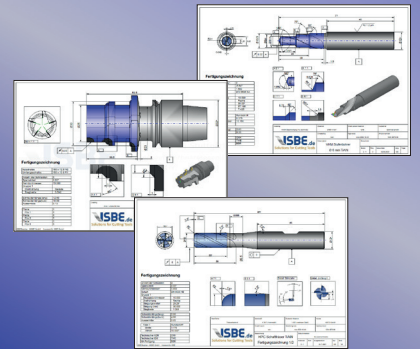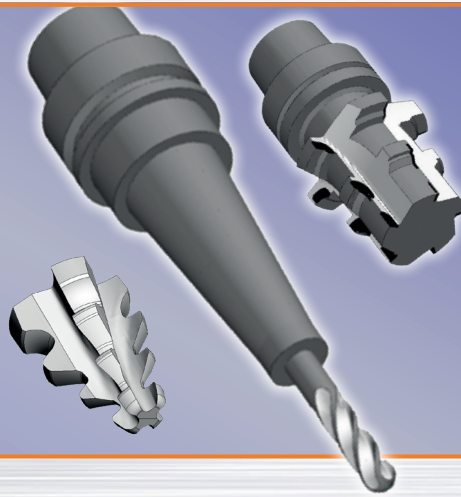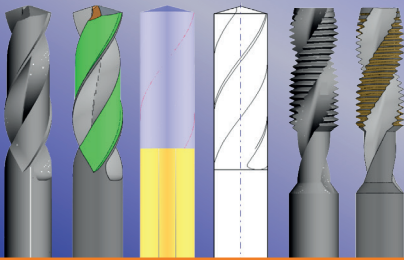# TD Sketcher

Consistently digital tool data from sales to production

ISO

News Inside

TD Sketcher

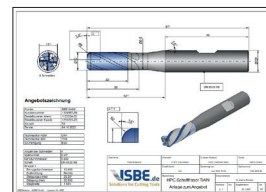**Consistently digital tool data from sales to production**

The **TD** Sketcher **IB+** and **XB** is software for designing and planning standard and special tools in 2D and 3D.
You can use it to describe your tool easily in just a few minutes by simple and esay parameter input.
From this data record, you not only generate attractive offer and approval drawings, but also the digital twins for your production and customers.
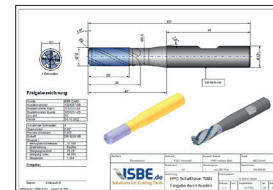
Advantages

- Generate tool data once, use in many application areas
- Data consistency with GDX® and other NC environments
- Significant time savings of up to 50% compared to CAD
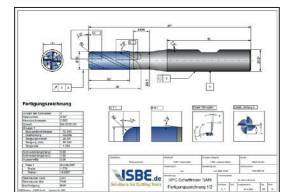- Increase efficiency through greatly reduced process times
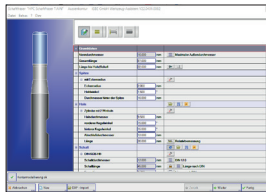
Automated tool design from quotation to production drawing

INFO   Highlights at a glance

- Automated / parameterized design
- For Drills, End Mills, Reamers, Step Tools, Contour Tool and many more
- Quotation-, production-, customer-, blank-, and confirmation-drawings
- Consistent digital data / process chain
- Grinding- and measuring-machine interface
- Collision calculation (DIN 4003, ISO 13399-3D)
- Fast and precise 3D grinding simulation
- Integrated, fast tool calculation
- Preset geometry detail views **NEW**
- DIN/ISO and DXF Import and Export
- Management of own DIN/ISO tables **NEW**
- Creation & execution of measurement programs
- Automated carbide blank quick request **NEW**
- Integrated into the **ISBE** digital process chain

