



KELCH

Image Brochure

With KELCH you can relax at your machine

COMPANY

TOOL HOLDERS / FLEXIBORE

MEASURING AND TEST EQUIPMENT

CLEANING DEVICES

SHRINK FIT DEVICES & TECHNOLOGY

TRANSPORT & STORAGE SYSTEMS (TUL)

TOOL PRESETTING / TOOL MEASUREMENT

DEVELOPMENT & DESIGN

SMART FACTORY SERVICES

SERVICE



BlueCOMPETENCE

Alliance Member

GREATER PRECISION with KELCH.

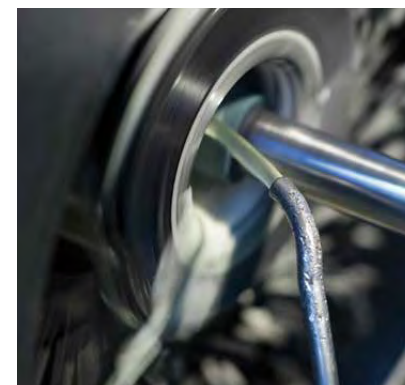
The secret behind the company's success is the "KEC" – the KELCH Efficiency Circle. It includes products and services which, individually or combined, offer high performance within a closed system.

KELCH products are synonymous with precision and quality; standard quality criteria in manufacturing facilities across the world. However, KELCH has so much more to offer: Alongside our in-depth and service-orientated advice, we offer a unique benefit in the form of a fully-developed product cycle which meets many requirements and solves manufacturing problems.

The KELCH Efficiency Circle is a manufacturing and logistics promise which our customers use to ensure their competitiveness. That's why so many customers place their confidence in us – and we work hard to merit this day after day. In short: we take reliable care of all the detailed issues around precision, tool holders, measurement, shrinking, tool setting, workshop logistics, tool cleaning and software.



The "KEC"



· Our work is characterised by the many details we face. All to support our customers.

A man with safety glasses is looking intently at a precision measuring instrument, likely a coordinate measuring machine (CMM). The background is a blurred industrial setting. The text 'COMPANY' is overlaid on a green bar on the left side of the image.

COMPANY

CONTROL IS GOOD – MEASURING WITH KELCH IS BETTER.

For over 75 years KELCH has been the guarantee for improved results achieved thanks to innovative measuring technology.

ONE-OFF OR THE TOTAL PACKAGE? THE CHOICE IS YOURS.

We offer both one-off and modular solutions. As a customer, you therefore always retain your flexibility.

ADVICE AND SERVICE – THE KELCH TRADEMARK.

Our ISO-certified procedures mean that our service never stops. Therefore, we are available to you. At any time and for any request.

AVAILABILITY AND QUALITY – IT GOES WITHOUT SAYING.

Sustainability also means availability of product and quality. Our products and spare parts in installed components are traceable and can therefore always be procured again.*

*Except software

75 years of innovation and precision

KELCH has been synonymous with innovative, high-precision tool holders, cleaning, shrink fit and setting equipment, as well as measuring technology and tool logistics, for 75 years. As a subsidiary of the HMCT Group we offer high-precision, extremely reliable and practical solutions, ranging from individual tools to the complete peripheral equipment you need for your cutting production. All our solutions use state-of-the-art technology and are of excellent quality. A comprehensive range of services and software packages complete our product offering making it an "all-inclusive full-service package". We concentrate all activities in four business divisions so that we are in the best possible position to meet our customers' requirements. All the divisions complement each other perfectly to form a single entity. We are your partner for everything involving machining.

The 5 cornerstones of the company.

- PRECISION TOOLS
- TOOL PRESETTERS
- TOOL MEASUREMENT
- SMART FACTORY SERVICES
- AFTER-SALES (SERVICE)



We guarantee you the ultimate
in product quality – Made in Germany.

