

Rittal – The System.

Faster – better – everywhere.

► Rittal Automation Systems Handbook



ENCLOSURES

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IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP

Automated Modifications

Deliver A Better ROI, Improve Bottom Line

Reducing labor cost and improving delivery times on enclosure modifications is key for any successful integrator or OEM. Multiple cutouts and drilled holes translate into additional labor time and longer turnaround. However, automated modification is reducing custom modification time from weeks to days, and hours to minutes.

Highly trained laborers can create quality cutouts in enclosures, but mistakes can and do happen. Automated CNC machines ensure accuracy and reliability. There is no need for manual layout of any part to locate holes and cutouts, which reduces human error. Drawings can move from planning to production, with no manual steps to slow things down. Importing CAD data from programs using already existing design documents means that your modifications will always match what is on the blueprints. Run all designs virtually first to make sure everything works, and then cut, saving time and material.

Automated machining allows parts to be drilled, tapped and milled without the use of hand tools like drills, jigsaws and files. With automated machining the modification of mounting plates, doors, roof plates, side panels, gland plates, and unibody enclosures is possible. The machine configuration is not limited to one material, either; steel, stainless steel, aluminum, copper, and plastic are all machinable. Automation allows design changes to be easily implemented and can be added at the last minute before the parts are modified. Just-in-time manufacturing allows the panel builder to react to last-minute changes before cutting or assembling.

To learn more and request a quote, visit: www.rittalenclosures.com/ras.

Automated Modification Improves Labor Savings

The repeatable accuracy of CNC machines means that the same hole, cutout or tapped hole is processed the same for every run. Once the machine is programmed, an entire series of machining operations can be repeated accurately and consistently over large batched orders in one session.

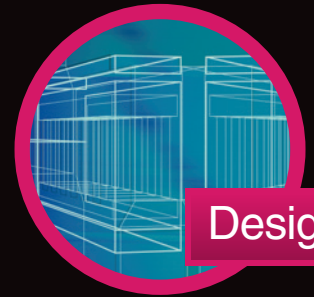
Labor is often a company's largest expense. Panel builders and system integrators want to manage it effectively and efficiently to improve their bottom line. Instead of having an employee make modifications repeatedly by hand, they can be reassigned to work that cannot be automated.

Instead of allocating hundreds of hours for their workers to perform the modifications, which is expensive and resource-intensive, CNC machines provide companies the opportunity to allocate labor more efficiently against a larger variety of work that cannot be automated or more complex assemblies or wiring. What can that mean to their bottom line? In many cases, shops see labor savings of up to 90% compared to modifications done by hand.

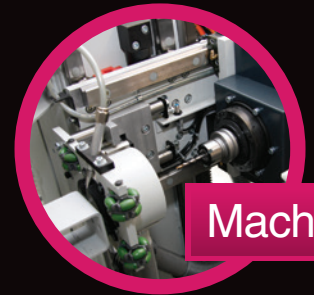


Longer Tool Life

Replacing cutting and punch-out tools and drill bits adds significant cost to operations. Here too, automation can improve the bottom line. Because the automated process drills, cuts, and taps at a constant rate and pressure across each piece, tool wear and breakage is reduced. Operators can perform more operations over a longer period of time before tools need to be replaced, which improves efficiency, output and turnaround times.



Design



Machining



Assembly



Wiring



Shipping

Get Custom Enclosures

To Your Customers
In Half the Time

Machining

Discover our solutions for the fully automated, fast, precise and reliable milling or laser machining of enclosures and mounting panels, plus cut-optimized machining of cable ducts and DIN rails.

Perforex BC series

For fully automated, fast, precise and reliable machining (drilling, thread-tapping, milling, or deburring) of mounting plates, doors, roof plates, side panels, gland plates or unibody enclosures. All materials commonly used in panel building such as steel, stainless steel, aluminum, copper and plastic may be machined cost-effectively and with greater precision.