Quotation drawing

Confirmation drawing

incl. Cut-/No-Cut Model acc. to DIN 4003 / ISO 13399-3D

Production drawing

Tool calculation

TD Sketcher

Data consistency in the digital process chain

The **TD** Sketcher accompanies the entire process chain, from the offer in sales to production and quality control.
Tool manufacturers can intelligently network grinding- and measuring-machines connected to **TD** Sketcher and process
the tool data created with **TD** Sketcher in the commonly used formats for the various work areas.
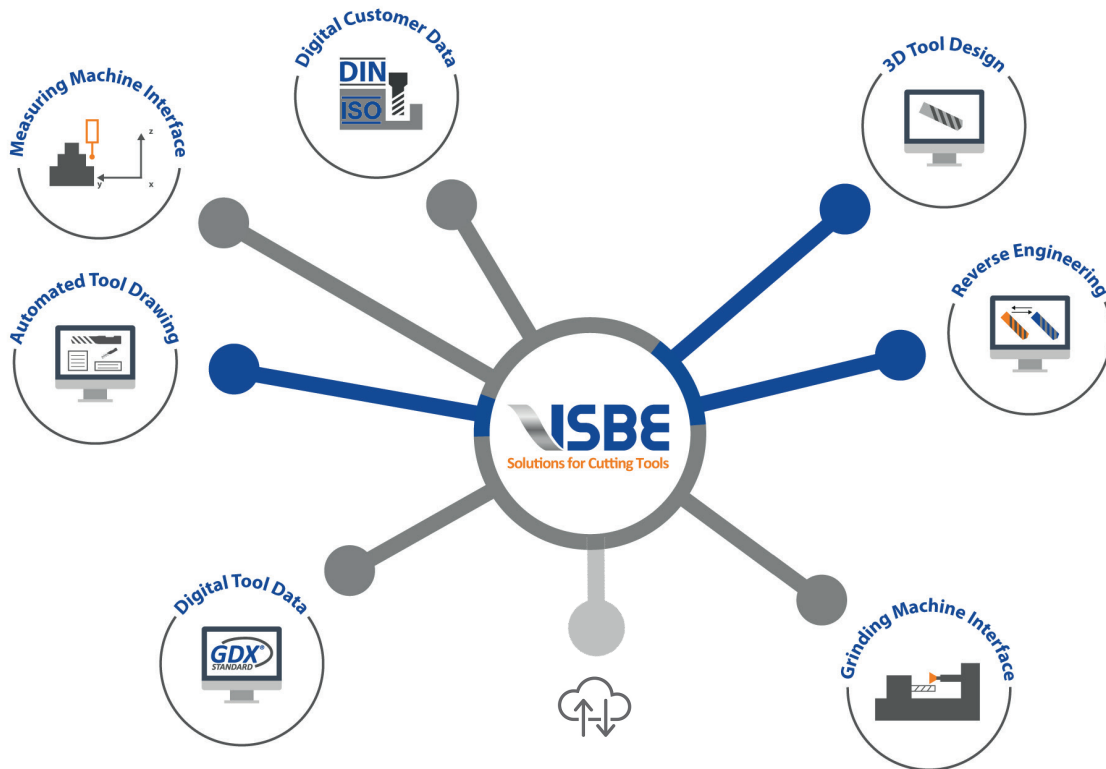
- Automated (parameterized) tool design and management of data and tables
- Creation of quotation-, blank- and confirmation-drawings as well as tool calculation and carbdie blank order **NEW**
- Output of the DIN data for collision calculation, cutting data recommendations or product data
- Creation of 3D models, grinding simulations and detailed tool geometries (**TD WinNut** Transfer) **NEW**
- Reverse Engineering – Checking of all tool data for quality assurance (**TD ReCAD** Transfer)
- Automatic creation and execution of the measurement programs and Transfer via GDX®-Box
- Provision of the tool parameters for the grinding machine via GDX®-Box Transfer
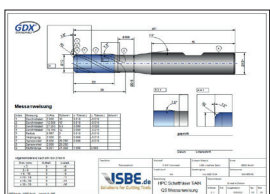
Measuring instruction
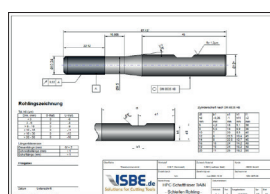
Blank drawing
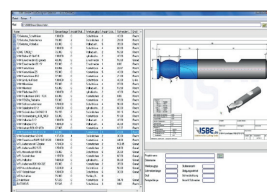
Drawing management

TD Sketcher

Tool design made easy

After a one-off presetting of the **TD** Sketcher, simply follow the **TD** Wizard for the design of standard and special tools in just a few steps. If necessary, the stored parameter data can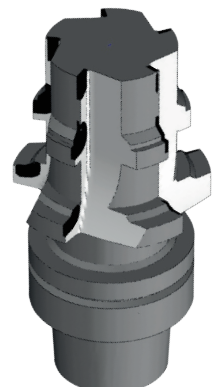 be changed any time. Changes to the tool happen simultaneously. Subsequent change? No problem! You can change all or individual values at any time, even afterwards. The templates and drawings you create change automatically.
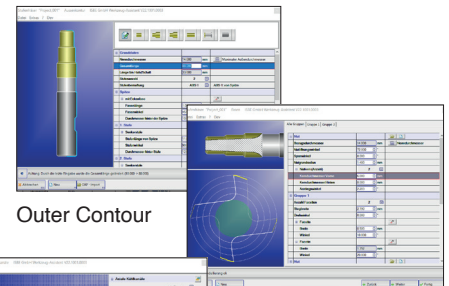
Advantages

- Follow the wizard and adjust the parameter data
- Visually check the result in the 3D grinding simulation
- Drawing and data set created quickly and easily
- Processing time* of 6 - 10 minutes including inspection

