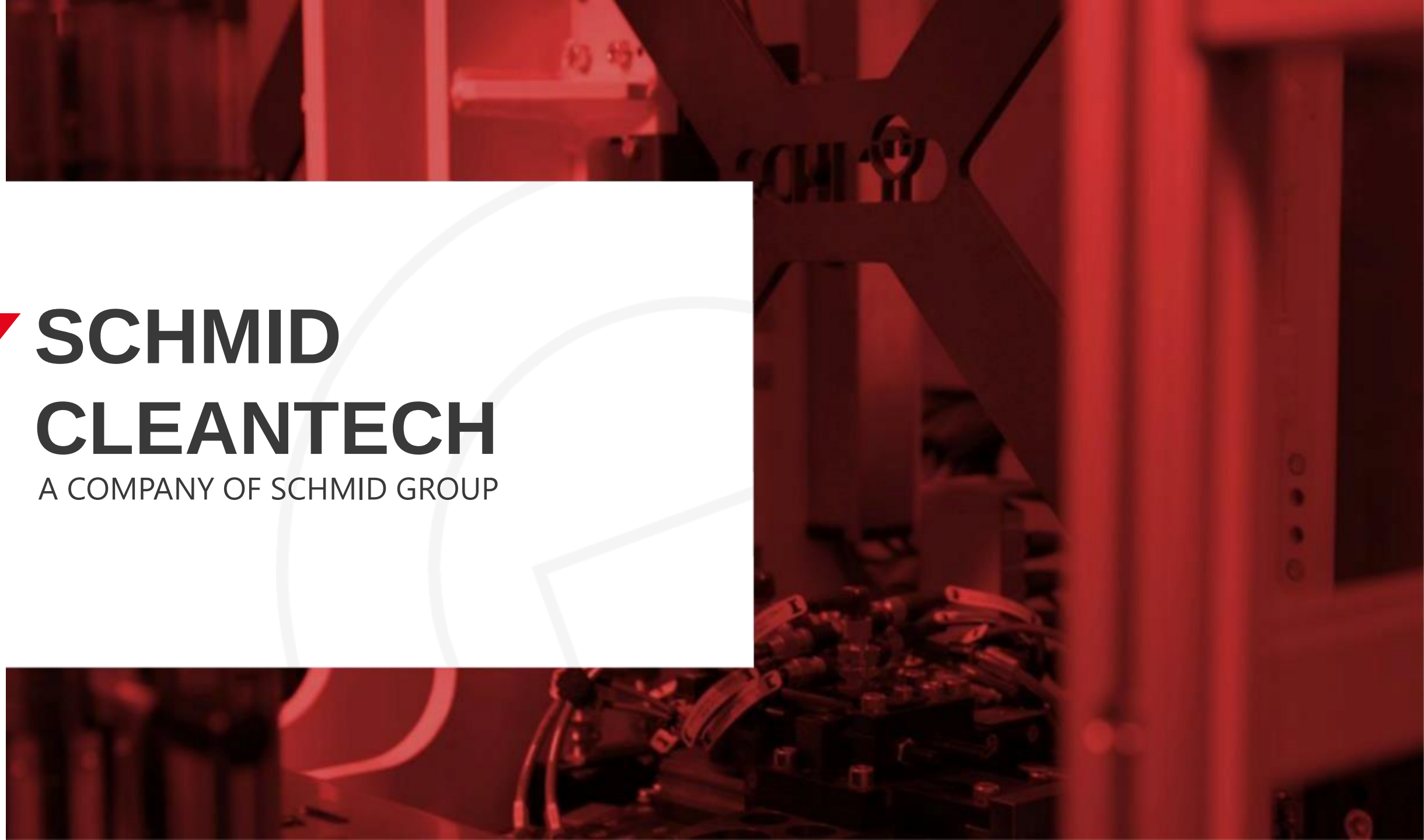
WELCOME TO SCHMID CLEANTECH

TOPIC: CUSTOMER PRESENTATION

DATE: JANUARY 29 TH. 2025

SCHMID MASCHINENBAU EST TECHNOLOGIE SCHMID CLEANTECH SCHMID MACHINERY SCHMID E-MOTIVE are companies of SCHMID



SCHMID CLEANTECH

A COMPANY OF SCHMID GROUP

KEY DATA

SCHMID CLEANTECH

General Management:
Norbert Born, Uwe Krebs

Place: Engstingen, Baden-Württemberg

Employees 2023: 45
Turnover 2023: EUR 13,1 Mio.

OUR EXPERTISE

IN WATER-BASED CLEANING TECHNOLOGY

MERGER IN OCTOBER 2021

- The merging of INDA Wasserstrahltechnik GmbH and Albrecht Markert GmbH Metallreinigungs- und Oberflächentechnik into Schmid Cleantech GmbH
- The perfect symbiosis for water-based cleaning systems and dry cleaning systems for cleaning electrical components
- Depending on the focus of requirements, the optimum service package is put together for our customers on this basis

OUR PORTFOLIO

WORLDWIDE

- more than 1000 systems worldwide: high-pressure cleaning, low-pressure cleaning and dry cleaning systems.

