WEBER Automatic Screwdriving Systems
Technology That Connects

www.weber-online.com
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High-end WEBER products set the standard for screwdriving automation

60 years after the company’s foundation, the same principles still apply; each application is unique, each customer has specific requirements and each automation process requires a tailor-made solution.

So when you ask what is the secret of WEBER’s success, the answer is that we listen to the customer, carefully analyse the problem to be solved, develop alternatives, and devise an optimal solution in collaboration with the customer. And ultimately, it is all about increasing efficiency, optimising processes and helping our customers to be economically successful in business.

We recognise that the needs of a medium-sized furniture assembly company are completely different from those of an automotive manufacturer. The quality of our products, solutions, and service is therefore measured primarily against our innovative automatic screwdriving systems, which have been leading the market since 1956. For me, the value of our company also lies in the fact that we speak the same language as our customers.

This is why we want to show you on the following pages where we specialise and how you can benefit from our expertise. So get ready – for WEBER and technology that connects.

Our screwdriving products, feed systems and control units – and not least WEBER’s automatic screwdriving systems – must be able to reflect the complexity of today’s assembly processes. WEBER customers are therefore right to demand 100% process reliability and the full flexibility to select their parameters freely.

Yours,
Karl Ernst Bujnowski
Managing Director
WEBER Schraubautomaten GmbH
WEBER Expertise

Applications

+ Assembly systems
+ Manual workstations
+ Assembly cells
+ Robotic assembly cells
+ Turnkey machines

Processes

+ Fastening
+ Setting and inserting
+ Feeding
+ Controlling, testing, documenting

Special applications

+ System solutions
+ Setting system for blind rivet nuts
+ Joining system for flow drilling screws
+ Setting system for sandwich structures

Service

+ Personal consulting
+ Comprehensive problem analysis
+ Customized system development
+ On-site training & support
+ 24-hour service

Industries

+ Electrical industry
+ Mechanical engineering
+ Aviation industry
+ Body construction
+ Automotive
+ Telecommunications
+ Wood industry
+ Home appliances
+ Medical and life sciences
For 60 years, WEBER has offered reliable and accurate automatic screw-driving systems for assembly applications in all industrial sectors.

**Electrical Industry**

Electrical components require assembly systems that provide high technical cleanliness despite short cycle times.

**Mechanical Engineering**

Machinery and plant manufacturers worldwide rely on WEBER because of the flexibility of our products.

**Aviation Industry**

Stringent documentation of fastened and inserted joints is critical in many aerospace applications, WEBER offers systems with this traceability.
Body Construction
New joining technologies for lightweight construction require flexible assembly systems and continuous innovations – with maximum system availability.

Wood Industry
High-performance handheld and fixtured screwdrivers that are tailored to less complex assembly processes.

Automotive
The critical requirements are short cycle times, high process reliability and the endurance of WEBER screwdriving systems.

Home Appliances
WEBER technology enables high cycle rates and fittings at points that are often difficult to access.

Telecommunications
WEBER technology allows even the smallest components to be connected at consistently high quality.

Medical and Life Sciences
Technical cleanliness is a key requirement for the assembly of high-precision medical devices.
Typical setup of a WEBER screwdriving system with automatic feeding. The power drive or the screw process is controlled by a drive control. All the important functions of the screwdriving process including sensors, valves, spindle motion and feeding functions are handled by a PLC sequence controller.
The “WEBER Principle” means fitting plus fully automatic feeding. Both our compact and powerful handheld screwdrivers and our widely configurable fixtured screwdriving systems follow this principle.

The automation of screwdriving processes has only one goal – to make assembly tasks quick, cost-efficient and reliable to contribute significantly to cost optimisation for the customer. The successful WEBER Principle consistently follows this strategy and ensures the economic success of our customers.

**Step 1:**

The first screw is blown through the swivel arm into the aligning jaws of the screwdriving head. The feeding channel and the aligning guide are tailored to the screw dimensions so that the head and shaft of the screw are perfectly concentric in the aligning guide to ensure a smooth transition of the screw through the jaws.

