Modular
Single Workstation

Modular configuration, precise manufacturing

EC type-examination tested by:
TÜV NORD

For more efficiency.

PROMESS
ASSEMBLY + SENSOR TECHNOLOGY

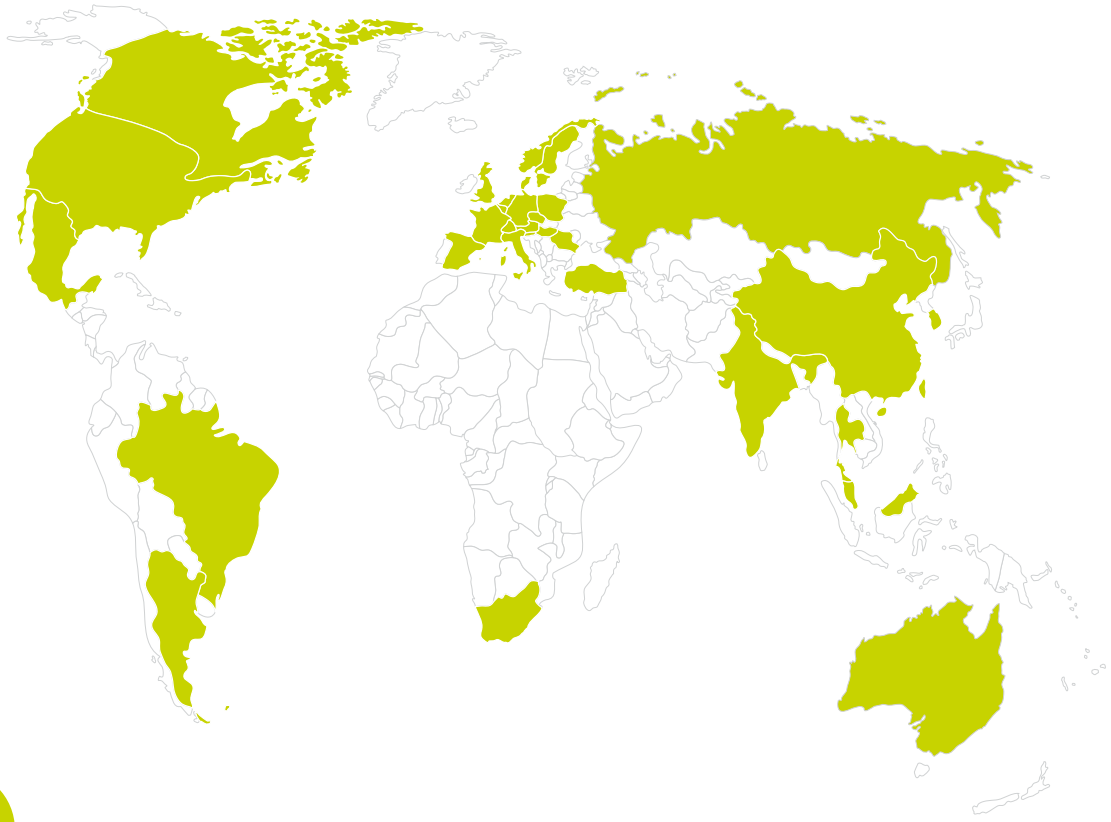
We are your partner in the field of assembly and testing technology

In 1977 Gerhard Lechler founded the company PROMESS as an engineering office in the field of technical measurement in Berlin.

Initially the company manufactured and distributed patented measuring bearings for tool condition monitoring before developing the electro-mechanical assembly press (UFM) with integrated NC control at the end of the 1980s. From the very beginning, it has been Gerhard Lechler's strength and passion to develop technical solutions for his customers, which has not changed to this day. The passion has continued and today the core competence of the company is still the development of high-quality technologies for the solution of individual and complex assembly and testing tasks.

Gerhard Lechler, Founder

From process development to pilot tests and from initial start-up to daily production at the customer, PROMESS offers one-stop product know-how and thus can provide sustainable, fast service and specialised consultation.



