ZOLLER
expect great measures

Automated Modular Assembly and
Measurement System for Cutting Tools

roboBox

»roboBox« – Simple Automatic Fitting

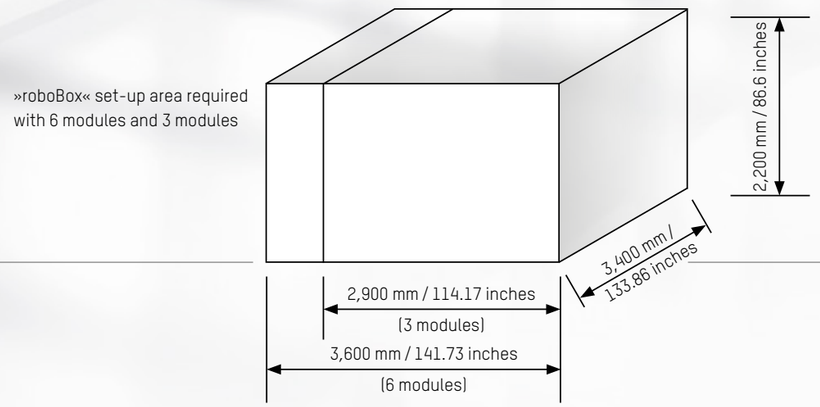
Automatic –
Precise and reliable 24/7 assembly of cutting tools

Customized –
Flexible module configuration according to the tool system in use

Complete –
Fully equipped system with minimal space required

In machining production, hundreds of tools must be assembled and disassembled every day. Now, »roboBox« can handle this task.
It screws, presses and heat shrinks all current tool systems to create complete tools, then measures them. The tools and tool holders are fed, either manually or automatically, into the »roboBox« via a tool cart or transport system. Then they are provided in the machine tool fully prepared, including all of the electronically stored tool measurement data. Thanks to their modular design, each »roboBox« can be configured optimally to the tooling systems in use – all while requiring a minimal amount of space.

»roboBox« also works autonomously around the clock, making tool delivery productive.



Flexible, order-specific tool feeding
using the »roboBox« gate system

Automatic Tool Delivery – Integrated into the Production Process

»roboBox« is the central system component for your digitized, automated Industry 4.0 production process. No matter your requirements and no matter what task you want to automate: The different modules mean you can always design the optimal »roboBox« for any production environment.

01.

In Dialog with Production Planning

The »roboBox« is integrated into the production process and provides tools to production based on requirements using an automated assembly process. Orders for tool delivery can be flexibly entered and commissioned by direct manual operator input on the »roboBox«, or through integration into a higher level production management system. Determined measurement data are transmitted to the machine controls via a tool identification system such as an RFID chip or DataMatrix code.

02.

On Equal Footing with any Tool Storage System

Connecting the »roboBox« to an automatic tool storage system or Smart Cabinets and using transport systems reduces downtime in tool delivery to a minimum. Tools are set efficiently depending on the tool requirements list, pre-assembled to match order requirements, and provided on transport systems through a partially or fully automatic process.

»roboBox«

03.

Flexible for Tool Delivery and Removal

The »roboBox« gate system is configured depending on the feed rate selected. Docking stations are used to fix and define the position of the tool carrier and allow the assembly process to be carried out in the »roboBox«.

Tool Identification

A variety of systems are available for tool identification, such as DataMatrix code or RFID chips. Identified tools are fitted in the »roboBox« according to specifications from the assembly order. The corresponding tool data can be accessed via the z.One tool database.