**Step 2:**

The screwdriver is already in the starting position in front of the product. The screwdriver advances towards the screw and moves the swivel arm aside to a parking position.

**Step 3:**

While the screwdriver installs in the fastener, the next screw has been delivered to the swivel arm in parking position where it is ready for the next cycle.

**Step 4:**

After completing the install, the screwdriver retracts and the spring loaded swivel arm returns to the start position. The screw is immediately positioned into the aligning jaws in a fraction of a second so that the screwdriver is immediately ready for the next start.

For further details:
www.weber-online.com/en/technology
Ergonomics and flexibility are always included

The advantages of handheld screwdriving technology are plain to see – highly flexible, powerful, and with almost 100 percent process reliability thanks to programmable control technology.

Ergonomics and variability of the screwdriver play a central role in manual screwdriving. WEBER products allow fatigue-free working while ensuring high volumes at extremely short cycle times. The quick-release lock makes it easy to quickly change the screwdriving head on the HS series.

Models

ESB
- Handheld screwdriver with electric drive
- Without feed system

HET
- Powerful handheld screwdriver with EC servo drive
- Without feed system

LTP / ETP
- Handheld screwdriver with telescopic guide
- Automatic feed system
- Pneumatic (LTP) or electric (ETP) drive
The LTP / ETP series handheld screwdriver can be converted in a few steps to a fixtured system – and the feed system and control module can be used without modification. This reduces the cost of a later expansion of production.

HSP / HSD / HSV
- Handheld screwdriver with pneumatic drive HSP
- Version with stall detector HSD
- Vacuum version for hard to reach screw locations HSV
- Automatic feed system
- Integrated bit stroke

HSM / HSK
- Handheld screwdrivers with pneumatic drive for hex nuts HSM or head heavy screws HSK
- Automatic feed system with profied feed tube
- Integrated bit stroke

HSE
- Handheld screwdriver with electric drive
- Optionally with customer supplied drive unit
- Automatic feed system
- Integrated bit stroke
The LTP and ETP from WEBER are both handheld screwdrivers with automatic feed system and an ergonomic pistol grip. Screw insertions can be controlled by depth and torque. The LTP has a pneumatic drive. The ETP version is equipped with an EC servo drive, which reduces air consumption and noise. The compact systems are typically used in the furniture, kitchen, window and door industries.

**Depth shut-off and torque control**

The handheld screwdrivers shut off when a certain depth is reached. The desired depth can be easily adjusted via a set screw. Alternatively, the process can also be shut off by torque via an additional clutch. This clutch can be easily integrated or retrofitted thanks to the modular design.

The LTP / ETP handheld screwdriver can be converted in a few steps to the fixtured LTS / ETS system. The feed system and the control module can be used without further modification, which reduces the cost of a later production expansion.

For further details, see page 16
HSE

Handheld screwdriver with electric drive

The HSE series handheld screwdrivers cover the range of more advanced handheld applications and requirements. The powerful handheld screwdrivers with automatic feed system have a winning combination of compact design and low weight, which is an advantage for operators using the systems in a tight space or with sensitive parts.

The handheld screwdrivers are suitable for right and left rotation. The screwdriving process is triggered electrically by pressing a button. The result of the assembly process is displayed on a touch screen panel when used with a EC electric controller and drive.

For further details: www.weber-online.com/en/hand
From a stand-alone station to a screwdriving system

WEBER automatic screwdriving systems grow to meet the demands companies place on automated assembly processes. Fixtured screwdriving is used when processes become more complex, cycle times become shorter and quality requirements in terms of process reliability become higher.

Models

Fixtured Screwdriving Systems

- **LTS**
  - Slide-type telescopic screwdriver
  - Automatic feed system
  - Pneumatic drive

- **ETS**
  - Slide-type telescopic screwdriver
  - Automatic feed system
  - Electric drive

- **SEV-E**
  - Screwdriving spindle with vacuum technology to ensure reliable fastener insertion in hard to reach locations with extremely limited access
  - Automatic feed system
  - Pneumatic and electric drive

- **SER-H**
  - Slide-type screwdriving spindle for high torques
  - Automatic feed system
  - Electric drive
The flexibility of the WEBER fixtured spindle systems is unsurpassed and easily adapt to a wide variety of applications using various nosepieces, stroke lengths, and motor drive configurations. The drive can be easily changed due to the modular design and easy connection.