Mounting of:

- Mounting plates
- Doors, roof plates
- Side panels
- Gland plates
- Unibody Enclosures

Usable materials:

- Steel
- Stainless steel
- Aluminium
- Copper
- Plastic

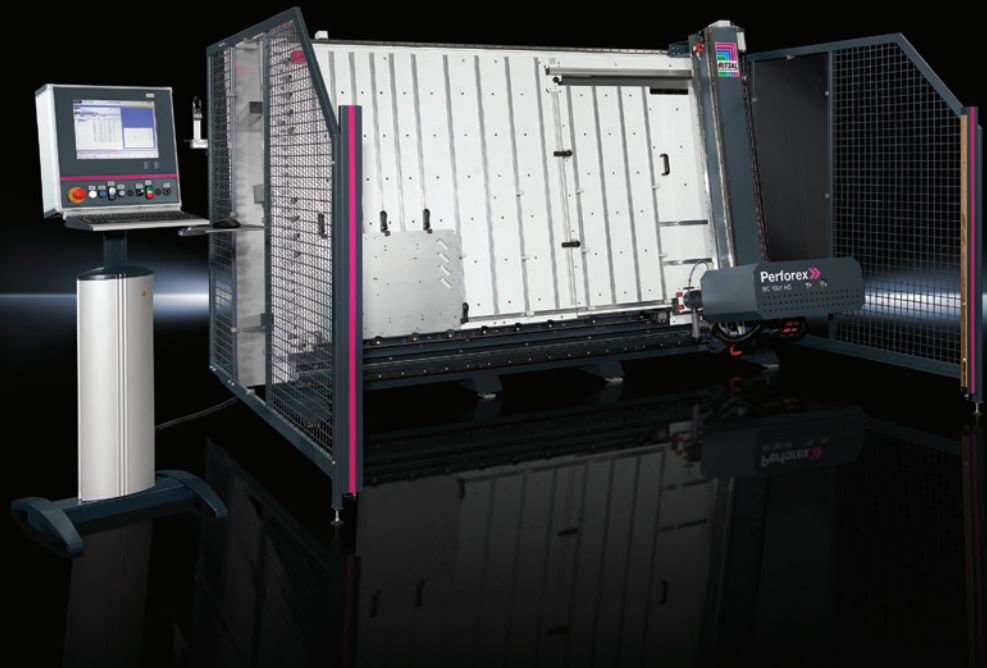
Fully automated:

- Drilling
- Thread-tapping
- Milling

Perforex BC 1001 HS

Model No. 4050.101

All AE and TS 8 enclosures are easily and quickly machined.



Perforex LC series

In addition to the tried-and-trusted Perforex machining centers, the new laser machining center is now available for specially high speed cutting of stainless steel enclosure as well as painted carbon steel enclosures. The innovative laser technology offers fully automated, fast, precise and reliable machining with a minimal cutting width, and oxidizing the cut edges.

Perforex LC 3015

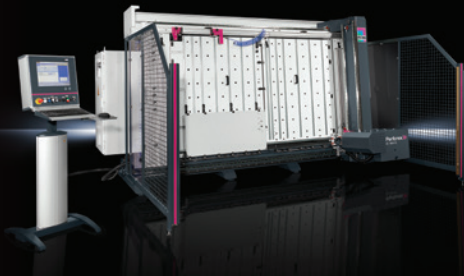
Model No. 4050.315

Ideally suited to the machining of stainless steel.



Perforex BC 1007 HS | Model No. 4050.107

Motorized depth adjuster. All AE / TS / CM / SE 8.



Perforex BC 1008 HS | Model No. 4050.108

Ideal for machining unibody enclosures.



Perforex BC 2014 HS

Model No. 4050.230

For simultaneous machining of multiple enclosure panels up to 2300 mm high.

Ergonomic, efficient handling systems for transport and lifting operations

Despite the high level of automation in the switchgear manufacturing process, there are still some situations which call for manual processes. The ergonomic assembly frames, paired with storage and transport trolleys significantly improve material handling of parts and create optimal working conditions.



Storage/transport stillage LT 1000

Model No. 4050.000

- Individually height-adjustable supports
- Simple handling due to four castors including total lock function
- Eight wide compartments for effortless storage and transportation of enclosure panels
- 100 mm/4 inch wide compartments
- Maximum load 500 kg /1102 lbs.