Dialog

Outer Contour

Flute Geometry
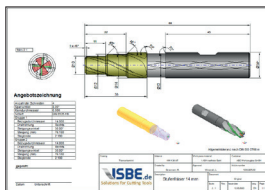
Coolant Chanels

- ✔ Feasibility checked
- ✔ Created drawing
- ✔ Created data-set
- ✔ Deduct further drawings
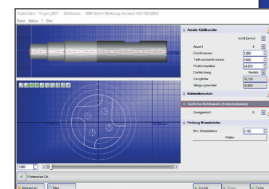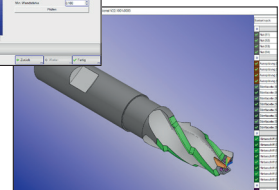
3D result control and feasibility check

TD Sketcher - Option TD Selector

Quickly select and view quotation and production drawings

With **TD** Selector, employees have access to existing quotation and production drawings. The adjustable filters help narrow down the results as you type. In this way, drawings can be found quickly even with a large database. The **TD** Selector can be integrated into **TD** Sketcher or installed as a standalone application.

Advantages

- Filter by tool characteristics, customer, creator, item number, etc.
- Reuse any existing **TD** Sketcher drawing data
- No tedious and unnecessary searches with large databases
- Adjustable for one or several employees (central or decentralized)
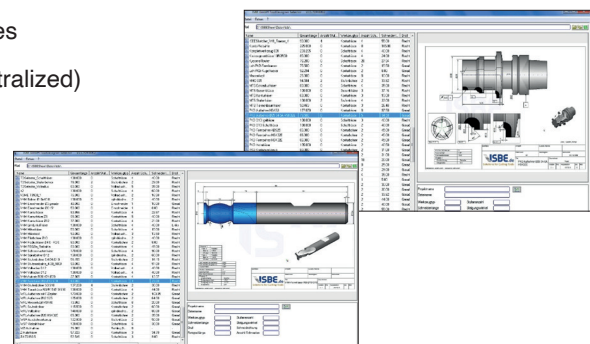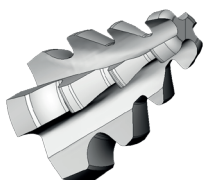
*working time dependent on preset and tool type

TD Sketcher - Option 3D

Exact 3D models generated automatically

With the **TD** Sketcher 3D you can quickly and easily create 3D basic models according to DIN 4003 / ISO 13399-3D from 2D data and generate the associated DIN 4000 characteristics. In addition, the 2D data can be exported to a DXF according to DIN 69874 (BMG layer structure). In this way, your customer can already carry out the simulation and collision check in the quotation phase/period and release the order to you even faster.

NEW

Advantages

- Automated creation and export of the most important DIN and ISO tool formats
- No time-consuming creation in the CAD system necessary
- STEP model creation through interface to **TD** WinNut **NEW**
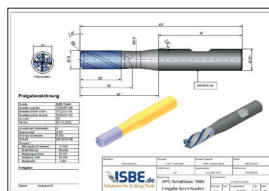- Central data management with full connection to the digital process chain

- ✓ DIN 69874 DXF (BMG)
- ✓ DIN 4003 / ISO 13399-3D
- ✓ 3D-Simulation
- ✓ STEP-Model (via **TD** WinNut) **NEW**
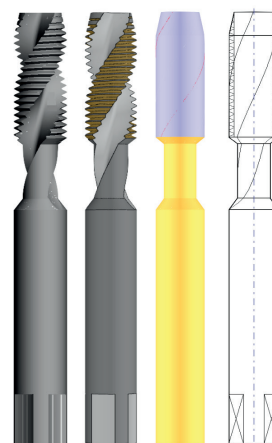
Fast and exact 3D grinding simulation

The **TD** Sketcher Option 3D <u>also includes</u> the fast, flexible and colour-coded grinding simulation.
This precisely represents even complex tools and allows a quick, exact check of the designed tools.
All work steps in the grinding process can be displayed individually or as a whole.

Advantages

- 360° freely rotatable with color-coded surfaces
- Can be called up after individual operations or as complete tools
- Clear visualization of the individual grinding operations
- Quickly created 3D picture for the quotation-drawing and the customer
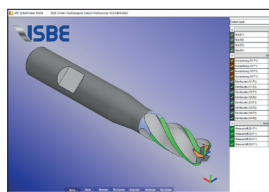
- ✓ Grinding operation selectable
- ✓ Clean gradation
- ✓ 360° freely rotatable **NEW**
- ✓ Detail view can be cut out
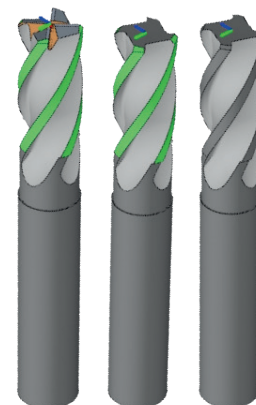
TD Sketcher - Option Diamond