For further details:
www.weber-online.com/en/fixtured

Marathon Line

SER / SEB
- Standard design with screwdriver and integrated head stroke
- Automatic feed system
- Pneumatic or electric drive

SEV
- Screwdriving spindle with vacuum technology to ensure reliable fastener insertion in hard to reach locations with extremely limited access
- Automatic feed system
- Pneumatic or electric drive

SEK / SEM
- Screwdriving spindle with cylinder controlled screw positioning at tooling for head heavy screws, as well as DIN, flange and special nuts
- Automatic feed system with profiled feed tube
- Pneumatic or electric drive
Fixtured Screwdriving Systems

Slim Line

Telescopic screwdriver with automatic feed system
Fastener installation can be controlled by depth and torque. The LTS has a pneumatic drive. An EC servo drive can be used (ETS version) to increase energy efficiency and shut-off accuracy. The compact systems are typically used in the wood industry (such as furniture assembly) and to fit plastic parts.

Screwdriving head
The LTS / ETS can be used for screws up to a total length of 50 mm.

Depth shut-off and torque control
The telescopic screwdrivers shut off when a certain depth is reached. Alternatively, the process can also be controlled by torque using an optional shut-off clutch. This clutch can be easily integrated or retrofitted thanks to the modular design.

High Line

SEV-E / SER-H
The Highline screwdriving systems come with a slide design. The SEV-E model deliver fasteners down into deep recesses and difficult access locations using the long vacuum tube. The screwdriving spindles of the high torque series can reliably operate at up to 200 Nm of torque.
**Marathon Line**

**Drive and transducer connections**
The connections between the spindle modules are designed with solid gearing, which ensures both quick installation and safe and backlash-free transmission.

**Robust housing**
The housing is a monoblock design and is made of high-strength aluminium. A special coating produces a very low coefficient of friction and high strength surface.

**Sensors in clamping grooves**
Magnetic-inductive sensors are used, delivering high switching accuracy in minimal space. The programmable digital and analog sensors provide monitoring of the installation process and the final depth to speed up cycle times.

**Screwdriving head**
The entire screwdriving head has a quick-change system. Change of bits, re-tooling to a different screw, or fault rectification can be carried out in a few seconds without tools. A mouthpiece that is tailored to the component geometry and accessibility of the screw location is used.
Insertion Systems

Simple, quick – and always under control

Connection technology means more than just automating the screwdriving process. That is why WEBER offers innovative technology for other joining processes, such as fixtured or handheld setting and inserting units for pins, bolts or clips.

All systems are equipped with automatic feed systems and intelligent controllers and are able to handle high process forces during setting or inserting.

Models

HPP
- Hand-manipulated system to install blowfed components at low insertion force
- Automatic feed system
- Pneumatic motion

PEB
- Fixtured system for insertion tasks up to 10 kN
- Automatic feed system
- Pneumatic drive
HPP

Hand-manipulated system
The HPP is designed for pneumatic setting at low insertion forces. The handheld unit is used to push in fasteners or place them onto a component in a single push fashion.

PEB

Fixtured insertion system
The PEB spindle series is used for insertion applications. The feed force is generated pneumatically and is highly suitable for single station and complex assembly lines. Different thrust capabilities are available and are sized based upon the fastener and insertion force required. The quality of the insertion process can be assessed by checking the depth and the insertion force.
Feeding Systems

Intelligent sorting
The feeding system for fasteners is one of the key components when it comes to reliability, efficiency and capability in any automated assembly process. The overall process success will depend heavily on a robust jam-free feeding solution.

Developing such systems requires years of experience and expertise. It’s the right combination of engineered tooling design, proven escapement technique, and reliable controls which will offer the exact solution for any automated feeding needs.

With more than 30,000 systems successfully deployed in various high-volume production areas, WEBER technology sets the standard for others to follow.