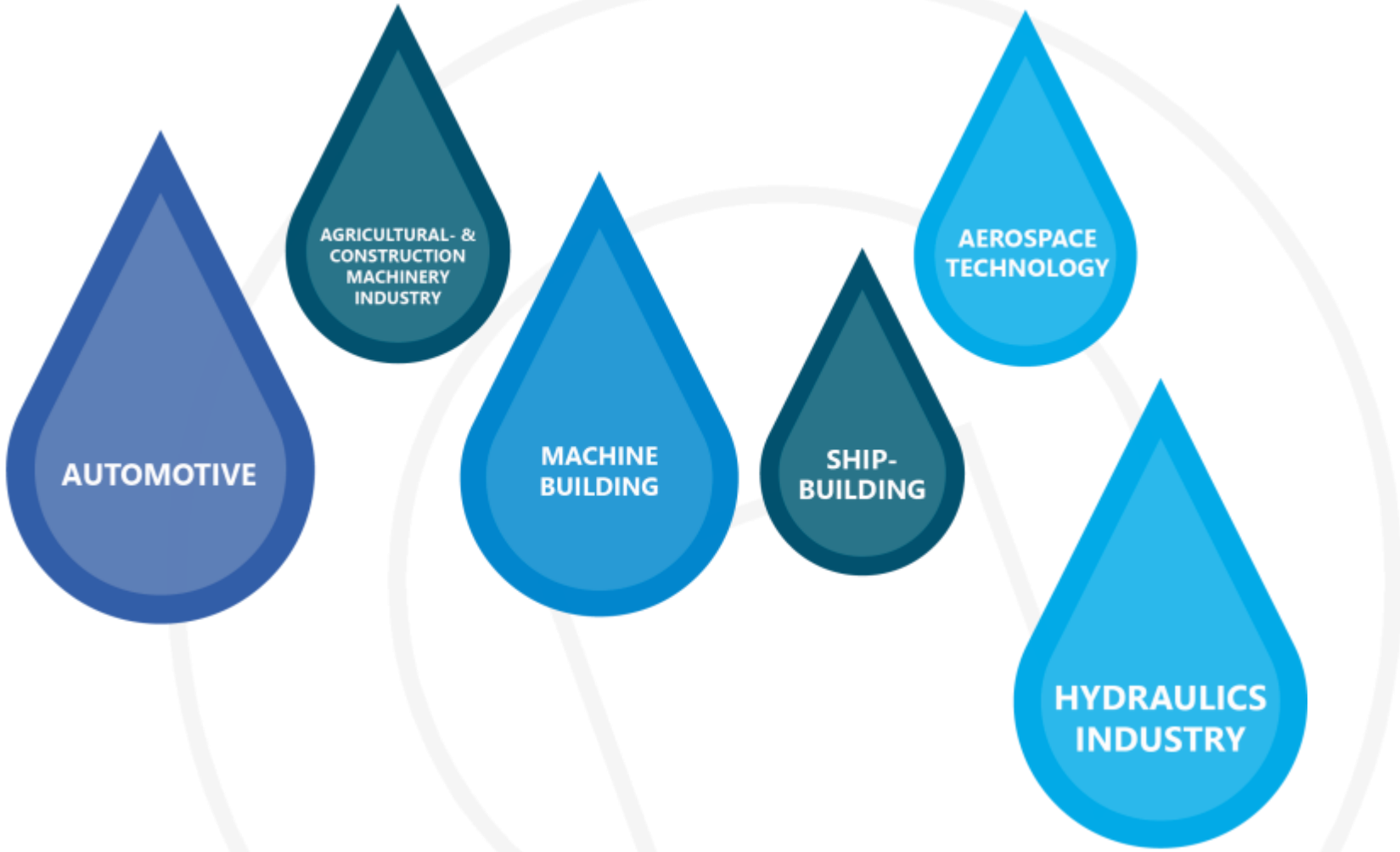
SOLUTIONS

- design optimal and tailor-made solutions in close cooperation with our customers.

SCHMID GROUP

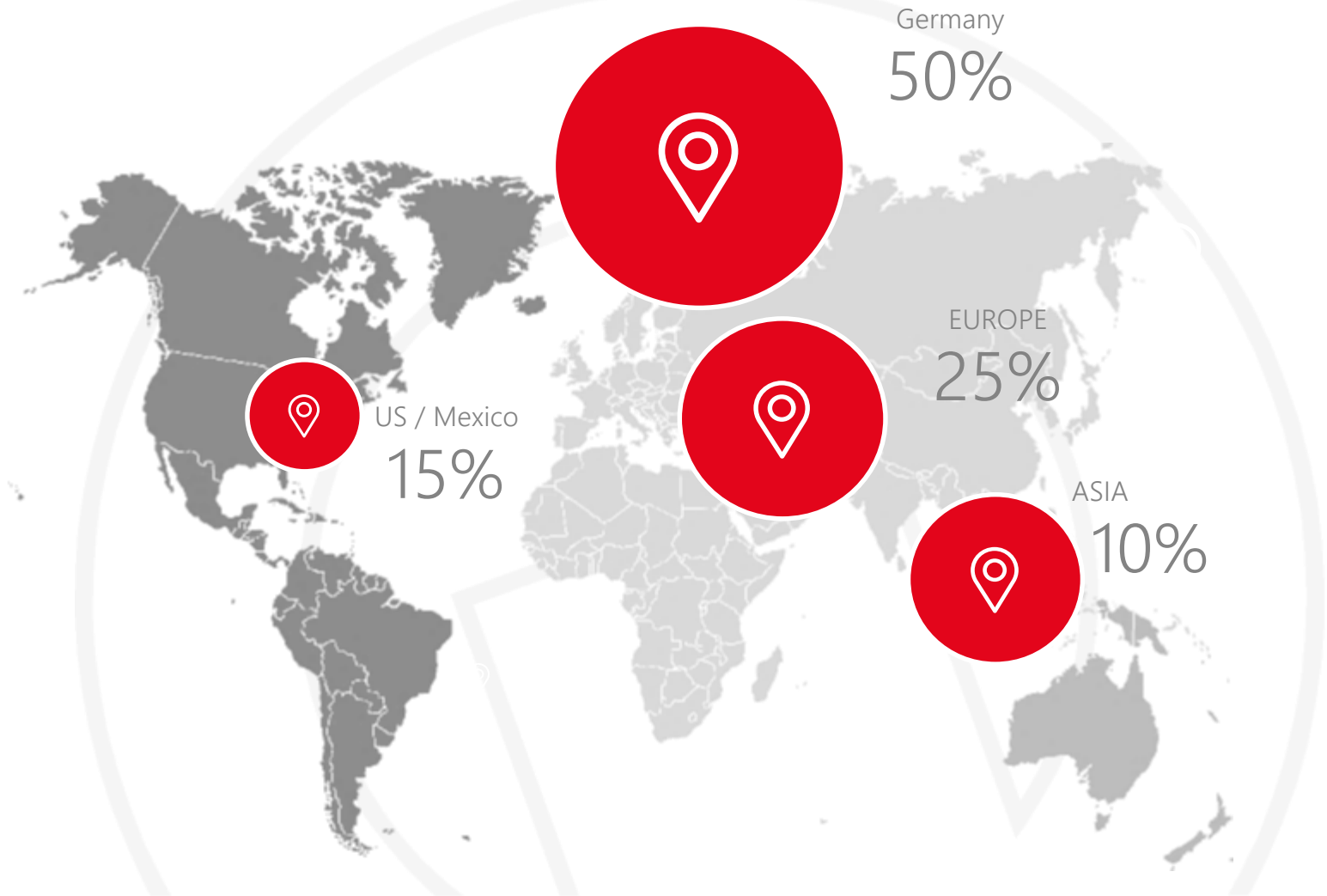
- In cooperation with Schmid Maschinenbau including final assembly automation or assembly of systems.