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Customized Solutions

We supply individual customer solutions for a multitude of applications in the tough industrial environment, from the pure electro-mechanical assembly press for the use in automated assembly lines to modular single workstations.

Our modular single workstations are suitable for the production of small and medium-sized series, as well as for sample and prototype construction. They are used as test stations, e.g. for material testing with tensile and compression forces. Thanks to the modular design, the workstation can be configured according to customer requirements and used flexibly.

The workstations are autonomous stations, numerically controlled and of highest precision. They are type-tested and thus guarantee the safety of the operator when inserting and removing the workpieces. PROMESS delivers the turnkey workstations and commissions them on site if required.

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The advantages

- Individual workstation due to its modular design
- Wide range of forces
- Integrated force-distance monitoring for 100 % quality control for each part assembled
- Optional 10 measuring ranges without changeover
- Storage of all quality-relevant data
- Numerical control eliminates the need for mechanical blocks and for adjustment of control valves
- Highest positioning and repeat accuracy over the entire press stroke

The possibilities

Our electro-mechanical assembly presses support you in a wide range of applications, such as

- Stamping of rings accurate to 0.001 mm
- Pressing in injectors
- Crimping of valves
- Crimping of electrode contacts
- Joining of bearings
- Friction value measurement of ball bearings under defined preload
- Function test of switches
- Spring testing

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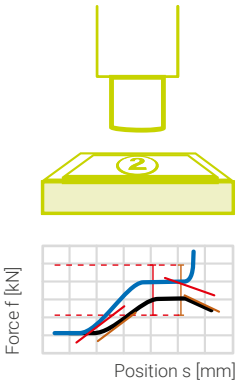
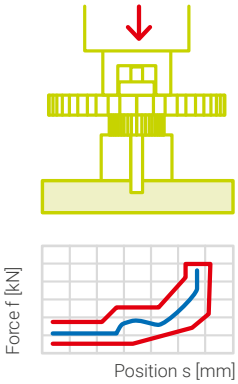


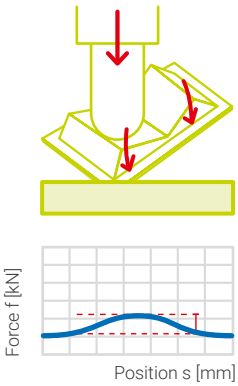
Stamping/forming

- Stamping and forming with height detection and relative forming distance



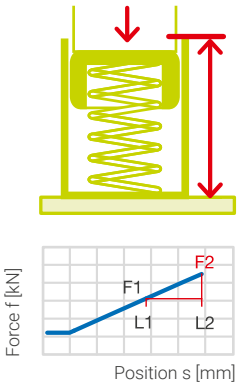
Joining on contact

- Joining on contact with precise shutdown once absolute shoulder position has been reached



