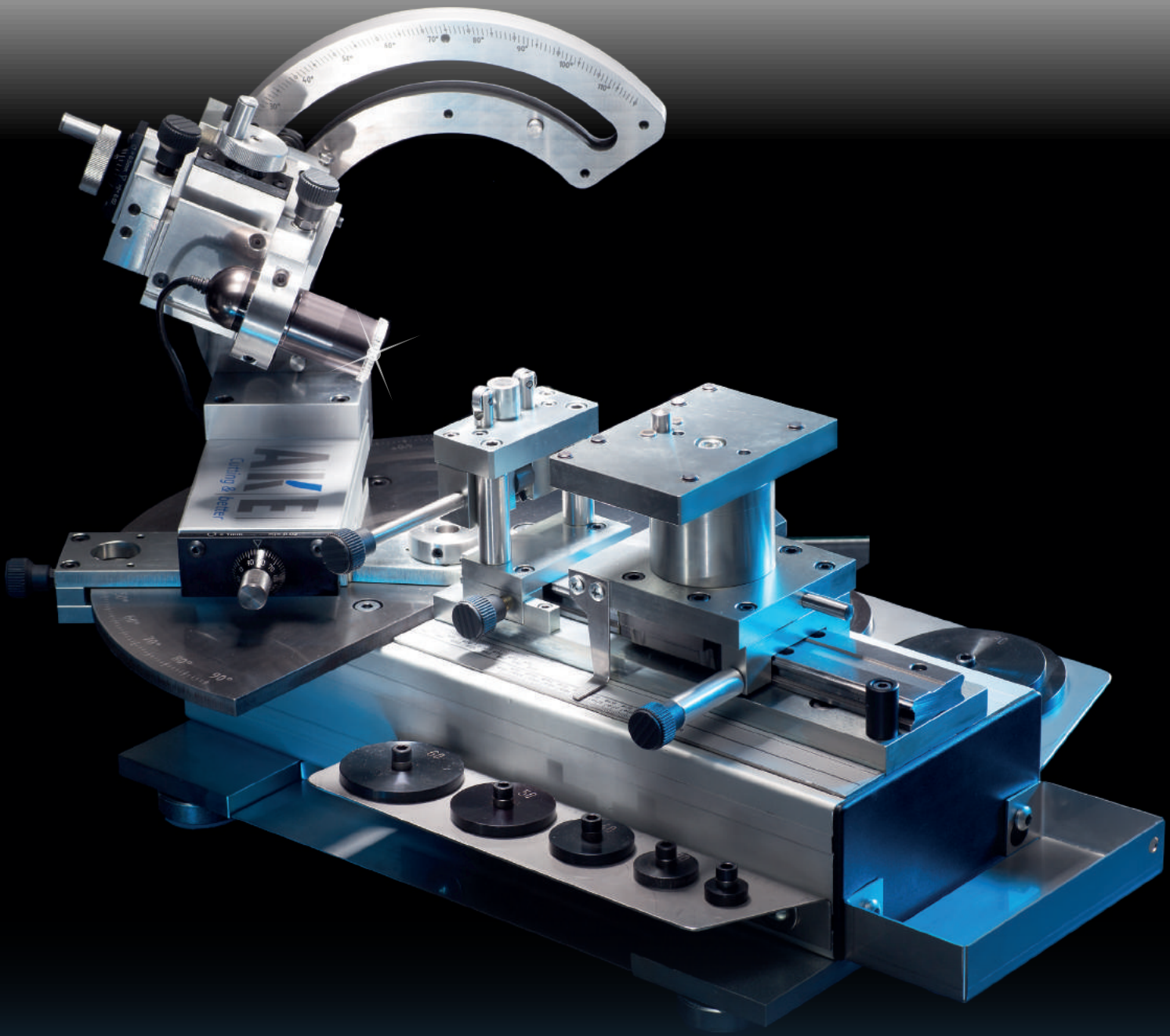
20x~200x

by A|K|E

Real-Time-Analyser

► plug in ► focus ► measure ► marvel



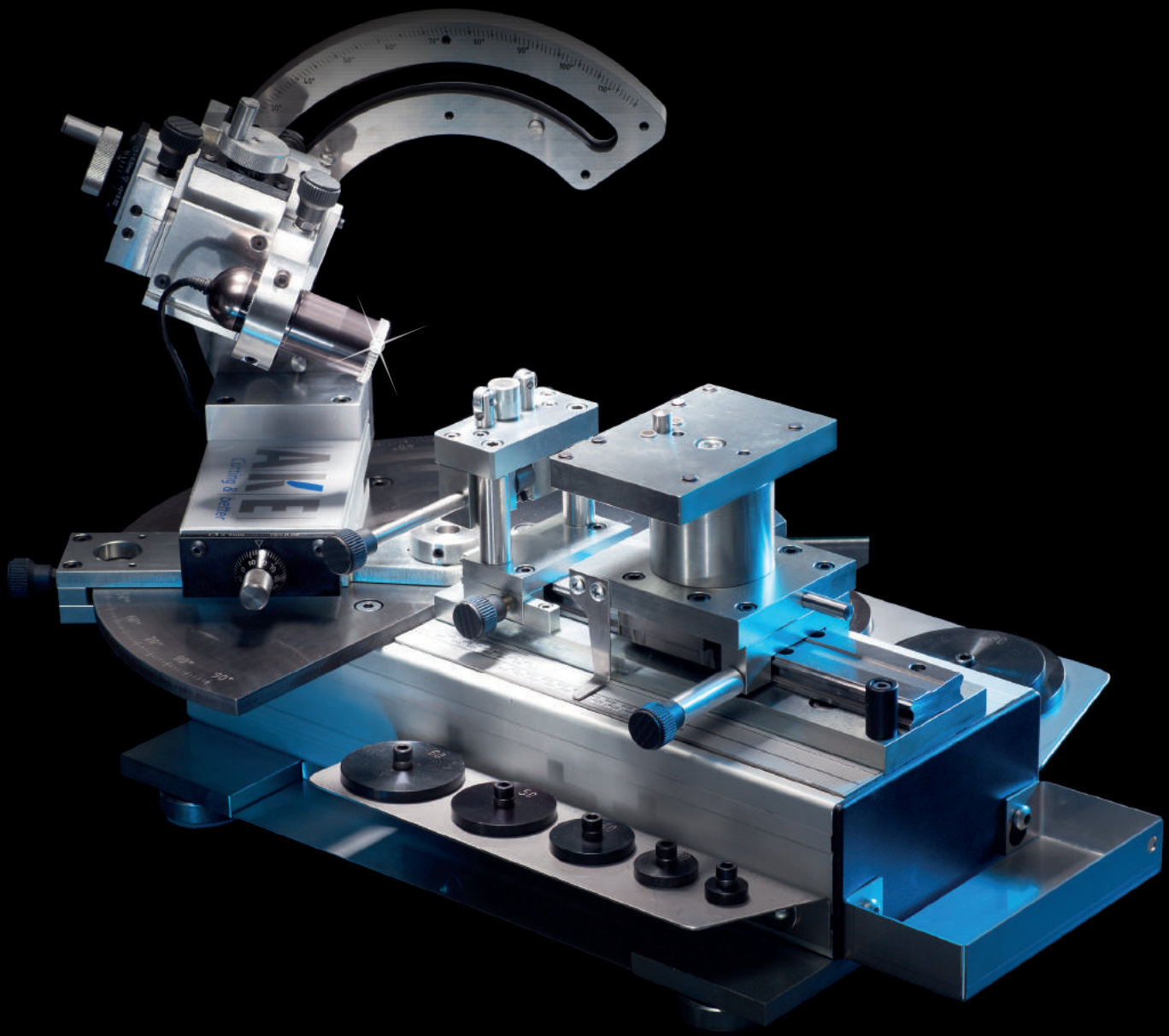
Product programme from 2016

A|K|E
Cutting & better

Real-Time-Analyser

Packed with Know-how.

For Visualising and analysing most diverse tools.