Models

**ZEB bowl feeders**
- Abrasion-resistant materials
- Special coating protect the conveyed material and ensure long running times and reduced noise

**ZEL step feeders**
- Gentle method of conveying
- Very low noise emissions
- Fast feeding
- Low abrasion, which is especially important for technical cleanliness
Feed tubes
Parts with complex shapes can be delivered across distances using blowfeed principles. This saves time and space by placing feeding systems further away from the production environment. WEBER’s wide selection of profiled and round tubing provides the optimal method of transporting these parts and fasteners. WEBER was the first company to deliver hex nuts using the profiled tube concept.

Accessories

+ Sound enclosure cover
  Sound enclosure covers reduce the sound emission of our feeding units. Removable top covers allow fasteners to be refilled effortlessly.

+ Base frames and distributors
  Our base frames ensure our WEBER feeding systems are on a secure footing. They can be used to attach control units, distributors, pneumatics and hopper systems easily. The distributors are designed to distribute the fasteners to multiple WEBER devices.

+ Belt hoppers
  Belt hoppers extend the intervals between refills of the feeder. They are placed on a frame directly above the feeding unit.
Control Systems

Screwdriving process control
Process controls regulate and monitor the actual screwdriving process – RPM, torque and screwdriving depth.

Features:
+ Define, control and adjust screwdriving spindle rotation (servo-drive)
+ Evaluate process and trigger response to OK or NOK
+ Display, document and transfer screwdriving data

Models

C5S
- Very simple screwdriving applications
- Screwdriving process control
- Digital interface
- EC servo drive

C20S
- Moderately complex screwdriving applications
- Screwdriving process control
- Digital interface
- USB interface
- Electric drive

C30S
- Complex screwdriving applications
- Screwdriving process control
- Colour touch screen
- Fieldbus interface
- External display possible
- USB interface
- EC servo drive

C50S
- Very complex screwdriving applications
- Screwdriving process control with integrated sequence control
- Digital interface
- Fieldbus interface
- External display
- Ethernet interface
- EC servo drive
Sequence controls

These controls are responsible for running the system (actuators and sensors).

**Features:**
- Control and monitor screwdriving spindle motion
- Control and monitor feed system for fastener provision to spindle or handpiece
- Communicate with peripherals through a variety of bus protocols

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**C10**
- Simple screwdriving applications
- Sequence control

**C15**
- Simple screwdriving applications
- Sequence control
- Digital interface

**CU30**
- Complex screwdriving applications
- Sequence control
- Colour touch screen
- Digital interface
- Fieldbus interface
- External display possible
Electronically controlled screwdriving system with current control
The screwdriving spindle is fitted with a highly dynamic electric servo-drive. The motor current consumption and rotor position of the EC drive are continuously measured during the screwdriving process. These signals are used by the controller to start/stop the EC motor. The rotor position control is used instead of a full angle encoder.

Electronically controlled screwdriving system with torque and rotation angle measurement
The screwdriving spindle is also fitted with a dynamic electric servo-drive. The important torque and rotation angle screwdriving parameters are continuously measured during the screwdriving process by highly sensitive dynamic transducers and transferred to the associated screwdriver controller. The controller uses these collected measurements to control and regulate the entire screwdriving process. This system provides the best choice for tight process control and quality assurance. The system can export and store important process data for later inspection and archiving.

Redundant measurement according to VDI / VDE 2862
The VDI / VDE 2862 guideline defines joint types and minimum requirements for assembly tools. In category A – danger to life and physical well-being – the control and monitoring variable must be directly measured on an automatic screwdriving system. This means the transducer on the production system must have a second redundant transducer to constantly check the primary transducer for accuracy. WEBER screwdriving systems cover all categories A, B and C.
Friction under the head of the fastener and in the thread play a vital role in the correct installation of any fastener, however the accuracy of the screwdriver control plays a very large part in this process.

**Torque-controlled tightening**

The screw is tightened to a prestressing force below the yield strength. Ideally, a rotation angle control is also used to help verify the torque value that is reached.

+ Torque is easy to measure and control
  - Large variation of prestressing force

**Rotation angle-controlled tightening**

First, the screw is tightened up to a defined threshold torque MS. Above this torque, the screw is turned further by a defined rotation angle into the plastic range. The shut-off torque is monitored.