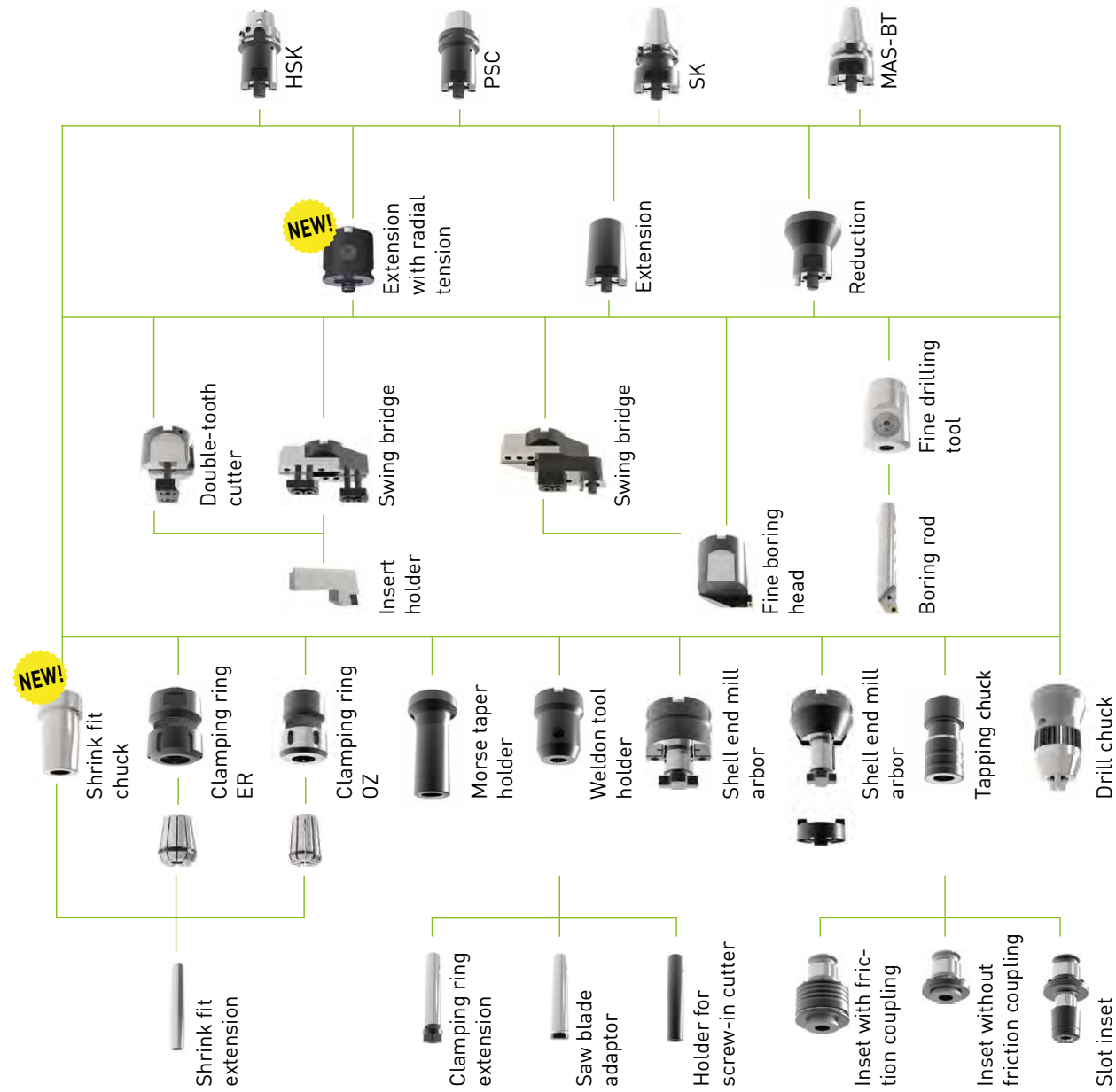
TOOL HOLDERS



Our tool holders – the ultimate in precision for you.

High-performance interfaces ensure optimum machining results and are as important for high-performance machines as lubricant and energy. KELCH offers innovative solutions in this regard to guarantee maximum precision and stability. For example, i-tec®, the leading system for inductive shrink fit technology, the well-known SK, HSK and PSC tool holders and appropriate accessories at an attractive value-for-money price. What is more, our “KELCH CoolStream” tool holders direct the cooling stream with pinpoint precision and ensure a longer cutting service life, improved swarf removal, dimensional accuracy and greater process reliability for your tools. Always available with proven excellent KELCH quality and precision.





