6.0	3.8	75.0	8.0	20.0	2.0	2
0078505	**5.0**	6.0	4.8	100.0	20.0	40.0	2.5	2
0078506	**6.0**	6.0	5.8	100.0	20.0	40.0	3.0	2
0078508	**8.0**	8.0	7.8	100.0	20.0	40.0	4.0	2
0078510	**10.0**	10.0	9.8	100.0	20.0	40.0	5.0	2
0078510A	**10.0**	10.0	9.8	150.0	20.0	60.0	5.0	2
0078512	**12.0**	12.0	11.7	100.0	20.0	40.0	6.0	2
0078512A	**12.0**	12.0	11.7	150.0	20.0	60.0	6.0	2
0078516	**16.0**	16.0	15.7	150.0	30.0	70.0	8.0	2
0078518	**18.0**	18.0	17.7	150.0	30.0	70.0	9.0	2
0078520	**20.0**	20.0	19.7	150.0	30.0	80.0	10.0	2

DG = Discount Group

Tools Consultancy:
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DATRON **Micro Ball Nose End Mill** with Toric Cut

Alu-minium	Plastic
Brass	Copper
Gold	
2 flutes	Micro Grain
30°	
DIN 6535 Form HA	

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

Thanks to the toric cut of the shaft the work piece can be machined more deeply.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	DG
00782004	**0.4**	3.0	0.35	40.0	0.60	2	0.2	2
00782005	**0.5**	3.0	0.45	40.0	0.75	4	0.25	2
00782006	**0.6**	3.0	0.55	40.0	0.90	4	0.3	2
00782008	**0.8**	3.0	0.75	40.0	1.20	6	0.4	2
00782010	**1.0**	3.0	0.95	40.0	1.50	6	0.5	2
00782011	**1.0**	3.0	0.95	40.0	1.50	9	0.5	2
00782012	**1.2**	3.0	1.15	40.0	1.80	9	0.6	2
00782015	**1.5**	3.0	1.45	40.0	2.20	9	0.75	2
00782020	**2.0**	3.0	1.95	40.0	3.0	12	1.0	2

DG = Discount Group

Tools Consultancy:
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DATRON **External Radius End Mill**

- Micrograin solid carbide external radius end mill
- with two flutes or up to four flutes
- with specially cut edges for the machining of external edges
- shank without clamping surface DIN 6535-HA

This end mill is specially designed for the optimum machining of external radii.

Alu-minium | Plastic | Brass | Copper | Gold

2/4 flutes | Micro Grain

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	R (mm)	F	DG
0068410	**5.0**	6.0	50.0	0.5	2	2
0068411	**4.0**	6.0	50.0	1.0	2	2
00684115	**3.0**	6.0	50.0	1.5	2	2
0068412	**2.0**	6.0	50.0	2.0	2	2
00684125	**3.0**	6.0	50.0	2.5	4	2
0068413	**4.0**	6.0	50.0	3.0	4	2
00684135	**4.0**	6.0	50.0	3.5	4	2
0068414	**4.0**	6.0	50.0	4.0	4	2
00684145	**3.0**	6.0	50.0	4.5	4	2
0068415	**3.0**	6.0	50.0	5.0	4	2
0068416	**4.0**	6.0	50.0	6.0	4	2

DG = Discount Group **F** = Number fo Flutes

Tools Consultancy:
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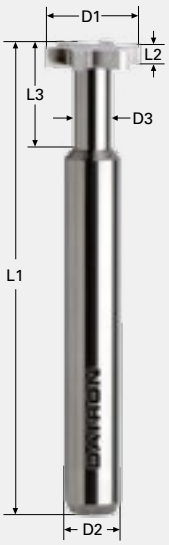
DATRON **T-Slotting Mill**

Alu-minium	Plastic
Plastic	Copper
Gold	
2/6 flutes	Micro Grain
	DIN 6535 Form HA



- Micrograin solid carbide T-slotting mill
- with two flutes or up to sis flutes
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	F	DG
0068425	**3.0**	3.0	1.6	40.0	0.8	6.0	2	2
0068424D	**6.0**	6.0	3.0	50.0	2.8	8.0	4	2
0068424L	**8.0**	6.0	3.5	50.0	0.7	6.0	4	2
0068424K	**8.0**	6.0	3.5	50.0	1.0	6.0	4	2
0068424	**8.0**	6.0	3.5	50.0	1.3	6.0	4	2
0068424S	**8.0**	6.0	3.5	50.0	4.5	9.0	4	2
0068424A	**8.0**	8.0	3.5	50.0	1.3	6.0	4	2
0068423	**10.0**	6.0	4.0	50.0	2.0	12.0	4	2
0068426	**15.0**	6.0	6.0	50.0	3.0	25.0	4	2

DG = Discount Group **F** = Number of Flutes

Tools Consultancy:
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DATRON **Dovetail Milling Tool**

- Micrograin solid carbide end mill
- with two flutes
- shank without clamping surface DIN 6535-HA

The double-edged special milling tools are excellently suited for producing dovetail grooves and rear-side deburring or chamfering of the bottom sides of work pieces.
This minimises reclamping operations and reduces production times.

Alu-minium | Plastic | Brass | Copper | Gold

2 flutes | Micro Grain | DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	α Degree	DG
0068290	**3.0**	3.0	2.0	40.0	6.0	6.0	5	2
0068783	**3.0**	3.0	2.0	40.0	0.87	6.0	30	2
0068783A	**3.0**	3.0	2.0	40.0	0.5	6.0	45	2
0068783B	**3.0**	3.0	2.0	40.0	0.29	6.0	60	2
0068690	**3.175**	3.175	2.0	40.0	6.0	6.0	5	2
0068784	**4.0**	6.0	2.0	50.0	1.73	6.0	30	2
0068784A	**4.0**	6.0	2.0	50.0	1.0	6.0	45	2
0068784B	**4.0**	6.0	2.0	50.0	0.58	6.0	60	2
0068785	**5.0**	6.0	2.5	50.0	2.17	6.0	30	2
0068785A	**5.0**	6.0	2.5	50.0	1.25	6.0	45	2
0068785B	**5.0**	6.0	2.5	50.0	0.72	6.0	60	2
0068291	**6.0**	6.0	5.0	50.0	6.0	6.0	5	2
0068786	**6.0**	6.0	3.0	50.0	2.6	6.0	30	2
0068786A	**6.0**	6.0	3.0	50.0	1.5	6.0	45	2
0068786B	**6.0**	6.0	3.0	50.0	0.87	6.0	60	2

DG = Discount Group

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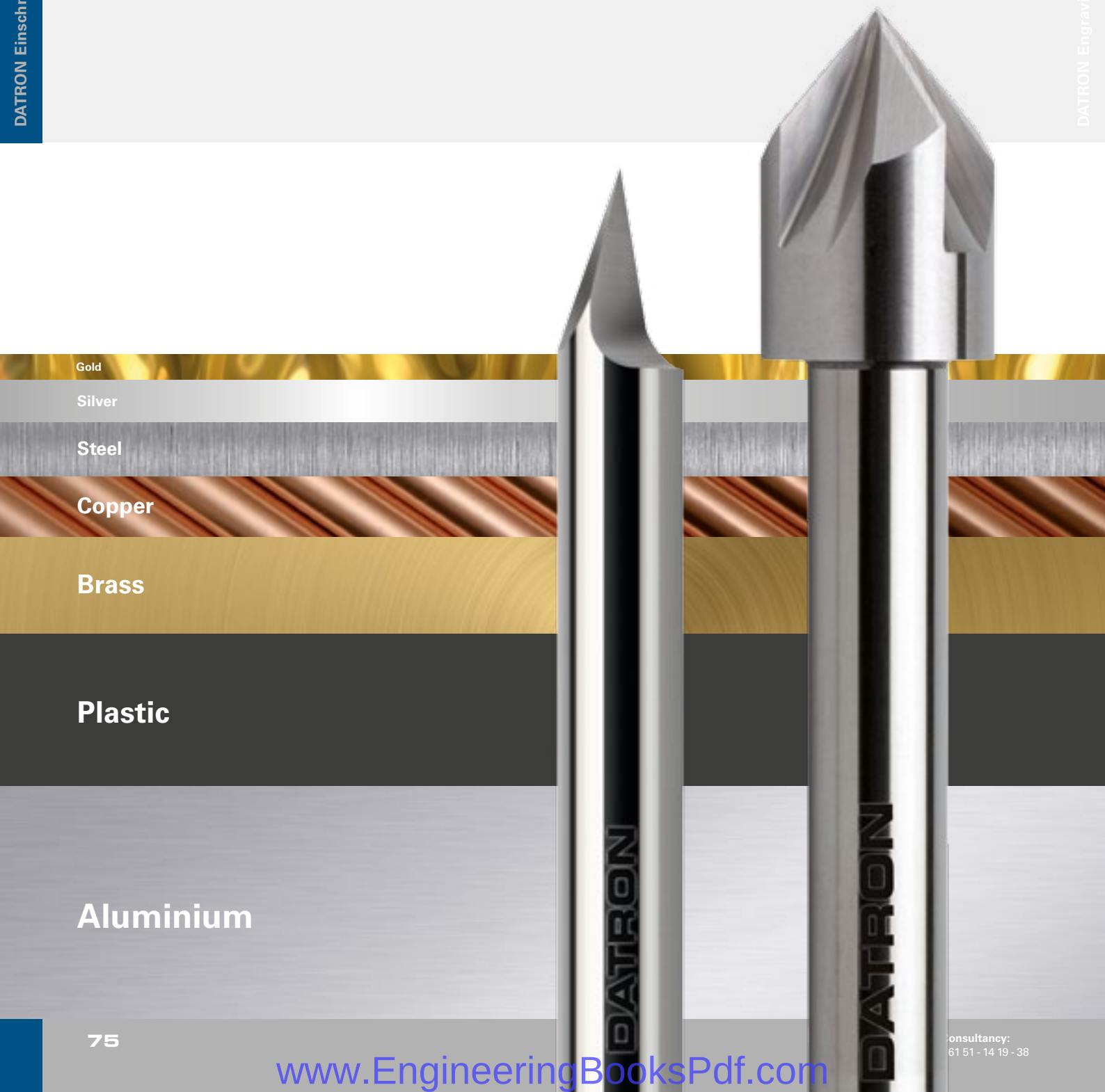
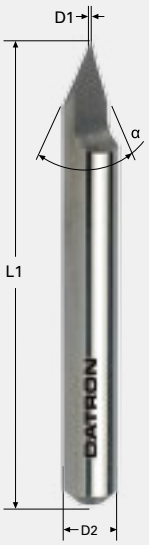
DATRON **Standard Engraving Tool, Countersink Tool, and Cutting Diamond**