+ Constant clamping force regardless of friction
+ Optimal use of material
  - Screws not reusable after loosening
  - Not applicable to all screw connections: requires expansion screws
  - Screwdriving parameters must be determined through joint testing

**Yield-controlled tightening**

The screw is tightened up to the edge of plastic strain with a calculated gradient of torque and rotation angle. Tightening is stopped if this gradient drops from its maximum by a defined percentage (usually 50%).

+ Pre-stressing force is achieved largely regardless of friction
+ Optimal use of the screw
+ No special type of screw properties (such as expansion screws)
  - Screw can usually be reused after loosening
  - Complex screwdriving and control system
  - Not applicable to all screw connections

WEBER offers many styles of process control including drive to depth, relative torque and the patented depth gradient control method.
RSF – Flow Drilling Joining System

Detachable screw connections without prior processes

Composite construction methods and one-sided accessibility of joints are challenges for the joining technology in body construction. The robot-assisted screwdriving system for flow drilling screws RSF ensures high-strength connections in a joining process. Screw connections can be accomplished with or without pilot holes – material variations and manufacturing tolerances are compensated.

Features

+ Free configurable process parameter
+ Process monitoring in high resolution and advanced process analysis
+ Fast tool changing by hand
+ Pre-hole compensation by floating head
+ Prevention of screw tipping by controlled jaws

Phase 1
Flow drilling screw contacts the surface at low pressure & RPM

Phase 2
High RPM and Force brings the material to plasticize and “flow”

Phase 3
Formation of cylindrical passage

Phase 4
End of “flow”- phase, beginning of thread rolling process (reduced RPM & thrust)

Phase 5
Normal screwdriving phase

Phase 6
Material cools & constricts around the fastener, forming an air & water tight joint
High strength and flexibility
A metric thread is cut directly into the elements to be connected. This produces detachable joints – dismantling is possible at any time. The RSF method allows screw connections with high tightening forces and loosening torques. The process is freely configurable.

Flow drilling joining technology features
+ For single sided accessibility
+ To assemble different materials with various thicknesses
+ More than two layers joinable
+ Joining process with a low influence of heat
+ Forming of a metric thread

WEBER Facts
• In 1999, WEBER was the first manufacturer of systems for automatic flow drill installation
• Patented depth gradient screwdriving
• Over 1,500 systems in use around the world

For further details: www.weber-online.com/en/rsf
TSS – Setting system for sandwich structures

Thermal adhesive bond

Following the trend to lightweight construction, breaking new ground in connection technology is essential. The TSS system allows placing of plastic bosses in sandwich structures, which consist of a honeycomb or foam core with outer layers of fiber-reinforced plastics (e.g., CRP or GRP). During the TSS joining process, the plastic components are melted, creating a thermal adhesive bond. Placing the plastic bosses is carried out with or without a pilot hole and can be implemented with robotic assistance.

System for the installation of plastic bosses with thermal adhesive bond for save joinings in lightweight materials

The TSS process is applied as a robot-assisted system or a closed setting facility in a cell. Bosses are used directly as fasteners or robust threaded inserts for self-tapping screws. The entire process is freely configurable and can be documented.
Scope of applications

- Laminar structure (sandwich panels or honeycombs)
- Particle composite material fixing
- Fiber composites (carbon or glass)

Features

- The installation of the plastic boss in lightweight materials is possible with or without pre-hole
- Feasibility study and check of done connections at the WEBER laboratory
- Process result in a high resolution
- For tasks with one side accessibility
- Higher transmissible torque and pull out forces than with existing (known) joining components

For further details:
www.weber-online.com/en/tss
SMZ – Screwdriving and turnkey cell

All-in-one
WEBER offers a complete solution for screwdriving and mounting components. The SMZ screwdriving and assembly cell comes with a choice of three sizes of the finished module, which differ mainly in width. The SMZ can handle a wide variety of assembly tasks. A flexible loading system is also provided that is designed both for manual insertion of individual elements and integration into a production line. The SMZ can be flexibly integrated into production and assembly processes thanks to its compact dimensions and comes with an efficient and reliable positioning system. An ESD-compatible version is also available to protect against electro-static discharge.

