

# TIGHTENING SYSTEMS

UNIQUE TECHNOLOGY  
FOR YOUR SCREW TASKS



**HERMES**  
TOOLS

**MAFU**  
AUTOMATION

# UNIQUE TECHNOLOGY FOR YOUR SCREW TASKS



## THE MAFU EVO LINE SCREW SYSTEM CONSISTING OF ...

### FEEDING TECHNOLOGY



**Intelligent component feeding, based on proven technology from MAFU.**

Automate your production processes with the feeding systems from MAFU. Our automatic screwdriver, MAFU EVO Line, is the fully digital screwdriving system. It impresses with its integrated artificial intelligence (AI). The system consists of a large number of software modules that can be individually combined for the respective application. These modules can even be flexibly retrofitted to existing systems.

### SCREWDRIVING TECHNOLOGY



**Choose from different screwdriving technology categories and find the ideal screwdriver.**

Whether pneumatic, electric or battery-powered, we offer you a wide selection of screwdrivers for every torque. The screwdrivers can be configured with or without a shut-off clutch or sensor control. We leave nothing to be desired!

### MEASUREMENT TECHNOLOGY



**Measurement technology for your quality assurance.**

Wireless rotation transducer, electronic torque wrench, torque transducer with square drive or special ring nut drive – everything from a single source!

### VISUALIZATION



**Visualization for complete process reliability.**

Full process control with Industry 4.0-capable visualization systems. Control your process, minimize waste at the workplace and increase your quality through standardized processes with our visualization systems.



# MAFU EVO LINE – THE MODULAR FEEDING SYSTEM



## Reproducible screwfeeding systems with integrated AI

### What does the intelligent MAFU EVO Line screw feeding system offer?

- » The MAFU EVO Line screw feeding system is equipped with a high-resolution 5-inch display and has integrated artificial intelligence (AI). Via the HMI Human-Machine Interface we realize the interface between system and user.
- » This interface controls all settings of the feeding system and interacts with the user in real time.
- » Thanks to its unique modular technology, the MAFU EVO Line with standardized components enables maximum productivity for your application at the best price-performance ratio.
- » Whether it is a hand-held application in the furniture sector or fully automated systems in robot use, MAFU EVO Line is the right solution for every screwdriving task.
- » Future-proof expansion options thanks to intelligent technology with AI.

## Unique module technology

### Individual configuration of your automatic screwdriving machine

- » Thanks to our unique modular technology, we can easily and cost-effectively adapt the feeding system to your needs without leaving the standard.
- » The modular technology consists of a large number of software modules that can be combined flexibly and individually for the respective requirements.
- » With the “Bus system” module, we guarantee simple and intelligent integration of the feeding system into your existing systems (Modbus, OPCUA, ProfiNet, etc.).
- » When using one of our stationary units, these are also controlled via the feeding system using predefined parameters.
- » With over 50 possible combinations of our module functionalities, we can cover all existing requirements as standard.
- » A customized web configurator reduces the effort required to plan the MAFU EVO Line system to a minimum.



# HANDHELD SCREWDRIVER – PNEUMATIC OR ELECTRICAL



- » Pneumatic screw spindles up to brushless EC screw spindles can be used
- » Torque 0.3 Nm to 35 Nm
- » Control-monitored screwdriving process
- » Mouthpiece with quick-release fastener
- » Protected installation of sensors

## FUNCTION

The first stroke positions itself precisely behind the screw head and ensures a firmly protruding screw, which makes it easier to find the screw location and enables contact-free screw fastening. Even deeper screw positions can be reached without any problems. The second stroke is the screwdriving stroke, which, in addition to torque cut-off, also enables depth cut-off thanks to the infinitely adjustable sensor system.

The “vacuum” module ensures that the screw is provided with the bit extended, which simplifies the processing of deeper screw positions. Thanks to the automatic stroke, fatigue-free working is guaranteed for the operator.

## OPTIONAL

For our handheld screwdrivers, you have the choice between the TC-HS V2 telescopic screwdriver or the TC-HF V2 feed screwdriver. Both variants have a continuously adjustable sensor system for maximum precision. Particularly noteworthy is the TC-HF V2, which impresses with an automatic and two-stage stroke.

## HIGH ECONOMIC EFFICIENCY

The system offers maximum flexibility and can be used in both manual and automatic mode. Thanks to our innovative modular technology, numerous additional functions of the TC-HF V2 can be easily integrated.

## HYBRID SYSTEM

The combination of both function modules creates a hybrid system. The TC-HF V2 screwdriver can be operated manually by an employee during the day and continue production at night in automatic mode with the help of a CoBot.

**» INTELLIGENT SENSORY QUERIED  
HANDHELD SCREWDRIVERS**

# STATIONARY SCREWDRIVING UNITS – THE SMALLEST AND LIGHTEST



- » Low height and weight
- » Torque 0.2 Nm - 100 Nm
- » Telescopic screw unit
- » Optional torque, angle or depth cut-off
- » Infinitely adjustable sensors

## FLEXIBILITY

Thanks to their modular design, our stationary screwdriving units are ideal for both robot applications and axis systems.