Engraving, deburring and chamfering. Now the DATRON engraving tool is also available as a balanced model and for steel machining.



DATRON **Standard Engraving Tool**



- Micrograin solid carbide engraving tool
- with single flute
- conic tool tip
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	α Degree	DG
0068279	**0.1**	3.0	40.0	20	1
0068679	**0.1**	3.175	40.0	20	1
0068270	**0.1**	4.0	40.0	20	1
0068279A	**0.1**	3.0	40.0	30	1
0068679A	**0.1**	3.175	40.0	30	1
0068273	**0.1**	4.0	40.0	30	1
0068283	**0.1**	6.0	50.0	30	1
0068279B	**0.2**	3.0	40.0	30	1
0068283D	**0.2**	6.0	50.0	30	1
0068283E	**0.3**	6.0	50.0	30	1
0068283F	**0.4**	6.0	50.0	30	1
0068283G	**0.6**	6.0	50.0	30	1
0068280	**0.1**	3.0	40.0	40	1
0068680	**0.1**	3.175	40.0	40	1
0068274	**0.1**	4.0	40.0	40	1
0068280B	**0.2**	3.0	40.0	40	1
0068280A	**0.1**	3.0	40.0	45	1
0068285	**0.1**	6.0	50.0	50	1
0068281	**0.1**	3.0	40.0	60	1

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	α Degree	DG
0068681	**0.1**	3.175	40.0	60	1
0068276	**0.1**	4.0	40.0	60	1
0068285A	**0.1**	6.0	50.0	60	1
0068281A	**0.2**	3.0	40.0	60	1
0068285D	**0.2**	6.0	50.0	60	1
0068285E	**0.3**	6.0	50.0	60	1
0068285F	**0.4**	6.0	50.0	60	1
0068282	**0.1**	3.0	40.0	90	1
0068682	**0.1**	3.175	40.0	90	1
0068277	**0.1**	4.0	40.0	90	1
0068286	**0.1**	6.0	50.0	90	1
0068286G*	**0.1**	6.0	50.0	90	2
0068287	**0.1**	6.0	50.0	120	2
0068284	**3.0**	3.0	40.0	180	2
0068288	**6.0**	6.0	50.0	180	2
0068293	**Regrind service**	3.0	40.0		
0068296	**Regrind service**	6.0	50.0		
0068298	**Diamond hand lap**				

DG = Discount Group * with balanced tool tip

Tools Consultancy:
+49 (0) 61 51 - 14 19 - 38

DATRON **Standard Engraving Tool** for Steel engraving

- Micrograin solid carbide engraving tool
- with single flute
- shank without clamping surface DIN 6535-HA
- For Steel engraving

Steel

1 flute

Micro Grain

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	α Degree	DG
0068510	**0.1**	6.0	50.0	20	2
0068511	**0.1**	6.0	50.0	30	2
0068512	**0.1**	6.0	50.0	40	2
0068513	**0.1**	6.0	50.0	60	2
0068514	**0.1**	6.0	50.0	90	2
0068510A	**0.2**	6.0	50.0	20	2
0068511A	**0.2**	6.0	50.0	30	2
0068512A	**0.2**	6.0	50.0	40	2
0068513A	**0.2**	6.0	50.0	60	2
0068514A	**0.2**	6.0	50.0	90	2

DG = Discount Group

Tools Consultancy:
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DATRON **Countersink Tool**

Alu-minium | Plastic | Brass | Copper | Gold

2-4 flutes | Micro Grain

DIN 6535 Form HA

- Micrograin solid carbide countersink tool
- with two flutes or up to four flutes
- centre cut
- shank without clamping surface DIN 6535-HA

Art. No.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	α Degree	F	DG
0068478A	**3.0**	3.0	40.0	2.5	60	2	2
0068478	**3.0**	3.0	40.0	1.5	90	2	2
0068479B	**6.0**	6.0	50.0	3.0	40	3	2
0068480B	**6.0**	6.0	50.0	5.1	60	3	2
0068479C	**6.0**	6.0	50.0	3.2	70	3	2
0068479	**6.0**	6.0	50.0	3.0	90	3	2
0068479A	**6.0**	6.0	50.0	1.7	120	3	2
0068479D	**6.0**	6.0	50.0	2.8	140	3	2
0068480	**8.0**	6.0	50.0	4.0	90	3	2
0068480A	**8.0**	6.0	50.0	2.3	120	3	2
0068480C	**8.0**	6.0	50.0	3.3	100	3	2
0068483	**10.0**	6.0	50.0	5.0	90	3	2
0068483B	**10.0**	10.0	50.0	5.0	90	3	2
0068483A	**10.0**	6.0	50.0	2.8	120	3	2
0068483E	**12.0**	6.0	50.0	8.0	120	4	2
0068483D	**12.0**	8.0	50.0	4.0	90	4	2
0068483H	**14.0**	8.0	50.0	7.0	90	4	2

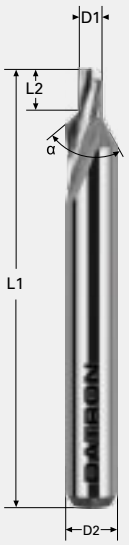
DG = Discount Group **F** = Number of Flutes

Tools Consultancy:
+49 (0) 61 51 - 14 19 - 38

DATRON Milling Countersink Tool

- Micrograin solid carbide countersink tool
- with single flute
- centre cut
- shank without clamping surface DIN 6535-HA

This combination tool has a cylindrical milling range, as well as a conical countersink part. The groove and chamfer can be realized in only one work step. This way, the tool change can be omitted, which reduces the production time.



Alu-minium | Plastic | Brass | Copper | Gold

1 flute | Micro Grain | DIN 6535 Form HA

Art.-Nr.	D1 (mm)	D2 (mm)	L1 (mm)	L2 (mm)	α Degree	DG
0068772	**2.0**	6.0	50.0	1.9	90	2
0068772A	**2.0**	6.0	50.0	2.9	90	2
0068772B	**2.0**	6.0	40.0	5.0	90	2
0068773	**3.0**	6.0	50.0	2.9	90	2
0068773A	**3.0**	6.0	50.0	3.9	90	2
0068773B	**3.0**	6.0	50.0	5.0	90	2
0068774	**4.0**	6.0	50.0	2.9	90	2
0068774A	**4.0**	6.0	50.0	3.9	90	2

DG = Discount Group

Tools Consultancy:
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DATRON **Cutting Diamond**

Alu-minium	Plastic
Brass	Copper
Gold	

Spring-mounted cutting diamond for jewellery engraving, suitable for metals such as Gold, Silver, Brass, Tin, Aluminium (e. g. colour-anodised).

For engraving work pieces with a curved surface, a sharp angle of 90 degrees should be selected. Otherwise, a sharp angle of 120 degrees is recommended (higher tool life)
Shank: 6 mm, Length: 58 mm

Art. No.	Article Description	L1 (mm)	D2 (mm)	α Degree
0068501	**Cutting Diamond, spring-mounted 90**	60	6.0	90
0068502	**Cutting Diamond, spring-mounted 120**	60	6.0	120

Tools Consultancy:
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DATRON **Face Milling Tool**

Highly efficient face milling with HSK interface and replaceable cutting inserts.

Gold

Silver

Copper

Brass

Plastic

Aluminium

ols Consultancy:
9 (0) 61 51 - 14 19 - 38

DATRON **Face Milling Tool**

Alu-minium	Plastic
Brass	Copper
Gold	Steel < 1000 N/mm
2 flutes	Micro Grain

- Monoblock tool
- with two replaceable cutting inserts
- based on HSK

This HSK-E 25 based monoblock tool has been developed for highly efficient milling over. The required penetration angle is 3-5°. Solid carbide replaceable cutting inserts are available for various materials.