Features

+ Compact design
+ Model version for different workpiece widths
+ Easy integration into existing systems
+ Cost-saving and energy-efficient
+ High process reliability
+ Ergonomic SMZ version with height-adjustable working plane (Ergo-SMZ) ca. 750 – 1200 mm over ground level

For further details:
www.weber-online.com/en/smz
Models

**Inline operation**
- High degree of automation
- Conveyor system running through or installed in front
- Automatic identification and machining
- Indexing of workpiece carriers

**Rotary table**
- Preclamping during fitting of seals
- Easy protection of the working range
- Manually or electrically driven

**Single/double drawer closing**
- Lockable if NOK results
- Quick-change system for workpiece carriers
- Locking during (component) machining
- With extension function

**Manual part loading**
- Safety by light curtain or lifting door
- Good accessibility for loading or troubleshooting the system
- Maximum use of installation space
- Well suited for different component sizes
SBM20 – Setting system for blind rivet nuts

Efficient system for blind riveting

For setting blind rivet nuts, WEBER supplies an automatic setting unit suitable for round and hexagonal heads, steel or aluminum inserts in sizes between M5 and M12. The controller and the feed system are integrated and form a single unit. Unlike older technologies, two separate DC servo drives handle the threading and setting process – the entire process is controlled by a programmable PLC and the setting process can be visualized on a control panel. This offers ultimate control over the process and quality monitoring of the installation.

This technology leaves a high-quality, high-strength threaded hole in sheet metals and extrusions to allow mounting of hardware or other assemblies.

Phase 1
Threading the blind rivet nut onto threaded mandrel and aligning the hexagon for hexagon style nuts.

Phase 2
Aligned insert is set into the sheet metal part up to the end stop.

Phase 3
The mandrel is pulled to collapse (or ‘set’) the insert.

Phase 4
Threaded mandrel is then counter-rotated leaving the insert securely connected to the sheet.
STC – Screwdriving system for clean room

Clean screwdriving process with ZEL step feeder and dirt brake

Debris and dirt particles on the surfaces of screws and/or workpieces can persistently interfere with assembly processes. Technical cleanliness therefore aims to reduce the number of particles with a size of 15 to 1000μm. By using a low-vibration feed system and a dirt brake upstream of the screwdriving spindle, impurities in the critical size of 200 to 400 microns can be reduced from 125 particles (conventional) to 19 particles.

Advantages

+ Improved customer parts quality
+ High availability of assembly lines – fewer problems with contaminated feed and screwdriving systems
+ Less downtime of functional and safety-relevant components because of less ingress of dirt during assembly
+ Improved opportunities for component miniaturisation
Service

We are here for you

All WEBER products are primarily used in industrial manufacturing for line production. If problems occur in the assembly process, service technicians have to solve the problem in the shortest possible time to allow production to be continued as seamlessly as possible.

We believe service can be planned and can protect the resources of our customers with advice in advance of problems. The service team is involved from the start of system planning. This is how we ensure that all our staff can implement the most effective maintenance and service at all times and for all our customers.

Complete service

When you buy a screwdriving controller, we look very carefully at the application. We adjust the controller to the customer’s screwdriving application, supply the optimum screwdriving program as a matter of course, and train our customer to program and operate the system – either on site or as part of our seminar program.

Simplicity of our technology

Despite the variety of options for operation and programming, WEBER controls are extremely easy to use and can be handled even by non-programmers – because our customers are users of screwdriving technology, not computer scientists.

Flexibility

Each application is different. Despite an extensive standard product range, many things are only possible by specifically adapting the technology. By developing controls ourselves, we have the flexibly to respond to the needs of our customers.
We know what it's all about

Assembly automation serves one goal – cost optimisation. But for WEBER, there's much more. We believe that cost reduction is only one side of the coin and that endurance and process reliability are at least as important.

