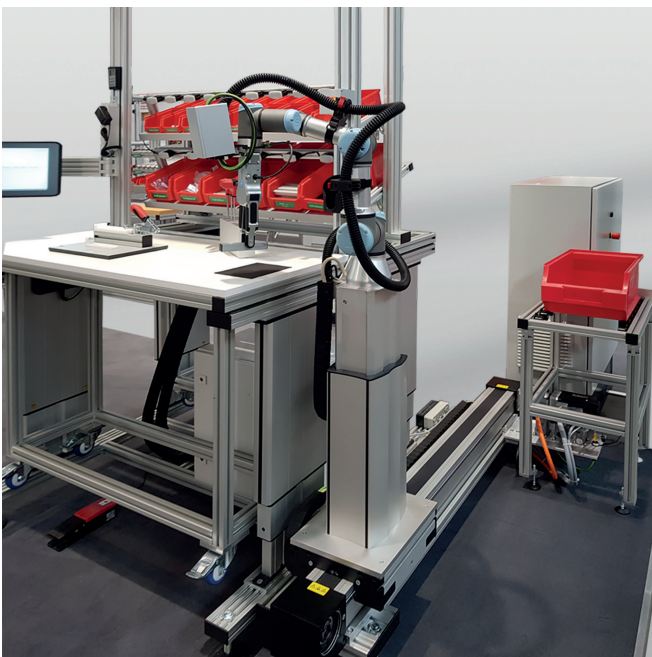


RK Assembly Workstations

Tailored ideally to your tasks



Ergonomic, flexible, efficient and smart

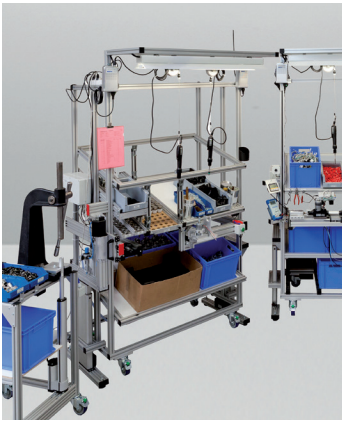
A human being is indispensable for many production processes. RK Rose+Krieger supplies assembly workstations which are tailored to specific demands and ergonomic considerations and can also be integrated into digital production environments as required. Not every production process can be automated in a practical manner. This applies above all to the manufacturing of complex products in small quantities with a high variability and working sequences and special solutions which cannot be automated in a practical manner. In order to be able to manufacture these kinds of products and perform these kinds of sequences efficiently, special assembly workstations which can be integrated into the digital working environment, are required. The demands made of such digitisable manual workstations are high. They not only have to relieve the employee of physically demanding or monotonous tasks, but also have to help to ensure that the working sequences in question are implemented safely and flawlessly. Moreover, the reliability of assembly also has to be guaranteed in the event of an employee change – a particularly critical factor when it comes to quality assurance.

Good ergonomics at the workplace also increases productivity and reduces absences due to illness. On the following pages, we would like to introduce you to some of our systems, which can help you to optimally design your assembly workstations and optimise the processes.



Work table RK Easywork
Rugged basis for special requirements page 4

Assembly work table combined according to ergonomic and task-specific aspects



LEAN-workstation / LEAN production page 5

Plan production processes with LEAN to avoid waste



Pick to light system
Innovative assistance system page 6

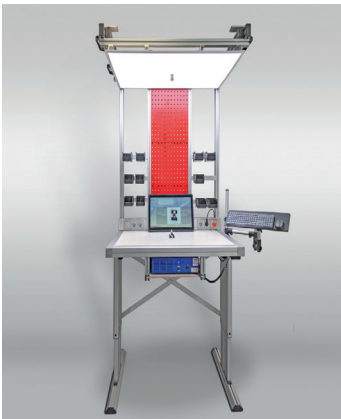
Paperless goods picking procedures by means of light signals at the storage compartment



Poka-yoke workstation - Zero error principle -

..... page 7

Technical equipment to avoid errors in the work process



Vision controlled assembly system: „Smart Klaus“

..... page 8

Instructions and quality assurance for manual assembly in real time thanks to intelligent image processing



Workstations with COBOT support

..... page 9

Collaborative robots support the employee



Material/transport trolley and kanban systems

..... page 10

Ideally tailored to your workstation system

RK Easywork – Rugged basis , static or with electrical height adjustment



More information
RK Easywork work table

The RK Easywork work table is characterised by customisability. It can be converted flexibly and is available as both a standard work table and a special solution ideally adapted to the working/manufacturing process. This makes it attractive above all for small and medium batch productions the use of which is not permanent. Thanks to the modular system, the rugged work table remains upgradable and functionally modifiable even after years.