1 Base holders
Inner coolant supply (centralised or decentralised)

2 Extensions and reductions
Connecting diameter: Ø 25 - 100 mm

3 Boring tools
for roughing / smoothing range: Ø 3 - 530 mm

4 Adaptors
for boring, counter-boring, cutting and threading

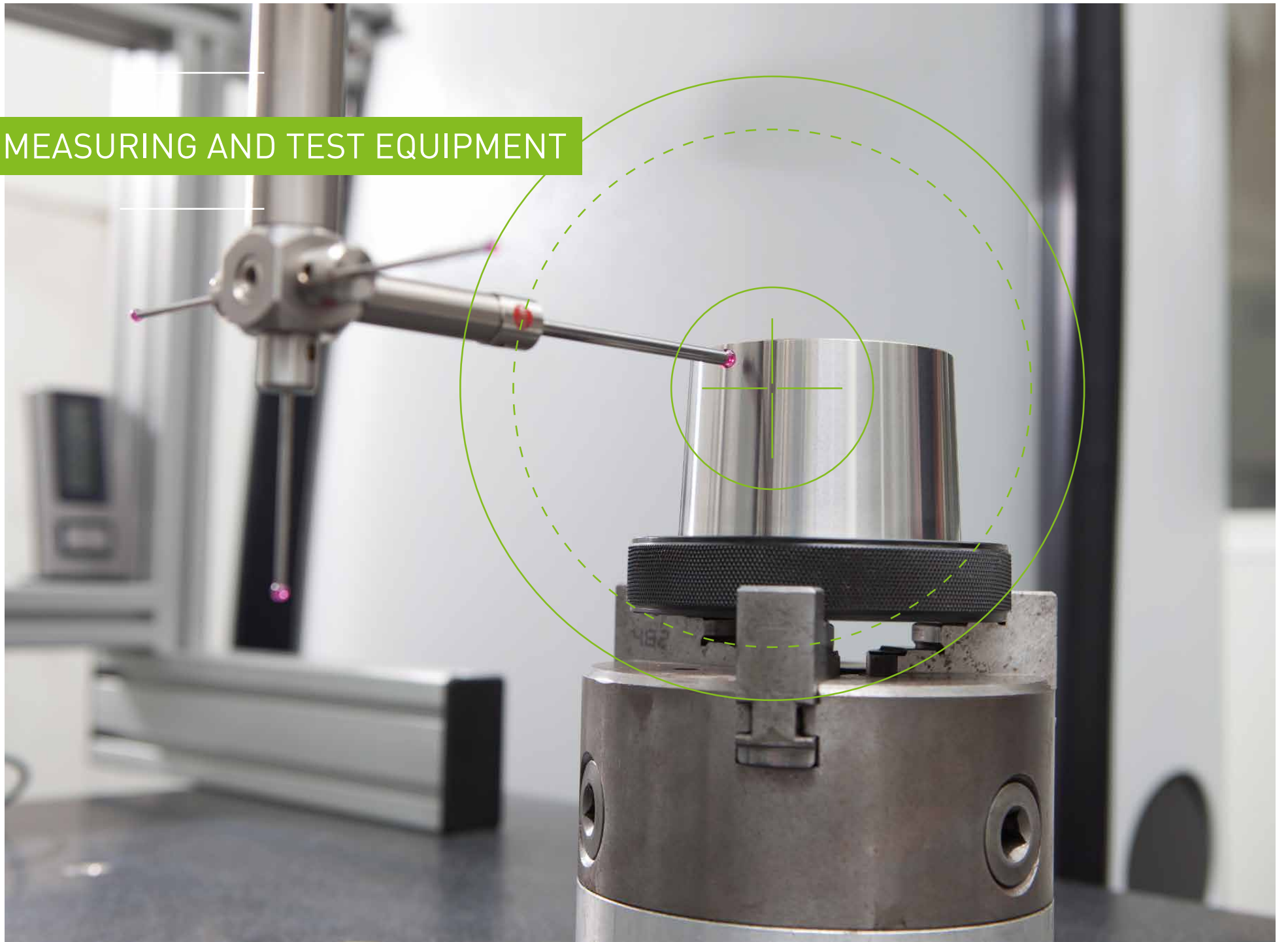
The modular tool system KELCH-Flexibore.

The name of our “KELCH Flexibore” modular tool system says it all - more flexibility coupled with diversity of use.

The KELCH FLEXIBORE SYSTEM is a proven product range consisting of cutter mounts and tool holders for flexible, individual machining on all machining centres. Due to the high degree of flexibility in combining all the requisite tools, it can be perfectly adapted to the respective machining task. Base holders are available for all common steep taper, hollow shank and polygon shank designs. Lengths and diameters can be customised using intermediate elements. Our FLEXIBORE SYSTEM complements your individual machining spectrum by delivering maximum flexibility and precision.



MEASURING AND TEST EQUIPMENT



Your measurable advantage.

Our products include a range of measuring and test equipment that can be used in production to achieve the required quality objectives.

The KELCH production range covers gauges, automated test equipment and the "SAFECONTROL" electronic pull measuring system for machine tool spindles. A complete one-stop range.

What is a manufacturing process without control? In essence, worthless. We therefore stand by our motto "Control is good – Measuring with KELCH is better." Our users and customers play it safe with our measuring equipment.

**“Control is good –
Measuring with KELCH
is better.”**

Our competitors use us for calibration – need we say more?

We measure so that others can measure. Anyone wanting a precise calibration of measuring equipment is in good hands with us, as the perfect usage of a tool, as far as its quality and precision is concerned, is our own precision standard.



· Non-stop precision.

SAFECONTROL III

Features of the system: **With SAFECONTROL you have quality under control!**

- A basic unit to fit all adapters
- Operated by soft keys in the handle
- Measured values displayed on a rotating display in the handle – for improved legibility and identification of the spindle to be measured using the app for 100% process reliability
- Adapters fit HSK, PSC and SK tapered inserts – others on request
- Data display on a tablet or PC via Bluetooth transmission

SAFECONTROL measures the pull forces of clamping systems in machine tool spindles and is also used for the force measurement for various extensions and reductions. If the actual pull is lower than the target pull specified by the machine manufacturer, then the dynamic relationship between the spindle and the tool deteriorates. This leads to reduced cutting performance, increased wear and a shorter service life, as well as a deterioration of the achievable surface quality and stress on the main spindle and guides.

SAFECONTROL lets you check the pull of the clamping system quickly, easily and efficiently with just a flick of the wrist.



Samsung Galaxy Tab S2 9.7 LTE (SM-T819)

**The benefits? Accurate display,
fast determination of values
and ease of use.**

Smart technology for intelligent interfaces.