OUR INDUSTRIES



MARKET DISTRIBUTION

SCHMID CLEANTECH



QUALITY CERTIFICATES

MEETING & EXCEEDING OUR CUSTOMERS EXPECTATIONS

Certificate

Standard ISO 9001:2015

Certificate Registr. No. 01 100 030908/02

Organization:

Emil Schmid Maschinenbau GmbH & Co. KG
Melchinger Str. 19
72820 Sonnenbühl
Germany

Site: c/o Schmid Cleantech GmbH
Siemensstr. 3
72829 Engstingen
Germany

Scope: Development, production and sales for high pressure cleaning and deburring systems as well as systems for low pressure operations

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity: The certificate is valid in conjunction with the main certificate 01 100 030908 from 2021-11-17 until 2024-11-16.

2021-11-17

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com

TÜVRheinland®
Precisely Right.

ISO 9001:2015

ZERTIFIKAT

DIN EN ISO 14001

The Certification Body of DGZ mbH hereby certifies the company

Schmid Cleantech GmbH
Siemensstr. 3
72829 Engstingen

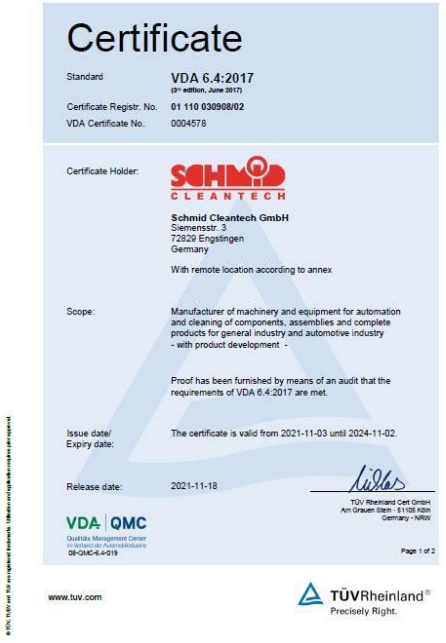
with the scope:
Producer of high and low pressure cleaning and deburring systems for automotive industry with product development

Report-Nr.: 07-3656124322
Certificate Registration n°.: 10-8659302822_01
Date of certification: 13.10.2022
Valid until: 11.10.2025

has introduced and effectively applied a quality management system according to DIN EN ISO 14001:2015. The proof was provided in the context with the audit with the associated report. The certificate or the certification is valid for 3 years, provided that the annual surveillance audits will be completed in the established deadlines with positive results

DIN EN ISO 14001

DIN EN ISO 14001



Certificate

Standard VDA 6.4:2017
(3rd edition, June 2017)

Certificate Registr. No. 01 110 030908/02

VDA Certificate No. 0004578

Certificate Holder:

CLEANTECH

Schmid Cleantech GmbH
Siemensstr. 3
72829 Engstingen
Germany

With remote location according to annex

Scope: Manufacturer of machinery and equipment for automation and cleaning of components, assemblies and complete products for general industry and automotive industry
- with product development -

Proof has been furnished by means of an audit that the requirements of VDA 6.4:2017 are met.

Issue date/ Expiry date: The certificate is valid from 2021-11-03 until 2024-11-02.

Release date: 2021-11-18

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln
Germany - NRW

VDA QMC

Page 1 of 2

www.tuv.com

TÜVRheinland®
Precisely Right.