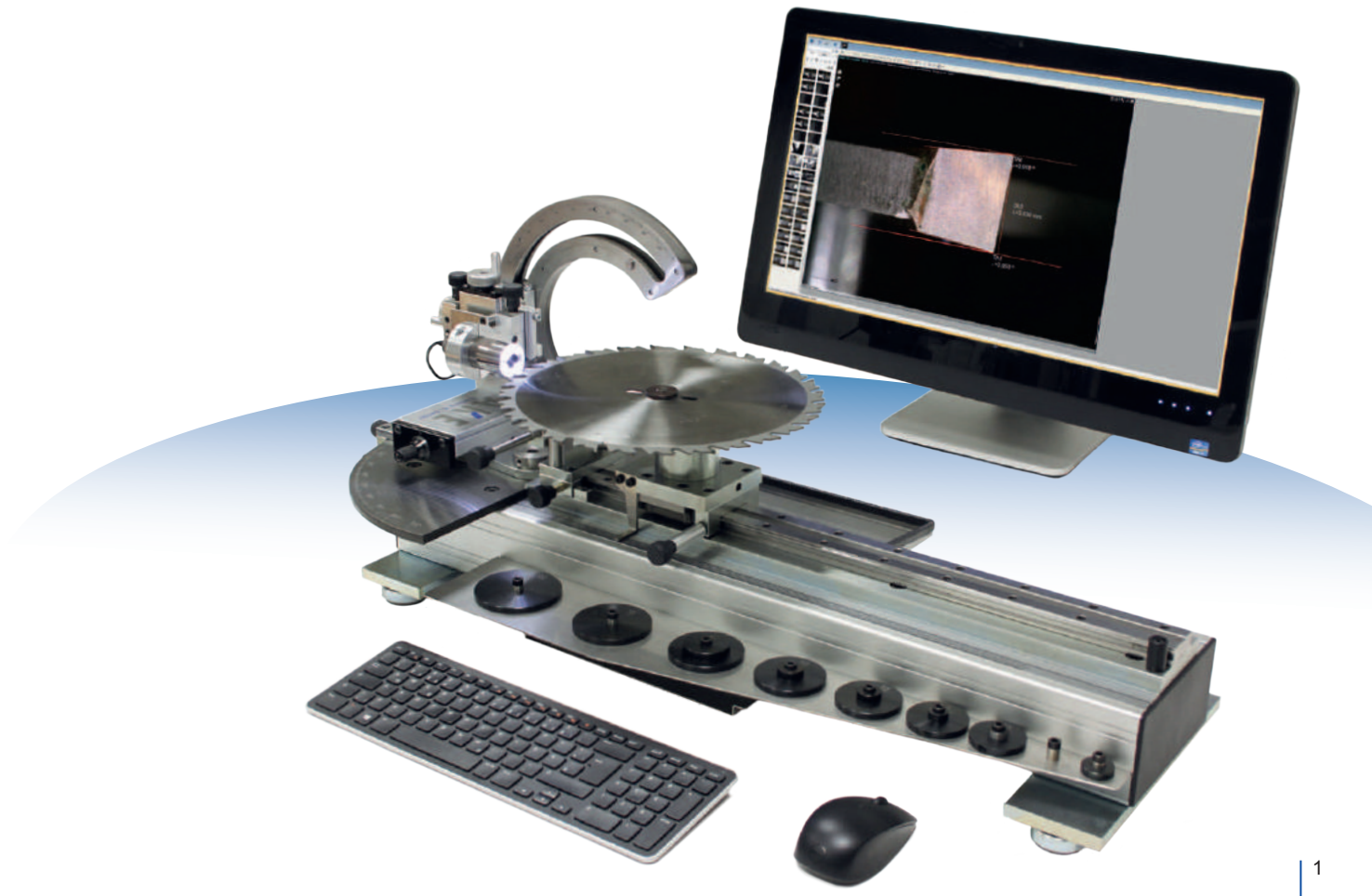
20x~200x

by AKE

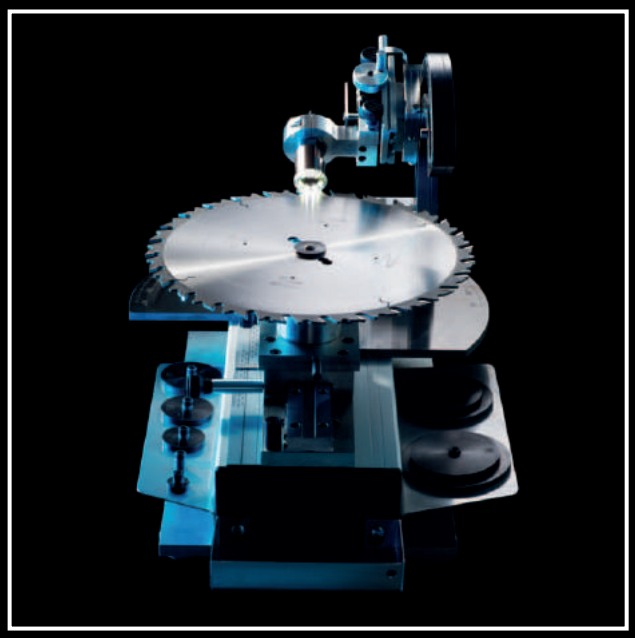
Real-Time-Analyser

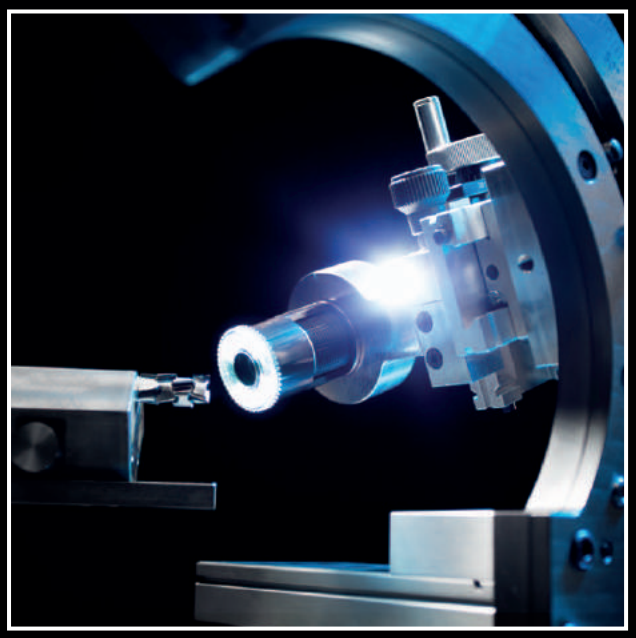
► plug in ► focus ► measure ► marvel

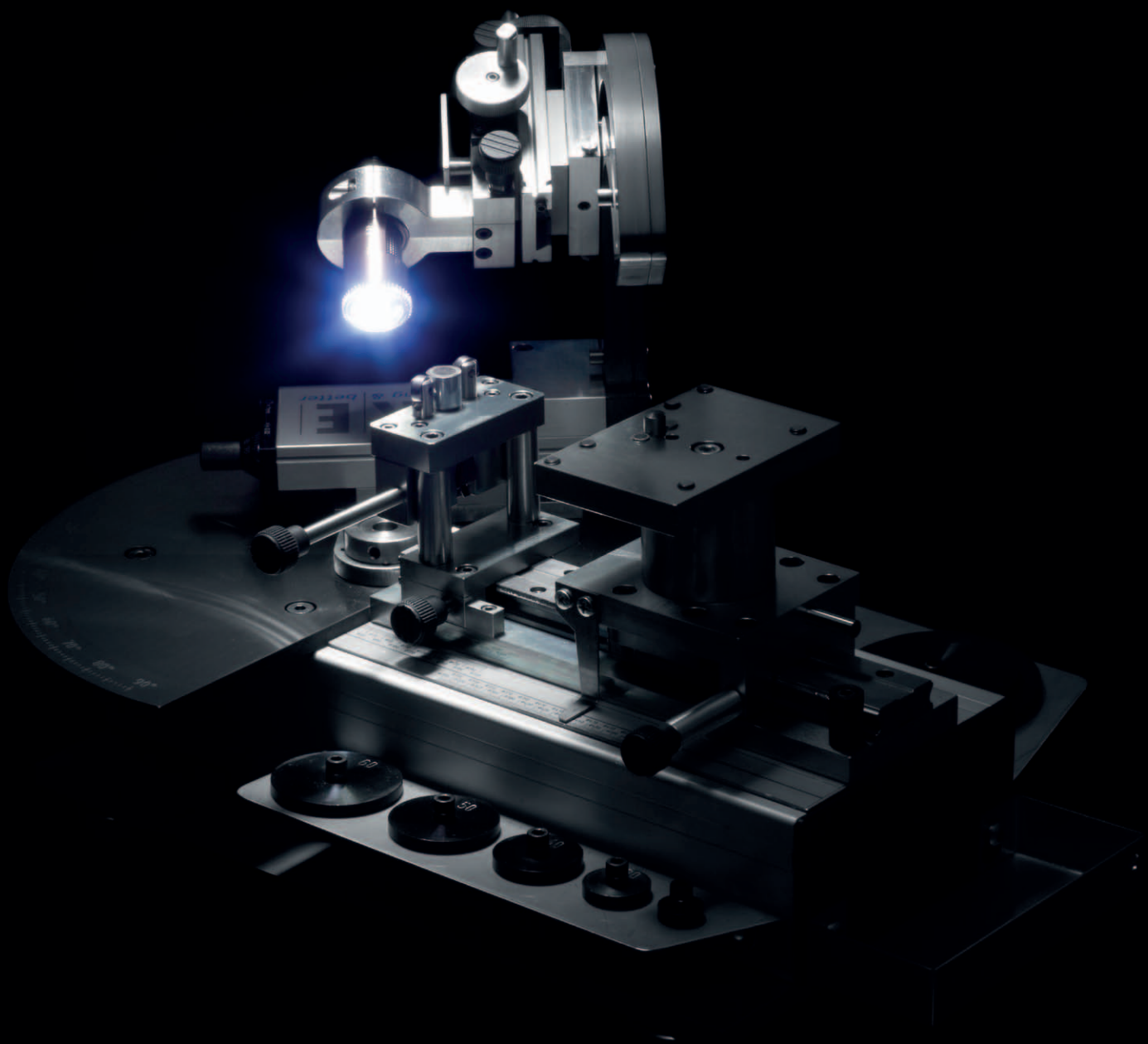
Content



Versatile and Packed with Know-how.







Versatile, reliable & packed with Know-how.

The **R**eal-**T**ime-**A**nalyser (= **RTA**) is a system for professional tool analisation coupled with a high-quality optical measuring unit. Due to its modular design it is suitable for analysing the most diverse tools. With the RTA everything that fits under the magnifier can be analysed and it is thus a versatile all-rounder – designed for daily application at the (grinding) machine.

The RTA had been developed by us: The company of AKE Knebel GmbH & Co. KG, based in the South German town of Balingen. We are manufacturer of quality tools, which are applied both in industry and crafts. AKE is a medium-sized company and worldwide one of the market leaders within our product segments, for example:

- Circular saw blades
- Shank-type and bore cutters
- Drills

Initially the RTA had been developed for quality control in our own production.

It is precise, easy to operate, reliable and 100% suitable for the workshop. With these features the RTA soon became an essential element of process control at AKE.

We would like to give you the opportunity to take advantage of our experience and check tools in the same way we are inspecting them.

Our RTA is therefore offered at a very reasonable price and including reliable support. Take advantage of a major tool manufacturer’s experience.

The RTA system

Our Real-Time-Analyser consists of a combination of three components:

- Sturdy and solid mechanics
- High-resolution optics
- Efficient visualising and measuring software

The sturdy and heavy-duty mechanics of the RTA stabilises the complete system. The mechanics is cushioned in order to reduce overlapping vibrations. You will therefore receive precise results and clear images – in any environment. The system is designed to last.