As a machine/tool interface, HSK requires cross-system thinking. Measurement gauges are used for the direct comparison measurement of HSK tool shanks and spindles for the optimum use of HSK tool holders in the machine. Our measurement gauges are based on calibrated and certified master gauges and are manufactured according to a specifically agreed production procedure. This ensures ongoing maximum precision in all areas of use. Our measuring gauges are available in a mechanical, pneumatic and electronic designs – always with the highest quality.

MEASURING GAUGES



CLEANING EQUIPMENT



Always nice and clean.

Maximum fitting precision is the result of residue-free cleaning. Even the most minor residue of dirt and swarf can cause malfunctions and inaccuracies on the tool system and lead to waste during machining. Clean tool holder cones help to ensure seamless and precise workflows in production and aid the protection of your machine spindles and tools. From the table-top taper cleaning device RoWi to the automatic taper cleaner in the machine tool, KELCH offers you a comprehensive product range to clean your tool holders to ensure seamless process flows.



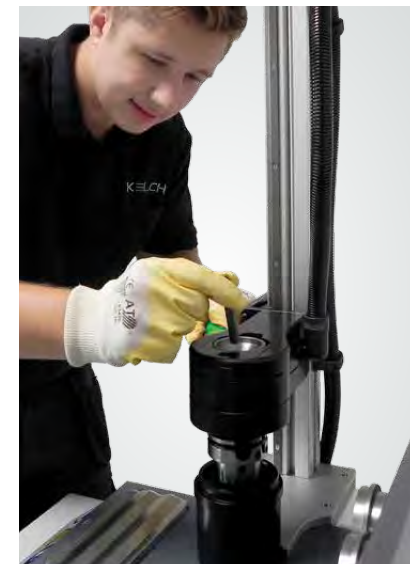
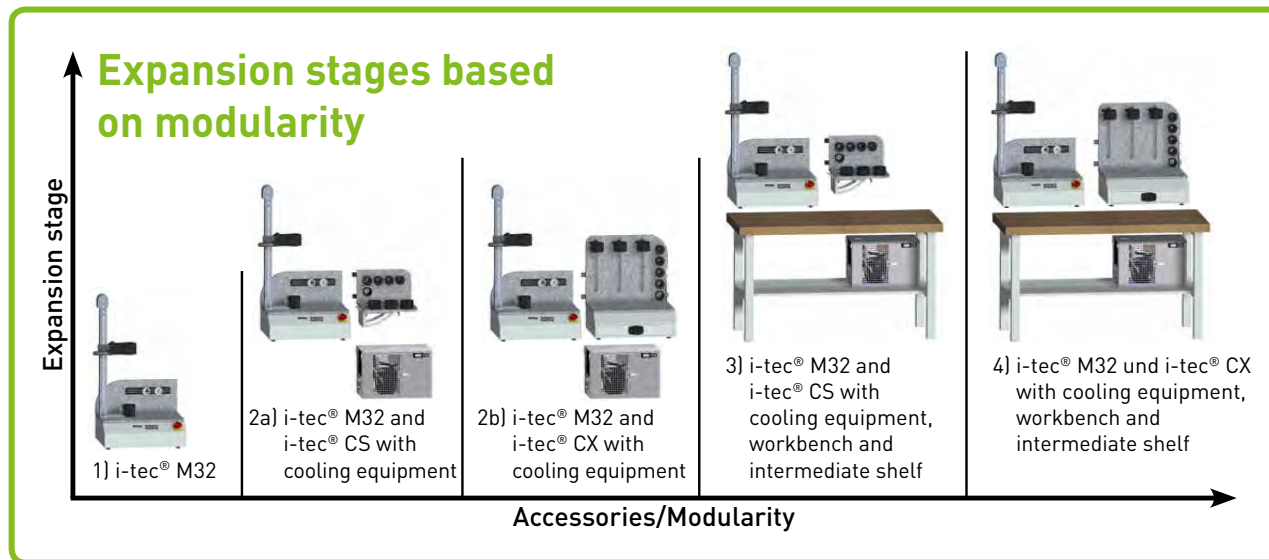
SHRINK FIT DEVICES & TECHNOLOGY



Shrinking with precision.

Until now shrink fit technology has been at the forefront in terms of the requirement for run-out precision, imbalance and tension of the tool holders in machining production. For many years, KELCH has ensured a consistently high level of process safety coupled with a consistent resource-conserving use for its users. A wide range of tools and shrink fit devices from the i-tec® range are available as

options for different user groups and applications. We offer a wide range of shrink fit devices for many applications, from the entry-level model i-tec® M to the multiple shrink fit device i-tec® M-CX. Our patented contact cooling technology ensures careful and consistent cooling of heated shrink fit tool holders.



TRANSPORT & STORAGE SYSTEMS (TUL)

Everything in order?

KELCH Transport and Storage Systems (TUL) offer you the most economical way of transporting and providing tools. Our flexible transport and storage systems ensure that the right tool is available at the right place at the right time. Whether universally used tool carriers, transport and prep trolleys or workshop fittings – KELCH products bring movement into your production plant and order to your tool stock.