- Requirement-specific and designed according to ergonomic
- The lifting columns for height adjustment are available in versions for impact loads, ESD and „telescope“

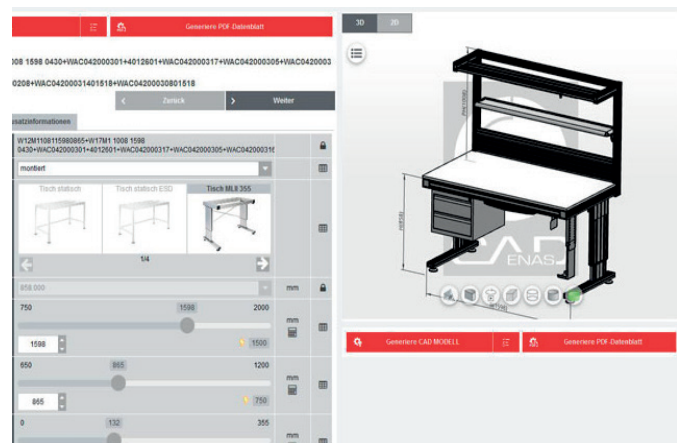


- Extensive accessories
- The cost-efficiency of these workstations is ensured because they adapt variably to the respective tasks and can be converted in a straightforward manner for new purposes.



Workstations configurable online,
or ask us, we'll do it for you!

- The online configurator can be used to configure a work table
- Step by step, the selection tool guides you through all of the options on the way to creating your ideal workstation
- With a large selection of add-on components you can choose between the static table or an electromotive height-adjustable work table. Download CAD data and configure, or send an enquiry directly to RK Rose+Krieger.



RK LEAN Solution workstations – Tailored individually to the process



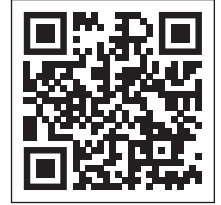
Video
LEAN work table

The purpose of the RK LEAN Solution workplaces is to create an ergonomic working environment and to design the workflows in such a way that they are optimally adapted to the process. This achieves, for example, an increase in productivity, short throughput times and a reduction in workload. In workplace design, the focus is on adapting working conditions to people, not on adapting people to given working conditions.

- Ergonomic and individual workstation solutions
- RK modular design provides a number of upgrading or modifying the system
- Shorter processing times
- Increased productivity
- Less space required
- Reduction in inventory and intermediate storage
- Fatigue-free and healthy working



SETAGO® - innovative assistance system Pick-to-Light

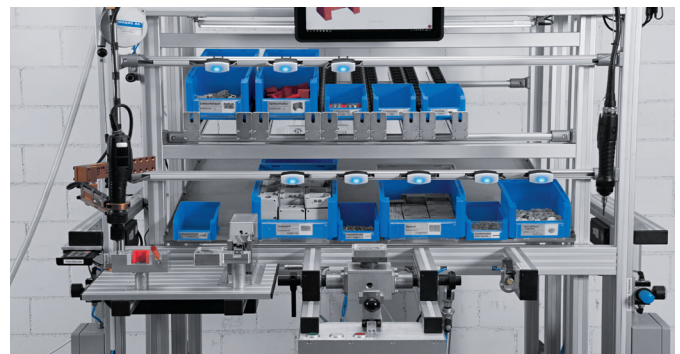


Video
pick to light system

Pick-to-Light is a display system for defect-free packaging and order picking which is now also being introduced into the assembly process in order to ensure flawless configuration and assembly of machine parts or components. The SETAGO® system features a display above the material which also functions as a sensor which introduces the next process step when triggered, or stops the process or issues a signal when a mistake is made.