Art. No.	D1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)
0078920	**20.0**	40.0	10.0	15.0

Art. No.	Article Description	for Face Milling Tool	R (mm)	material	DG
0078910	**Cutting insert (polished)**	0078900 0078900A	0.5	Aluminium	2
0078911	**Cutting insert**	0078900 0078900A	0.5	Steel	2
0078920A	**Cutting insert (polished)**	0078920	0.8	Aluminium	2
0078920B	**Cutting insert**	0078920	0.8	Steel	2

Please note: This tool can only be measured with the DATRON Z-Nano or NC4 tool length sensor. Article numbers 0078910 and 0078911 are for Face Milling Tools with three cutting inserts. Article numbers 0078920A and 0078920B are for Face Milling Tools with two cutting inserts.

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DATRON **Dental Milling Tool**

If you use Zirconium Oxide, Cobalt-Chrome, Titan, Nanocomposite, PMMA or Wax, DATRON offers the optimum milling tools for the dental materials you intend to machine. Thanks to the coatings, specially adapted to the material, the highest surface quality and long tool life are guaranteed.

For detailed information and further dental milling tools simply request our special dental milling tools catalogue!

Nanocomposite

Wax

Titan

PMMA

Zirconium Oxide

Cobalt Chrome

DATRON Zirconium Oxide Ball Nose End Mill

Zirco-nium oxide

2 flutes

Micro Grain

30°

DIN 6535 Form HA

Air cooling

Dry machining

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of unbaked high-performance ceramics such as Zirconium Oxide and Aluminium Oxide.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
00782106	**0.6**	3.0	0.55	48.0	2.5	10.0	0.3		2
00782108	**0.8**	3.0	0.75	48.0	3.0	12.0	0.4		2
00782110	**1.0**	3.0	0.95	48.0	4.0	18.0	0.5		2
00782115	**1.5**	3.0	1.45	48.0	4.0	18.0	0.75		2
00782120	**2.0**	3.0	1.95	48.0	4.5	22.0	1.0		2
00782125	**2.5**	3.0	2.4	48.0	6.0	20.0	1.25		2
00782130	**3.0**	3.0	2.90	48.0	6.0	22.0	1.5		2
00782206	**0.6**	3.0	0.55	48.0	2.5	10.0	0.3	x	2
00782208	**0.8**	3.0	0.75	48.0	3.0	12.0	0.4	x	2
00782210	**1.0**	3.0	0.95	48.0	4.0	16.0	0.5	x	2
00782215	**1.5**	3.0	1.45	48.0	4.0	18.0	0.75	x	2
00782220	**2.0**	3.0	1.95	48.0	4.5	20.0	1.0	x	2
00782225	**2.5**	3.0	2.4	48.0	4.5	22.0	1.25	x	2
00782230	**3.0**	3.0	2.9	48.0	6.0	25.0	1.5	x	2

DG = Discount Group **CT** = Diamond Coating

Tools Consultancy:
+49 (0) 61 51 - 14 19 - 38

DATRON Zirconium Oxide Ball Nose End Mill

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of unbaked high-performance ceramics such as Zirconium Oxide and Aluminium Oxide.

Zirco-nium oxide

2 flutes

Micro Grain

30°

DIN 6535 Form HA

Air cooling

Dry machining

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
00782706	**0.6**	6.0	0.55	50.0	2.5	10.0	0.3		2
00782708	**0.8**	6.0	0.75	50.0	3.0	12.0	0.4		2
00782710	**1.0**	6.0	0.95	50.0	4.0	18.0	0.5		2
00782715	**1.5**	6.0	1.45	50.0	4.0	18.0	0.75		2
00782720	**2.0**	6.0	1.95	50.0	4.5	22.0	1.0		2
00782725	**2.5**	6.0	2.4	50.0	6.0	25.0	1.25		2
00782730	**3.0**	6.0	2.8	50.0	6.0	25.0	1.5		2
00782806	**0.6**	6.0	0.55	50.0	2.5	10.0	0.3	x	2
00782808	**0.8**	6.0	0.75	50.0	3.0	12.0	0.4	x	2
00782810	**1.0**	6.0	0.95	50.0	4.0	16.0	0.5	x	2
00782815	**1.5**	6.0	1.45	50.0	4.0	14.0	0.75	x	2
00782820	**2.0**	6.0	1.95	50.0	4.5	20.0	1.0	x	2
00782825	**2.5**	6.0	2.4	50.0	4.5	22.0	1.25	x	2
00782830	**3.0**	6.0	2.8	50.0	6.0	25.0	1.5	x	2

DG = Discount Group **CT** = Diamond Coating

Tools Consultancy:
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DATRON **CoCr/Titan Ball Nose End Mill**

Non-ferrous metal | Cobalt Chrome | Titan

2 flutes | Micro Grain

30° | DIN 6535 Form HA

Wet machining

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of Cobalt Chrome, Titanium and Titanium alloys.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
00684006	**0.6**	3.0		40.0	1.8		0.3	x	2
00782308	**0.8**	3.0	0.75	38.0	3.5	8.0	0.4	x	2
00782310	**1.0**	3.0	0.95	38.0	3.0	8.0	0.5	x	2
00782315	**1.5**	3.0	1.45	38.0	4.0	12.0	0.75	x	2
00782320	**2.0**	3.0	1.9	38.0	3.5	12.0	1.0	x	2
00782325	**2.5**	3.0	2.4	38.0	4.5	15.0	1.25	x	2
00782330	**3.0**	3.0	2.8	38.0	5.5	15.0	1.5	x	2
00784408	**0.8**	4.0	0.75	50.0	3.0	10.0	0.4	x	2
00784410	**1.0**	4.0	0.95	50.0	3.5	12.0	0.5	x	2
00784415	**1.5**	4.0	1.45	50.0	4.0	14.0	0.75	x	2
00784420	**2.0**	4.0	1.9	50.0	4.5	16.0	1.0	x	2
00784425	**2.5**	4.0	2.35	50.0	5.0	18.0	1.25	x	2
00784430	**3.0**	4.0	2.8	50.0	5.5	22.0	1.5	x	2

DG = Discount Group **CT** = XTH Coating

Tools Consultancy:
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DATRON **CoCr/Titan Ball Nose End Mill**

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of Cobalt Chrome, Titanium and Titanium alloys.

Non-ferrous metal | Cobalt Chrome

Titan

2 flutes | Micro Grain

30°

DIN 6535 Form HA

Wet machining

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
00782608	**0.8**	6.0	0.75	50.0	3.5	8.0	0.4	x	2
00782610	**1.0**	6.0	0.95	50.0	3.0	8.0	0.5	x	2
00783610	**1.0**	6.0	0.95	50.0	3.0	12.0	0.5	x	2
00782615	**1.5**	6.0	1.45	50.0	4.0	12.0	0.75	x	2
00783615	**1.5**	6.0	1.45	50.0	4.0	16.0	0.75	x	2
00782620	**2.0**	6.0	1.9	50.0	3.5	12.0	1.0	x	2
00783620	**2.0**	6.0	1.9	50.0	3.5	16.0	1.0	x	2
00782625	**2.5**	6.0	2.4	50.0	4.5	14.0	1.25	x	2
00782630	**3.0**	6.0	2.8	50.0	5.5	15.0	1.5	x	2
00783630	**3.0**	6.0	2.8	50.0	5.5	22.0	1.5	x	2

DG = Discount Group **CT** = XTH Coating

Tools Consultancy:
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DATRON Spherical Milling Tool for ZrO_2/CoCr/Titan

Zirco-nium oxide | Non-ferrous metal | Cobalt Chrome | Titan | 2 flutes | Micro Grain | DIN 6535 Form HA

- Micrograin solid carbide end mill
- with two flutes
- Spherical 270°
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

The spherical milling tool is ideal for finishing undercuts without having to turn or tilt the clamped material.

Spherical Milling Tool for Zirconium Oxide

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L3 (mm)	R (mm)	Degree (°)	CT	DG
00784310	**2.0**	3.0	1.10	40.0	14.0	1.0	270	Diamond	2
00784610	**2.0**	6.0	1.10	50.0	14.0	1.0	270	Diamond	2

Spherical Milling Tool for Cobalt Chrome / Titan

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	R (mm)	Degree (°)	CT	DG
00785310	**2.0**	3.0	1.10	40.0	14.0	1.0	270	XTH	2
00785610	**2.0**	6.0	1.10	50.0	14.0	1.0	270	XTH	2

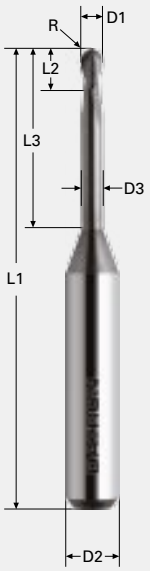
DG = Discount Group **CT** = Coating

Tools Consultancy:
+49 (0) 61 51 - 14 19 - 38

DATRON **Nanocomposite/High-Class Mill**

- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of Nanocomposite/High-Class blanks.