For example, VariTUL and TULmobil offer you variable solutions for flexible transport and storage so that tools can be made available quickly and safely and any corresponding accessories are at the right location. Create the perfect transport and storage unit for your tools in conjunction with the TUL mounting plates. You're in the best hands with our ingenious cabinet, shelf and workbench storage systems to complete your workshop logistics.



Everything in its place
and available on
demand. Not a dream,
but a feasible reality
thanks to KELCH.

KELCH tool presetters



It's all a question of (pre)setting!

KELCH is your first port of call when it comes to tool measurement and presetting. After all, KELCH has over 75 years of experience in this field. You will benefit from this experience, whether you are concerned about the selection of the material or the correct combination of the individual components. Reliable and professional advice helps to find the right and most appropriate unit for your needs. KELCH currently offers the widest range of tool presetters – both vertical and horizontal. Ensure that you find the right product to meet your needs at KELCH and thus improve the quality of your production, saving money into the bargain.

Product features of mineral cast:

- Environmentally-friendly manufacture thanks to cold casting
- Sustainable recycling is possible, e.g. for road building
- Vibration-damping
- Resistant to temperature fluctuations
- Precise measuring thanks to robust structure



TOOL PRESETTING



Reliability pays for itself.

We attach the ultimate importance to high-quality components and ultra-precise mechanical processing. The overriding priority at KELCH is: "Accuracy comes from precise mechanics". We offer mechanical stability where others make corrections through software. The stable mineral cast construction of the base and tower make the unit significantly more resistant to temperature changes and machine vibrations. Tools weighing up to 150 kg can be measured with ease on our units. However, should tools be heavier, then we can help you to measure even heavier tools with the specific use of supports.

A base spindle, which is unmatched in terms of quality, forms the first interface to the tool. Ergonomic one-hand operation of the optic carrier ensures fast positioning of the tool in the cutting image. Software that delivers the values you need, simply and in seconds, rounds off the package.

**“Form follows function”
– reinterpreted
by KELCH.**



Measuring workpieces
made easy.

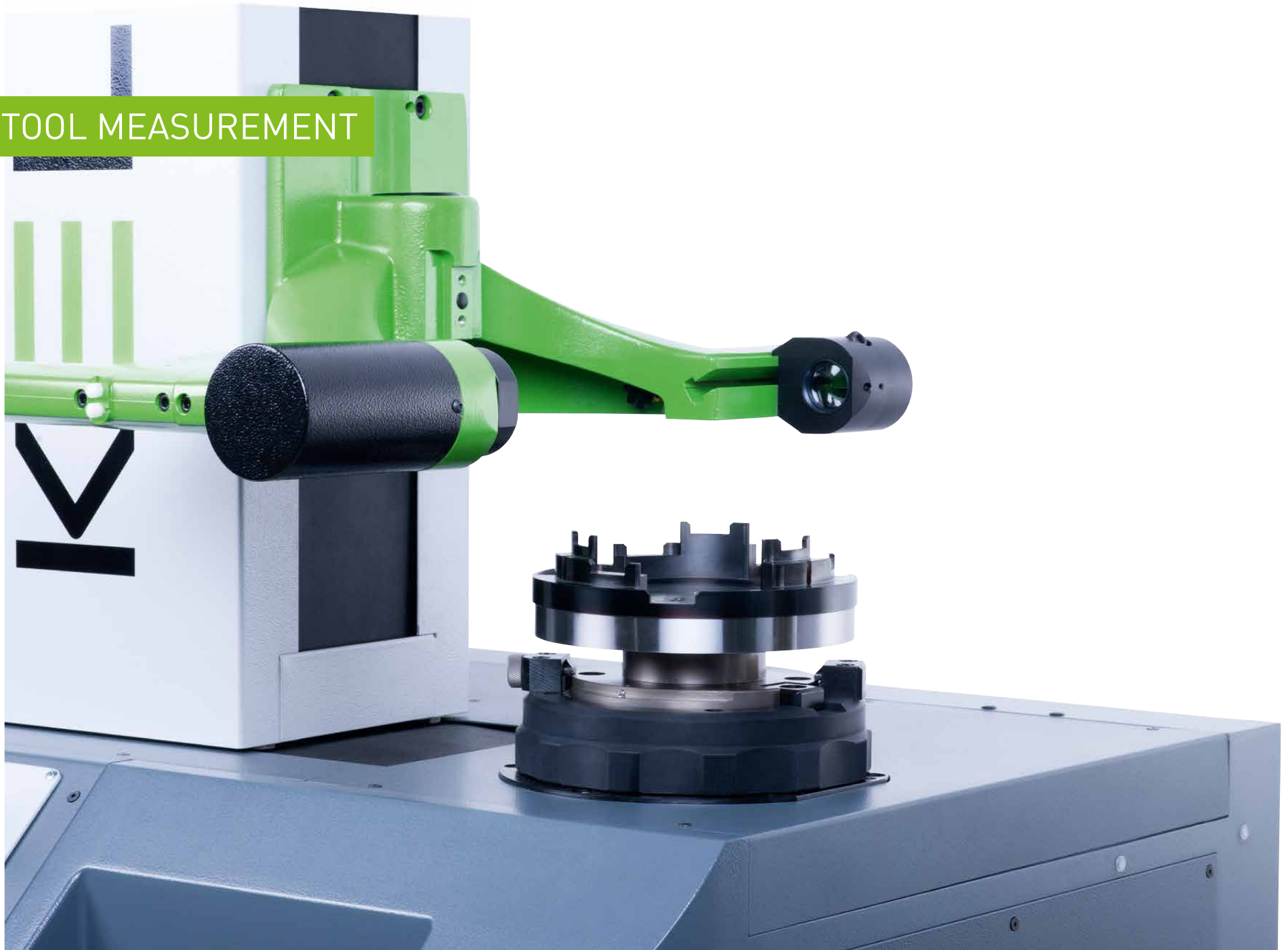
Discover KELCH
KENOVA measure line.

