Engineering to perfection demands persistence and consistency to incorporate experience, knowledge and curiosity, to eagerly put ideas and innovations into practice.
KAPP NILES is a globally operating group of companies with high-quality and economical solutions for finishing gears and profiles and is partner for companies from numerous industrial sectors in the segments mobility, automation and energy.

The perfect interaction between machines, tools, technologies and metrology enables extremely precise machining to a thousandth millimetre.

Around 1000 highly-specialised employees represent the power of innovation and the expertise of the company that has grown throughout the decades. The KAPP machine tool factory, founded in Coburg in 1953, and the company NILES, established in Berlin 1898, merged into KAPP NILES in 1997.

KAPP rapidly developed into the innovation driver of the industry from wood milling to modern high precision grinding. Examples are the construction of the biggest hob grinding machine in the world in 1975 or the introduction of the CBN technology in 1978. Nowadays, the team at the Coburg headquarters is specialised in system solutions for grinding gears and profiles with a diameter up to 630 mm. Also in Coburg, KAPP Technologie GmbH, which was founded in 1991, produces the CBN and diamond single-layer plated grinding tools as well as dressing tools.

NILES in Berlin developed, among other things, the “discontinuous generating grinding” process in 1926, as well as the first programmable logic machine controls in 1968. Today the core expertise lies in machine solutions for finishing large gears with a diameter of up to eight metres.

The close business relationship to the customers internationally is ensured by the KAPP NILES companies in the USA, Mexico, Brazil, China, India and Russia, as well as a joint venture in Japan.

Therefore the KAPP NILES know-how and the seal of quality “Made in Germany” is represented on all important markets. This provides the ideal stage to be able to present the innovative developments of KAPP NILES all over the world – today and in future.
All system solutions have one thing in common - maximum precision in the production of workpieces. Proven machine concepts in connection with well-engineered processing technologies secure that. Every machine is unique and each individual production system is tuned to the specific customer processing requirements. The KAPP NILES programme offers the ideal system solution for the demands of every customer.

Depending on the processing requirements and the customer-specific application scenario, the KAPP NILES technologists develop the perfect production system, including customised tooling systems, together with their customers. For example rotational turning and generating grinding in a single production process with the WEISSER-KAPP MultiCELL and the gear centre NILES ZP B, which combines gear, face and bore grinding.

**machining processes**
- generating grinding
- profile grinding
- bore and end face grinding

**workpiece range**
- gears and shafts
- gear related profiles
- compressor rotors
- ball screw tracks
- worms
- rotary pistons
- pump spindles
- gerotors
- vane pump rotors
- cycloidal profiles
- etc.

new – proven – unique

KAPP NILES unites innovative processes and proven technology for optimised customer solutions.
Maximum precision is necessary so that gearboxes ensure perfect drive or industrial robots work accurately to the millimetre. Whether in the sector mobility, automation or energy - KAPP NILES makes sure of it.

Precise motion and perfect power transmission are decisive for the success of our customers - particularly in those cases where performance and reliability are necessary. That applies to the ship’s motor of ocean liners or the mechanic in wind power plants and power stations just as much as to the excavators in mining.

Machines from KAPP NILES ensure the necessary precision in the production of workpieces. Our customers use them to realise ideas and concepts - on land, on water and in the air.

KAPP NILES in the field
- vehicle technology
- aerospace
- compressors and pumps
- drive technology
- energy and wind power
- primary production
- ship building
- rail technology
- robotics

KAPP NILES customers lead the way for the world: moving things and people - some in micrometres, others in a really big way.
innovative – global – digital

KAPP NILES in motion – globally: with digital solutions for the production of tomorrow

By the means of the software platform KN assist KAPP NILES makes the digital solutions tangible for everyone. A key focus is placed on the realisation of an increased efficiency of the process design. The main components of this software platform are the use of RFID chips for clear identification of components, the Tool Management for the support of the set-up process and the Condition Monitoring, which informs about the current status of the machine.

Due to the innovative user interface KN grind, which is equipped with a touchscreen, the operation of the machine can be done easily and intuitively.

At the factories of our customers, communication takes place not only between the employees. To ensure the quality of the gear grinding process, gear centres and measuring machines communicate via Closed Loop technology. The data transmission is based on OPC UA specifications.

Thanks to the participation in the project umati, our machines can be integrated in every existing IT-infrastructure by using a standardised interface. This enables users to monitor their systems in real time and intervene quickly if necessary.

Digitisation

- Software platform KN assist
- Innovative user interface KN grind
- Closed Loop
- Connection with umati
Over 120 years of experience in building machine tools – on this solid foundation, the KAPP NILES specialists develop innovative production technologies, new machine functions, suitable tools and process solutions.

Maximum precision in the KAPP NILES production secures the excellent quality of the products. For that reason, all decisive components are produced exclusively in the plants in Coburg, Berlin and Großostheim.

