

AUTOMATION BY RÖDERS

HIGH TECH IS OUR BUSINESS.

röders
TEC

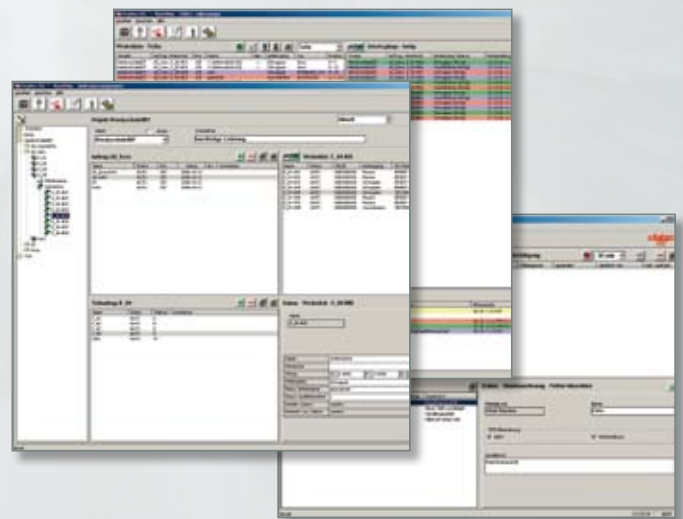
Maximum Productivity by minimizing Operating Times

Reliable machines and reliable machining processes are required for automation with very high efficiency gains. The strong ongoing practical orientation of Röders and extensive cutting knowledge form the basis for a user support, which helps Röders customers to fully meet these requirements.

Depending on the production task, different handling solutions are available for automation, from the machine-integrated pallet changer to multi-machine automation solutions to heavy-load handling systems. Automation software, which has been continuously optimized over many years, controls the single- or multi-machine systems and takes over central tool management, if needed. Everything is delivered from one source and adapted to customer requirements, if necessary.

Röders Job Management

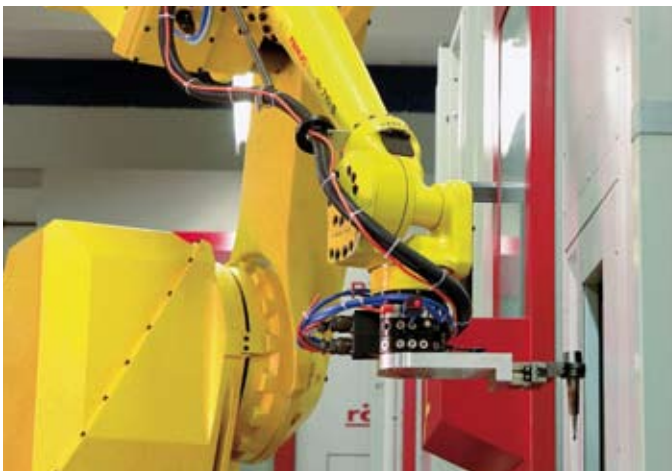
- > Powerful job and cell management software for automating single machines or multiple machines
- > Very easy to operate
- > Clear display of the production progress
- > Simple definition and changing of priorities, job blocking and releasing
- > With chip identification, automatic allocation of the machining programs to the workpieces
- > Acceptance of the data from external databases or PPS systems possible
- > Transfer of machining times, zero points, measuring results etc. optional
- > Automatic utilization optimization of the individual machines in one cell



- > Minimization of the tool changes for simultaneous machining of several workpieces in one machine (detection of same tools)
- > Specification of the machining sequence for multi-machine automation involving different machines
- > Automatic part flow over several machines is possible with raw part magazine for standard raw blocks (subdivision of the magazines into areas, so the

storage place of the pallets indicates the machining progress)

- > Direct clamping of workpieces without pallets in various orientations for multi-side machining
- > Linked automation of several machines possible with multiple handling units (advisable in the case of short machining times per machine)

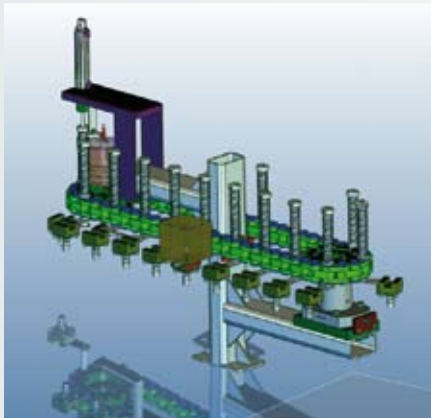


Röders Tool Management

- > **Central tool management**
for the optimized use of machining tools in one cell
- > **Standardization of the used tool types possible**
→ Very simple supplying of cells with tools
- > **Central tool database**
→ One-time input of tool geometries
- > **Central common tool magazine**
All tools in the cell are commonly available to all machines. Several machines share the same sister tools.
- > **Extra wear area**
The worn tools are stored in a special area in the central tool magazine and only need to be exchanged. It is not necessary to print out lists or look at what's on the computer.