Do you measure your tools? Then why not measure your workpieces too?

When it comes to the most exacting quality requirement, it is essential to measure the workpieces to be used in manufacturing. However, it is equally important to examine the finished workpieces for quality and dimensional accuracy during the actual manufacturing process itself. We set ourselves this task and can now offer you the perfect solution with our new products. Your workpieces can be measured automatically in the production line with the new KENOVA measure line product range: this saves time, increases and safeguards the quality of your manufacturing and contributes to the success of your business.



TOOL MEASUREMENT

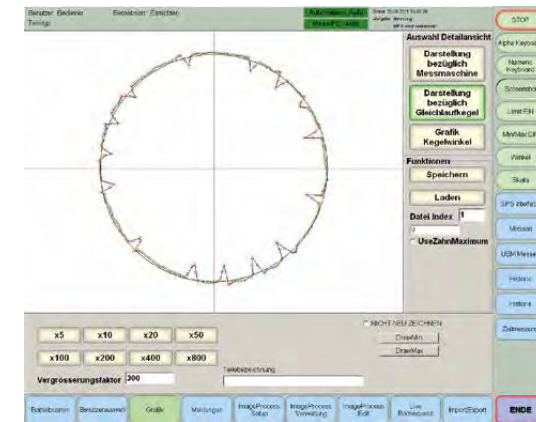


The familiar has been optimised and expanded!

A system has been developed based on our well-known tool presetters, which is used for the non-contact measurement of rotationally symmetric workpieces. Whether concentricity, surface quality, angles or radii – your workpieces can be fully measured in moments.

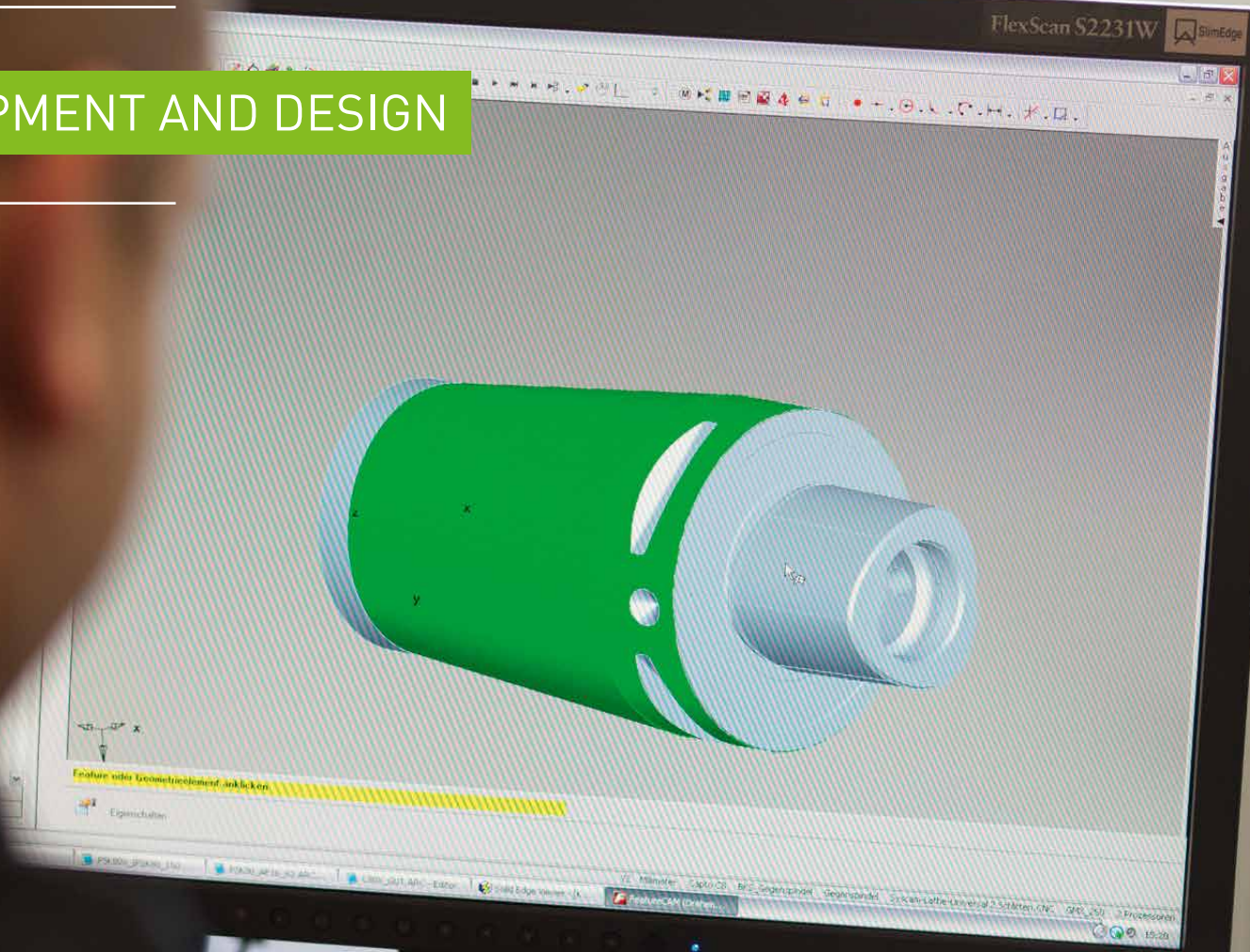
High-grade optical sensors and lasers are used, which are even suitable for welding seam inspections.