The base frame is equipped with a high-precision guide carriage to which the suitable tool holder can be attached quickly and easily depending on the tool to be scrutinized. With the guide carriage the tool can be placed precisely in front of the optics. The length of the base frame can be selected from our basic systems according to your requirements (see page 9).

The microscope swivelling unit is mounted on the base frame. The optics can thus be swivelled accurately on two axes, an analysis is thus possible on various levels. Stop pins ensure that the main axial adjustments can be selected quickly – which helps to save time.

Thanks to the RTA the microscope can be positioned very precisely. The time-consuming fine adjustment is being done in a twinkling.

The mechanical system is not only functional, but also very practical - developed down to the last details. The RTA does, for example, have a tray and a filing box where your handwritten notes can be kept without getting soiled.

The RTA had been developed by practitioners for practitioners.

A perfect duo: optics and software

All variants of the RTA system are equipped with an efficient visualizing and measuring software and are thus a perfect duo. A number of unique features are resulting therefrom.

The features of the optics:

- High resolution for razor-sharp and detailed images
- Incredible magnifying range (20x up to 200x, infinitely variable) for analyses to micro ranges
- Integrated glare filter for optimal illumination and contrasts
- Perfect images with all types of cutting material regardless of whether applied for carbide, HSS or diamond. A very special feature, because other systems often provide only limited suitability for visualising diamond cutting material.
- Including reference film for calibrating the optics
- Automatic magnification transfer for even faster measuring processes (available with the Advanced variant)

The features of the visualizing and measuring software:

- Measuring everything that the optics can capture:
  Lengths, radii, diameters, circles, arches, angles (see page 7, using the example of circular saw blades)
- Subsequent measuring possible: Take a photo now, analyse later, as soon as time permits
- Creating measuring logs, for example in EXCEL. Define yourself, which details are to be listed in your log.
- Save, print, file. Can be sent by E-mail.
- Paste your text and comment the results and findings
- Superimposing of images. Applied to check whether two images are congruent.
- Video feature

The advantages for the tool grinding service

You are a tool grinding service?
In that case the full functional range of the Real-Time-Analyser will benefit you.

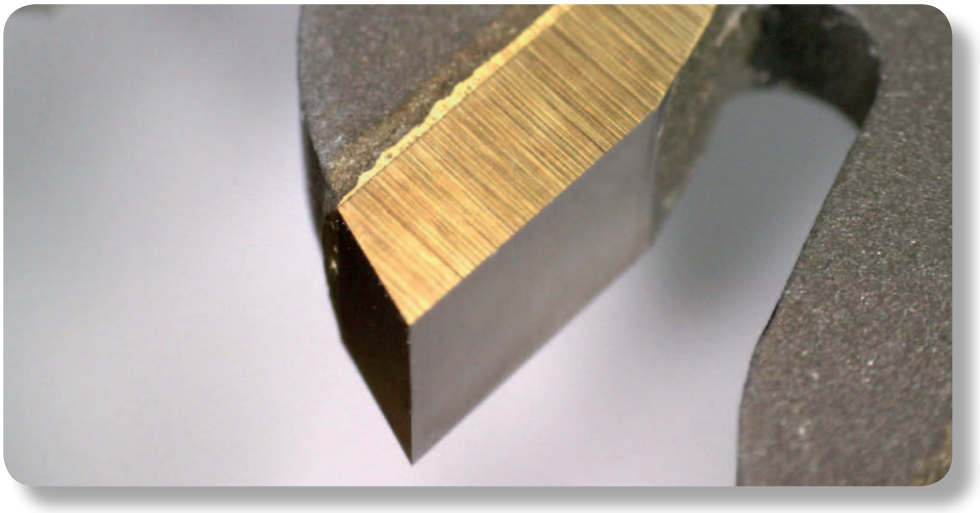
These are some practical examples, when the RTA will become indispensable for you:

- Checking your grinding processes
- Safeguarding your own quality specifications
- Comparing your grinding quality with that of your competitors
- Visualising wear, breaks, cracks, edges and rounds
- Optical measuring and verifying angles
- Visual examination of soldering defects and discolouration
- Examining the dimensional accuracy in all planes
- Goods inward inspection, e.g. with grinding discs and tips
- Checking TOK and knives is possible
- Group discussion with colleagues, customers, suppliers

Our RTA system supports you checking and improving your quality and carrying out your quality control. It can be applied ideally for tool service, production of new items and goods inward inspection. Make use of it for increasing your productivity.

With the Real-Time-Analyser, quality - which is otherwise difficult to grasp - can be made visible. It helps you showing your customer in a very easy way what grinding quality actually means and what makes the difference of “good grinding”. Even the standard version already offers up to 200-fold magnification.

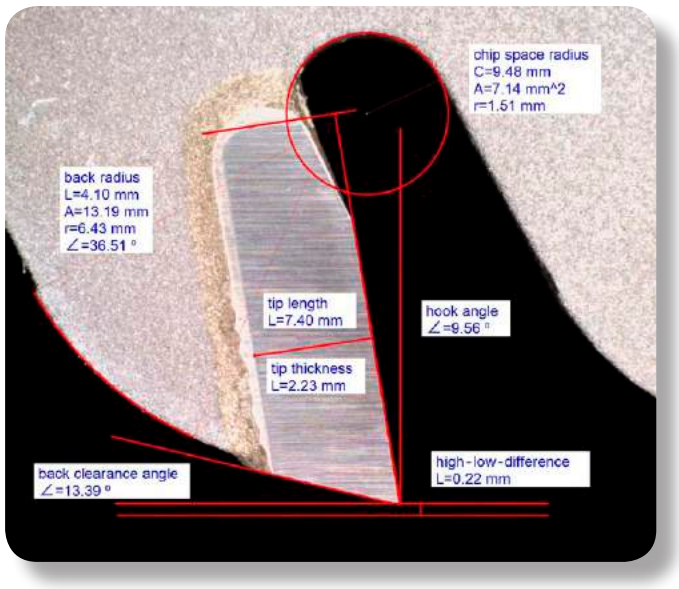
Enthuse your customers!