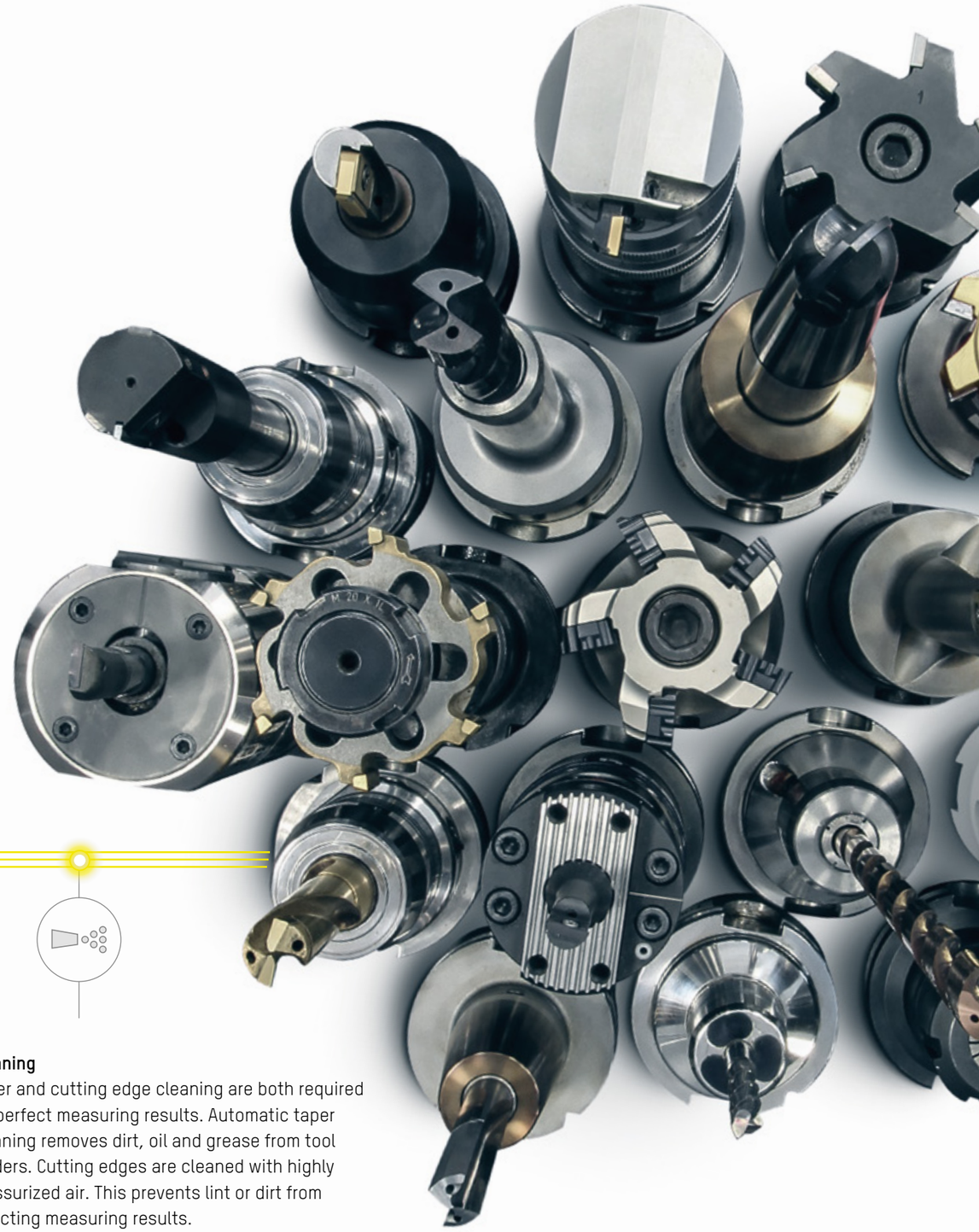
04.

Data Exchange with Production

The »roboBox« communicates with production machines via standardized interfaces and post-processors. The optional use of ZOLLER »zidCode« allows tools to be inventoried, and for the tool data to be prepared in a manner appropriate for the control technology and transmitted to the machine controller at the time of the tool exchange.

»roboBox« – Interfaces

Every »roboBox« has both physical and digital interfaces in the form of tool input and output and tool Identification. This ensures smooth integration into the production environment.



Input and Output
No matter how you feed and handle removal transportation for your tools, the gate system can always be adapted to your logistics process: whether manually, via a tool cart, or a transport system.

Identification
Tools can be identified via DataMatrix code or using another tool identification system via RFID Chip.