Functional trolley

Model No. 4050.130

Fold-out concept provides the ideal solution when on the move.

- Easy to transport
- Extremely stable
- Simple handling
- Ergonomic design



Assembly frames

- Tilt-adjustable and optionally height adjustable for ergonomic, effective, time-saving mounting of components, wiring and testing of mounting plates or complete enclosures
- Easy mobility using 4 lockable industrial casters

Available options:

- Extension frame for wider mounting panel
- Wire routing guide
- Wire reel holder
- Roller track for installing mounting panels from the side of the enclosure

Assembly frame 150 MN

Model No. 4050.150

Fixed working height 1.00 m, adjustable angle approx. 0-80°, maximum load 150 kg/330.6 lbs.

Assembly frame 200 EN

Model No. 4050.200

Fixed working height 0.90 m, adjustable angle approx. 0-80°, maximum load 200 kg/440.1 lbs.

Assembly frame 300 ENH

Model No. 4050.300

Variable working height 0.80–1.10 m, adjustable angle approx. 0-80°, maximum load 300 kg/661.4 lbs.

Cable ducts and support rails cut to length without delay

Model No. 4050.405

The Secarex cutting center erases lengthy times spent on measuring and cutting wiring ducts, cable duct covers and DIN rails. Data can be accepted from various CAD systems or taken from the Perforex workshop programming. The cutting center contributes to improved quality, an optimization of cutting waste, lower costs and an accelerated overall process.

Reliable data input

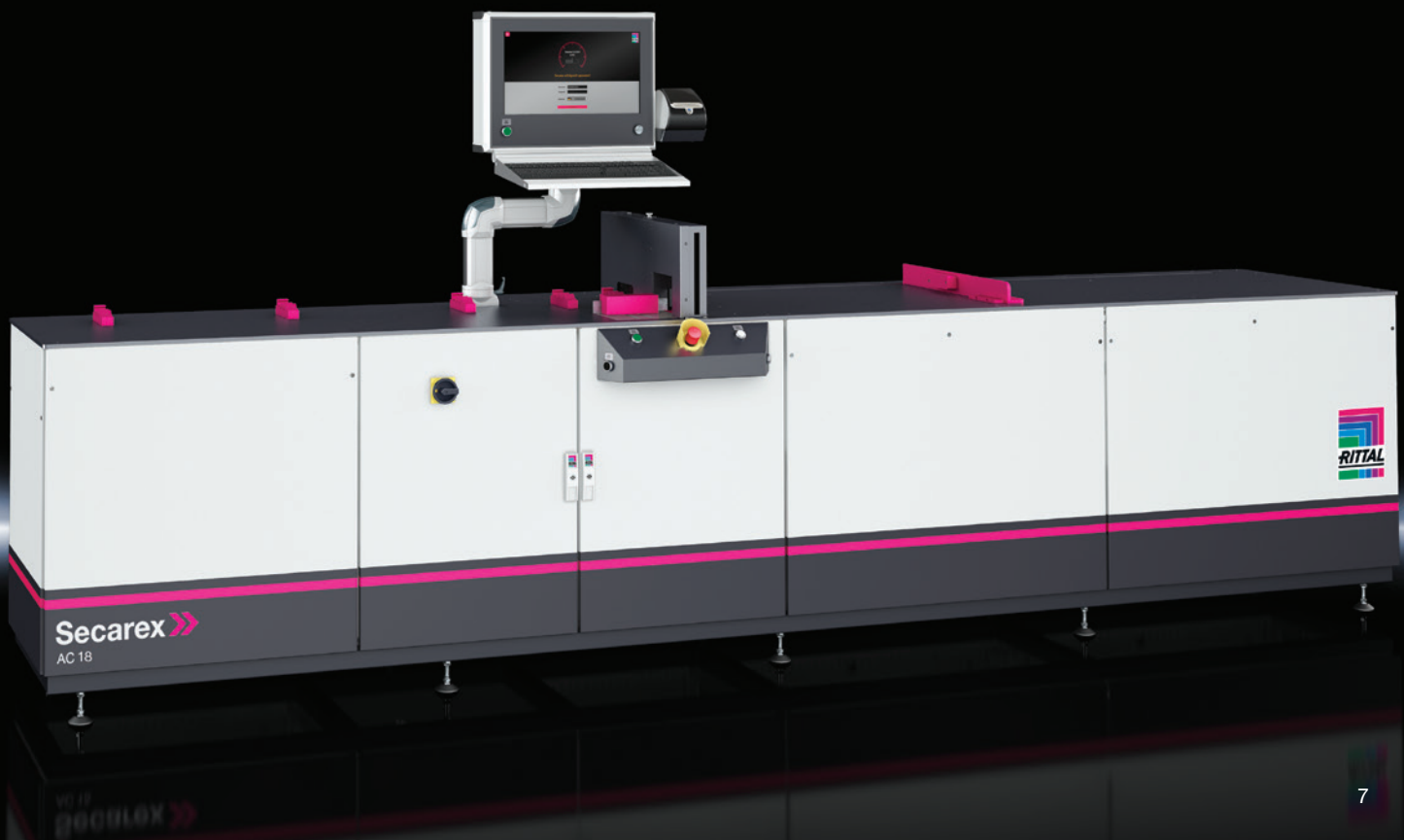
The acceptance of data from CAD systems or the Perforex workshop programming ensures precision and avoids incorrect cutting.