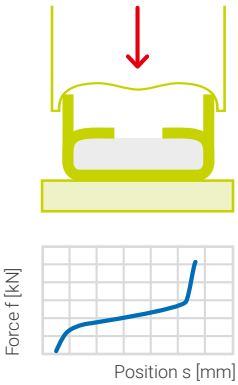
Surface check

- Logging of force-distance data for multiple switch points



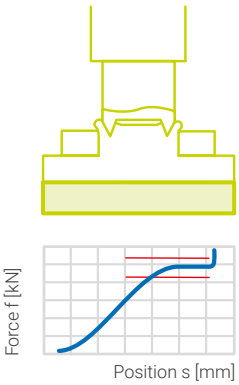
Testing/measuring

- Logging of force-distance data for multiple positions



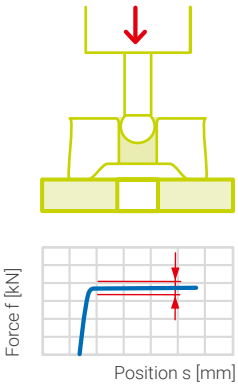
Bending

- Monitored bending of straps, brackets etc. on safety components



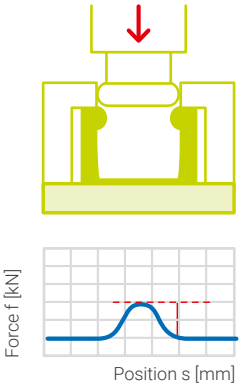
Press-fitting

- Press-fitting with controlled force for relative displacement



Calibration

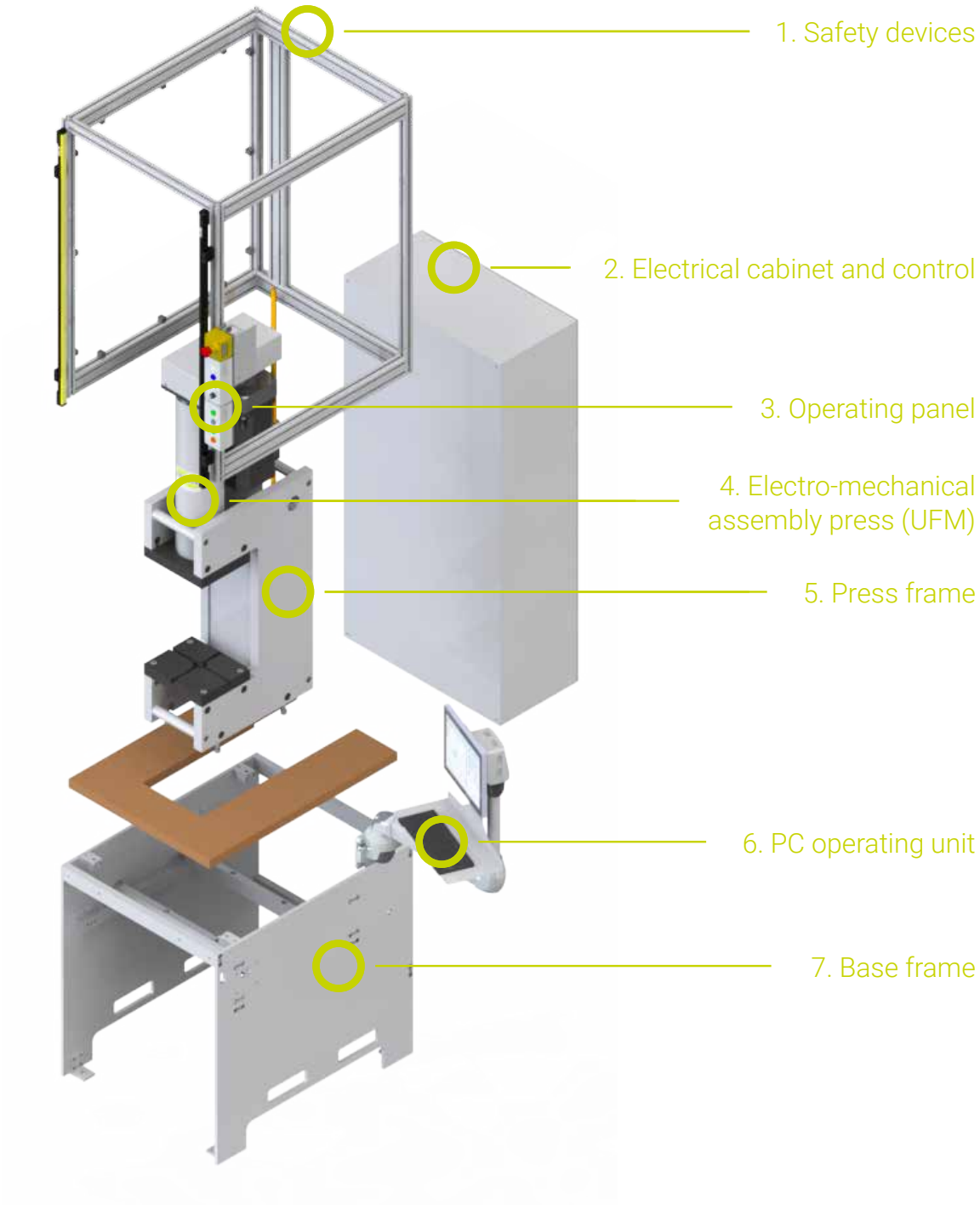
- Calibration with quality control through monitored force