Nano-Composite | High-Class
2 flutes | Micro Grain
30°
DIN 6535 Form HA
Air cooling | Dry machining

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	DG
00784006	**0.6**	3.0		40.0	1.8		0.3	x	2
00782508	**0.8**	3.0	0.75	43.0	3.5	12.0	0.4	x	2
00782510	**1.0**	3.0	0.95	43.0	4.0	14.0	0.5	x	2
00782515	**1.5**	3.0	1.45	43.0	4.5	16.0	0.75	x	2
00782520	**2.0**	3.0	1.95	43.0	5.5	18.0	1.0	x	2
00782525	**2.5**	3.0	2.4	43.0	6.0	20.0	1.25	x	2
00783008	**0.8**	6.0	0.75	50.0	3.5	12.0	0.4	x	2
00783010	**1.0**	6.0	0.95	50.0	4.0	14.0	0.5	x	2
00783015	**1.5**	6.0	1.45	50.0	4.5	16.0	0.75	x	2
00783020	**2.0**	6.0	1.95	50.0	5.5	18.0	1.0	x	2
00783025	**2.5**	6.0	2.4	50.0	4.5	20.0	1.25	x	2

DG = Discount Group **CT** = XTS Coating

Tools Consultancy:
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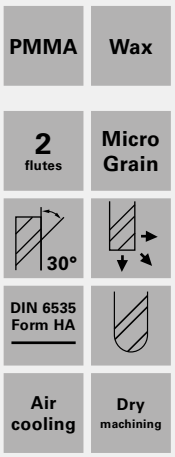
DATRON **PMMA/Wax Ball Nose End Mill**



- Micrograin solid carbide end mill
- with two flutes
- 30° upcut spiral
- centre cut
- toric cut
- shank without clamping surface DIN 6535-HA

For the machining of Acrylic-polymer and wax blanks.
Designed for milling soft materials, the polished flutes of this milling tool allow for burr-free and clean milling results. Ample chip space guarantees efficient chip removal.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	DG
00782004	**0.4**	3.0	0.35	40.0	0.60	2.0	0.2	2
00782005	**0.5**	3.0	0.45	40.0	0.75	4.0	0.25	2
00782006	**0.6**	3.0	0.55	40.0	0.90	4.0	0.3	2
00782408	**0.8**	3.0	0.75	48.0	3.5	12.0	0.4	2
00782410	**1.0**	3.0	0.95	48.0	4.0	16.0	0.5	2
00782415	**1.5**	3.0	1.45	48.0	4.5	18.0	0.75	2
00782420	**2.0**	3.0	1.95	48.0	5.5	20.0	1.0	2
00782425	**2.5**	3.0	2.4	48.0	6.0	25.0	1.25	2
00782908	**0.8**	6.0	0.75	50.0	3.0	12.0	0.4	2
00782910	**1.0**	6.0	0.95	50.0	4.0	16.0	0.5	2
00782915	**1.5**	6.0	1.45	50.0	4.5	18.0	0.75	2
00782920	**2.0**	6.0	1.95	50.0	4.5	20.0	1.0	2
00782925	**2.5**	6.0	2.4	50.0	5.0	25.0	1.25	2

DG = Discount Group

Tools Consultancy:
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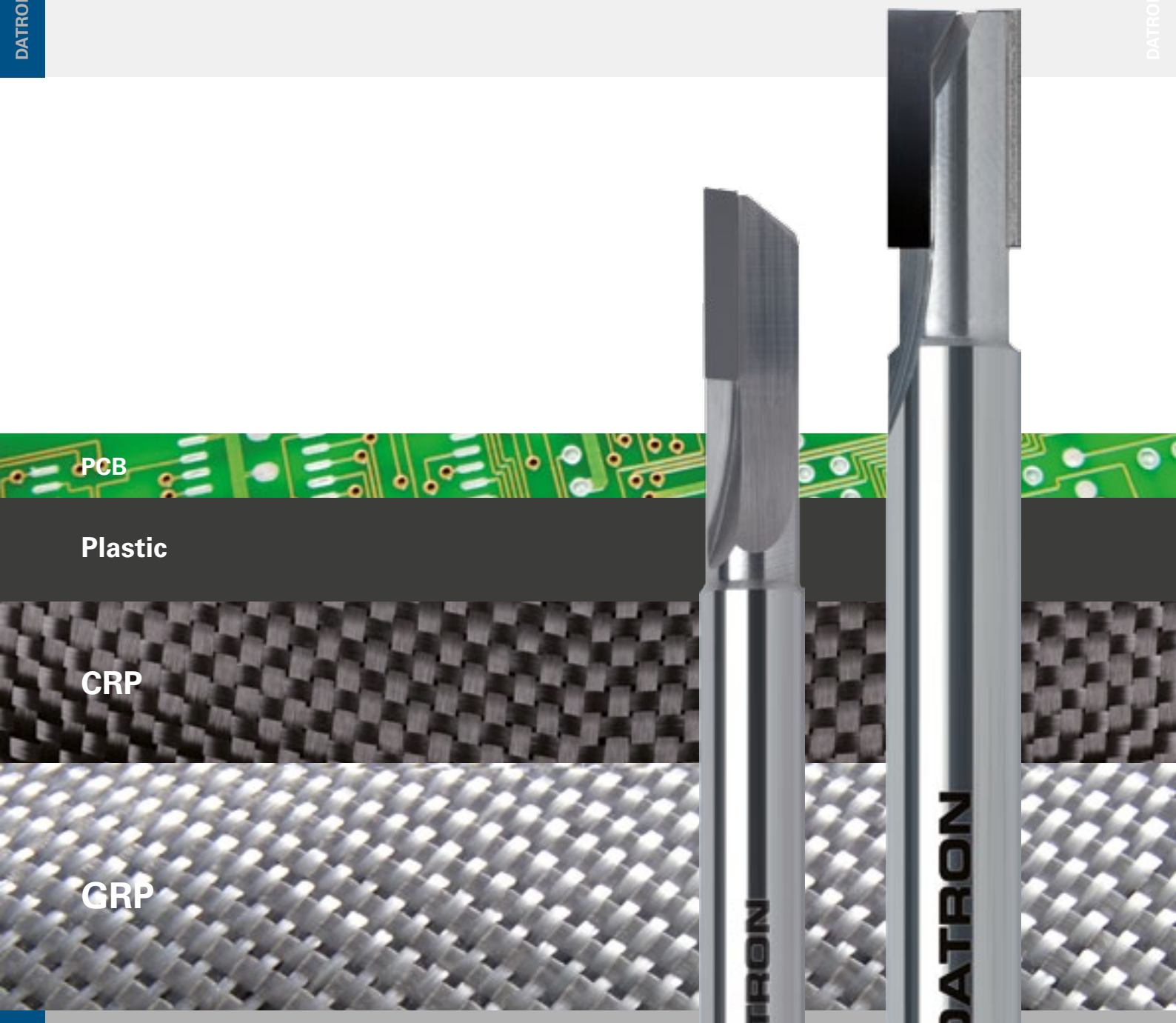
DATRON **Diamond Milling Tool**

The new CVD cutting material for the cutting of CRP, GRP, PCB and Plastic exceeds the standard PCD cutting material with regard to abrasion resistance, tool life and surface finish.



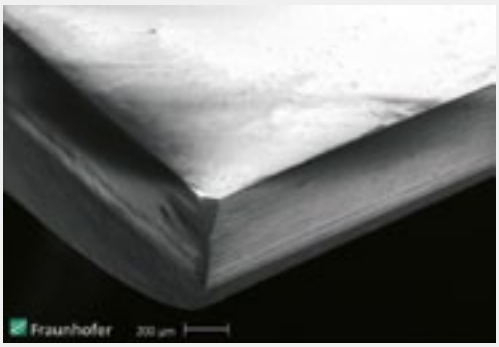
Tailor-made milling tools for machining CRP and GRP

The new CVD cutting material for cutting abrasive materials surpasses the conventional PCD cutting material with regard to wear resistance and tool life.

This is made possible by the diamond tools' special manufacturing process:

Conventional PCD cutting edges are manufactured by pressing. CVD cutting edges, however, are constructed by layers using chemical vapour deposition. This leads to an unexcelled homogeneous and low-stress structure. Micro disruptions on the cutting edge are kept to a minimum, thus slowing wear considerably.

Another advantage involves the high-quality cut quality due to the microscopically smooth cutting edge. The machining of highly abrasive materials up to now was characterised by an enormous amount of tool wear. With the DATRON CVD tools, 500 metres of cutting length in these materials could be quickly realised. This saves frequent tool changes and offers a considerable advantage in process reliability.



The scanning electron microscope illustrates the high surface quality of the CVD cutting edge.
(Image: Fraunhofer Institut)

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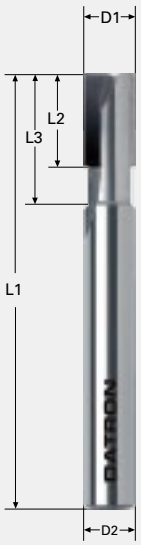
DATRON **Diamond Mill for CRP/GRP**

- Micrograin solid carbide end mill with soldered Diamond flute
- with single/double flute and flat bottom
- shank without clamping surface DIN 6535-HA

Compared to Micrograin SC tools this specially designed CVD Diamond milling tool allows for higher feed rates at very high tool life.



GRP/CRP **FR4**

Fabric-Base Laminate

1-2 flutes **CVD**

0°

DIN 6535 Form HA

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	F
00781203	**3.0**	6.0	2.8	50.0	5.0	10.0	1
00781204	**4.0**	6.0	4.0	50.0	6.0	6.0	2
00781206	**6.0**	6.0	5.6	50.0	10.0	14.0	2
00781208	**8.0**	8.0	7.2	50.0	12.0	16.0	2
00781210	**10.0**	10.0	9.2	60.0	8.0	17.0	2
00781299	Regrind service						

F = Number of Flutes

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DATRON **Accessories and Expendable Material**

Our accessories and expendable material include change stations, collet chucks, limit stop rings and several other items. And our innovation: VacuCard++, a "sacrificial layer" for vacuum clamping plates with adhesive structure for machining small, light parts.