- Zero defects and higher productivity
- Process reliability even with multiple product variants
- New employees are trained and productive within a few minutes
- Consistent quality regardless of the employee
- Simple installation and commissioning
- Amortisation within a few months
- Paper-free assembly instructions
- Employees requiring support can assemble more complex products

The SETAGO® Pick-to-Light system is a display system for defect-free packing and picking



Guided by pictures and videos, new employees are able to work productively and defect-free within a short time.

The removal of incorrect parts, or incorrect torque, is immediately signalled by the SETAGO sensor.



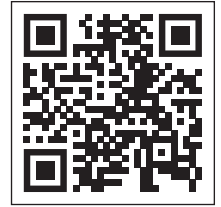
The assembly process can only be continued after the correction.

Errors are eliminated, the quality of your product is ensured and your productivity is additionally increased (zero-error strategy).



By increasing productivity with better quality and zero defects, the SETAGO Pick-to-Light assistance system can pay for itself in just a few months.

Zero defect principle, poka-yoke



Video
Poka Yoke work station

The flaps are one main feature of a poka-yoke workstation. This means that poka-yoke also provides a physical barrier in addition to the visual aids of the classic pick to light system so that incorrect parts cannot be picked even inadvertently. The employee is guided step by step to the correct component container by the opening of the flaps and the lighting up of the display. The materials required for the working step are picked and there is no need for a long search. Poka-yoke sensors/flaps are also used for material replenishment. This ensures that the assembly worker is supplied with and installs the correct materials. The individual working steps can be shown on a display screen.

- Zero defects in assembly
- Productivity is increased considerably
- Process reliability even with multiple product variants
- New employees are trained and productive within a few minutes
- Consistent quality regardless of the employee, no rectification or repair
- No parts lists or instructions on paper
- No searching for components
- Short assembly times

Poka yoke system is a method to prevent errors in production or logistics at the source.

The employee is guided step by step to the correct component container by the opening of the flaps and the lighting up of the display

Poka-yoke sensors/flaps are also used for material replenishment.

A QR code on a box of screws, for example, is scanned and the system opens the correct compartment for replenishment.

Faultless material replenishment is ensured.

The individual working steps can be shown on a display screen. Work instructions and error messages are displayed visually with text and/or images.