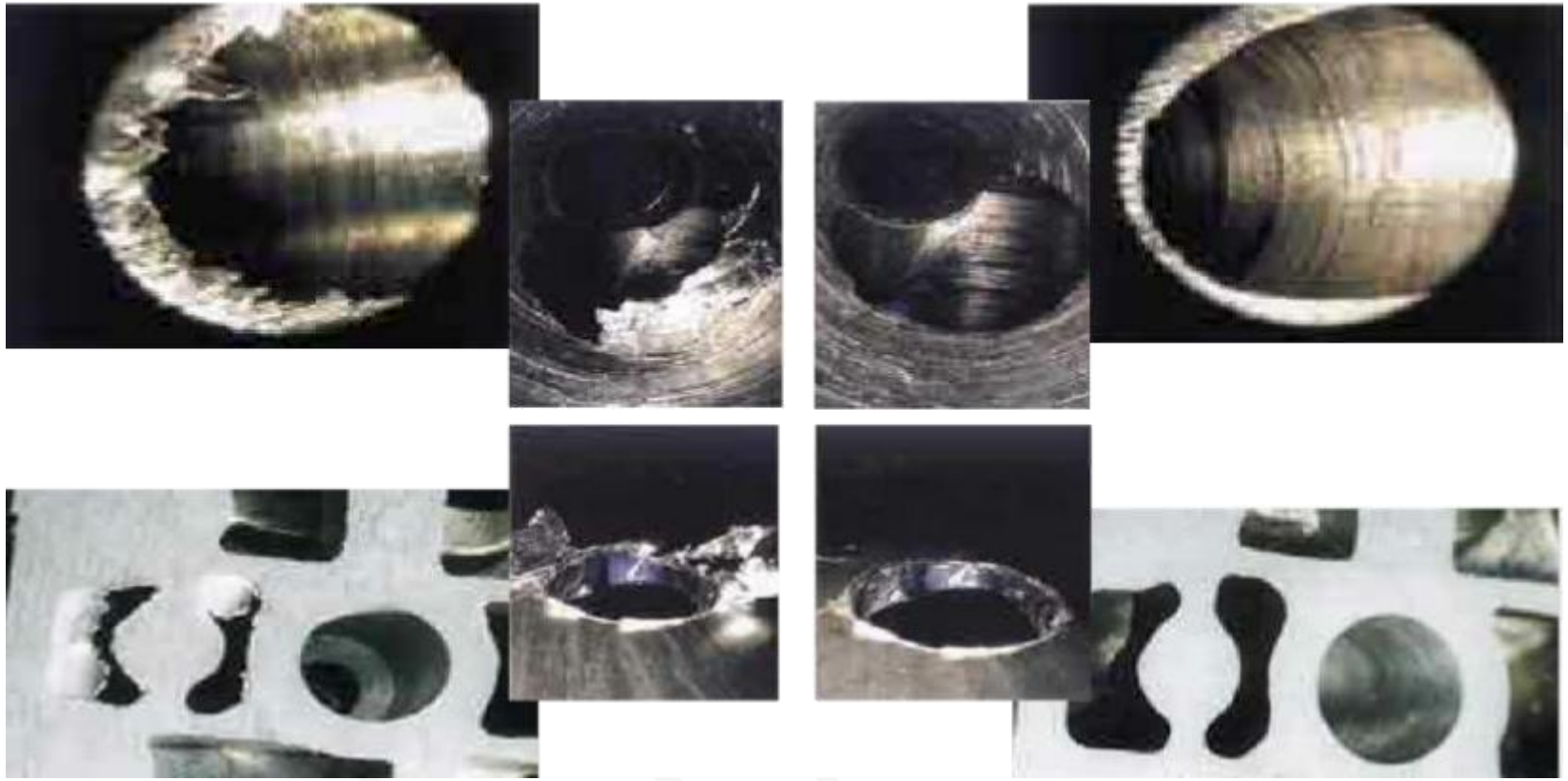
VDA 6.4:2017

SAMPLE EXAMPLES

HIGH-PRESSURE DEBURRING AND CLEANING

Before high pressure processing

After high pressure processing



PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

Schmid Cleantech GmbH is a merger of the companies INDA Wasserstrahltechnik GmbH and Albrecht MARKERT GmbH metal cleaning and surface technology.

In order to offer the best concepts and solutions for our well-known customers, we combine the skills and know-how of both companies. Based on decades of experience in the construction of water-based cleaning systems in the high- and low-pressure range, we design the optimal and tailor-made solutions in close cooperation with our customers. We offer complete solutions that cover the entire range of high-pressure cleaning and low-pressure cleaning and deburring technology, including media treatment with adapted filtration systems, drying equipment and automation systems.

PORTFOLIO

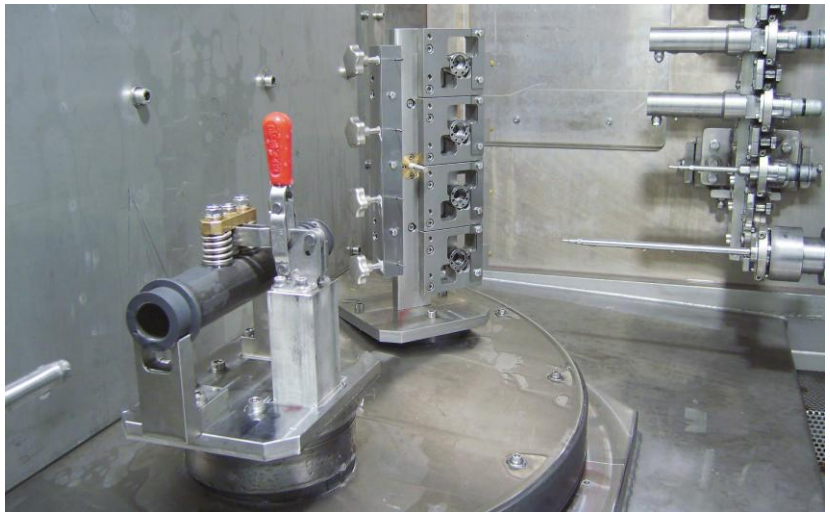
HIGH-PRESSURE DEBURRING AND CLEANING

HC FLEX

The structure of the compact and highly flexible HCflex high-pressure cleaning and deburring system is based on machining centres.

Processing is carried out by 3-axis NC linear units, which can be arranged vertically and/or horizontally and equipped with an automatic nozzle changer for 6 tools each.

The workpieces are on a turntable (NC-controlled) so that 5 (6) side processing is possible. The machine is controlled with an NC control of the latest generation (Siemens 840D SL or BoschRexroth MTX). Pressures of 1,000 bar to 4,000 bar can be generated.