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DATRON **Collet Chucks for HF Spindles**

Collet chucks for DATRON high-frequency spindles. The article numbers of the collet chucks ending with "D" are only suited for 2 kW spindles.

Art. No.	Article Description	Spindle Capacity in kW	DG
0068320	Collet chuck D 3.0	0.6	2
0068320D	Collet chuck D 3.0	2.0	2
0068324	Collet chuck D 4.0	0.6	2
0068324D	Collet chuck D 4.0	2.0	2
0068325	Collet chuck D 5.0	0.6	2
0068326	Collet chuck D 6.0	0.6	2
0068326D	Collet chuck D 6.0	2.0	2
0068328D	Collet chuck D 8.0	2.0	2
0068330	Collet chuck D 3.175	0.6	2
0068330D	Collet chuck D 3.175	2.0	2

DG = Discount Group

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DATRON **Service Kit for HF Spindles**

Service kit for the cleaning and greasing of the spindle. We recommend to clean the collet chuck within the spindle at least once a week according to the instructions of the manual.

Art. No.	Article Description	DG
0068338	Service kit for spindle capacity 0.6 kW	2
0068338A	Service kit for spindle capacity 2.0 kW	2
0068339	Grease for HF spindle, tube, 8 g	2

DG = Discount Group

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DATRON **Tool Change Stations**

Accessories for the automatic tool change. The tool change stations can be supplied in different tool diameter sizes.

Art. No.	Article Description	DG
0069220	Tool change station for 3 mm and 1/8" shanks	2
0069220A	Brass clamp for tool change station (3 mm, 1/8")	2
0069221	Tool change station for 6 mm and 1/4" shanks	2
0069221A	Brass clamp for tool change station (6 mm, 1/4")	2
0069222	Tool change station for mills up to 8 mm shank	2
0069222A	Brass clamp for tool change station (8 mm)	2
0069223	Tool change station for mills up to 12 mm diameter	2
0069223A	Brass clamp for tool change station (12 mm)	2
0069227	Tool change station for mills up to 14 mm diameter	2
0069227A	Brass clamp for tool change station (14 mm)	2
0690234	Tool change station for HSK-E 25	2
0069234A	Brass clamp for HSK-E 25	2
0069231	Tool change station for HSK-E 32	2
0069231A	Brass clamp for HSK-E 32	2

DG = Discount Group

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DATRON **Limit Stop Rings and Insertion Tool**

The limit stop rings are used to fasten the tool shafts in the automatic tool change. To push the rings on the 6 mm and 8 mm shanks we recommend the DATRON insertion tool.

Art. No.	Limit stop ring	D1 (mm)	D2 (mm)	Material
0068000	For tool change station **0069220**	**3.0**	7.55	Plastic
0068001	For tool change station **0069220**	**3.175**	7.55	Plastic
0068002	For tool change station **0069221**	**6.0**	10.50	Brass
0068002H	For tool change station **0069223**	**6.0**	15.00	Brass
0068002J	For tool change station **0069227**	**6.0**	18.00	Brass
0068002Z	For tool change station **0069221**	**6.35**	10.50	Brass
0068001D	For tool change station **0069222**	**8.0**	12.50	Brass
0068002K	For tool change station **0069227**	**8.0**	18.00	Brass
0068180	**Limit stop ring insertion tool for 6 mm shank tools**			
0068180A	**Limit stop ring insertion tool for 8 mm shank tools**			

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DATRON **Adapter Collets**

With the DATRON adapter collets you may use different tool shank diameters in one spindle collet chunk only. You need one adapter each in the automatic tool change for every tool with a different shank diameter. The adapters are pre-stressed and therefore reusable. To open the adapter collets you need the DATRON adapter insertion tool Art. No. 0068337 for 6 mm adapters or Art. No. 0068337A for 8 mm adapters.

Art. No.	D1 (mm)	D2 (mm)	DG
0068336G	1.0	6.0	2
0068336H	1.1	6.0	2
0068336J	1.2	6.0	2
0068336K	1.3	6.0	2
0068336L	1.4	6.0	2
0068336M	1.5	6.0	2
0068336N	1.6	6.0	2
0068336P	1.7	6.0	2
0068336Q	1.8	6.0	2
0068350	1/8"	6.0	2
0068350A	1/8"	6.35	2

Art. No.	D1 (mm)	D2 (mm)	DG
0068350C	1/8"	8.0	2
0068336B	2.0	6.0	2
0068336A	2.0	8.0	2
0068336	3.0	6.0	2
0068336C	3.0	8.0	2
0068350D	4.0	6.0	2
0068336D	4.0	8.0	2
0068336R	5.0	8.0	2
0068336F	6.0	8.0	2
0068337	Adapter insertion tool for 6 mm collet chucks		2
0068337A	Adapter insertion tool for 8 mm collet chucks		2

DG = Discount Group

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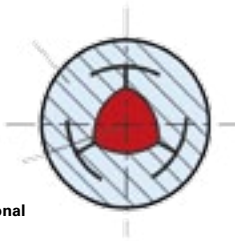
The HSK-E polygon collet chucks have been developed for precise and safe cutting, also at high speeds.
The stable, rotation-symmetrical design has an excellent concentricity of less than 3 µm. This permits high quality milling results at a speed of up to 60,000 RPM.
With passive vibration damping, the life of the high frequency spindle and the cutting tool is significantly improved.

TRIBOS-RM Toolholder

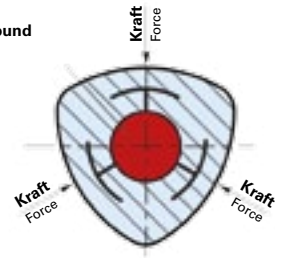
Clamping diameter polygonal



1. Before clamping

The polygon-shaped geometry of the shank insert can be clearly seen in the unloaded, relieved state.

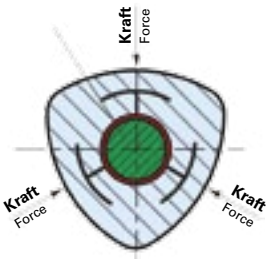
Clamping diameter is round



2. In the clamping fixture

Force is applied at three points by means of the hydraulic clamping fixture. This makes the shank insert circular.

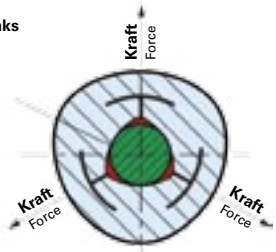
Joining shank



3. Inserting the tool shank

Now the tool shank can be easily and quickly mounted in the insert.

Clamping diameter shrinks



4. The tool is clamped

The pressure of the clamping fixture and the force transmission are reduced. The elastically deformed collet chuck comes back to its polygon shape. Now the tool is firmly and centrically clamped.

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DATRON/Schunk **HSK-E Collets**

The HSK-E inserts developed by DATRON and Schunk are solidly built and come with a concentricity of <3 µm and guarantee highest precision during the machining process.

Art. No.	D1 (mm)	D2 (mm)	Typ Type	L1 (mm)	L2 (mm)
0068300G	**3.0**	20.0	HSK-E 25	40.0	25.0
0068301G	**4.0**	20.0	HSK-E 25	40.0	25.0
0068302G	**5.0**	20.0	HSK-E 25	40.0	25.0
0068303G	**6.0**	20.0	HSK-E 25	40.0	25.0
0068304G	**8.0**	20.0	HSK-E 25	40.0	25.0
0068305G	**10.0**	20.0	HSK-E 25	40.0	25.0
0068306D	**3.0**	25.0	HSK-E 32	55.0	44.0
0068307D	**6.0**	25.0	HSK-E 32	55.0	44.0
0068308D	**8.0**	25.0	HSK-E 32	55.0	44.0
0068309D	**10.0**	25.0	HSK-E 32	55.0	44.0
0068310D	**12.0**	25.0	HSK-E 32	55.0	44.0

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DATRON/Schunk **Clamping Devices**

The hydraulic Tribos clamping fixture for polygon clamping technique, equipped with hand pump and manometer, does not require any source of energy and can therefore be used in a very flexible manner. Just a few steps are required for the clamping process. Clamping is completed within 20 seconds. Compared to the shrink technique, this wear-free process does not require any heating up or cooling down phases.

Art. No.	Article Description
0068340	Clamping device

DATRON/Schunk **Reduction Inserts**

This clamping device is used to insert the DATRON/Schunk adapters in the clamping device.

Art. No.	Article Description	Adapter Type
0068341D	Reduction insert	HSK-E 25
0068341E	Reduction insert	HSK-E 32

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DATRON **VacuCard++**

VacuCard++: DATRON Defies the Rules of Physics

Clamping of small parts with vacuum

What is VacuCard++?

VacuCard++ is a special, patent-pending paperboard which is used as a sacrificial layer between the work piece and the vacuum plate. Unlike the DATRON VacuCard, the VacuCard++ has an additional grid-like sealing/adhesive layer that significantly increases the holding force during vacuum clamping and considerably reduces vacuum loss.