- > **Tool cache functionality**
The local tool changer on the machine only contains the frequently required tools and those which are necessary for the current machining task.
- > **Automatic Preview**
Based on the automatic preview, the handling system loads the required tools in the local tool changers of the machines during machining and unloads those which are no longer needed or worn.
- > **Cost Savings**
Large tool changers on the machines are not required and savings in the number of total tools which are to be kept ready in a cell, since all tools from the central magazine of a cell are available for all machines at all times.
- > **Very simple operation**
Only the tools in the central magazine have to be replaced, since the local machine tool changers are automatically loaded and unloaded by the handling system.

RCI-P - Machine-integrated Automation



- > Changer for workpieces firmly integrated into the machine
- > High space-savings (machine is extended by about 1 m in the front)
- > No installation required at the customer
- > Driven by job management software on the machine control
- > Chip identification of the pallets available as an option
- > Tool change not possible

Technical data

RCI-P

Max. Workpiece weight	8 kg
Max. workpiece dimensions	100 mm x 100 mm (optionally larger)
Largest pallet	Erowa ITS 72 / System 3R Macro
Capacity	20
Gripper change	no
External tools	no

RCE – Cost-efficient Single-Machine Automation



- > Simple, robust rotary changer for workpieces up to 100 kg
- > Driven by job management software on the machine control
- > Chip identification of the pallets available as an option
- > Tool change not possible

Technical data

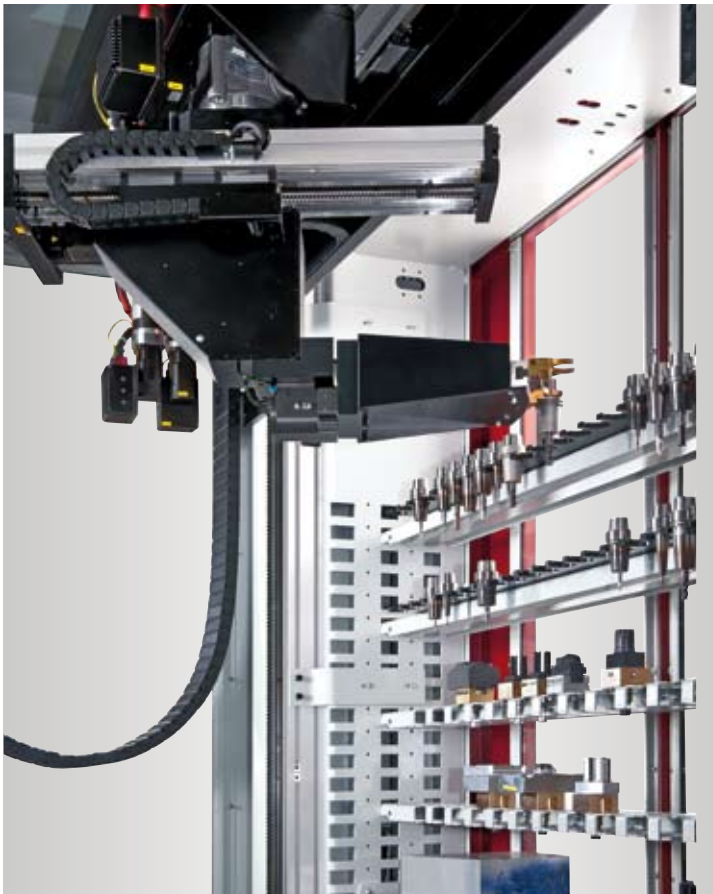
RCE

Max. Workpiece weight	100 kg
Largest pallet	Erowa UPC / System 3R Dynafix
Capacity	8 x UPC, 9 x Dynafix, 24 x ITS148 or Macro Magnum, 45 ITS72 or Macro ...
Gripper change	no
External tools	no

RCS - Compact, flexible Single-Machine Automation



- > Space-saving workpiece and tool magazine with integrated handling
- > 3 magazine sizes and weight classes available
- > Can be loaded from both sides
- > Workpiece handling possible, tool handling partially
- > Driven by job management software on the machine control
- > Chip identification of the pallets available as an option