The measuring device can be loaded fully automatically as part of the production line. After the measurement, which lasts between 30 and 60 seconds, depending on the size and parameters measured, the workpiece is either reintegrated into the line for further machining or is now produced and fully measured.



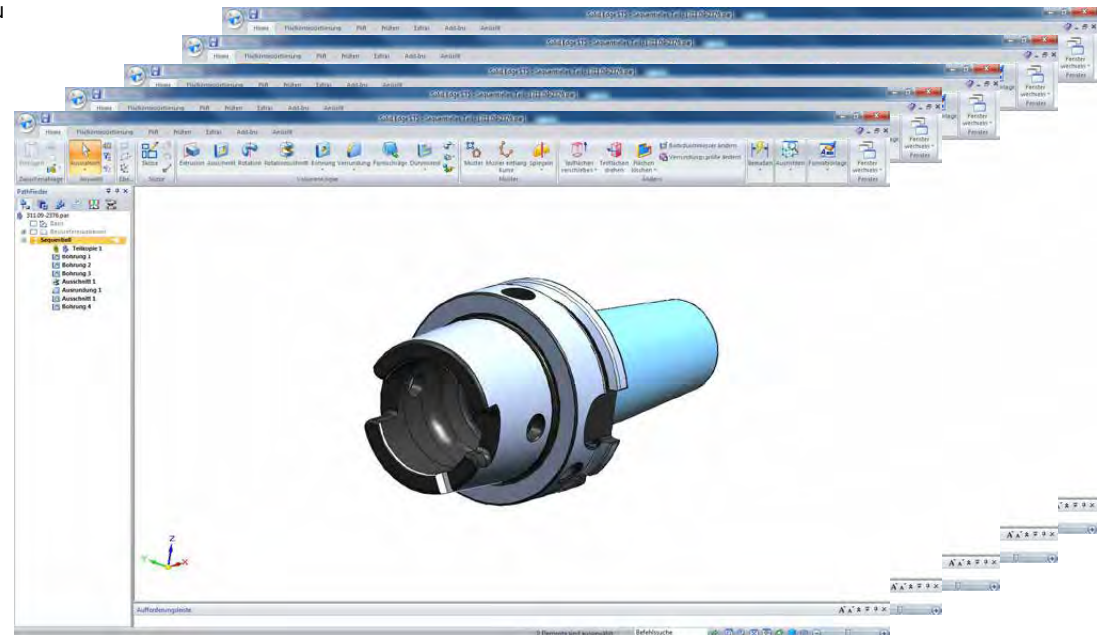
· Measurement of a tapered workpiece with grooves.

DEVELOPMENT AND DESIGN



Development equates to progress.

At KELCH we combine our pooled knowledge and expertise for the entire product range and develop everything in-house, including the electronics, mechanical systems and software. Do you need assistance or have questions about development issues, have individual product requirements or applications that do not fall within the standard range? Our experienced and highly-skilled design team would be delighted to help you to achieve your product and application objectives. Ask us!



Smart Factory Services

Industry 4.0

Technology transfer in practice

Industry 4.0 - compatible complete solution with flexibly combinable modules.



Smart Factory Services



Complete networking of your production

Engineering Services

The definition

Within modern tool management, KELCH Engineering Services looks after status analysis, planning and project management, system integration and process implementation, as well as the digitalisation of all processing work in production. This involves defining a technically and economically optimum process chain, as well as optimising NC programs and tool plans within work scheduling.