Precise design of PCD tools

With the **TD** Sketcher DIAMOND you can define and draw special PCD-and Carbide-tipped cutting tools.
You describe the properties of the tool, such as the outer contour, PCD cutting edge positions and
lateral cooling channels, using an easy-to-use user interface

Advantages

- Automated insert positioning along the entire cutting edge
- Output of insert-geometries automatically as DXF for eroding
- Shrink the tool body using the allowance function
- Tool body can be used as a STEP model for CAD applications
- Extendable with **TD Sketcher CAM** for 3D modeling of the tool body   NEW
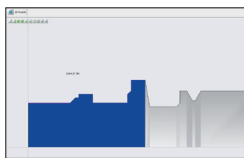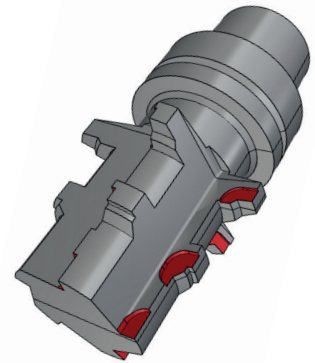
Exact design:
Optionally with contour editor or DXF import
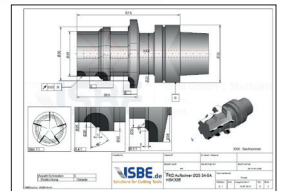
TD Sketcher - Option Insert

Precise design of cutting tools with ISO inserts

We developed the **TD** Sketcher INSERT specifically for cutting tools with ISO indexable inserts. With the software, you can
design entire indexable insert tools in just a few minutes by simply entering the outer contour and ISO indexable inserts.
There are numerous predefined tool types and DIN indexable insert geometries, and you can also save and use your own
insert geometries in a library using the indexable insert configurator.

Advantages

- Automated insert positioning along the entire cutting edge
- Extensive DIN plate library to choose from included
- Create and apply user-defined inserts
- Tool body can be used as a STEP model for CAD applications
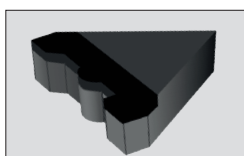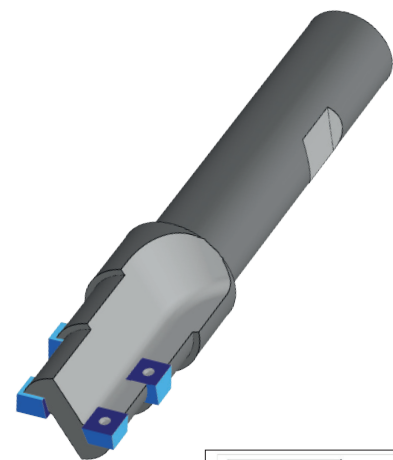
Easy to use:
Insert configurator
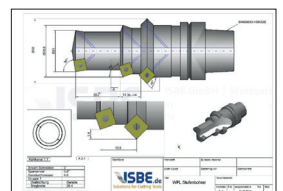
TD Sketcher - Option Assembly

TD Assembly for digital tool assembly

With the **TD** Sketcher ASSEMBLY you can assemble and visualize complete tools from already defined individual tools. If you need several complete tools for an operation, then simply store them clearly together in one project. You can later export the complete tools as **DIN 4003** and **ISO 13399** STEP models for CAM programming.

NEW

Advantages

- Intuitive operation without CAD knowledge
- Generate all drawings from one data set
- Save up to 50% time compared to CAD
- Save tool data and call it up at any time
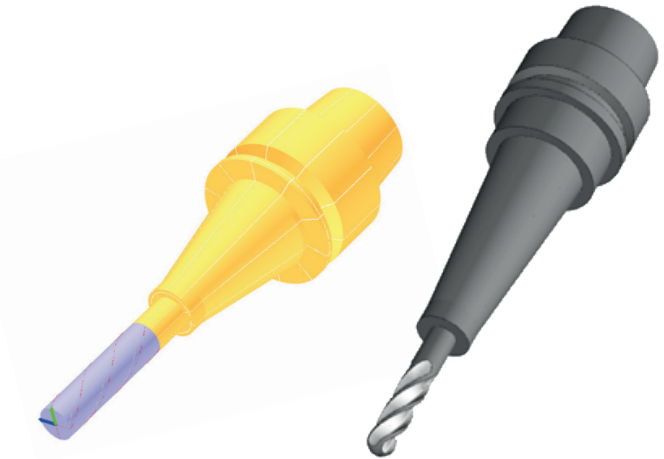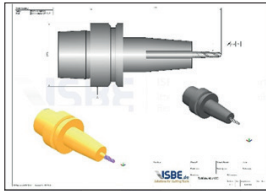
TD Sketcher - Option Time

Grinding times and idle times quickly calculated

With the **TD** Sketcher TIME you always have an eye on the grinding and non-productive times - and all this without a great deal of programming work on the tool grinding machine. With just one click, the module lists all the information that is necessary to create an offer calculation for the respective project.