Simple handling

After cutting, the machine stop retracts automatically to release the cut parts for simple removal. Pneumatic tools for cutting DIN rails and cable ducts to size. Safe triggering of the cutting process due two-handed operation.

Benefits

- PC terminal with user-friendly interface
- Reduced costs of material waste due to the optimization of the cutting process
- Significant time savings compared to manual cutting
- Clean cuts with high-performance tools
- DIN rail cutter with 5 standard templates for all popular DIN rails without changing the template
- Optical and acoustic display for material changes
- Label printer included



Semi-automatic wire processing

Rittal wire processing machines automatically cut, strip and install ferrules. In addition, a variety of cross-section wire sizes can be used with complete control over length, strip length and size of ferrules.



The cutting machine C8 delivers simple, reliable handling. Model No. 4050.450

Wires up to 8 mm diameter may be cut to an individually set length, for more efficient operating processes in medium to large batch sizes.

A precise servo DC drive gives excellent repetition accuracy, every time.

Cutting jobs from the cutting machine C8 can also be managed, documented and transmitted with compatible PC via a USB interface.

Benefits

- Jobs are easily programmed and executed with an add-on operating terminal
- Controllable pressing force of the drive rollers
- Simple opening of the drive rollers
- Simple insertion of the wires



Electric stripping machine S22.

Model No. 4050.451

Electric powered stripping machine S22 ensures accurate, careful stripping of the insulation from your wires. Both draw-off and stripping lengths are set with linear control. The stripping machine S22 also features a pre-integrated spare blade inside the enclosure.

A running total counter and daily counter are both featured on the clear, easy-to-read touch display.

Benefits

- Cross-section is easily set using the rotary knob
- Pull-off length adjustable from 3 – 20 mm via the rotary knob
- Simple insertion of the wires
- Rotary knob allows the stripping length to be set from 3 – 20 mm

The right tool for every application

Rittal offers a comprehensive range of hand-held tools for professional support with your work operations. All the machining and handling technology you need for time-saving and cost-cutting manufacturing processes.



- Bits
- Bit holders



- Screwdrivers, insulated
- Screwdrivers, uninsulated

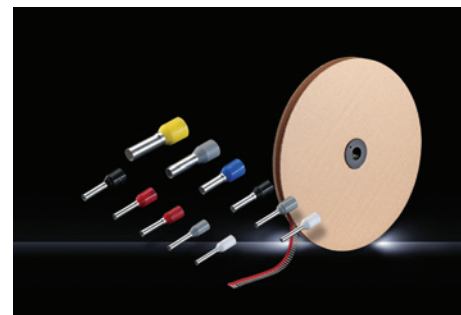


Crimping machine L 8, R 8 or RE 8 for processing wire end ferrules. Model No. 4050452, 4050453, 4050454