## VARIABILITY

With our »Open Interface« technology, all common screwdrivers can be easily adapted to our stationary units.

## APPLICATION SPECIFIC SIZE SELECTION

Our stationary screwdriving units are available in three sizes, so that the right system is available for every application. From the compact Automation Micro »TC-AM« to the powerful Automation High-Torque »TC-AH«, which achieves up to 100 Nm as standard - all systems are ready for immediate use.

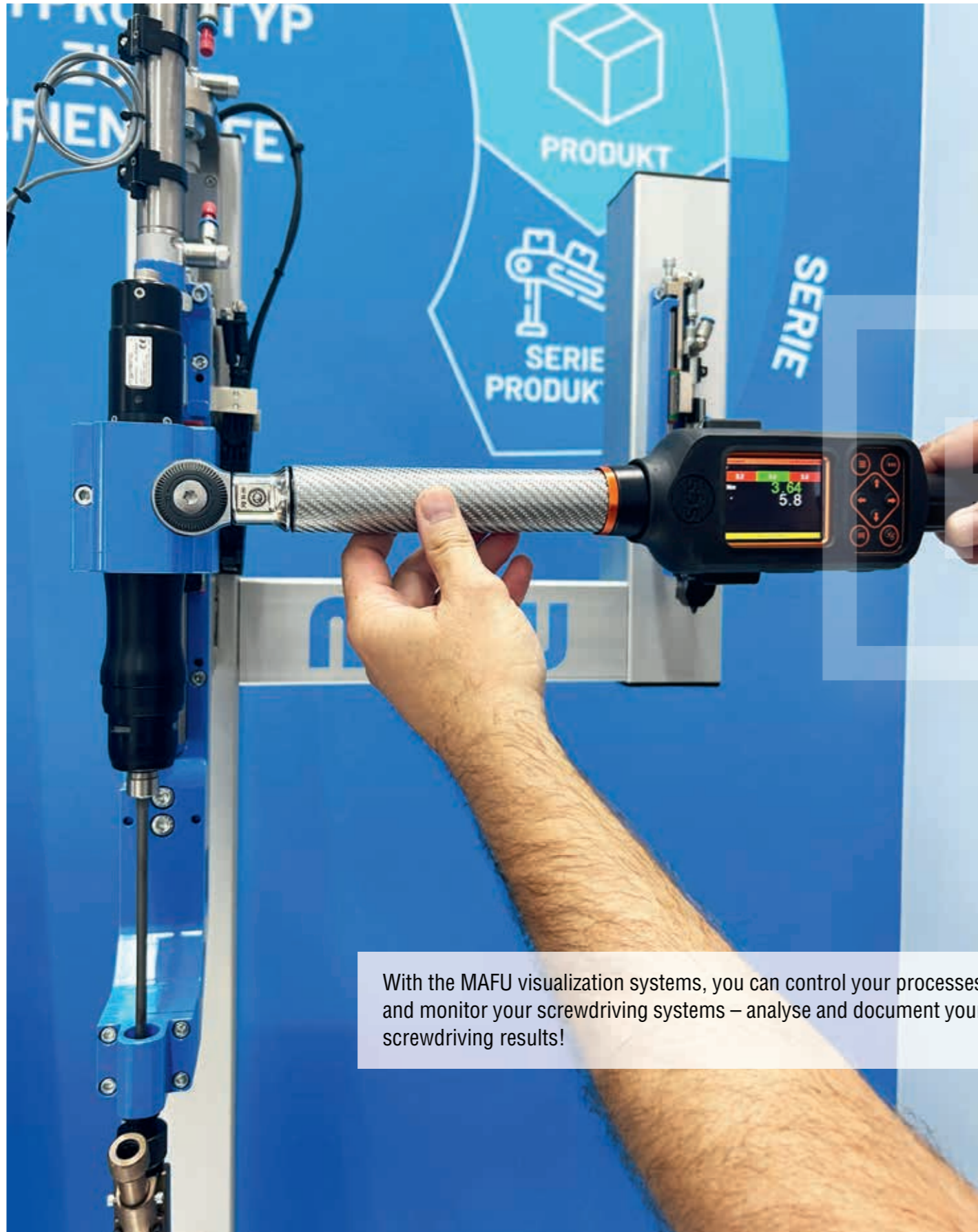
## ROBUST LIGHTWEIGHT CONSTRUCTION

Despite its robust design, the TC-Automation Micro »TC-AM« weighs just 0.8 kilograms without a screwdriver. Thanks to their lightweight construction, they and their larger variants, the TC-Automation Standard »TC-AS« and the TC-Automation High-Torque »TC-AH«, are ideally suited for use with robots.