There are several consequences from that starting point. For one, WEBER has been building automatic screwdriving systems for 60 years, which withstand the often harsh conditions in day-to-day production. We will certainly continue to do so. At the same time, our customers can rely on seamless service to correct any faults immediately without holding up the assembly line. And last but not least our systems allow for continuous documentation of all joining processes, ensuring the highest quality screwdriving processes.

We promise our customers no more and no less than economic success through intelligent and efficient automation of their assembly processes.

For further details:
www.weber-online.com/en/service
Our services

Customer service

Unfortunately, technical defects and associated downtime cannot be prevented 100 percent. When problems occur, every minute counts, because downtime ultimately means loss of productivity and loss of revenue. WEBER works hard to ensure that the production processes can be resumed as quickly as possible.

Our intelligent service network, which spans the globe, makes it all possible. An extensive stock of parts ensures that all relevant components and wear parts are permanently available. If needed, stocked components can be ordered immediately and are available on site very fast – thanks to express shipping – and, if requested, with one of our own service specialists.

Maintenance contracts

Service and maintenance can be planned – it’s the only way. Because resources can only be used efficiently and downtime avoided with proactive planning. WEBER’s service team advises the customer from the design phase of an assembly line and defines maintenance intervals and changeover times together with the customer.

The objective of every action is to optimise automated joining processes. This can be achieved, for example, with machine capability studies, which are used to check a system in operation on the basis of a range of different parameters to make sure it will run with sufficient reliability against failure. WEBER follows all assembly processes during production to eliminate errors in advance.

Training

We are strongly committed to developing the skills of our customers. This means that employees are trained early and comprehensively to operate machines and systems – to keep downtimes to a minimum. We also provide training for preventive maintenance and servicing.

Minor problems can therefore be eliminated immediately by our customers’ own technical employees. In addition to saving time, this also means providing employees with qualifications, so they can develop from machine operators to experts in automated screwdriving processes. This is a win-win-win situation for customers, employees, and WEBER.
Testing and development

Laboratory
WEBER leaves nothing to chance when it comes to designing and manufacturing screwdriving systems. Visual and external assessment and testing of our products is an important and necessary part of quality assurance – but WEBER engineers go far beyond and check all components for safety and reliability.
For example, they detect and eliminate even the smallest defects in material under a light optical microscope with up to 1000x magnification. Micrographs are used to analyse the quality of surface finishes and structures to exclude any risk of premature material fatigue and breakage.

Testing
Series of tests in our in-house laboratory are followed by a practical trial phase. The process reliability and endurance of individual parts, machines, and systems are investigated under close to real-world production and environmental conditions. Any malfunctions are immediately reported back to our design engineers.
Depending on future applications, all products undergo qualitative and quantitative evaluation by our experts. All tests are conducted according to standardised DIN procedures. WEBER develops a catalogue of parameters the machines must be able to deliver in use at the customer's site on the basis of the results of the extensive laboratory and field testing.

Robotic test cell
When a new product has reached production maturity or when a screwdriving system developed by WEBER is ready for customers, the machines have to pass an additional test run. It is often not possible to simulate the entire assembly process due to the complexity of the systems, so our screwdrivers are tested comprehensively in a robotic test cell.
The robot is also used as the basis for innovative products development, which are then later marketed as customised solutions. Our engineers design robotic joining methods that accurately mimic real-life conditions from developments in materials or new joining techniques. Testing and development are therefore seamlessly integrated – ultimately serving the goal of meeting the high demands of WEBER's customers.
Our offices

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Number of employees

350 worldwide
Our distributors

Worldwide
Argentina
Australia
Brazil
Canada
India
Israel
Korea
Mexico
South Africa
Thailand

Europe
Austria
Belgium
Denmark
Estonia
Finland
Greece
Hungary
Latvia
Lithuania
Netherlands
Norway
Poland
Portugal
Romania
Sweden
Slovakia
Spain
Turkey
United Kingdom
Let’s put it this way:

“Everything in business is negotiable except quality.” This could be a direct quote from us. Because for six decades, WEBER has set standards in the development and manufacture of automatic handheld screwdrivers and fixtured screwdriving systems. Worldwide, more than 350 employees ensure that this will continue to be the case in the future. It's a promise.