Instructions and quality assurance in real time thanks to smart image processing

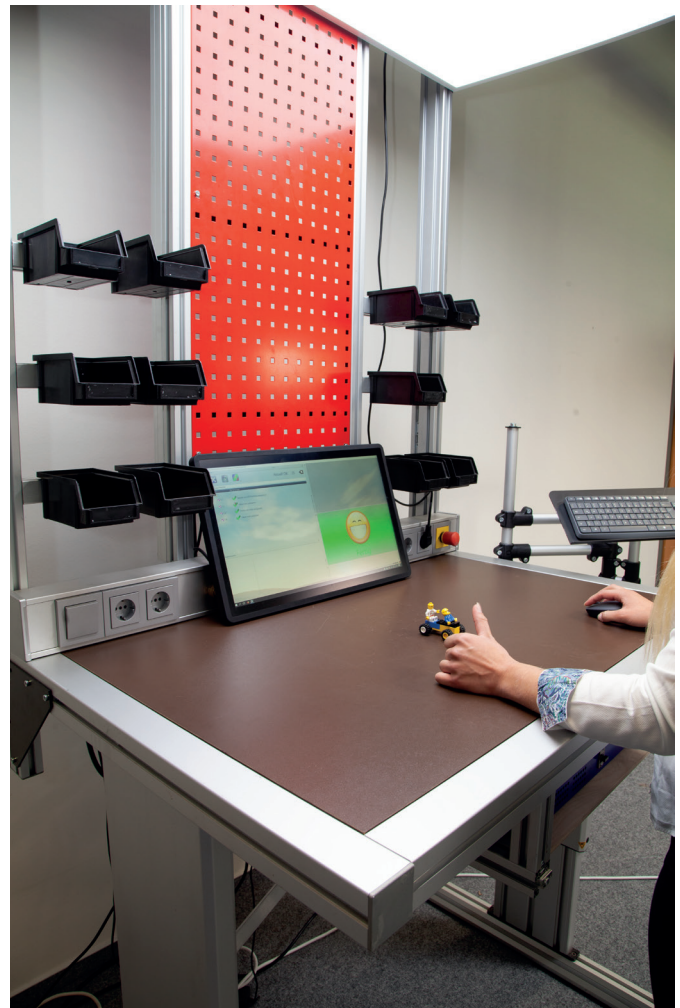


Video
„Smart Klaus“

Cognitive assistance systems are used in assembly in order to direct employees in production and check in real time that working steps are carried out correctly. In this field RK Rose+Krieger counts on the sophisticated and tried-and-tested „Smart Klaus“ assistance system.

The camera images captured in real time at the workstation are analysed by the assistance system continuously and combined digitally with the stored specialist knowledge.

- Training for employees, even if there is a large variety of variants, is reduced to a minimum
- Assembly and real-time check in one working step
- The current working instructions and inspection procedures are always used and observed
- Prevention of rejected goods, repairs, no claims and certified traceability
- Productivity increases – the fault rate drops



Collaborating robots (cobots) support the assembly process



Video
COBOT-Anbindung

Cobots can provide assembly workers with support in many ways: they lift heavy objects or take on monotonous tasks with single-sided strain, like accurately handing over parts. This way, they provide relief for workers and protect their health. Collaborative robots are also a practical option for line-controlled tasks which a human can either not perform as precisely, continuously or quickly and reliably as a machine. In conjunction with height-adjustable workstations and assistance systems, they open up completely new assembly concepts.

- Physical relief of the employee
- Feeding or forwarding of components
- Holding components in position
- By using linear units and lifting columns, the radius of action of cobots can be significantly extended
- Combination with other assistance systems possible



Flexible transportation and storage systems

- Transport / material / assembly trolleys for your intralogistics
- Kanban systems and storage racks
- Produced from the components of the RK profile system or the tube connectors
- To optimise the material flow at the workplace or in the company
- High variability and unlimited system solutions
- Individual adaptation of the racks to the production/manufacturing process

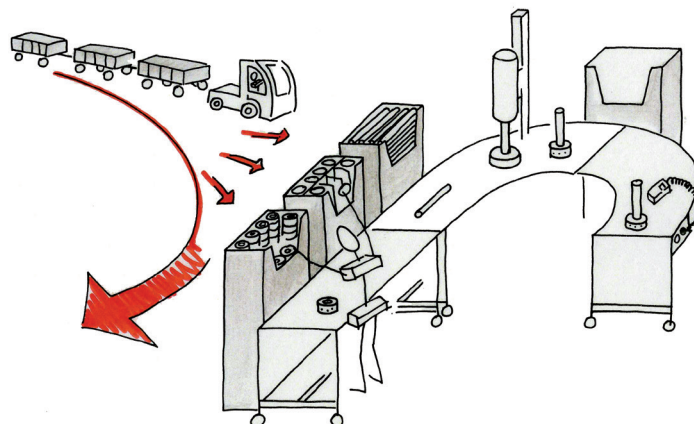
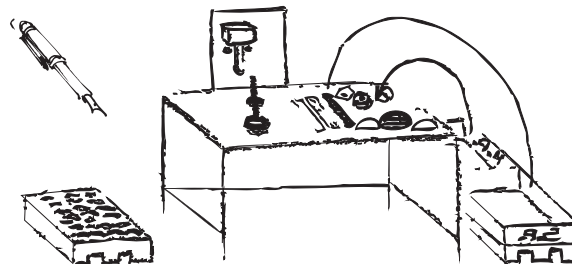


Our service

We come to you or you come to us

We are at your side from the initial contact to the commissioning - one contact for your process optimisations! Benefit from our experience.

- You outline, if necessary together with our sales consultants,
- ... your individual requirements
- We prepare a non-binding offer or ...
- ... You visit a real workshop with us
- Our product specialists work out the solution together with you
- Design, production and, if desired, on-site installation and commissioning
- - all from one source



Are you still configuring or are you already producing?

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More information
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