**» ADAPTABLE TO ALL  
CUSTOMER APPLICATIONS**



# MEASUREMENT TECHNOLOGY FOR QUALITY ASSURANCE



With the MAFU visualization systems, you can control your processes and monitor your screwdriving systems – analyse and document your screwdriving results!

## ROTATION SENSORS FOR TORQUE/ANGLE

- » With the new models, it is possible to connect the transducers wirelessly to suitable systems.
- » Torques from 0.001 Nm - 5000 Nm.

## STATIC TORQUE SENSORS

- » With square drive up to special ring nut drive for the correct testing of impulse wrenches.
- » Torques from 2 Nm - 2500 Nm.

## PROGRAMMABLE TORQUE WRENCHES

- » Electronic torque wrenches from 1.5 to 1000 Nm.
- » Manual torque sensors from 1 cNm to 200 cNm.

## EVALUATION SOFTWARE

- » For a wide variety of platforms.

**» WE EQUIP YOU WITH MEASURING  
SYSTEMS FOR EVERY APPLICATION**

# VISUALIZATION FOR PROCESS RELIABILITY



Full process control with Industry 4.0-capable visualization systems. Control your process, minimize waste in the workplace and increase your quality through standardized processes with our visualization systems.

## THE »TC-APS« WORKSTATION AND LINE CONTROL SYSTEM

- » The »TC-APS« visualization system is an advanced workstation and line control system that is based on a PLC control system and offers comprehensive visualization of the processes.
- » Start automating your workstations in line with Industry 4.0 standards today.

## VISUAL PRODUCTION GUIDE FOR ASSEMBLY AND REWORK STATIONS »VPG+«

- » The »VPG+« visualization system supports the user throughout the entire assembly and post-processing process and is suitable for Windows systems.
- » The »VPG+« system ensures that users are guided reliably through the various screwdriving sequences, which guarantees reliable and error-free operation.
- » The software automatically selects the appropriate screwdriving program and the corresponding tool. It shows the user all the necessary instructions and images of the processes, including the current status, to ensure a smooth process.

## THE SIMPLE WORKER GUIDANCE »NG-TD ADVANCED«

- » The user-friendly »NG-TD advanced« worker guidance system is available in combination with our controlled EC screwdriving systems for applications with low torques.
- » This software enables the programming of screwdriving parameters and offers a graphical display of progress curves. It is also used for seamless documentation of all screwdriving process data and is equipped with an additional sequencer module that further optimizes process control.

**» CONTROL YOUR PROCESSES  
FROM YOUR DESK**



# SERVICE

WE CONVINCE THROUGH FLEXIBLE SERVICE & RELIABLE COMPONENTS

## » PRESALES

**CONSULTING** Only those who correctly assess the requirements in advance and know the full range of options are in a position to provide their customers with the best possible advice.

» Contact our technical sales department!

**ANALYSIS** of all processes is the starting point for every new project. Comprehensive feasibility studies provide a well-founded statement on the optimum degree of automation required.

» Challenge us!

**CONCEPT DEVELOPMENTS** reflect our know-how and experience gained over more than four decades. This gives you the certainty of receiving an optimum solution.

» Send us your task!

**PROJECT MANAGEMENT** and the best communication with the latest IT tools guarantee an optimal project process in which nothing is left to chance.

» We keep you on status!

## » AFTERSALES

**COMMISSIONING** of our solutions by experienced and highly trained service technicians. Fast and efficient integration is therefore guaranteed.

» You can rely on us. At any time.

**TRAININGS** for the qualified operation of the implemented systems in the production environment ensure efficient operation of the systems.

» We are happy to pass on our know-how.

**SPARE PARTS** that reach you quickly and the replacement by our highly qualified service personnel guarantee the shortest possible interruptions.

» Fast and uncomplicated help.

**MODIFICATIONS** adapt your systems to changes. We are happy to support you in this and work with you to further develop your production processes.

» In the best hands for years to come.

## » MAFU-RENTAL SYSTEM

**FAST AVAILABILITY** to relieve your production

» Fast and uncomplicated help.

**CLEAR COST STRUCTURE** and no hidden costs due to monthly billing

» Transparency is important to us

**LOW INVESTMENT** You only pay for as long as you need the devices

» Contact our technical sales department.

**POSSIBILITY** the device / system can be purchased at any time

» We create alternatives for you

## » ONLINE CONFIGURATOR

**DESIGN YOUR SCREWDRIVING SYSTEMS IN A MAXIMUM OF 30 MINUTES**

Our online configurator "Step by Step" configures your system while you answer project-relevant questions. After completion, you will receive the right feeding system - incorrect designs are no longer possible. All necessary modules, as well as an additional recommendation for extensions, are carried out by the intelligent configurator. You decide for yourself whether you want to use the add-ons. This service tool is of course free of charge and offers you a quick overview and complete transparency.

» 100% security – start your project planning now.



**QUALITY MANAGEMENT**  
We are certified.

Regular voluntary monitoring according to ISO 9001:2015

**MAFU**  
A U T O M A T I O N  
S E R V I C E



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