Advantages

- Fast calculation of the manufacturing costs including the raw material
- Flexible calculation by creating different calculation profiles
- Machine-independent calculation of the tools
- Several machines with different hourly rates can be added   **NEW**
- Manual readjustment enables flexible handling
- Grinding volume calculation included   **NEW**

TD Sketcher - Option CAM

Generate 3D base bodies of PCD tools for manufacturing

With our **TD** Sketcher CAM, 3D models with flute and insert seats can be derived directly from the **TD** Sketcher DIAMOND. The 3D model is generated as a surface model (STEP). You can either export the complete geometry as a STEP file, flutes and insert seats or just the inserts directly into the CAM systems for the production of the tool body and use them for grinding or milling operations. Elaborate designs in CAD are no longer necessary.

Advantages

- 1x generate tool data, use many areas of application
- Save up to 50% time compared to CAD
- Automated insert positioning at the cutting edge
- Generate 3D base body models for manufacturing with one click without CAD
- Use of all existing **TD** Sketcher data

NEW

STEP (SOLID) Model

3D Model Inserts

3D Modell Flute/Insert

3D Model
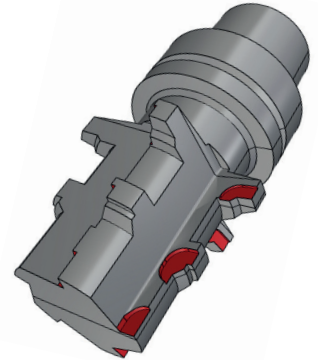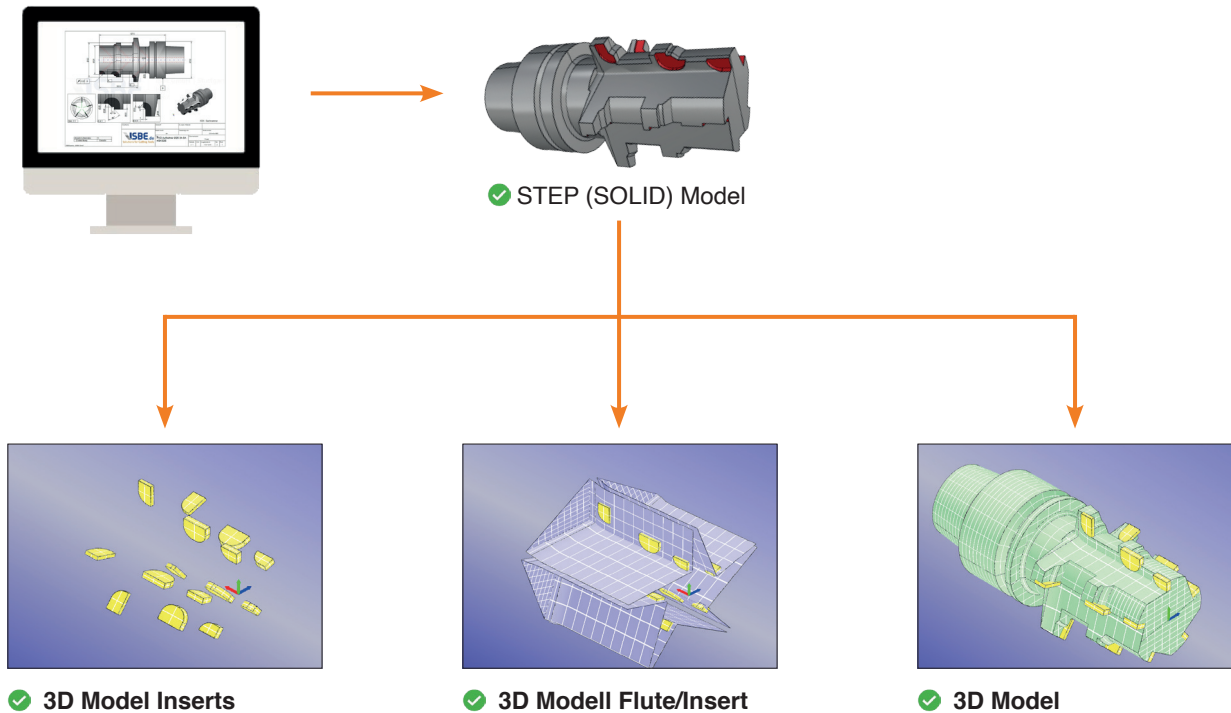
3D base bodies created quickly and accurately

At the push of a button, the PCD or HM tipped cutting edges can also be exported as STEP to provide the equipment. An additional calculation of the surfaces and effective cutting edge lengths facilitates the exact calculation of the semi-finished product costs as early as the project planning or quotation phase.