Measuring possibilities on a circular saw blade

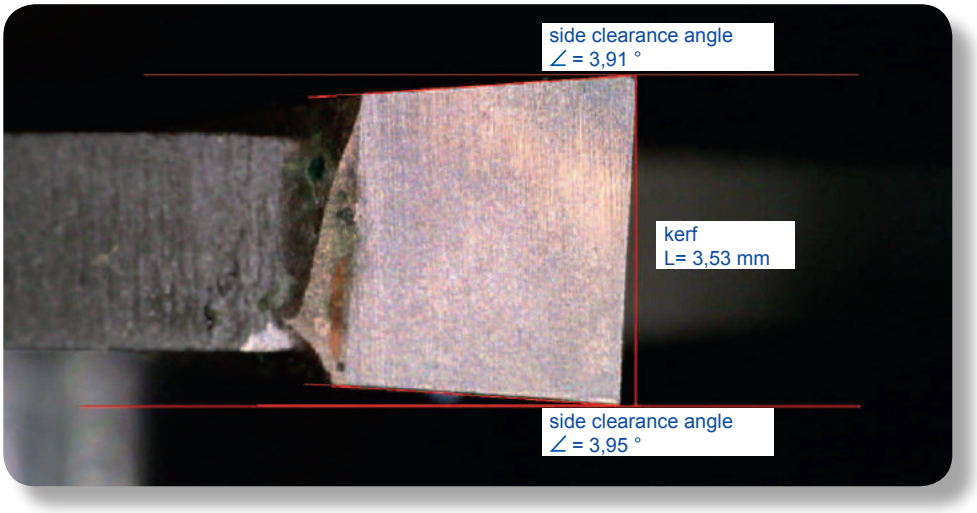
With the Real-Time-Analyser it is, among other things, possible to measure:

- **Kerf**
- **Saw body thickness**
- **Angles**
  - Hook angle
  - Back clearance angle
  - Side clearance angle
- **Tooth dimensions**
  - Tip height
  - Tip thickness
  - High-low-difference
- **Off-centre grinding**
- **Bevels**
  - Width
  - Length
  - Offset
- **Radii** (e.g. fillets or gullet radii on the face side)



By means of our optional „Microscope for large free working distances“ you can also measure angles, which require a front view on the tooth face. These are, for example:

- **Radial clearance angle**
- **Bevel angle** (e.g. to determine the slope of ATB teeth)



Measuring accuracy

With the RTA all objects can be visualised perfectly thanks to the premium optics. Together with the high-performance measuring software you get a perfect duo. However, which measuring accuracy do you have when carrying out your measuring processes?

The RTA allows touchless measuring by means of the optics. This means, you are carrying out the desired measuring process with the enclosed visualising and measuring software.

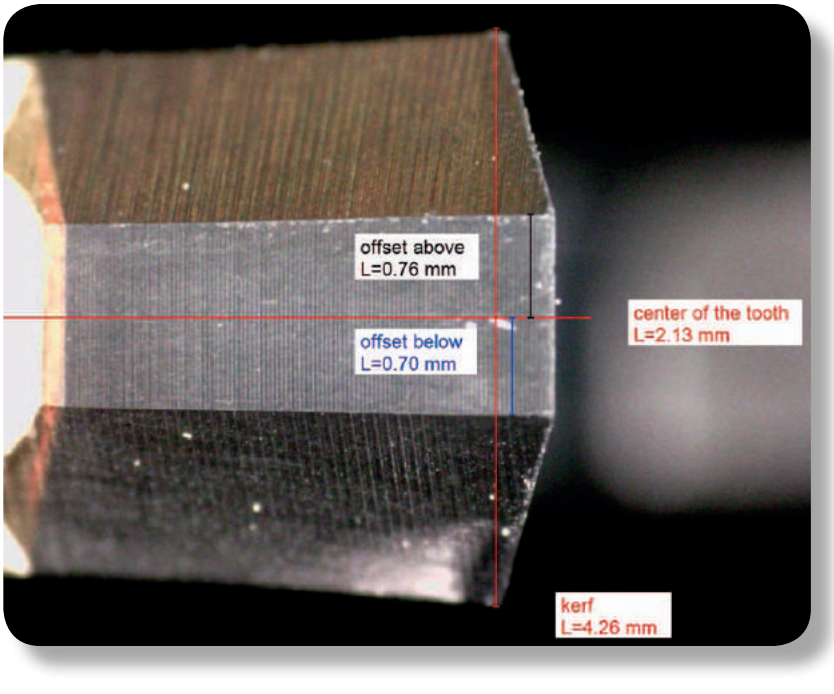
If you want to determine, for example, the kerf of a saw blade, mark the tooth on both ends with your mouse. The software now calculates the distance by means of the topical zoom level.

This example shows: An important factor regarding the measuring accuracy refers to the operator of the measuring software. The measuring result can only be as accurate as the tooth ends are being marked with the mouse. The software does support you with a helpful Zoombox – the required point can thus be marked easily.

In short: The more accurately the points are marked, the more precise will the result be. This is true for any manual optical measuring process. And thus also for the RTA.

Apart from this aspect the resolution of the camera is just as important for the measuring accuracy. The higher the resolution, the more accurate will measuring be. The Advanced Set is therefore offering a clear advantage compared to the Basic Set. With the advanced package your benefit not only includes the higher resolution, but also the automatic magnification transfer of the optics. It transfers the current zoom level in deci-steps automatically to the software and thereby offers even more precise measuring on the tool.

As a rule of thumb: With the RTA measuring processes with a tolerance within the lower deci-range can be carried out. This is a very good value for everyday measuring requirements with tools that are to be re-ground and in most cases more than sufficient. The Advanced Set offers even higher precision: with this version the tolerance can be reduced to some hundredths if the measuring points are marked accurately.



Basic systems and variants

The Real-Time-Analyser is designed as a modular system. You can therefore select the very system specifically geared to your application requirements.

There are two features by means of which the most suitable RTA can be selected:

- The **RTA Basic system**. It defines the length of the base frame.
- The **RTA variant**. It defines the technical configuration level of the system.

The Basic Systems

The length of the base frame is particularly important, if you want to analyse circular saw blades. The longer the base frame, the bigger is the maximum saw blade diameter with enough space on the RTA.

There are three Basic Systems to choose from:

Basic System	max. saw blade-Ø
RTA-S	400 mm
RTA-M	800 mm
RTA-L	1.200 mm

Each RTA - Basic System already includes a variety of the most common bore adapters by means of which the saw blades can be centred on the RTA. Bore diameters from 15.87 mm up to 80 mm are included. You will find a list of the included standard adapters, intermediate sizes and larger holders of up to diameter 100 mm on page “Bore adapters”.

The variants

There are two RTA-variants - „Basic“ and „Advanced“. The variant already determines the optics included as standard and the accessories of the scope of delivery.