Clipping

- Joining of plastic and medtech parts with monitored snap force

Configuration



1. Safety Devises

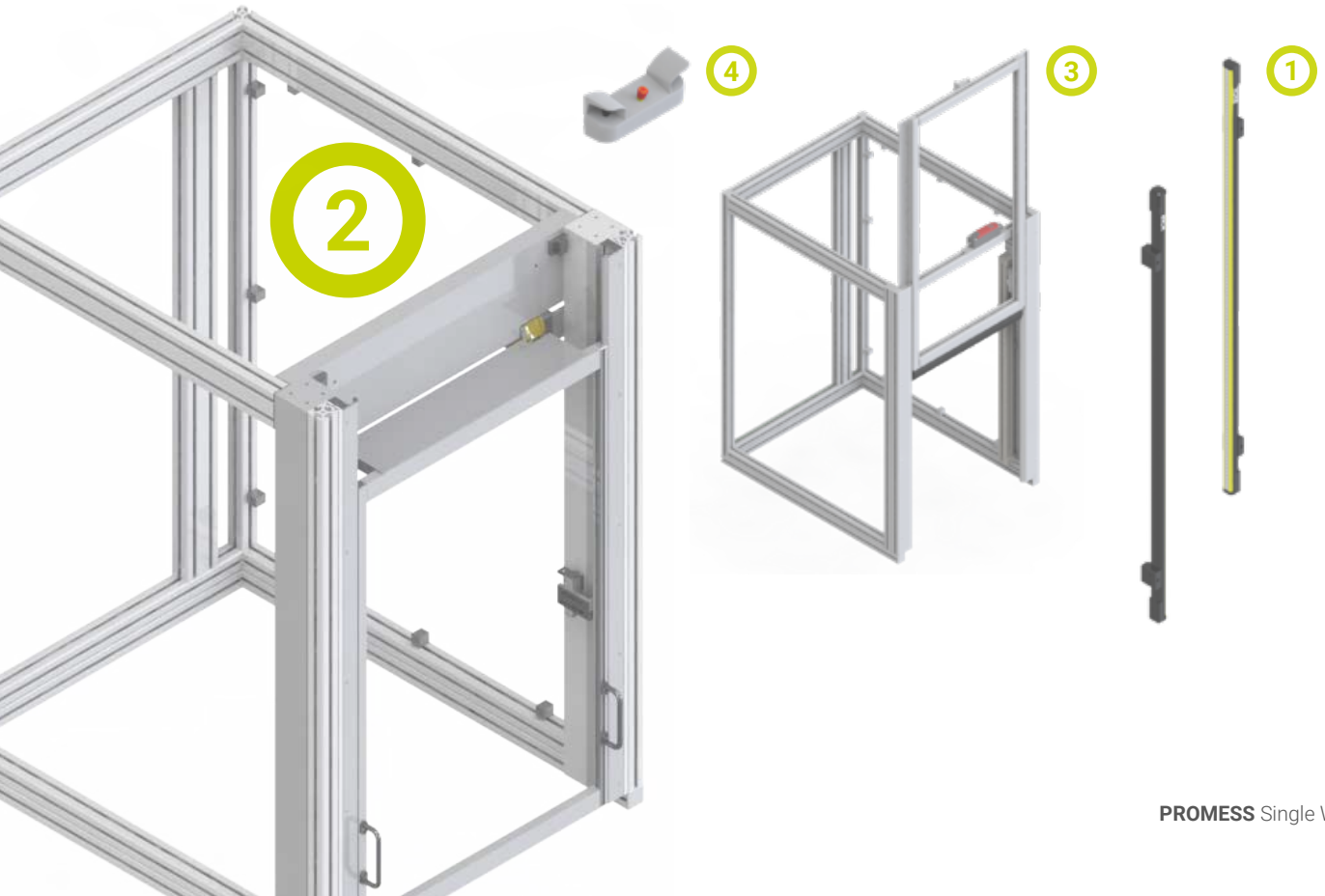
The single workstation monitors all safety devices and controls the work process in a functional safe mode in the interaction of all safety-relevant components. PL e (in accordance with EN ISO 13849) and SIL CL 3 (in accordance with EN IEC 62061) are met for safe movement with speed and position monitoring, as well as safe switch-off of the drive and activation of the brake if necessary.