The KAPP NILES specialists use laser measurement to calibrate all of the machine axes precisely and adjust them down to 1 µm. Comprehensive test runs guarantee that every KAPP NILES system solution does not only fulfill the requirements in theory but also in practice.

KAPP NILES machines ensure maximum precision and quality in the production of gears and profiles – namely with the last decisive touch.
A precise grinding result – thousands of times – is no problem with the best high-performance tools developed for the machine and the workpiece. The premier class is the non-dressable profile grinding wheel made of tempered steel base units with sturdy CBN coating.

Cubic Boron Nitride (CBN), a by-product of the aerospace research, is almost as hard as diamonds but considerably more heat resistant. The CBN coating developed by KAPP can be renewed more than 50 times and thus contributes to preserving resources.

On top of that, the KAPP tool programme includes dressing rolls and dressing gears in numerous variations for the precise conditioning of dressable tools from leading manufacturers.

range of tools

• non-dressable tools
  with CBN or diamond coating

• dressable tools
  ceramically bonded with corundum, SG or CBN

• dressing rolls and gears
  with or without tip dresser
  for workpiece-specific or flexible dressing

Our tools are in best form – time and time again:
non-dressable, with renewable CBN or diamond coating
and dressable, conditioned with highly precise dressing tools.

fits – grinds – lasts
Measuring machines from KAPP NILES Metrology: stationary resp. in docking design - achieve the required surface quality faster by immediate control of grinding results.

The KAPP NILES group extends the comprehensive product portfolio of grinding machines, grinding and dressing tools, as well as technology support with associated measurement technology. The group’s expansion will operate under the name of KAPP NILES Metrology GmbH.

This ensures KAPP NILES a unique market competence in the field of gear technology.

KAPP NILES Metrology GmbH will draw from long-standing wealth of experience from employees of both, former R&P Metrology GmbH from Aschaffenburg, Germany and Penta Gear Metrology residing in Dayton, OH in the USA. The complete measuring technology portfolio includes stationary and mobile measuring machines, measuring instruments, as well as special measuring devices.

Additional we offer our services, if you have bottlenecks in quality control and quality assurance.
The precision that KAPP NILES employees have achieved today was only a vision years ago. Today it has proven itself in practice. In the future, the KAPP NILES specialists are also going to meet the challenges of the customers with innovative solutions in proven quality.

KAPP NILES has been committed to promoting young engineers already for decades. Dr.-Ing. E. h. Bernhard Kapp donated a prize, which shall encourage upper school pupils in the Coburg district to carry out project work. Scientific or technical topics with high practical relevance are worked on independently and are awarded annually with a prize money.

The technical expertise developed over decades by KAPP in Coburg and NILES in Berlin is the foundation for today’s quality and tomorrow’s innovation. To secure the experience and knowledge in the company for the future as well is one of the top priorities for KAPP NILES. Numerous trainees help to guarantee that.

KAPP NILES stands for high performance – also in the field of learning: in research collaborations with universities and with numerous trainees within the company.

The research – knowledge – know-how – the drive to break new ground. KAPP NILES promotes fundamental and application-specific research at numerous renowned universities and research institutes:

- Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University
- Institute for Machine Tools and Factory Management (IFW) of the Technical University Berlin
- Leibniz Institute for Materials-oriented Technologies (IWT) at the University of Bremen
- Fraunhofer Institute for Machine Tools and Forming Technology in Chemnitz (IWU)
- Institute for Production Engineering and Machine Tools (IFW) of the Leibniz University Hannover
- University of Applied Sciences and Arts Coburg
Coburg – Berlin – worldwide

KAPP NILES stands for 100 % “Made in Germany” – with facilities and service teams close to the customers and nevertheless at home worldwide.

Machine tools  
Sales  
Non-dressable grinding tools  
Dressing tools  
Dressers  
Spare parts warehouse  
Metrology  
Service  
Technological support

KAPP NILES
Coburg, Germany

KAPP NILES
Berlin, Germany

KAPP Technologie
Coburg, Germany

KAPP NILES Metrolody
Großostheim, Germany

KAPP NILES
Berlin, Germany

PENTA GEAR Metrology
Dayton, USA

KAPP NILES MEXICO TECHNOLOGIES
Ramos Arizpe, Mexico

KAPPTEC
Diadema S.P., Brazil

KAPP JAPAN TECHNOLOGIES
Nagoya Aichi, Japan

KAPP NILES Russland
Moscow, Russia

KAPP ASIA TECHNOLOGIES
JiaShan, China

KAPP NILES INDIA TECHNOLOGIES
Bangalore, India

KAPP NILES Metrology
Großostheim, Germany

KAPP TECHNOLOGIES
Boulder, CO, USA

KAPP NILES MEXICO TECHNOLOGIES
Ramos Arizpe, CP, Mexico

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