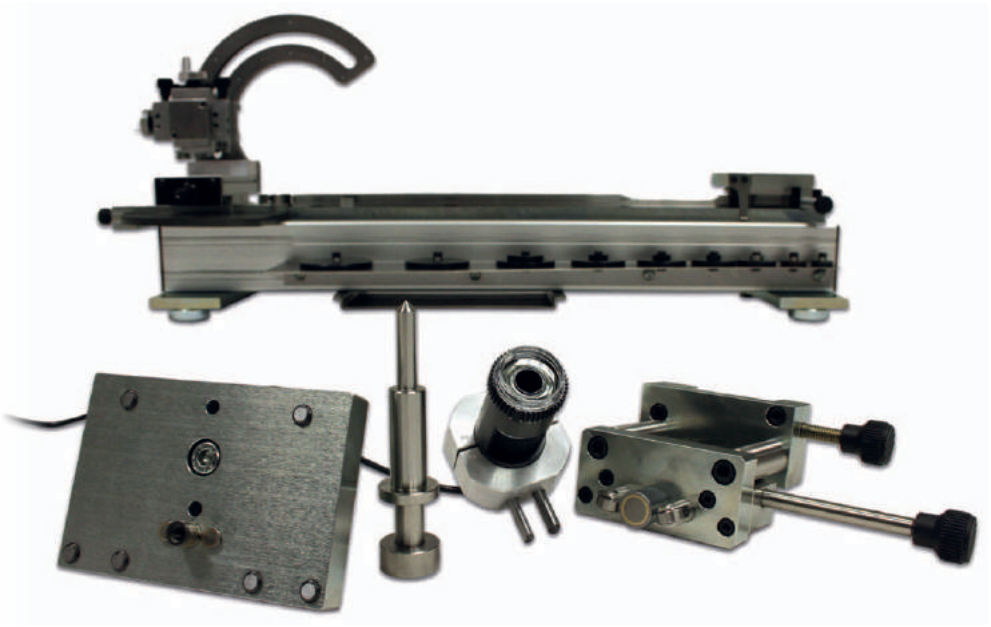
Basic	Advanced
 **1.3 Megapixel** - high-resolution photos	 **5.0 Megapixel with automatic magnification transfer** - high-resolution photos - higher measuring accuracy - sharpness down to the last detail - ideal for digital processing - improved measuring

	Basic	Advanced
Saw blade support and fixation = analysing saw blades	✓	✓
Swivelling support plate = to hold the analysing prism and analysing table	✗	✓
Analysing prism = analysing cylindric shank tools	✗	✓
Analysing table = analysing e.g. tips, TOK, etc.	✗	✓

With the Basic variant saw blades can be analysed with an image resolution of 1.3 MP.

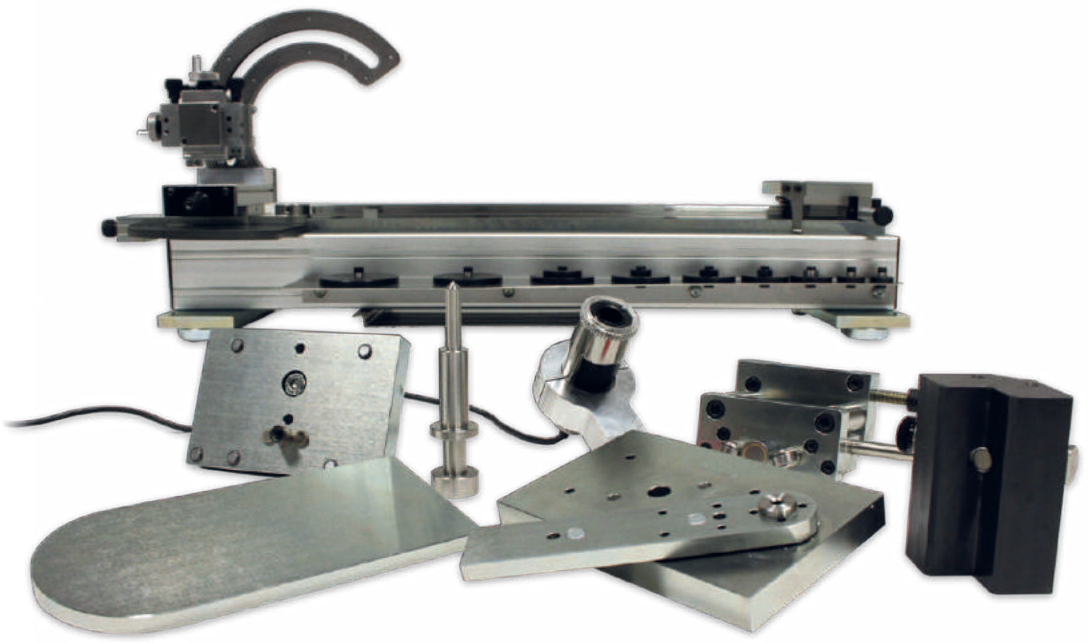
The Advanced variant offers the full range of functions of the RTA: Saw blades and cylindric shank tools (just like drills and cutters) can be put under the microscope. Moreover you can analyse everything that can be put on the supplied table. And all that with razor-sharp images with 5 MP resolution even with maximum magnification.

Variant of „Basic“



The image shows an RTA-L of the „Basic“ variant. In front you see the accessories (from left to right): Saw blade support, centring pin, 1.3 MP optics mounted in the microscope holder and the saw blade fixation.

Variant of „Advanced“



The image shows an RTA-L of the „Advanced“ variant. In front you see the accessories (from left to right): Analysing table, saw blade support, centring pin, swivelling support plate, 5.0 MP optics with automatic magnification transfer mounted in the microscope holder, saw blade fixation as well as analysing prism.

High resolution standard microscopes and special microscopes

Microscope 5 Megapixel with automatic magnification transfer (included in the Advanced variant)

This is our premium optics for the Advanced variant of the RTA. The microscope features a resolution of 5 Megapixel and is therefore sharp to the last detail. Moreover, the microscope is equipped with an automatic magnification transfer.

The specific feature is: the magnifier transfers the current zoom level automatically to the measuring software. Reading of the current zoom level and manually entering the value in the software is not necessary. Measuring operations can thus be carried out even more quickly and with maximum precision.

The optics is suitable for visualizing as well as measuring operations and thus a good choice for demanding applications. This optics unit is, of course, also available as an accessory – very practical if you want to upgrade your Basic variant.

Microscope 1.3 Megapixel (included in the Basic variant)

Our strong optical unit for the Basic variant. The microscope has a resolution of 1.3 Megapixel and therefore provides high-resolution pictures. It is particularly suitable for visualising or plausibility measurements. This magnifier is also included in our list of accessories – in case you want to get yourself, for example, a freehand magnifier.