TD Sketcher - Option GDX®

Data consistency with TD Sketcher GDX®

The new **TD** Sketcher **GDX®** is a complete solution for digital manufacturing. It includes all modules for professional tool drawing, the **GDX®**-box for data transfer between multiple grinding or measuring machines and a selection of detailed views for production. In addition to quotation drawings, you can also create precise production drawings.
In addition, you can automatically create measurement instructions from the tool generated in **TD** Sketcher and then send this digitally to your measuring machine. The measuring program is automatically generated from this data record.

Advantages

- Data consistency with **GDX®** and other NC environments
- Production on different tool grinding machines - no unnecessary downtime of the machine
- Standardized interface reduces costs and optimizes internal processes
- Set-up times of the measuring machines are reduced by pre-definition of the measuring instructions
- Tool information centrally available at all times, in all plants worldwide
- Initiated by Anca, ISBE, MTS, Schneeberger, Walter, Zoller; supported by the FDPW e.V.
- In addition to **GDX®** format, also suitable for **XML** format on **NUM**roto controls   **NEW**

Tool data

GDX STANDARD
VDI 3232

✓ **Grinding machine**

Tool data

✓ **TD Sketcher**

Tool data
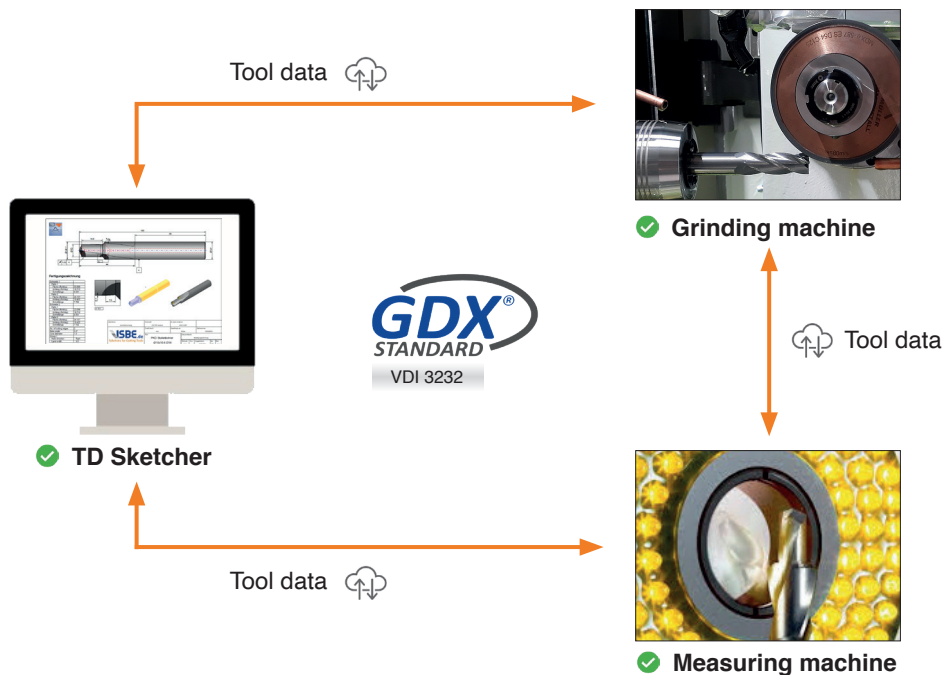
✓ **Measuring machine**

Fast GDX® or XML data transfer

With the T**D** Sketcher **GDX®**, users can seamlessly transfer digital tool data to the measuring machines and tool grinding machines within the shop floor. The data transfer works with all **GDX®** compatible systems and machines with Numroto control. Data loss through manual entry is a thing of the past. With this extension, tool manufacturers accelerate their production processes considerably.

ANCA CNC MACHINES   **FDPW** Fachverband der Präzisionswerkzeugmechaniker   **ISBE** Solutions for Cutting Tools   **MTS AG** Mathematisch-Technische Software   **numroto** Total solution for tool grinding   **SCHNEEBERGER**   **WALTER** HELICHECK   **ZOLLER** Erfolg ist messbar

TD Sketcher - Add-on TD Converter

Continue to use tool lists, data tables and catalog data

With **TD** Converter you can convert and complete standard and semi-standard data based on **TD** Sketcher 3D. You can import data for various application scenarios from existing inventories.Even large amounts of existing data with over 50,000+ articles can be processed quickly and easily.