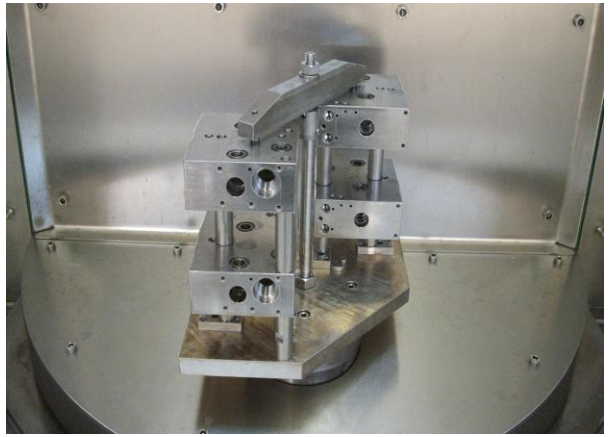
PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

The system is made in 2 versions:

•Variant 1 (HCflex 1) for small batches and processing samples in the pre-series and sample part production

•Variant 2 (HD centre HCflex 2) in two sizes for volume production



PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

HC MODULE

Low-pressure/medium-pressure/high-pressure cleaning and deburring centre with 4 NC axis systems:

- Flexible volume production
- 2 sizes
- Up to 12 (18) HD tools
- 4 NC Axes
- Pressure 1,000–4,000 bar

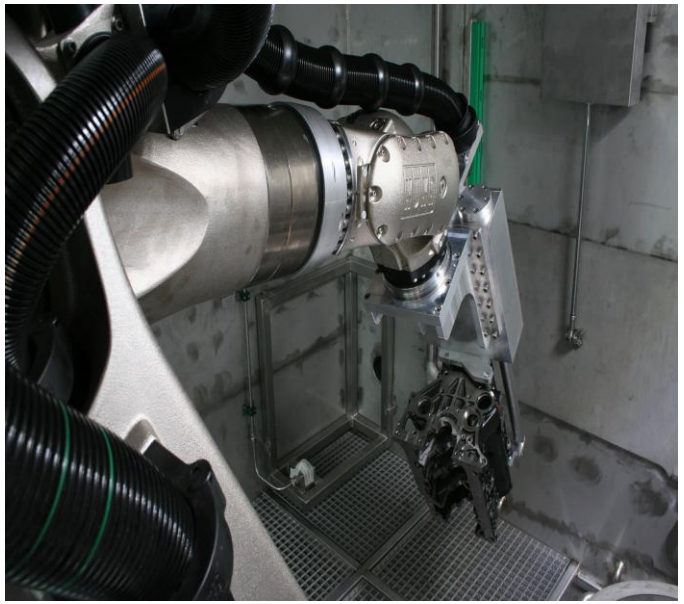
PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

HC ROBOT

Low-/medium-/high-pressure robotic cleaning and deburring centre (nozzle to workpiece or workpiece to nozzle) for cleaning and deburring crankcases.

- Moving nozzle (tool changer) up to 800 kg
- deburring tool possible
- Pressure up to 4,000 bar
- Robot cell
- 3 sizes
- Moving workpiece up to 250 kg



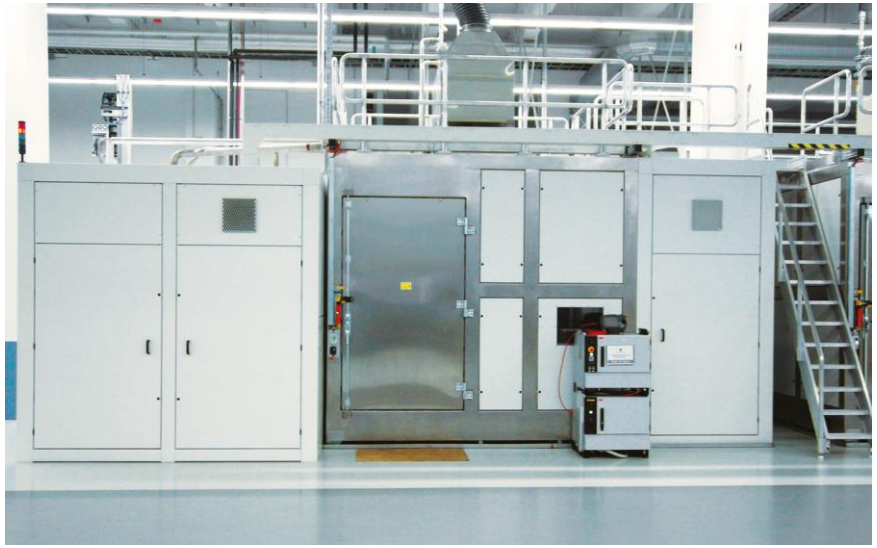
Product details

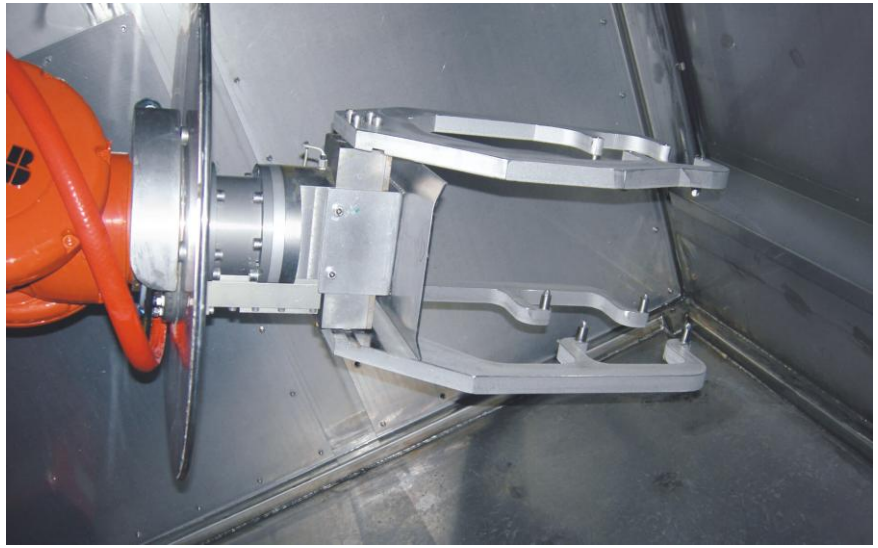
- Cycle time 82 sec.
- 4 high-pressure tools
- Working pressure freely selectable for each tool
- Working pressures from 200 to 800 bar
- Internal water treatment with 2 filter stages
- Integrated oil separator
- Hot air and vacuum drying
- Floor trough according to WHG 19
- Sound enclosure, noise level < 75 dbA

PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

HC ROBOT





PORTFOLIO

HIGH-PRESSURE DEBURRING AND CLEANING

HC TURN

Low-pressure/medium-pressure/high-pressure cleaning and deburring centre, 2–12 stations

- Rotary table systems (2–12 stations)
- Large-scale production

PORTFOLIO

LOW-PRESSURE DEBURRING AND CLEANING

COMPACT/GRATE CLEANER IN 1,2,3 BATH TECHNOLOGY

- 3 sizes
- 2–3 baths
- Turbulence cleaning up to 16 bar
- Spray cleaning up to 5 bar
- Hot air and vacuum drying

PORTFOLIO

LOW-PRESSURE DEBURRING AND CLEANING

COMPACT/CONTINUOUS CLEANING

- 3 sizes
- 2–3 treatment zones
- HCflex targeted and non-targeted spray cleaning
- Small batch, prototyping
- 3–9 NC Axes
- Pressure 1,000–4,000 bar

PORTFOLIO

LOW-PRESSURE DEBURRING AND CLEANING

COMPACT/CONTINUOUS CLEANING

Single-chamber cleaning system type LCC

- Standard systems' size 530/670/800
- Compact system with injection floods and/or ultrasound support
- 3 standard sizes for crate and/or rack goods
- 1-bath technology to 3-bath technology for intermediate cleaning to final cleaning tasks
- Supply from integrated tank system
- Standard working pressures up to 15 bar
- Integrated full flow filtration
- Hot air and vacuum drying
- Integrated oil separator
- Floor trough
- Guards
- Integrated in line filtration
- Hot air and vacuum drying
- Integrated oil separator
- Floor tray
- Housing

PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

EMIL SCHMID MASCHINENBAU has been based in Sonnenbühl/Willmandingen as a reliable manufacturer of special machines and systems for more than half a century.

From the start-up as a 1-man operation, the company has now grown to almost 300 employees. As the largest plant in the SCHMID GROUP, we implement tailor-made solutions for demanding projects in the field of production plant and special machine construction, interlinking including engineering, electrical engineering and control technology. And all this for many global corporations and companies across all industries, especially for the automotive industry.

With our many years of experience, our sustainable innovative spirit and a visionary eye, we develop high-quality products for our customers every day. In recent years, forward-looking projects, especially in the field of e-mobility, have become our specialty.

Regardless of whether you want to implement new systems, expand them intelligently or change them in a purposeful manner – with us you will receive tailor-made systems.

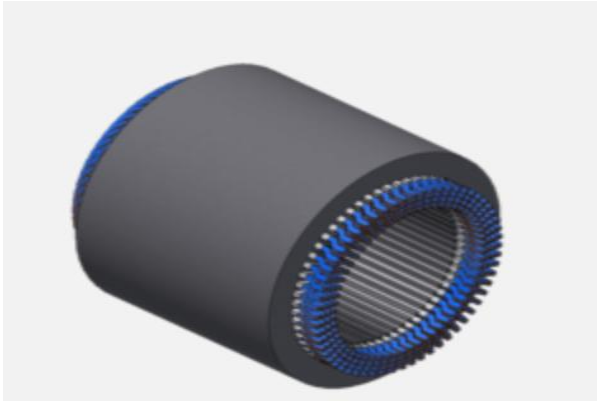
PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

E-DRIVE POWERTRAIN

STATOR

- Hairpin bending and assembly
- Expanding, twisting & welding
- Impregnation



ROTOR

- Joining magnets & fin pack
- Magnetising & magnetic field measurement
- Transfer moulding

PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

E-MOTOR FINAL ASSEMBLY

- Marriage of E-motor
- Assembly of power electronics
- Test E-motor/HV test

PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

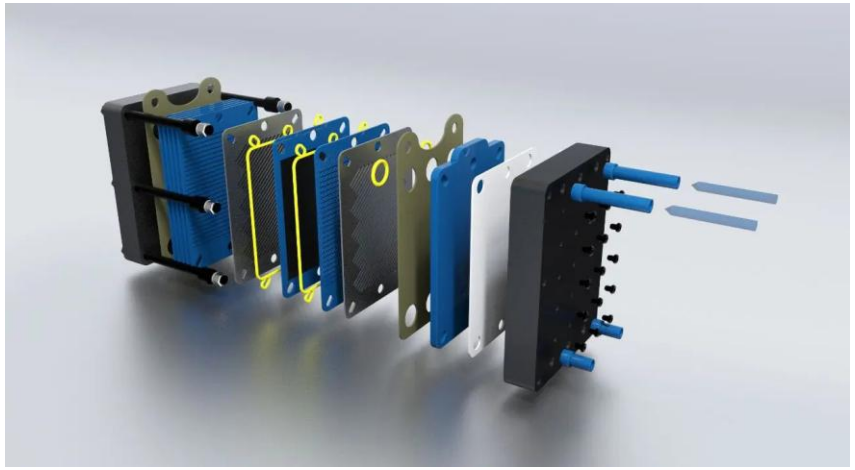
BATTERY

- Cell stack formation (concept phase)
- Insert cell block
- Backend assembly
- NV/HV/EoL test
- Final assembly leak test

FUEL CELL

Concept phase:

- Autom. stack and press stack
- Taping/welding
- Final assembly & functional test



PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

CLASSIC POWERTRAIN

COMBUSTION ENGINE

- Piston-connecting rod pre-assembly
- Short engine assembly
- Cylinder head assembly
- Final assembly
- Final assembly including testing technology

PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

TRANSMISSION (MANUAL, AUTOMATIC)