For which applications can the VacuCard++ be used?

- Milling small parts made of plate material
- Consolidated PCB machining without separating webs
- Milling thin and soft plate material
- Milling plate material with a rough surface

How does the VacuCard++ work?

- The sealing/adhesive layer holds parts that are so small that vacuum alone would not be enough to hold them.
- Increases the holding force during vacuum clamping with suction-cup effect
- Prevents work pieces from slipping when large milling forces are used
- Reduces the vacuum consumption and prevents early collapse
- Distributes the vacuum evenly over the work piece
- Prevents raising of edges in soft and flexible work pieces
- Machined work pieces can be removed without any residue

Technical Data

- Paperboard with redundant suction-cup effect due to a grid-like sealing/adhesive layer
- Combination of adhesion and vacuum clamping
- Reduced vacuum consumption due to limited air permeability and protective film cover
- Disposed of as paper waste

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DATRON VacuCard

This paperboard serves as the "sacrificial layer" during vacuum clamping. This special fabric structure distributes the vacuum homogeneously and ensures a uniform suction force over the entire clamping surface.

- distributes vacuum homogeneously
- uniform suction force
- format matches the DATRON vacuum plates

Art. No.	Article Description	Size
0A01616*	VacuCard	450 x 650 x 0.7 mm
0A01617*	VacuCard	500 x 1000 x 0.7 mm
0A01617A*	VacuCard	700 x 1000 x 0.7 mm

* minimum order quantity 50 pieces

DATRON VacuCard++

The patented VacuCard++ is based on the standard VacuCard and has a grid-like adhesive structure. Thanks to this special adhesive layer, the VacuCard++ has a considerably higher combined clamping force and fixes even small, light parts with high process reliability.

- grid-like adhesive layer
- delicate parts are firmly clamped
- homogeneous vacuum distribution
- format matches the DATRON vacuum plates

Art. No.	Article Description	Unit	Size
0A01618G	VacuCard++	10	450 x 650 x 0.7 mm
0A01618D	VacuCard++	50	450 x 650 x 0.7 mm
0A01618H	VacuCard++	10	500 x 1000 x 0.7 mm
0A01618E	VacuCard++	50	500 x 1000 x 0.7 mm
0A01618I	VacuCard++	10	700 x 1000 x 0.7 mm
0A01618F	VacuCard++	50	700 x 1000 x 0.7 mm

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DATRON Expendable Material

DATRON Spraying Nozzles and Securing Brackets

Art. No.	Article Description		
0A01501S	Spraying nozzle incl. securing bracket		
07004461	Securing bracket		
07004462	Spraying nozzle		
0069725	PVC tube	red	1 m
0069725B	PVC tube	blue	1 m
0069725G	PVC tube	green	1 m
0069726	PVC tube	white	1 m
0069727	Silicon tube		1 m

DATRON Slide Nuts and Centering Sleeves

Art. No.	Article Description	Size
07009360	Centering Sleeve for Module Clamping Plates	
07009374	Centering Sleeve Counterpart	
0069922	Slide nut M6	45 mm x 10 mm x 3.5 mm
0069922A	Slide nut M6	45 mm x 13 mm x 6 mm
0069926	Slide nut M6	25 mm x 10 mm x 3.5 mm
0069926A	Slide nut M6	25 mm x 13 mm x 6 mm

DATRON Cleaner

Art. No.	Article Description	
0077105	Metal cleaner	500 ml can
0077105A	Foam cleaner	500 ml can

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DATRON **Expendable Material**

Cooling lubricants for minimum lubrication
Beyond CNC machines and tools, DATRON is now also offering the appropriate cooling lubricants. These new cooling lubricants, called ProCut, are only appropriate for minimum lubrication. Due to the very low consumption, this puts the price per liter into perspective. In addition, operating and personnel costs for the machine and part cleaning are saved to a great degree, as well as, for example, changing the lubricant. DATRON is still offering minimum lubrication systems from Microjet, which optimally moisten the workpieces with their flexibly adjustable spray nozzles.

*Please contact your local dealer about the shipping regulations for your country.

DATRON **ProCut 56***

ProCut 56 serves as an ethanol substitute and is ideal for handling the plexiglass. Thus, this provides lubricant to minimum lubrication - especially for companies or divisions, where the use of ethanol is not permitted, and for working materials, which tend to swell when in contact with ethanol.
Consumption without CleanCut: **95 ml/hour**
(about 30 % of ethanol consumption)
CleanCut consumption: **200 ml/hour**

Art. No.	Package size
0069266	10 litre

DATRON **ProCut 56-2***

When machining workpieces made of aluminum and plastic playing 56-2 ProCut its strengths - especially in connection with the chip suction system DATRON CleanCut. The lubricant provides a burr-free machining of the workpieces. In addition, it prevents the emergence of material deposition (built-up edge) on the tool. When vacuuming no explosion protection is required. ProCut 56-2 is almost completely volatile and leaves very little residue on the workpiece.
Consumption without CleanCut: **80 ml/hour**
CleanCut consumption: **250 ml/hour**

Art. No.	Package size
0069266A	10 litre

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DATRON **ProCut 200***

Especially for steel processing, the lubricant ProCut 200 was developed. With the 8 machining hard materials. For further cost reductions, the reduced power consumption makes the spindle. It results from the reduction in milling and friction between tool and workpiece. Since the lubricant is largely transient, the cost for treatment and disposal does not come up. Also the cleaning of machined parts can be omitted in most cases.
Consumption: **20 ml/hour**

Art. No.	Package size
0069266D	5 litre

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DATRON offers flexible and process-reliable clamping techniques for optimised setup times on the machine table. Depending on the application and work piece size, wedge clamping elements KSE, compact centric clamps KZS or multifunctional clamps MFS are used. These are characterised by high clamping forces, easy handling and fast retrofitting.

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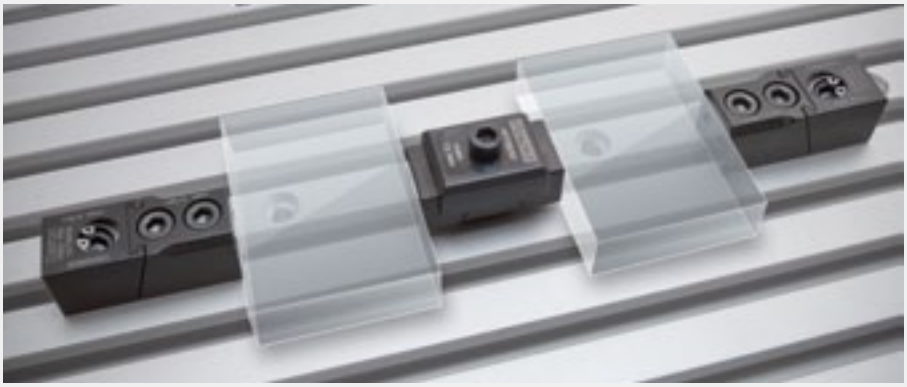
DATRON **Wedge clamping elements KSE**

Examples of clamping options with the wedge clamping elements:

Option 1:
Single clamping with lateral fixed stop. Clamping elements clamp on both sides in the pull-down device.

Option 2:
Two fixed stops, one-sided clamping in the pull-down device.

Option 3:
Double-clamping in the pull-down device thanks to wedge clamping element on both sides. One-sided wedge clamping element serves as fixed stop.



Option 4:
Multiple-clamping thanks to wedge clamping element on both sides in the pull-down device. Additional one-sided clamping in the pull-down device via one-sided wedge clamping element with fixed stop.

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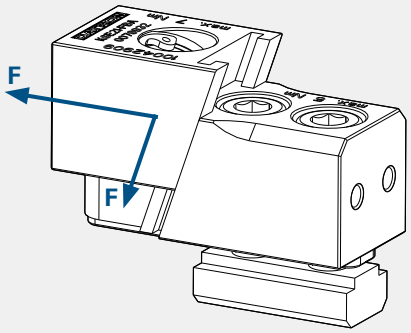
DATRON Wedge clamping elements

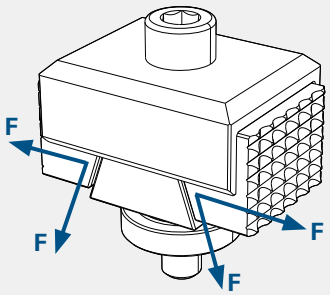
KSE 21-FBA
Features:

- Easy handling
- Fixed stop or lateral stop possible
- Built-in, integrated pull-down device
- Hardened version
- Flexible clamping inserts, which can be screwed on
- High clamping forces 4 kN



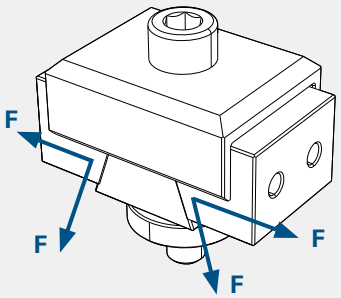
KSE 21-G8
Features:

- Easy handling
- Double-clamping possible
- Built-in, integrated pull-down device
- Hardened version
- Integrated return spring
- Higher torque transfer thanks to form fit
- High clamping forces 4 kN



KSE 21-8
Features:

- Easy handling
- Double-clamping possible
- Built-in, integrated pull-down device
- Hardened version
- Integrated return spring
- Flexible clamping inserts, which can be screwed on
- High clamping forces 4 kN