The aim

The aim of the Engineering process is to identify the actual cost drivers in the process. Significant savings can generally be achieved by optimising existing tools. Specially developed multilingual software tools support this systematic approach, enabling a comparative analysis of different situations. The results reveal hidden potential for economies, which the majority of customers can then often translate into real money.



Situation Analysis

Situation Analysis

- Determine the customer's current situation: number of machines, tools and workpieces, and record the manufacturing structure
- Highlight potential areas for improvement: value stream mapping, lean manufacturing



Planning & Project Management

Planning & Project Management

- Define and/or optimise the production layout
- Optimise machine equipment: initial equipment packages/retrofitting packages, integrated optical measuring systems
- Tool Room Concept: layout and equipment
- Tool Logistics Concept



System Integration & Process Implementation

System Integration and Process Implementation

- Networking and interfaces: machines/tool presetters/measuring systems, CAD/CAM, MES, ERP, tool management, tool issuing systems, PLM
- Commissioning and production go-live
- Integration of optical measuring systems



Digitalisation

Digitalisation

- Data processing and recording: cataloguing components / processing existing data logs
- Creation of a database: DIN 4000/ISO 13399-compliant tools, test and measuring equipment, machines, storage locations/systems, workpieces (products), NC programs

THE SMART 24/7 SERVICE PACKAGE

Tool Services

The definition

KELCH Tool Services deals with the everyday cost pressures on manufacturing companies. KELCH directs companies along a more efficient and effective route to becoming more streamlined and successful, focussing on their core competences. There is also indirect potential for cost economies, above all with main regional suppliers.

The aim

The right tool at the right place at the right time! We look after every last detail – from procurement and storage to tool assembly and management.



Procurement & Storage

Procurement and Storage

- Local purchasing: system providers/procurement service providers
- Storage: consignment store, storage in issuing cabinets at the customer's premises, monthly billing
- Logistics: prompt provision where needed



Tool Assembly & Management

Tool Assembly & Management

- Provision of tool systems as a service: assembly, adjustment and measurement, recycling, dismantling and disposal



Optimisation & Data Administration

Optimisation and Data Administration

- Preparation of existing data sets
- Optimisation of tool data: in tool management systems, tool issuing systems, reducing the range, stock and costs, among other things
- Adaptation of technological data: optimising NC programs, use of state-of-the-art technologies at all times



Technical Support & Servicing

Technical Support & Servicing

- Maintenance contracts, repair service, hire and rental equipment, extended warranties, data recovery, software support, 24-hour services, retrofitting, calibration and certification, remote maintenance, responsibility for total maintenance

Cost-effective and lucrative financing models

Financial Services

Leasing Partner

Our leasing partner is an expert in financial solutions geared to small to mid-sized businesses and enables us to offer our customers the freedom and flexibility they need to conduct their businesses: with one-to-one advice and demand-led financing. For your KELCH Smart Factory Services.

Operate Leasing / Finance Leasing

The lessee purchases the temporary right to use a capital asset that can generally be cancelled at any time. The lease contract is essentially the equivalent of a civil lease contract. Unlike medium- and long-term financing, Operate Leasing focuses on the short-term use of the capital asset, enabling customers to overcome bottlenecks in production or in sales.

A key feature of Operate Leasing contracts is that the lessor's financing costs are not generally amortised within the term of the contract. Full amortisation can only be achieved by the lessor leasing the asset several times and ultimately selling it.

Features of Operate Leasing:

- Contract period: relatively short contract periods. When a contract is concluded for an indefinite period, there is a right to cancel within the agreed periods. The service life of the asset exceeds the service life specified in the contract.



Leasing
of Capital
Equipment

Leasing of Capital Equipment

- Avoidance of high initial expenditure
- Use of attractive financing models
- Pre-emptive right to purchase at the end of the flexible leasing model



Flexible
Accounting
Models

Flexible Accounting Models

- Billing on a time and labour basis: e.g. with short-term services
- Monthly billing: precisely based on goods consumed

- Economic risk/Asset risk: borne by the lessor. In this context, economic risk/asset risk is understood as meaning the risk of technical obsolescence of the leased asset, theft, technical faults or damage.
- Maintenance: is the responsibility of the lessor. As the leased assets are often leased to several lessees in turn, it is in the interest of the lessor to maintain the asset in good condition.

Features of finance leasing:

- Contract period: long contract terms with basic lease periods that cannot be cancelled. The basic lease period is approximately the operational service life of the leased asset.
- Asset risk: is borne by the lessee. This also includes payment for incidental repairs and the arrangement of insurance.
- Maintenance: As the lessee has generally initiated the procurement and/or production of the leased capital equipment, he is also responsible for taking measures to retain its value.

SERVICE



Limitless service.

Service is not just service. It is delivered with precision and always with our relentless determination to meet our customers' requests and requirements. It all starts with logging the concern and straightforward good advice. KELCH looks after its customers from the very outset - from purchase to support and maintenance.

At KELCH, service means:
We have understood you.



KELCH





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