Electropneumatically-driven or electric-driven wire stripping and crimping machine for safe, fast processing of insulated wire end ferrules. The particular value-added feature of the electropneumatic crimping machines is its fully automated detection of the wire cross-section and processing of the wire end ferrules, with no tool changes required. Thanks to linear adjustment of the blades and the high force of the pneumatically-driven crimping unit, all standard cables as well as special ferrules (AWG) in the application range from 0.5 to 2.5 mm² (AWG 20 – 14) may be processed with a crimping length of 8 mm. The integrated daily unit counter ensures you have an overview of your project quantities at all times.

Benefits

- Simple filling and processing of loose wire end ferrules
- User-friendly operation via touch display
- Simple menu prompting
- Wire cross-sections from 0.5 to 2.5 mm² can be machined
- Automatic detection of cross-sections
- Handling of special wires supported



Wire end ferrules

For crimping machines, with plastic collar. Certified to CSA-US and UL.

Technical specifications

- Heat-resistant to 105°C
- Material Sleeve: E-Cu, galvanic zinc-plated
- Plastic collar: Polypropylene



- Hole punches
- Manual hydraulic punches



- Pliers
- Cutting tools

Maintenance Services

Rittal service delivers uptime.

Rittal's value begins with the quality of our products, but even the best products need to be maintained to ensure proper operation and long life. Rittal's maintenance services allow you to get expert support straight from the manufacturer. Our highly qualified technicians are prepared with the right tools and the right parts to quickly repair a problem or just keep your equipment up and running. Efficient work means less time out of service and less cost to you in the long run.

Preventative maintenance will maximize the life of your Rittal system, but when a repair is needed, Rittal provides added value with worldwide availability of individual parts. Our professional spare parts management and service contract options can be matched to your requirements. Parts are available in a timely manner, anytime, anywhere. Worldwide deliveries via our international spare parts logistics and multiple stocking locations, together with the local stocks held by our subsidiaries, guarantee fast and reliable availability.

Spare parts—anytime, any place.

Added value through worldwide availability of individual parts.

Rittal guarantees worldwide availability of spare parts and service contracts aligned with your requirements. Choose from a variety of spare parts options, including:

■ Customer-specific spare parts.

Customer-specific spare parts are components that can be individually defined and held in stock for those customers with an individual service contract.

■ Standard spare parts.

Standard spare parts are components that we use on a daily basis for our own series production.

Your benefits:

- Stock of customer-specific components can be maintained for individual service contracts
- Multiple stocking locations ensure fast and reliable spare parts availability
- Approved, original spare parts direct from Rittal



Service customized to your needs.

Rittal service plans are as flexible and individual as your requirements, offering tailored service agreements that guarantee all the benefits of lifecycle management for long-term security. You can select from four packaged service plans or customize one to fit your needs.

Our plans provide more security for your Rittal products. As you preserve the value of your equipment, you can also receive a guaranteed response time for a technician on-site. Spare parts are stocked, and costs are fixed and established. Extended warranties are also available for up to five years.

	Availability	Response time	Spare parts availability	Maintenance	Warranty extension
Basic	Office hours	Next working day	Standard	1x/year	Optional
Comfort	Office hours	Confirm request/ schedule service next day	Standard	2x/year	Optional
Advanced	24 hours 365 days a year	Next day	24 hours	2x/year	Yes
Full	24 hours 365 days a year	8 hours	Individual concept	Individual (min. 2x/year)	Yes

Contact Us

We're available to serve.



800-477-4000 (option 3)

This is your direct line to our service department. Whenever, wherever and however you need us, we are available to offer you assistance! Simply give us a call, send an email (service@rittal.us) or visit our website (rittalenclosures.com/services) to get in touch. Fast, simple and reliable.

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Rittal Corporation, trusted worldwide for the quality of our products, has set a new standard for service. We can help you Plan, Build, and Operate your Rittal solution. Rittal Service is dedicated to maintaining your satisfaction with our products today, and for all your installations in the future.

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