Technical Data	KSE 21-8, smooth	KSE 21-G8, corrugated	KSE 21-FBA
Jaw width	21 mm	21 mm	21 mm
Clamping force	15,000 N for 25 Nm	15,000 N for 25 Nm	4 kN at 7 Nm
Clamping screw	M6	M6	M6
L min-max (mm)	40 - 44,5	35 - 39,5	49,1 - 51,9
Total height (mm)	29,5 - 33,5	29,5 - 33,5	20 - 28
Infeed stroke (mm)	0 - 4	0 - 4	0 - 8

Art. No.	Article Description	Quantity
0078930	KSE 21-8, smooth	1
0078931	KSE 21-G8, corrugated	1
0078932	KSE 21-FBA	1

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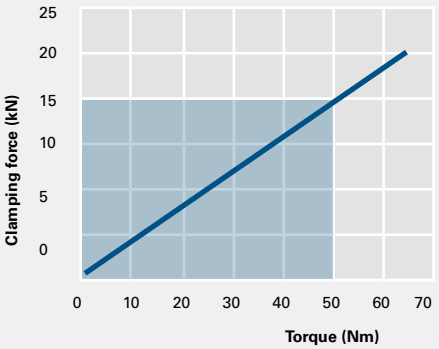
DATRON **Compact centric clamp KZS**

The encapsulated DATRON compact centric clamp is completely protected from dirt. Thanks to its specially developed slide geometry with a guide length of 150 mm, the KZS is the first fully encapsulated centric clamp.
Malfunctions due to dirt and stuck chips are now a thing of the past.

Advantages:

- Easy handling
- Flexible
- Fast conversion
- High clamping force
- Integrated DATRON zero-point clamping system
- Inexpensive aluminium clamping jaws
- Hardened basic body
- Corrosion-resistant
- 100% encapsulated



Clamping force	(max.) 20 kN
Torque	65 Nm

Features:

- **100% encapsulation**
  With the closed slide geometry, you won't waste time cleaning.
- **5-axis machining**
  Produce with optimised short tools. With the KZS, you get close to the work piece and not to the clamp.
- **Produce raw and finished parts**
  With a precision of 0.02 mm, you can produce raw and finished parts in the same clamp.
- Contour clamping possible thanks to milling out the aluminium jaws.
- Clamp large, small or round parts. With the modular changing jaw system, you can easily adapt the KZS to your specific requirements.
- With the integrated DATRON zero-point clamping system for even faster setup.

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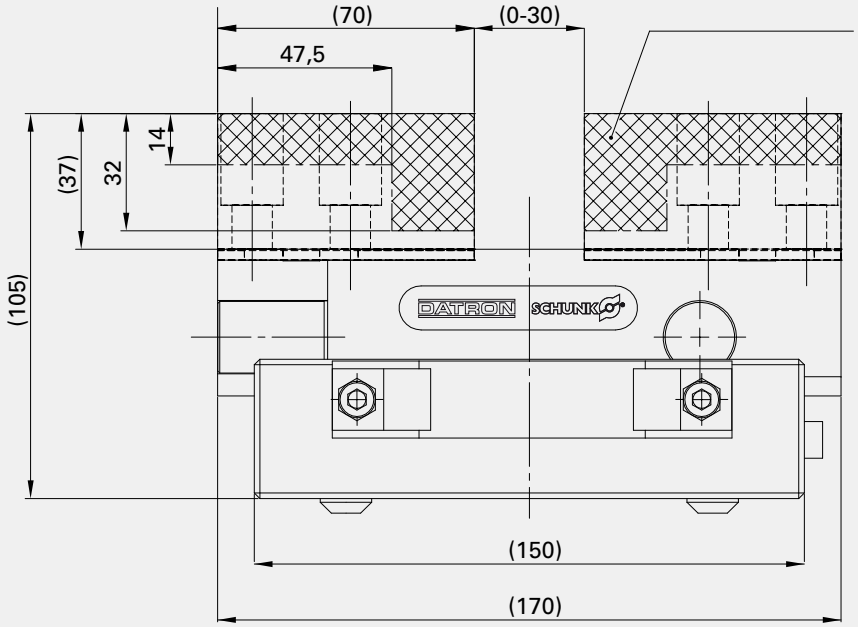
DATRON **Compact centric clamp KZS**

Function of the KZS compact centric clamp
Despite its compact design length of 170 mm, the KZS will convince you with its very large clamping range of 0 - 160 mm. The work pieces can be centrically clamped with a precision of 0.02 mm with a clamping force of max. 20 kN by operating a clamping screw.



max. Clamping range	Single clamping
Clamping depth (max. 14 mm)	0 - 160 mm
Clamping depth (max. 32 mm)	0 - 75 mm

Technical Data	DATRON compact centric clamp KZS
Jaw width	100 mm
Clamping force (total)	20 kN at 65 Nm torque
Weight	9 kg
Basic body length	150 mm
Basic body width	140 mm
Height (with top jaws)	105 mm

Art. No.	Article Description	Quantity
0A01088D	DATRON Compact centric clamp	1
0078936C	Spare aluminium clamping jaw	1

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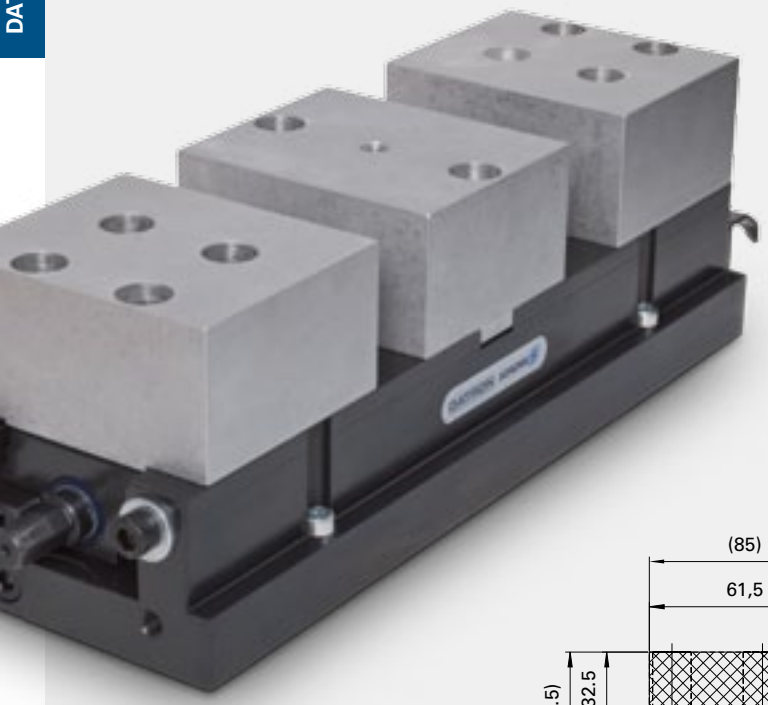
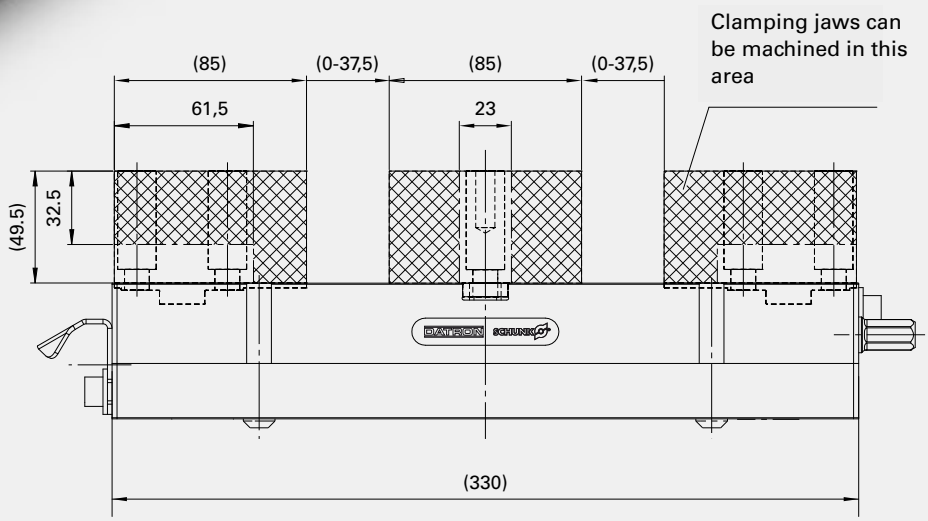
DATRON **Multifunctional clamp MFS**

The multifunctional clamp can be used for single or double clamping for small and large work pieces. By individually working in the clamping contour in the aluminium clamping jaws, quick, work piece-optimised clamping is achieved. Fast, precise positioning and clamping on the machine is possible thanks to the integrated DATRON zero-point clamping system.