Microscope for large free working distance and automatic magnification transfer

With this microscope even those angles which require a front view on the tooth face can be measured. These are, for example, the radial clearance angle and the bevel angle. For this purpose the microscope is to be positioned at the outer mounting position of the RTA (< Ø 350 mm).

The tooth face can now be focused and the measuring operations carried out as usual. The optics moreover possesses an automatic magnification transfer for easy handling. It provides high-resolution pictures for a brilliant display. Combined with the microscope holder „long“ this function is also available for saw blades with diameters of more than 350 mm.

Microscope with up to 470x magnification

A 200x magnification is not sufficient for your application? In that case turn to this one and utilize the huge zoom of up to 470-fold. You will then make a mountain out of each dust speck. This microscope has a resolution of 5 Megapixel and works with a zoom level of 400x - 470x. Maximum magnification for your work!

Microscope with enhanced depth of sharpness

You are looking for images with maximum richness of detail? With this microscope you are taking one step forward approaching this target. Whenever you take a photo a very specific technology is being used: Several photos are (automatically) produced in different zoom levels and put on top of each other. This is how you get a final image with enhanced depth of sharpness and greater richness of detail. The applied optics provides a high resolution.

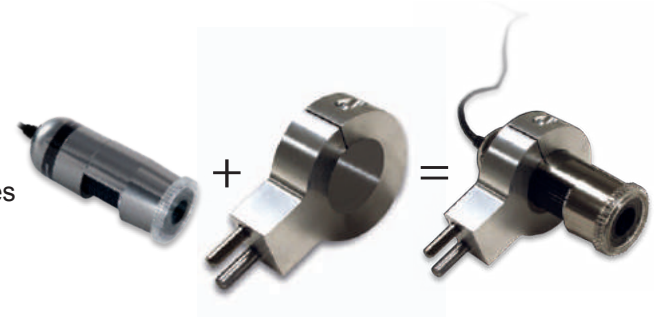
Microscope holder – the practical fixture for your new microscope!

The microscope holder makes work easier for you, if you use more than one magnifier. Thanks to this holder your microscope will be changed within seconds and you always have the adequate optics at hand.

This holder had been designed especially for the application with the RTA and provides perfect support for your optics.

“Ready” version

With this microscope holder your optics has to be adjusted only once – which saves quite a bit of time. Upon demand we mount and adjust your new microscope from our accessories programme directly in the holder (at a premium).
This means for you: Unpack, plug in, ready.

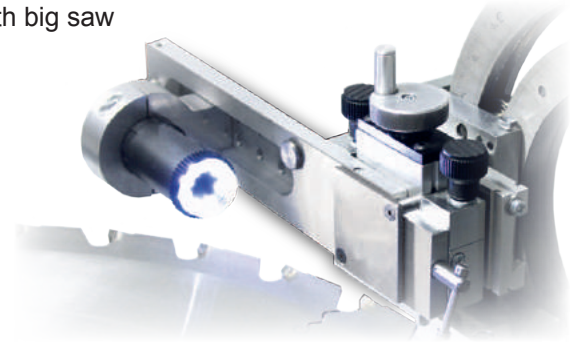


Microscope holder “long” for larger free working distance to the tool

You are frequently working with saw blades with large diameters (> Ø 350 mm)?

In that case the microscope holder “long” is exactly the proper accessory for you. By means of this holder the free working distance between the microscope and the tool will be larger, thus offering you the possibility to get certain sections of the tooth face in the focus even with big saw blades.

The full range of functions of the picture will prove particularly advantageous if combined with the microscope for large distances. You will then, for example, be in the position to measure additional angles such as the radial clearance angle or the bevel angle.



Exchangeable saw blade support d 300 – for saw blades with bore Ø >100 mm

The exchangeable saw blade support for bore diameters of more than 100 mm had specifically been developed for saw mill saw blades. It provides the necessary support to apply the Real-Time-Analyser if tools with larger bore diameters are to be analysed. The exchangeable saw blade support is therefore a practical accessory for all sharpening services of saw mills.

The maximum bore diameter that can be applied on this support is 300 mm. For all saw blades with less than 100mm bore diameter the included standard saw blade support should, however, still be used, in order to avoid any damage to the saw teeth.

Mounting of the exchangeable support is very easy: Just open the screw, change the support and fasten the screw. The exchangeable support is thus changed in a twinkling.

Optimal PC with support package

A high-performance computer is an essential component of the RTA system. Our range of accessories therefore includes a PC which is optimally geared to the RTA. This computer does at any rate meet the following requirements:

- Powerful processor (>= Intel Core i5)
- Adequately quick working memory (>= 8 GB RAM, min. DDR3)
- Strong graphics card
- Height-adjustable monitor, touchscreen, WLAN

We are booking a “next business day” service and ProSupport package in order to ensure process reliability for your work (in some countries limited availability). Quick help will always be there whenever needed. You do have the following advantages in detail:

- Next working day spare parts supply
- Helpline in case of any problems with your operating system

When buying our RTA PC another advantage will be at your disposal: Your direct support from AKE. We will be supporting you concerning all questions about the RTA. So just contact us. Each PC will be configured in such a way, that we will be able to join you remotely (possible only after receipt of your permission). Problems can thus be solved together directly – while you are at your PC. That is the easiest and quickest way to do it.

Another advantage of our computer: The visualising and measuring software has already been installed and configured. Even the magnifier is completely calibrated. All that is left for you to be done: Plug in and get started.

The price for the PC, monitor, keyboard, mouse, “next business day“ service, ProSupport, AKE-support for the RTA and the complete preliminary configuration of the software: Unbelievably favourable.

Price list

When you purchase the Real-Time-Analyser you actually get a high-quality system at a very decent price. Have a look at our price list and convince yourself.

RTA-Systems

	RTA-S	RTA-M	RTA-L
Basic	on request	on request	on request
Advanced	on request	on request	on request

Accessories

	Price
Microscope holder	on request
Microscope holder “long“	on request
Centring pin	on request
Saw blade support	on request
Saw blade fixation	on request
Swivelling support plate	on request
Analysing prism	on request
Analysing table	on request
exchangeable support d300	on request
Filing box „Advanced“	on request
Cleaning plasticine (3-pc-set)	on request
PC with monitor, configurated, incl support package, calibrated RTA-magnifier	on request

Microscopes

	Microscope	“Ready” - version*
Large free working distance	on request	on request
470x magnification	on request	on request
Enhanced depth of sharpness	on request	on request
5 Megapixel with automatic magnification transfer (Advanced variant)	on request	on request
1.3 megapixel (Basic variant)	on request	on request