- Shaft assembly
- Differential
- Transmission main assembly

ENGINE COMPONENTS

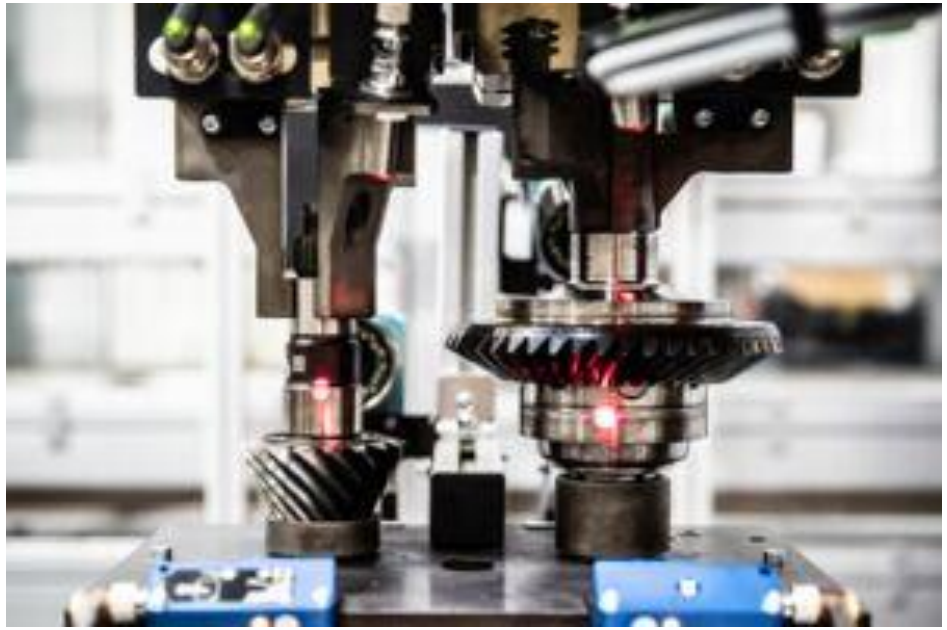
- Oil pump assembly
- Exhaust gas turbocharger

PORTFOLIO

ASSEMBLY TECHNOLOGIES – TAILOR MADE SOLUTIONS

DRIVE MODULES/AXLES

- Front/rear axles
- Wheel carrier
- Front/rear axle
- Tyre and wheel assembly
- Half shaft fastening



PORTFOLIO

EST TECHNOLOGIES – TAILOR MADE SOLUTIONS FOR SCREW DRIVING

MODULS

***flex*E12 CM (master unit)**

- 10.4“ Touchscreen für Programming und Visualisation
- SSD for data storage
- freely programmable operating and signaling elements and binary I/O signals
- var. serial interfaces
- USB/Ethernet/Profinet Interfaces
- Hybrid connectors for screwdriving tools, presses and force/displacement measuring systems

***flex*E12 CS (slave unit)**

- USB/Ethernet/Profinet Interfaces
- Hybrid connectors for screwdriving tools, presses and force/displacement measuring systems

Designs for master/slave system architecture within assembly lines, etc. 1 or 2-channel control in a compact housing

PORTFOLIO

EST TECHNOLOGIES – TAILOR MADE SOLUTIONS FOR SCREW DRIVING – SCREW SPINDLES

The high-quality screw spindles are characterised by the highest level of accuracy and durability. With the versatile modular design, you can implement highly complex screw connections.

With an integrated history file, dynamic angle correction, automatic recognition of the head rest and a "state of the art" action sensor, you have state-of-the-art screwdriving tools at your disposal. Whether used in an automatic station, actuator in a robot or installed in a "manually guided" mechanism.

With the EST screw spindle, your product is screwed together with the highest quality.

- Torque range BG0, BG1, BG2, BG3 from 1 Nm to 1800 Nm
- EC motor
- Planetary gear
- Chip for saving the screwdriver data
- Measurement value sensor
  - Principle of action
  - contactless
  - digital measured value transmission
  - integrated angle of rotation sensors
- spring-loaded tool holder
- modular design
- suitable for reversing operation
- Models
  - coaxial output
  - offset output
  - angle output
  - redirected output

PORTFOLIO

EST TECHNOLOGIES – TAILOR MADE SOLUTIONS FOR SCREW DRIVING – SCREW SPINDLES

- coaxial output
- Sensor with plausibility measuring circuit
- redundant measurement value sensor

- offset output
- Sensor with plausibility measuring circuit
- integrated measurement value sensor