The magazines may be configured according to the customers' requirements, in case of gripper change with different pallets and tool holders

RCS

Technical data

	RCS 1	RCS 2
Max. Workpiece weight	5 kg	30 kg
Largest pallet	Erowa ITS72 / System 3R Macro	Erowa ITS148 / System 3R Macro Magnum
Z travel for magazine	1200 mm	1530 mm
Width of magazine (opt. two-sided)	810 mm	1410 mm
Gripper change	no	yes
External tools	no	yes

	RCS 3
Max. Workpiece weight	60 kg
Largest pallet	Erowa UPC / System 3R Dynafix
Z travel for magazine	1150 mm
Width of magazine (opt. two-sided)	1350 mm
Gripper change	yes
External tools	yes



RC4 - Space-saving linear Multi-Machine Automation up to 150 kg



- > Linear handling device for single- or multi-machine automation
- > Minimized distance of the magazine to the machines, space-optimized
- > Machines can only be placed on one side of the RC4
- > Integration of third-party machines, e.g. measuring machines, optional
- > Workpiece and tool handling possible
- > Can be expanded in separate stages
- > Chip identification of the pallets available as an option
- > Driven by a job management software on a separate computer (in case of single-machine automation, job management software installed on the machine control as an option)

Technical data

RC4

Max. Workpiece weight	150 kg
Max. workpiece dimensions	depends on the machine being automated
Largest pallet	Erowa UPC / System 3R Dynafix
Z travel for magazine	1600 mm
Magazine width (per shelf)	1340 mm
Gripper change	yes
External tools	yes

RCM - Flexible linear Multi-Machine Automation up to 150 kg



- > Linear handling device for single- or multi-machine automation
- > Very rigid → highly dynamic, short handling times
- > Machines can be placed on both sides of the rail as well as at the front
- > Integration of third-party machines, e.g. measuring machines, optional
- > Workpiece and tool handling possible
- > Can be expanded in separate stages
- > Chip identification of the pallets available as an option
- > Driven by a job management software on a separate computer
(in case of single-machine automation, job management software installed on the machine control as an option)

Technical data

RCM

Max. Workpiece weight	150 kg
Max. workpiece dimensions	depends on the machine being automated
Largest pallet	Eropa UPC / System 3R Dynafix
Z travel for magazine	1800 mm
Magazine width (per shelf)	1340 mm
Gripper change	yes
External tools	yes

RCH - Heavy-load Automation up to 800 kg



- > Heavy workpiece handling up to 800 kg for large workpieces
- > Automation of a single machine or multiple machines is possible; linear arrangement
- > Integration of machines made by other suppliers optional
- > Can be expanded in separate stages
- > Chip identification of the pallets available as an option
- > Driven by job management software on a separate automation computer (for automation of single machines: also with job management software on the machine control as an option)

Technical data

RCH

Max. Workpiece weight	800 kg
Pallet size	800 mm x 600 mm, others on request
Z travel for pallet places	300 mm, others on request
Pallet places	placed in a circular lay-out (optionally rail)
Gripper change	no
External tools	no

Automation with Robots



- > Any workpiece orientation possible
- > Mainly used for direct workpiece clamping, i.e. without pallets, e.g. for automated 6-side machining
- > Additional functions can be taken over directly by the robot, e.g. cleaning, sorting into boxes, moving to special test stations, etc.
- > Stationary or on rail
- > Highly dynamic → Short handling times
- > Machines can be placed on both sides of the rail as well as at the front
- > Workpiece weights up to 700 kg, heavier in special cases

Extension with machines from other manufacturers

indunorm
Bewegungstechnik

- > Integration of third-party machines, e.g. measuring machines, optional
- > Workpiece and tool handling possible
- > Can be expanded in separate stages
- > Chip identification of the pallets available as an option
- > Driven by a job management software on a separate computer (in case of single-machine automation, job management software installed on the machine control as an option)
- > First automation with robots by Röders in 1999

- > Integration of many other brands into the automation of Röders possible, milling machines, EDM machines, measuring machines, cleaning devices etc.
- > Cooperation with neutral and independent partner Indunorm Bewegungstechnik GmbH
- > If desired, complete service by Indunorm Bewegungstechnik GmbH
- > High security for investment, because Röders automation is not limited to Röders machines

>> HSC Machines and Automation >> Blow Moulds for PET Bottles
>> Röders Pewter & Röders ART

Subject to technical changes – 1201



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