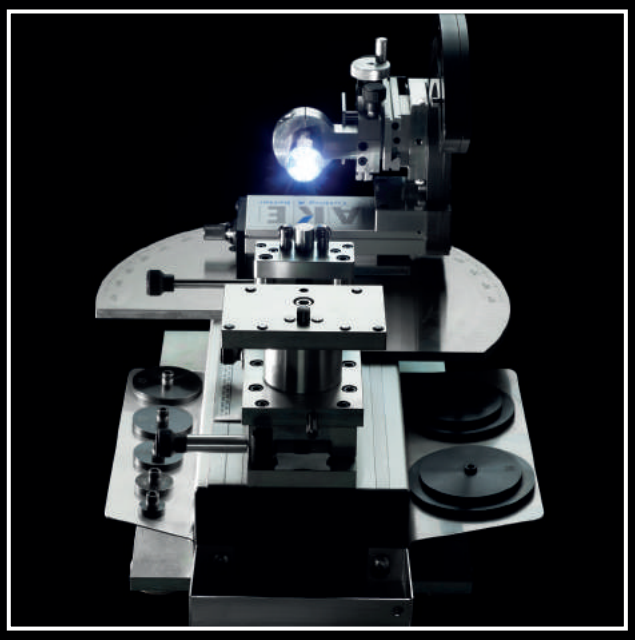
* see page 13 - “Ready” version

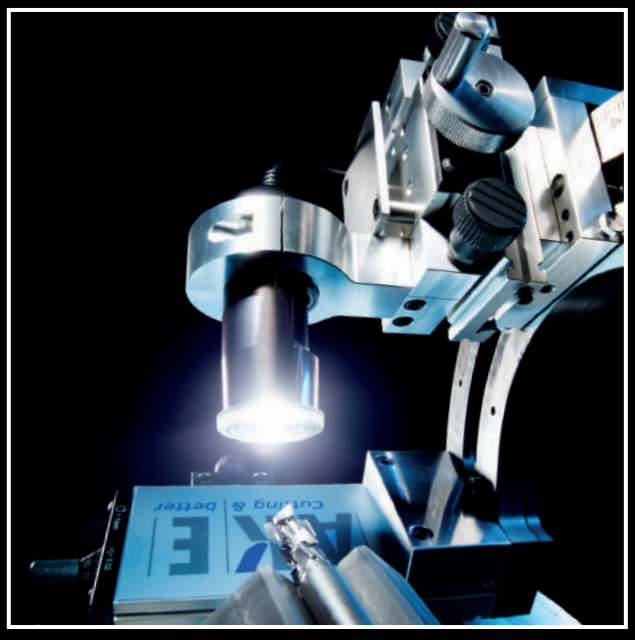
Bore adapters

The bore adapters ensure precise positioning of the saw blade on the RTA. A wide range of bore adapters is included in the scope of delivery. In the below list you will find additional bore adapters as well:

Diameter (mm)	Category	Price
12,7	accessory	on request
15	accessory	on request
15,87	scope of delivery	on request
16	scope of delivery	on request
20	scope of delivery	on request
22	scope of delivery	on request
25	accessory	on request
25,4	scope of delivery	on request
30	scope of delivery	on request
32	accessory	on request
35	accessory	on request
40	scope of delivery	on request
45	scope of delivery	on request
50	scope of delivery	on request
55	scope of delivery	on request
60	scope of delivery	on request
65	scope of delivery	on request
70	scope of delivery	on request
75	accessory	on request
80	scope of delivery	on request
85	accessory	on request
86	accessory	on request
90	accessory	on request
95	accessory	on request
100	accessory	on request

Your required bore adapter is not included? Contact us, please!





„Think global - act local“

The long-established company of AKE

AKE is a family-run, medium-sized company with international orientation. Our position offers decisive advantages to our customers. They meet the versatility and competence of a big company and take advantage of the promptness and flexibility of a small firm. Our specialisation, the proverbial precision, the innovative approach and a huge wealth of experience help our customers to gain the top.

Since 1960 AKE has been standing for highest quality in industry and crafts. AKE today - is one of the leading manufacturers of circular sawblades and cutting tools worldwide.

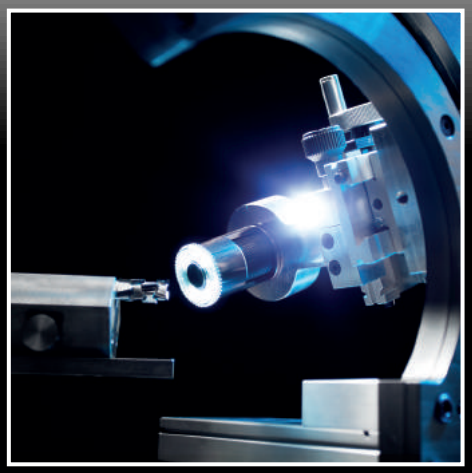
Whether individual tools or demanding standards are required: the solution is always AKE.

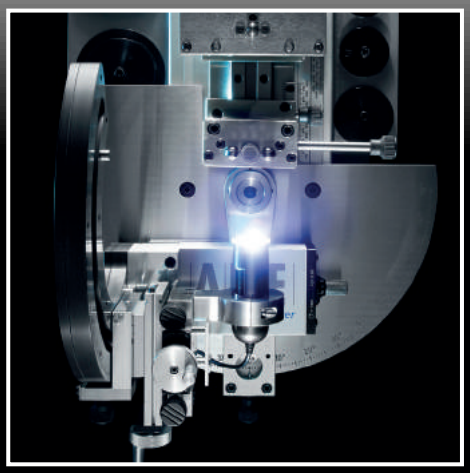
20x~200x

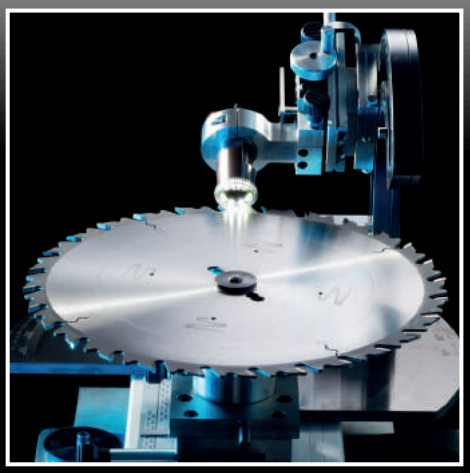
Real-Time-Analyser

by A|K|E

► plug in ► focus ► measure ► marvel







Packed with Know-how.

For Visualising and analysing most diverse tools.

AKE Knebel GmbH & Co. KG

Hölzlestraße 14 + 16
72336 Balingen

Phone: +49 7433 / 261- 0
Fax: +49 7433 / 261- 100

E-Mail: info@ake.de
Web: www.ake.de

www.ake.de/rta