Cleaning
Taper and cutting edge cleaning are both required for perfect measuring results. Automatic taper cleaning removes dirt, oil and grease from tool holders. Cutting edges are cleaned with highly pressurized air. This prevents lint or dirt from affecting measuring results.

»roboBox« –
Assembly Processes

ZOLLER offers solutions for the assembly and disassembly of complete tools with different clamping systems. During the assembly process, the »asza« length limit system is used to automatically and precisely preset the length of the tool in the chuck, and thereby the overall length of the tool.

Collet Chuck
With the right adapters, clamping nuts can be automatically set to a defined torque with collet chucks. The operator can also switch between clamping adapters automatically. Adapters for nuts in cylindrical, hexagonal or clamping slot designs are available.

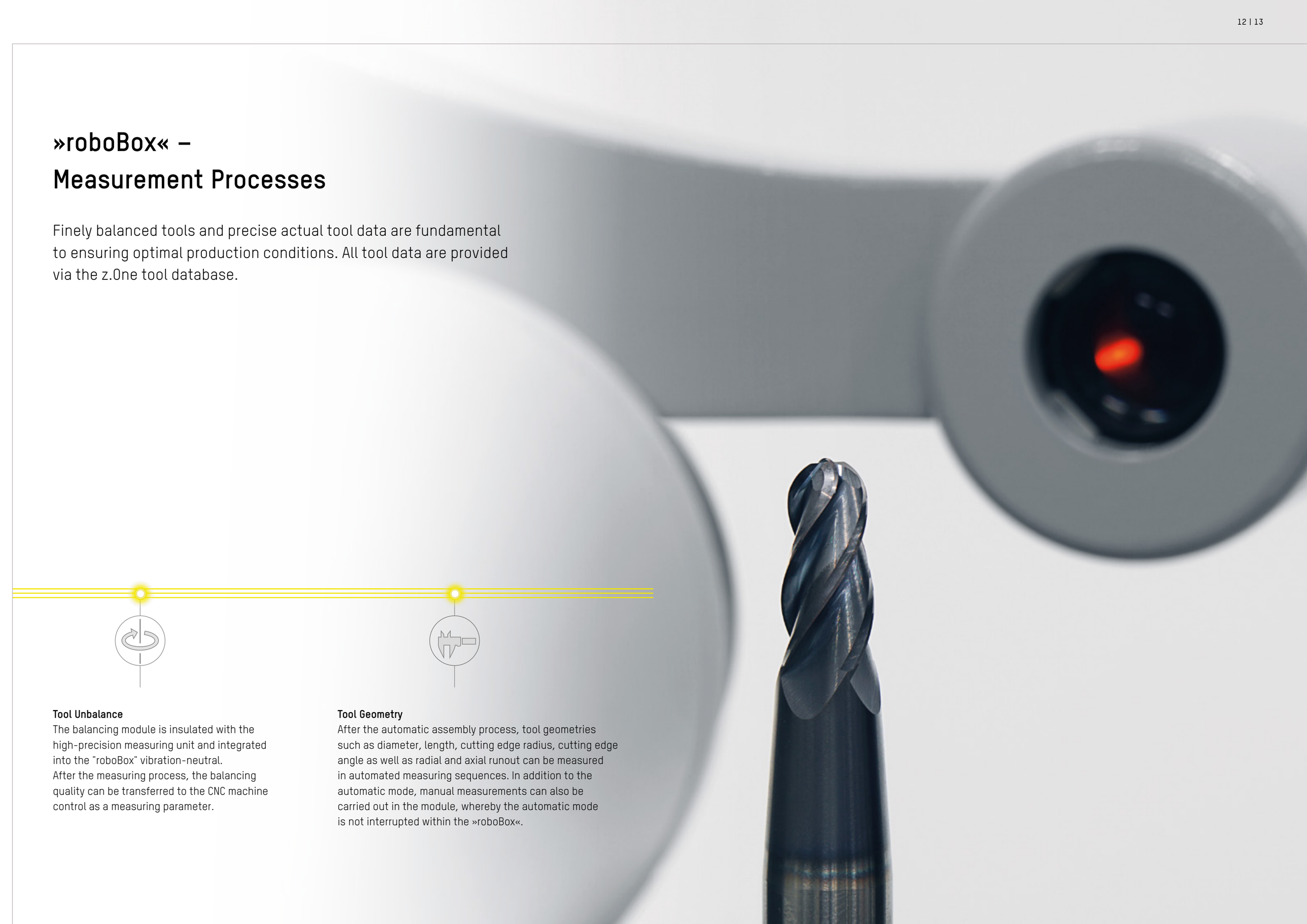
Weldon and Hydraulic Holder
Screws are clamped automatically for horizontally arranged set screws, such as those used in straight shank tools with Weldon areas or hydraulic tool collet chucks.