Advantages

- Budget-friendly solution for converting data from existing assets in different formats
- Use data, e.g. from catalogues, and use it to create 3D basic models according to DIN 4003 / ISO 13399-3D
- Significant 2D drawing of your cutting tool
- Extremely short and simple learning phase
- Innovative concept of data control and processing
- 100% merging of different formats
- Fast processing of „grown" databases
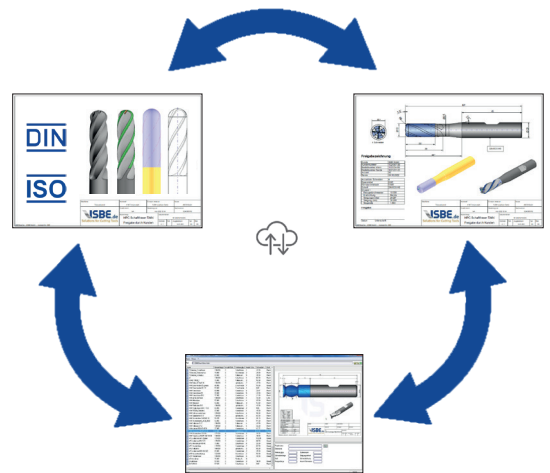
TD Sketcher - The Complete Packages

The new complete packages have been specially put together for the requirements of production and are based on the **TD** SketcherPortfolio. The packages contain a careful selection from the available options of the **TD** Sketcher and were geared to the needs of CAM-based or digital production.

NEW   **TD** Sketcher CAM - The Complete Package

Sophisticated package for CAM-supported production

The new CAM options package for the **TD** Sketcher was specially put together for the design and manufacture of PCD tools in 2D and 3D with CAM systems, including the base body.

- ✔ TD Sketcher XB
- ✔ Option Diamond
- ✔ Premium Support
- ✔ Option CAM
- ✔ Option 3D
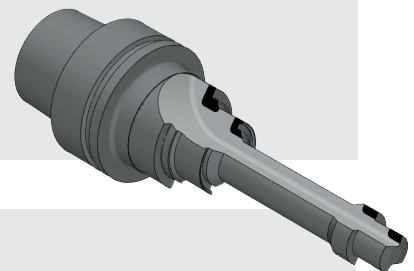
NEW   **TD** Sketcher GDX® - The Complete Package

Data consistency with GDX® standard

The package includes all features for professional tool drawing, for data transfer between multiple grinding or measuring machines and a selection of detail views for production.

- ✔ TD Sketcher XB
- ✔ Premium Support
- ✔ Option NUM- interface
- ✔ Option Selector
- ✔ Option Time
- ✔ Option digital measuring
- ✔ Option 3D
- ✔ Option GDX®-Box