- angle output
- Sensor with plausibility measuring circuit

- coaxial output
- 1800 Nm
- redundant measurement value sensor

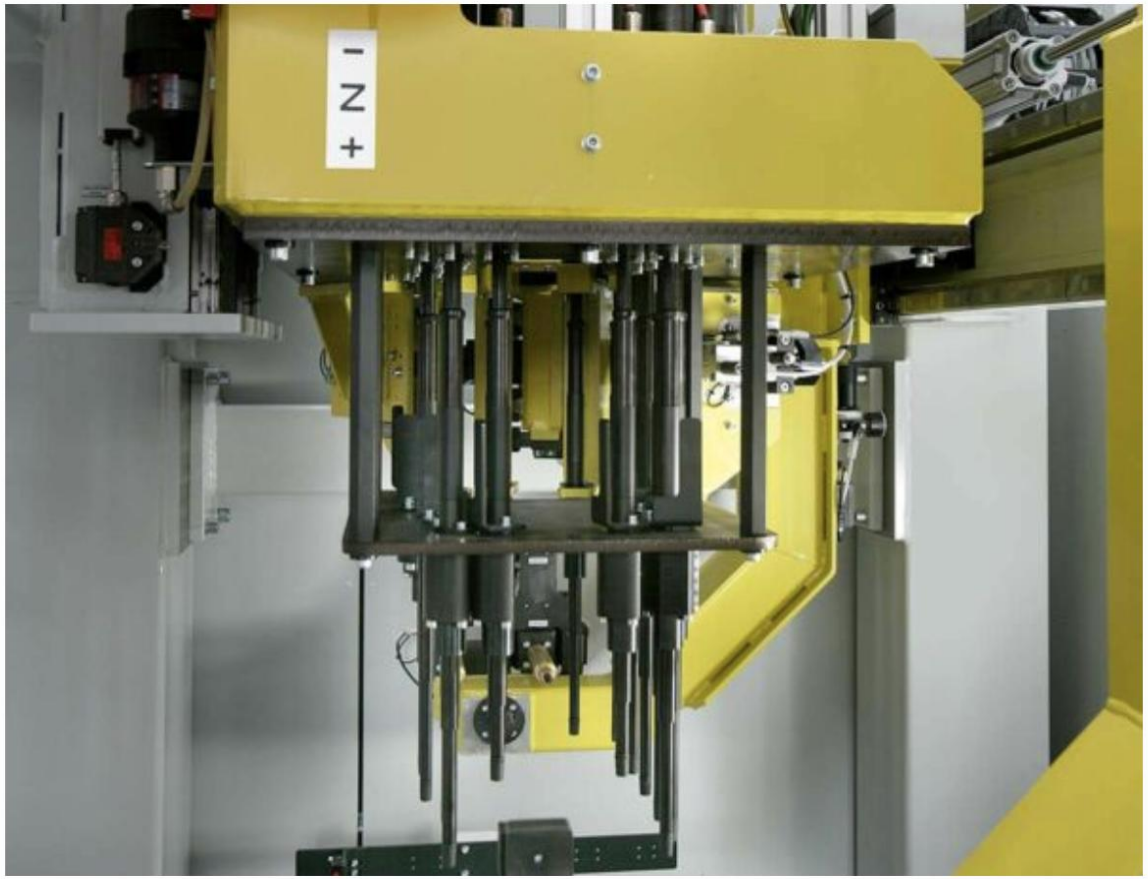
EST TECHNOLOGIES – TAILOR MADE SOLUTIONS FOR SCREW DRIVING – EXAMPLES

ENGINE PRODUCTION

In this project, 600 screw channels are used in the form of single and multiple screwdrivers. For reasons of process reliability, various fastening systems have been equipped with a screwing point control. The screw position to be processed is displayed to the employee via the EST visualisation interface.

After screwing, the result (OK or NOK) is displayed by means of a colour change. The position of the respective screw point can be automatically parameterised/taught when using absolute displacement measuring systems via the EST system software. The path measuring systems can be connected directly to the EST screwdriver controller via a Profinet interface, for example.

Communication with the chain control takes place via a standardised Profinet interface, which is identical for all tightening channels (automatic stations and hand-held nutrunners).

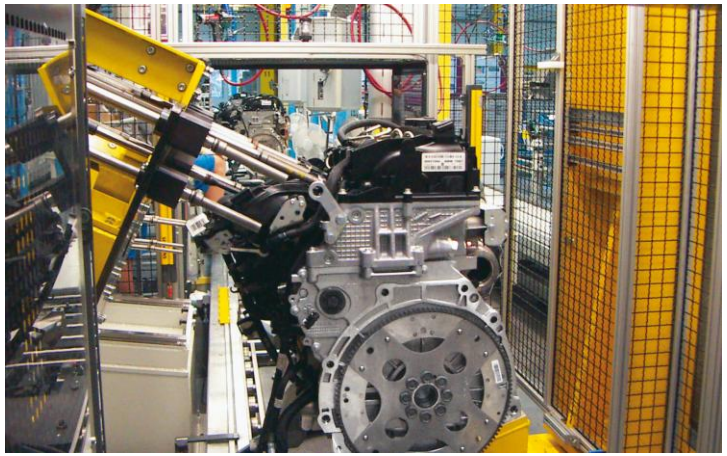


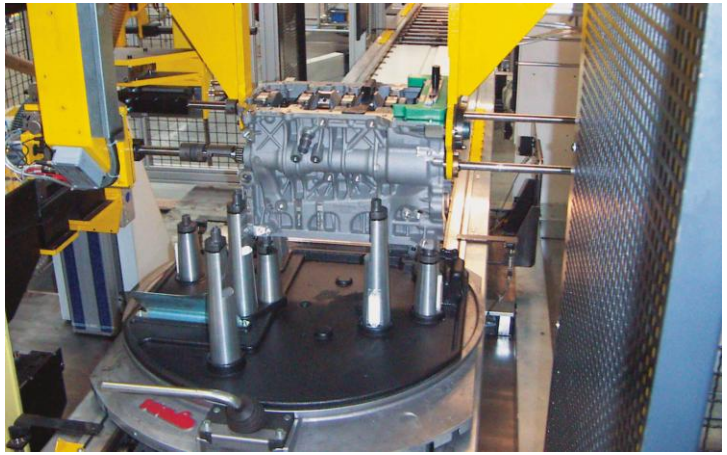
EST TECHNOLOGIES – TAILOR MADE SOLUTIONS FOR SCREW DRIVING – EXAMPLES

ENGINE ASSEMBLY

Join balance shaft station

With this automatic station, the so-called balancing shaft (AGW) is automatically joined to the crankcase (KG). This AGW is ready at a pick-up point that is fed by an automatic magazine device. After the workpiece carrier (WC) has been moved into the station, the centring mandrel moves through the bearing webs in the KG to the centre of the AGW. The AGW is now introduced into the KG via the pincer-like joining device. This joining movement is carried out by the NC axis mentioned above. During the movement, the course of the force is monitored over the path in the form of several freely programmable monitoring windows. The joining process is extremely sensitive and therefore places high technical demands on mechanical engineering and the monitoring electronics. In addition to the complete control technology, EST also designed and delivered the integrated force/displacement measurement technology, which is based on the flexE12 system.





PORTFOLIO

ALL FROM A SINGLE SOURCE

With a production and assembly area of approx. 15,500m^2 and the interdisciplinary cooperation of all available competencies, we have the opportunity to realise production processes par excellence. That is why we only develop complete services in order to ensure the efficiency and productivity of our customers.

This means specifically: Our customers receive everything from us, from a single source. We accompany you competently and seamlessly in every step of the process – from planning and construction through production and assembly to commissioning and training.

In this way we want to ensure that both your requirements and ours are implemented and fulfilled to the highest quality standard.

Schmid Cleantech GmbH
Phone: +49 7129 9378-0
info@schmid-cleantech.de
www.schmidgruppe.de