Due to the free choice of different protective devices, the single workstation can be optimized for specific applications so that the user's work process is not or only insignificantly impaired despite the very high protective goals.

Possible protective devices:

1. light curtain
2. manual safety door
3. pneumatic safety door
4. two-hand operation
5. safely limited speed with enabling switch (complete without housing)

In order to be able to operate single workstations with press or assembly technology in conformity with European legislation, a European type certificate is required in particular for manual loading and unloading operations. PROMESS has obtained this certificate in a type examination procedure of TÜV Nord (Registration No. 44 205 16129301).



2. Electrical Cabinet and Control

The dimension of the electrical cabinet depends on the size of the joining module. It is either mounted directly on the rear of the workstation or set up separately from the workstation.

3. Operating Panel

The operating panel features all the necessary functions for a safe operation of the workstation.

4. Electro-mechanical Assembly press

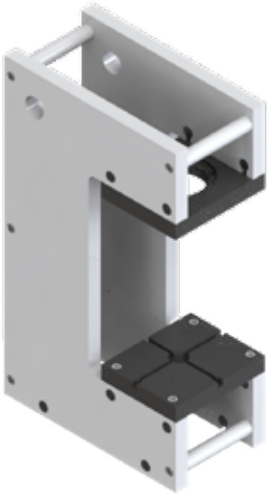
The core of the workstations is the Electro-mechanical assembly press UFM. It is available in different dimensions and specifications, depending on the requirements of the customer. Further components are configured accordingly.

The assembly presses are equipped with an NC control, which is integrated in the power amplifier. It offers all the possibilities of modern NC technology, such as free programming of position, speed, and acceleration of the press ram. The integrated process monitoring and documentation ensure optimal quality control.

5. Press Frame

Depending on the task, the assembly press is held by a C-frame or a four-column frame. For optimum access to the working area, the clear height, width and depth are defined in advance. Our robust C-frames are characterized by their good accessibility from the front and the side. The four-column frames have the advantage of low bending, which only has a parallel effect.

The lower plate of the respective frame is equipped with a centre hole and 2-T-slots for optimal tool holding. The upper plate is designed to pick up the corresponding assembly press.



C-Frame

4-Column-Frame

6. Visualization

For the visualization of the joining process, the individual workstations are equipped with a 19“ Panel PC with IP 65 protection on the swivel arm. Additionally, we offer a keyboard shelf with a keyboard and trackball.

7. Base Frame

Our workstations meet high ergonomic requirements by means of optional height adjustment. This creates an optimum working position during production.