GDX®
STANDARD

TD Sketcher Program and product feature overview

Feature comparison of TD Sketcher IB+ and XB versions and packages

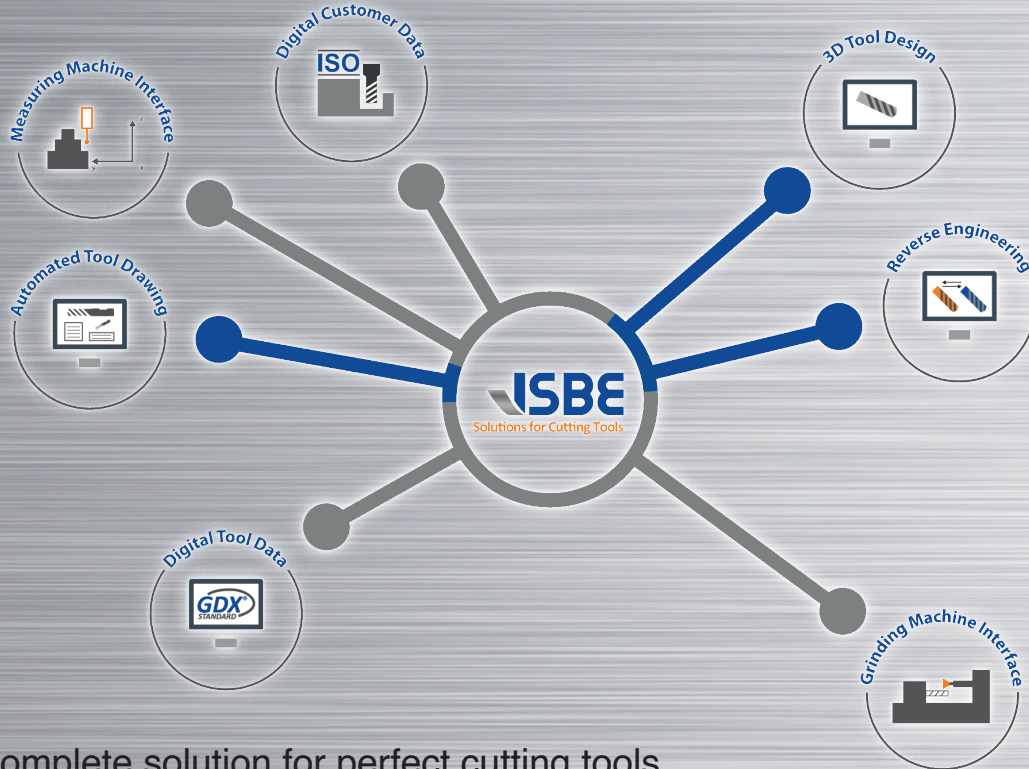|		IB+ Version	XB Version	CAM complete package	GDX®
Tool Types (Abstract)	Drills (incl. single and multiple step drills)	✅	✅	✅	✅
	Reamers (incl. step reamers)	✅	✅	✅	✅
	End Mills (incl. step, tapered, corner radius and ball nose)	✅	✅	✅	✅
	Counter Sinkers and Contour Tools	✅	✅	✅	✅
	Taps and Thread Mills	-	✅	✅	✅
	DIN- and Contour- Inserts	-	✅	✅	✅
	HSK shanks (Type A to F) library	-	✅	✅	✅
	Tool Holders, Blanks and DIN shanks	✅	✅	✅	✅
Basic Functions (Abstract)	Create, insert and manage tables	✅	✅	✅	✅
	Create, insert and manage templetes	✅	✅	✅	✅
	Tolerance input and table management **NEW**	✅	✅	✅	✅
	Create tool copies (linked & unlinked)	✅	✅	✅	✅
	Show half cuts and core runs or positions	✅	✅	✅	✅
	Insert and edit detail views	✅	✅	✅	✅
	Contour editor for creating complex contours	✅	✅	✅	✅
	DXF-Import/Export	✅	✅	✅	✅
	Weldon flat acc. to DIN can be moved or edited	✅	✅	✅	✅
	Select from standard coatings	✅	✅	✅	✅
	Create and manage your own coatings	-	✅	✅	✅
	No. of pages (individual sheets for tool design) **NEW**	3	8	8	8
	No. of manageable logos	1	3	3	3
	Create and insert barcodes or QR codes	-	✅	✅	✅
Add. Functions (Highlights)	DIN 4000 XML export (e.g. TDM-systems, AutoCAD)	-	✅	✅	✅
	Blank Manager (order dialog & drawing) **NEW**	-	✅	✅	✅
	Measuring Instruction (create & manage) **NEW**	-	✅	✅	✅
	Own Detail Views (design & manage) **NEW**	-	✅	✅	✅
	Tool Preselection (create & manage) **NEW**	-	✅	✅	✅
Options	**3D**	-	⬤	✅	✅
	3D grinding simulation / feasibility check	-	⬤	✅	✅
	3D STEP „Cut / No-Cut" Modell with flute **NEW**	-	⬤	✅	✅
	3D base model (DIN 4003 / ISO 13399)	-	⬤	✅	✅
	DXF with BMG layer structur (DIN 69874)	-	⬤	✅	✅
	DIAMOND	-	⬤	✅	
	INSERT	-	⬤		
	CAM **NEW**	-	⬤	✅	
	ASSEMBLY	-	⬤		
	PREMIUM	-	⬤	✅	✅
	TIME	-	⬤		✅
	GDX® or **NUM**roto machine interface **NEW**	-	⬤		✅
	GDX® measuring machine interface	-	⬤		✅
	TD SELECTOR	-	⬤		✅
	TD CONVERTER	-	⬤		

✅ included in product   ⬤ bookable as an option   - not available

ISBE

Solutions for Cutting Tools

ISBE Digital tool data for your production

Measuring Machine Interface

Digital Customer Data
ISO

3D Tool Design

Automated Tool Drawing

Reverse Engineering

ISBE
Solutions for Cutting Tools

Digital Tool Data
GDX STANDARD

Grinding Machine Interface

ISBE Complete solution for perfect cutting tools

TD Sketcher
- Automated, parameterized 2D or 3D tool design
- Connection of grinding- and measuring-machines
- Consistent digital cutting tool data

TD WinNut
- 3D cutting tool design and 3D grinding simulation
- Distortion-free flute and geometry calculation
- Grinding wheel calculation and central management

TD ReCAD
- Reverse engineering of cutting tools
- Creation of accurate and realistic 3D models
- Conversion of STL data into STEP models

CS Customized
- Customized software solutions
- Interface programming for grinding-machines
- Post processors and machine interfaces

CS Service
- Data conversion and completion
- Data exchange between NC environments
- User-oriented training and consulting

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