Heat Shrinking
The induction coil automatically lowers onto the tool holder and heats it. The shank tool is inserted in the correct position and then quickly cooled with the aid of a cooling bodies. This accelerates the cycle time.

powRgrip® Clamping
The tool with suitable collet holder and REGO-FIX powRgrip® collet chuck is fed and automatically pressed.

»roboBox« –
Measurement Processes

Finely balanced tools and precise actual tool data are fundamental to ensuring optimal production conditions. All tool data are provided via the z.One tool database.



Tool Unbalance
The balancing module is insulated with the high-precision measuring unit and integrated into the "roboBox" vibration-neutral.
After the measuring process, the balancing quality can be transferred to the CNC machine control as a measuring parameter.

Tool Geometry
After the automatic assembly process, tool geometries such as diameter, length, cutting edge radius, cutting edge angle as well as radial and axial runout can be measured in automated measuring sequences. In addition to the automatic mode, manual measurements can also be carried out in the module, whereby the automatic mode is not interrupted within the »roboBox«.

ZOLLER Service

Your goal is maximum efficiency for your production. Our goal is to support you with well-designed system solutions. We also offer comprehensive service. Whether through personal consultation on site or by developing perfectly tailored solutions for individual requirements – if you choose ZOLLER, you will not only receive excellent products, but also unique production know-how on your side. And of course, competent contact partners to answer questions at any time – over the entire life cycle of the ZOLLER products.

Make use of the ZOLLER know-how to optimize your production processes.

Alexander Zoller | Christoph Zoller

ZOLLER Solutions

With us, you get more than excellent products. You get individual system solutions connected with your tools. We combine hardware, software and services for you. Everything from a single source. Everything for your success. We call it: ZOLLER Solutions.

ZOLLER solutions

More speed, higher quality, reliable processes –
with ZOLLER you get more out of your production process.
We combine hardware, software and service
to create optimum system solutions for presetting,
measuring, inspecting and managing tools.

- Presetting & Measuring
- Tool Management
- Inspection & Measuring
- Automation

Everything from a single source.
Everything for your success.
Everything with ZOLLER Solutions.

We reserve the right to make technical changes. The depicted machines may include options, accessories, and control variants. BRROBOX.00-EN 10/2019. Concept & Design: www.absicht.ag

ZOLLER
expect great measures

Headquarters in Pleidelsheim
E. Zoller GmbH & Co. KG
Tool presetter and measuring machines
Gottlieb-Daimler-Straße 19 | D-74385 Pleidelsheim
Phone: +49 7144 8970-0 | Fax: +49 7144 8060-807
post@zoller.info | www.zoller.info

ZOLLER West
E. Zoller GmbH & Co. KG
Service and Sales Center
Friedrich-Krupp-Straße 7 | D-40764 Langenfeld
Phone: +49 2173 59670-90 | Fax: -81
zollerwest@zoller-d.com

ZOLLER North
E. Zoller GmbH & Co. KG
Service and Sales Center
Wohlenbergstraße 4 c | D-30179 Hannover
Phone: +49 511 6765 57-12 | Fax: -14
zollernord@zoller-d.com

ZOLLER East
E. Zoller GmbH & Co. KG
Service and Sales Center
Fugger Business Park | Fuggerstraße 1 B | D-04158 Leipzig
Phone: +49 341 332097-60 | Fax: -61
zollerost@zoller-d.com