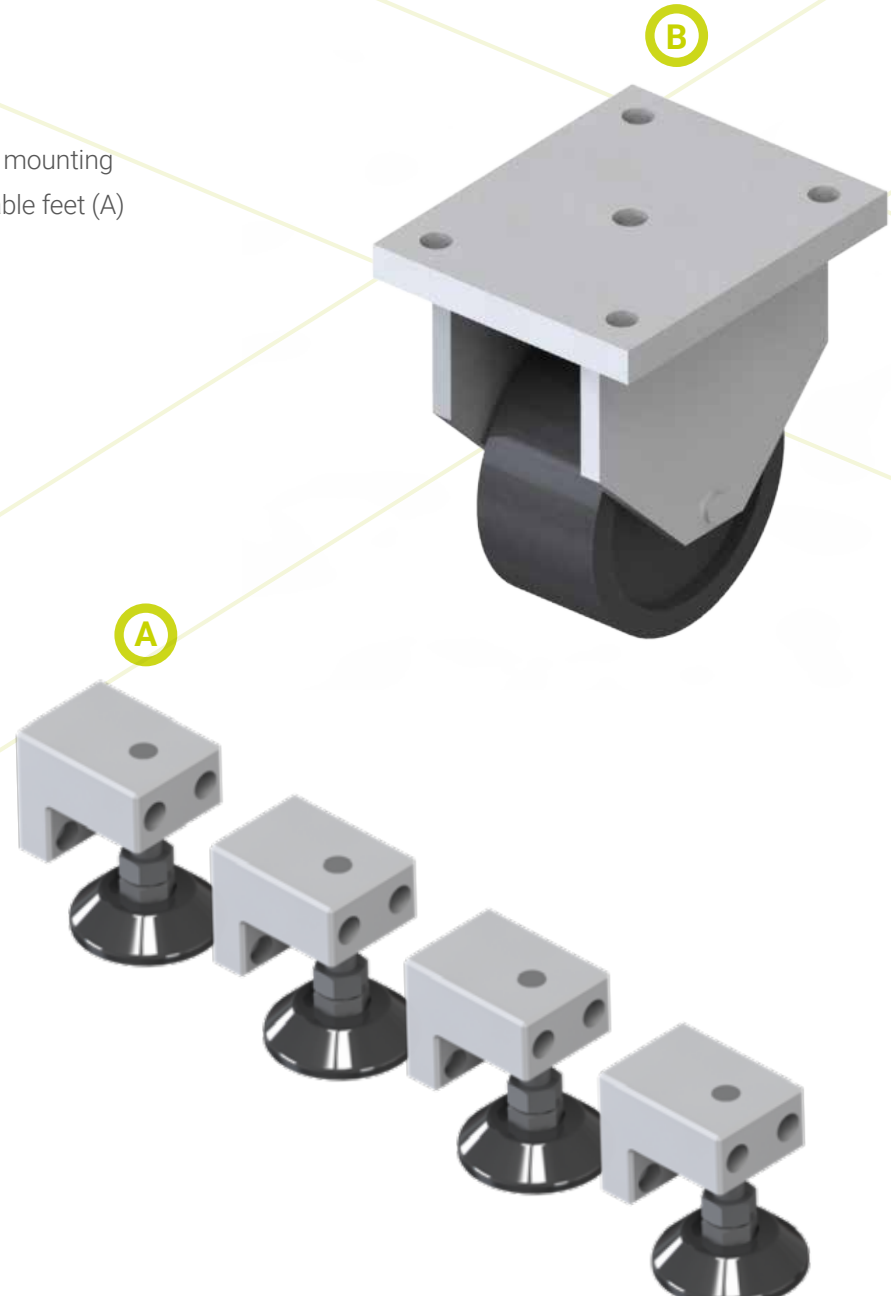
The robust base frames ensure the stability of the workplace and safe handling. For the table top and the feet of the frame we offer different possibilities to choose from:

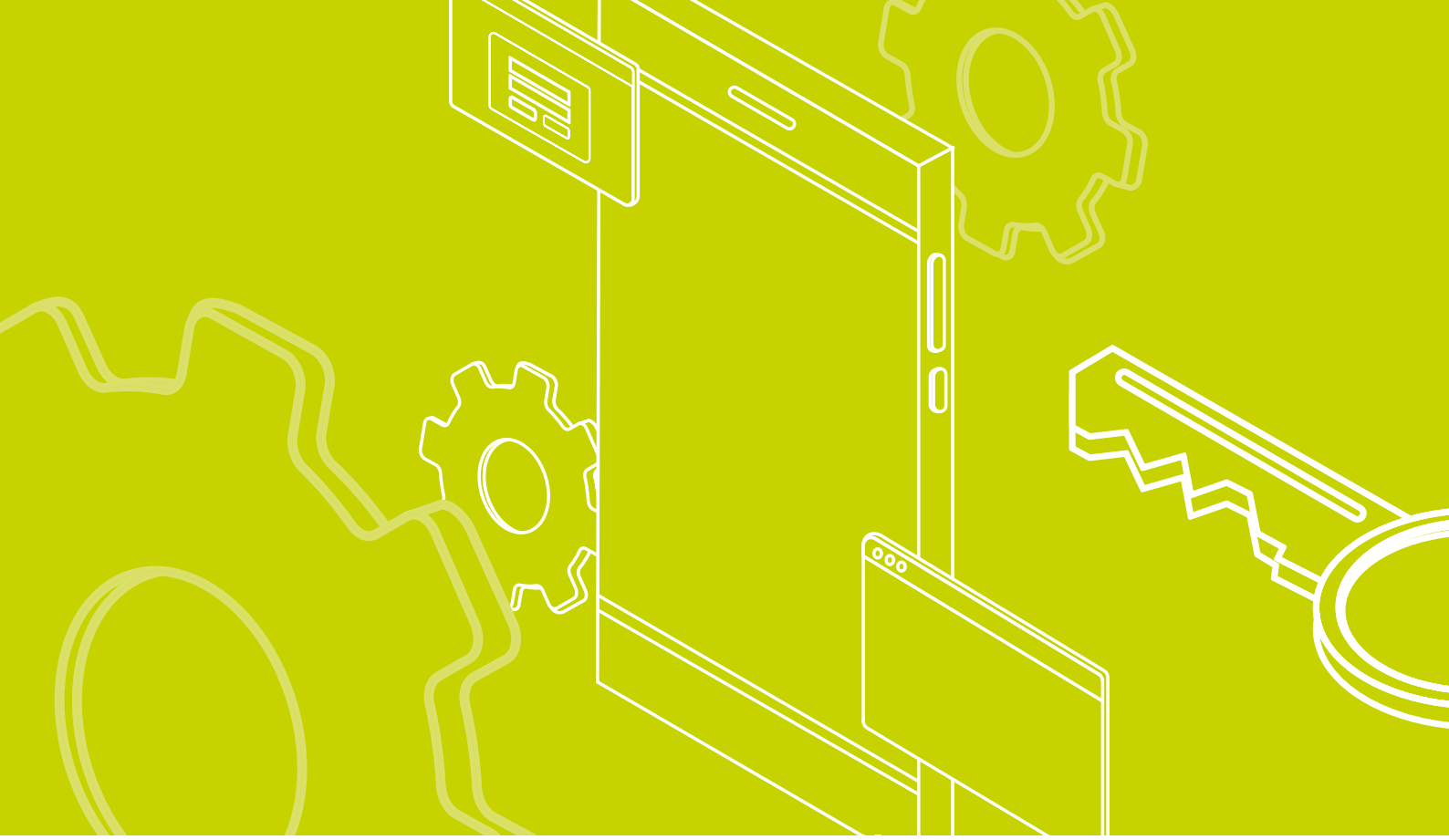
Table top

- Chipboard coated
- Aluminium
- Coated steel

Frame feet

- Angle for floor mounting
- Height adjustable feet (A)
- Rollers (B)





Additional Accessories & Service

The following optional accessories are available for the individual adaptation of your workplace:

Accessories

- Foot pedal
- Handwheel
- Integration of external sensors
- Additional inputs and outputs
- Scanner (1D and 2D)
- Software plug-ins
- Quality data interface
- Electrical height adjustment
- Current consumption measurement

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Service

For an optimal use of our work stations we support you with the start-up operation on request. In addition, we offer further services in the areas of **start-up support, process analysis, pilot tests** and the **maintenance of** our products.

PROMESS CUSTOMER SERVICE

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