Features:

- **Tensile clamping force:**
  This way, the basic body isn't bent.
- Exensive clamping jaw range.
- **Third-hand function:**
  When clamping the second work piece, the first one is already held securely in its position.
- Can be disassembled quickly and easily for cleaning.
- Contour clamping possible thanks to milling out the aluminium jaws.
- Can be used as double clamp or single clamp.



max. Clamping range	Single clamping	Double clamping
Clamping depth (max. 32,5 mm)	0 - 310 mm	0 -145 mm
Clamping depth (max. 49 mm)	0 - 207 mm	0 -103 mm

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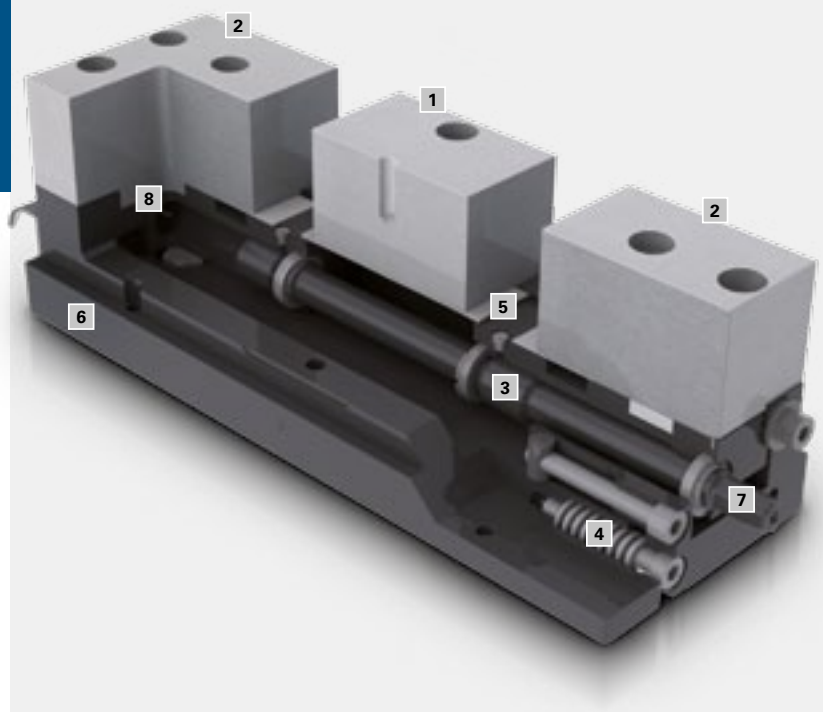
Setup and function of the multifunctional clamp KSD
The first movable clamping jaw is positioned at the work piece in the first clamping situation by turning the spindle clockwise with the hand crank, and is held securely by the preclamping of the third-hand function. By continuing to turn the crank, the second movable clamping jaw is positioned at the work piece in the second clamping station and fixed in place. The force is built up mechanically via the spindle. For single clamping, the rear jaw is clamped and the middle jaw is removed.



1	**Middle jaw** ■ Fixed position ■ Easy setup for large jaw width
2	**Movable clamping jaw** ■ Standardised take-up position ■ Extensive range of jaws
3	**Quick dismantling** ■ Few components ■ Entire spindle unit can be removed
4	**Clamping lever**
5	**Precise slide guidance** ■ Thanks to long inner-lying guide
6	**Low basic body** ■ Better utilisation of the Z axis
7	**Spring-return clamping** (third-hand function) ■ Holds the first work piece while the second work piece is being clamped in
8	**Locking screw** ■ For clamping the movable jaw for single clamping

Technical data	DATRON multifunctional clamp MFS
Jaw width	100 mm
Clamping force (per jaw)	20 kN
Weight	16 kg
Basic body length	330 mm
Basic body width	118 mm
Height	109,5 mm

Art. No.	Article Description	Quantity
0A01088C	Multifunctional clamp MFS	1
0078936B	Aluminium middle jaw, fixed	1
0078936A	Aluminium side jaw, movable	1

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General rules for selecting technology for milling

The guide values in table 2 can vary depending on:

- Tool
- Machining situation
- Setup
- Material

The guide values in table 2 are understood to be starting values for optimisations. Usually, these guide values work without problems. It always makes sense to start the optimisations "from the bottom" so as not to overload the spindle or machine.

In general, technology selection consists of the following steps:

1. Machining definition (tool, axial and radial feed)
2. Selection of the permissible cutting speed (see Tab. 8.1 Cutting speeds), depending on the tool, workpiece and machining situation (engagement)
3. Selection of the speed depending on the tool diameter (see Tab. 3 Cutting speed formula)
4. Selection of the suitable tooth feed (loadability of the blade, chip space, wear, forces)
5. Calculation of the feed from the speed, number of teeth and tooth feed (see Tab. 3 Feed speed formula)

These steps are iterative and depend on each other and must be observed as a whole for optimisations.

Material	Cutting Speed
Titanium Alloys	50 ... 150 m/min
Steel, general	100 ... 400 m/min
Plastic, Thermoplasts	150 ... 500 m/min
Brass, Bronze, Copper	200 ... 1000 m/min
Aluminium Alloys	500 ... 2500 m/min
Fibre Composites	500 ... 5000 m/min

Table 1: Cutting Speed

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DATRON Guide values for speed and feed

Blade Diameter	RPM	Cutting Speed	Cutting Depth	Number of Teeth	Positioning XY	Positioning Z	Tooth Feed
D1 (mm)		vc (m/min)	ap (mm)	z	vf (m/min)	vf (m/min)	D1 (mm)
1.0	56000	176	0.8	1	0.5	0.1	0.009
1.2	56000	211	1.0	1	0.5	0.1	0.009
1.5	54000	254	1.5	1	0.8	0.3	0.015
2.0	48000	302	2.5	1	1.0	0.4	0.021
2.4	45000	339	1.5	1	2.0	0.5	0.044
3.0	40000	377	0.15	1	3.0	0.7	0.075
6.0	36000	679	2.5	1	4.0	1.0	0.111
8.0	34000	855	3.0	1	4.2	1.2	0.124
10.0	34000	1068	3.0	1	4.5	1.4	0.132
12.0	32000	1206	3.0	2	6.0	1.6	0.094
16.0	26000	1307	3.0	2	6.0	1.8	0.115
20.0	24000	1508	4.0	2	6.0	2.0	0.125

Table 2: Guide values for machining aluminium

The guide values in table 2 are subject to the following criteria:

- Roughing, in full cut (ae = D1)
- depends on radial working engagement, for smaller values ae < D1, the cutting depth, cutting speed and feed can be increased
- established cutting speeds vc = 500..1500 m/min
- For small tools, the maximum speed of the spindle is often the limit. The tooth feed must remain constant, i. e. the feed will decrease.
- The feed depends on the tool length. Long tools only allow low feeds due to the low rigidity.
- The tooth feed should lie between fz = 0.01 (for D1 = 1 mm) and fz = 0.15 (for D1 = 20 mm) and greatly depends on the tool diameter.
- Two-bladed tools only allow approx. 25% - 75% of the tooth feed of single-bladed tools. The smaller the tool, the greater the difference.
- See also the equations for cutting speed and feed.
- The spindle power and the available torque limit the potential chip volume per unit time. See also the equation for the chip volume per unit time and the cutting capacity.

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Formula		Parameter
Cutting Speed	$V_c = \frac{\pi * d * n}{1000}$	Vc = Cutting Speed (mm/min) d = Tool Diameter (mm) n = Speed (rpm)
Feed Speed	$V_f = f_n * n * z$	vf = Feed Speed (mm/min) fz = Tooth Feed (mm/min) n = Speed (rpm) z = Tooh Number (-)
Cutting capacity	$P_c = \frac{Q}{V_{sp}}$	Pc = Cutting capacity (kW) Q = chip volume per unit time (cm³/min) Vsp = spec. chip-cutting volume (cm³/min/kW)
Chip volume per unit time	$P_c = a_e * a_p * v_f$	Q = chip volume per unit time (cm³/min) ae = radial working engagement (mm) ap = cutting depth (mm) vf = Feed Speed (mm/min)

Table 3: Formulas for calculating the milling parameter

Machining of plastics
When machining plastics, such as duroplasts and thermoplasts, generally select lower speeds and higher feeds as compared to aluminium. The difference should be around 40%.

Engraving with engraving tools
Select the following values for engraving aluminium or brass with a graver:
Speed approx. 30 000 rpm
Feed approx. 0.7 m/min

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DATRON **Data Sheet**

For your custom milling tools which are not included in the standard range. Here you can enter all technical data including price and article number, so as to have this data easily available next time.

Art. No.	D1 (mm)	D2 (mm)	D3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	R (mm)	CT	€

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Notes

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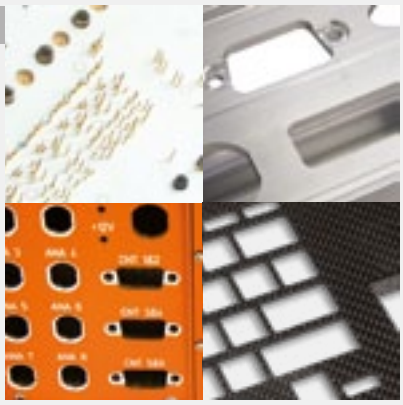
- Panels & Nameplates
- Test Adapter
- 3D Rapid Prototyping
- Test Control Units
- Soldering Frames
- PCB Depanelling



Aerospace Industry

- Sheet Metal Machining in Aluminium
- Aluminium Extrusions
- Micro Drilling

Forms and Molds

- 3D Aluminium Molds
- 3D Rapid Prototyping
- Graphite Electrodes
- Steel Molds

Printing Industry

- 3D Engraving
- Die Making
- Hot Stamping
- Combination Dies

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- Mold Making
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