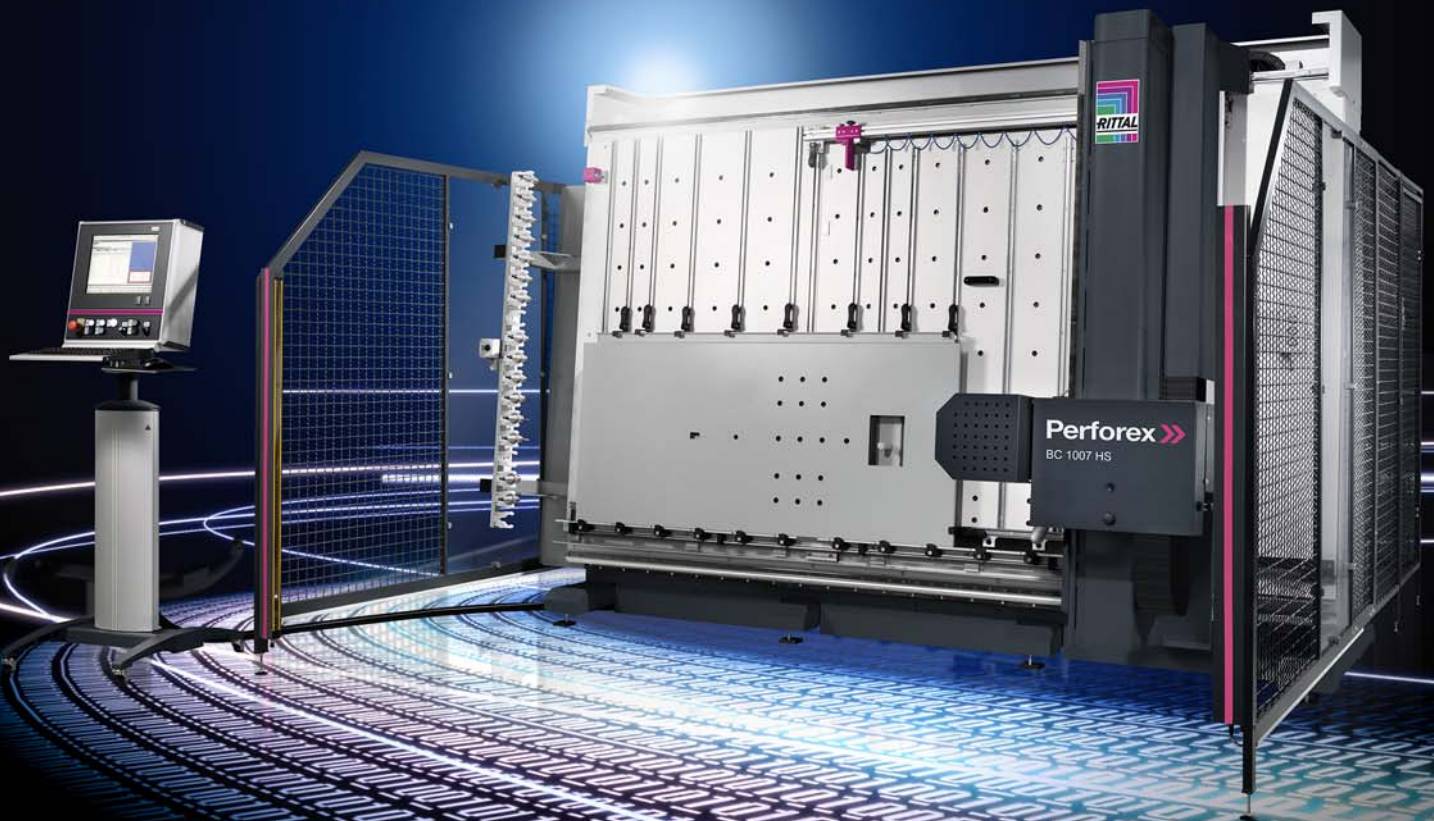


Rittal – The System.

Faster – better – everywhere.

▶ Rittal Automation Systems Do more, improve quality, increase revenue

The Rittal Automation Systems business unit with its portfolio of services supports all process stages in control and switchgear engineering. From manual tools through to fully automated systems, find your customised solutions for process-optimised workshop operations.



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Cutting machine C8

The C8 length-cutting machine is sure to impress with its simple, reliable handling. Wires with up to 8 mm or 10 mm² diameter may be cut to an individually set length, ensuring more efficient operating processes. Additionally, excellent repetition accuracy is guaranteed thanks to the precise servo DC drive. Cutting jobs from the cutting machine can also be managed, documented and transmitted with a PC via a USB interface.

Scope of supply

- Cutting machine C8
- Software on CD-ROM
- power pack

- Simple opening of the feed rollers
- 0.08 – 10 mm² (round conductor)

- Jobs are easily programmed and executed with an integrated operating terminal
- EPLAN Pro Panel interface

- Controllable pressing force of the feed rollers



- Simple insertion of the wires



- Optional accessories for convenient removal and dispensing of cables and wires

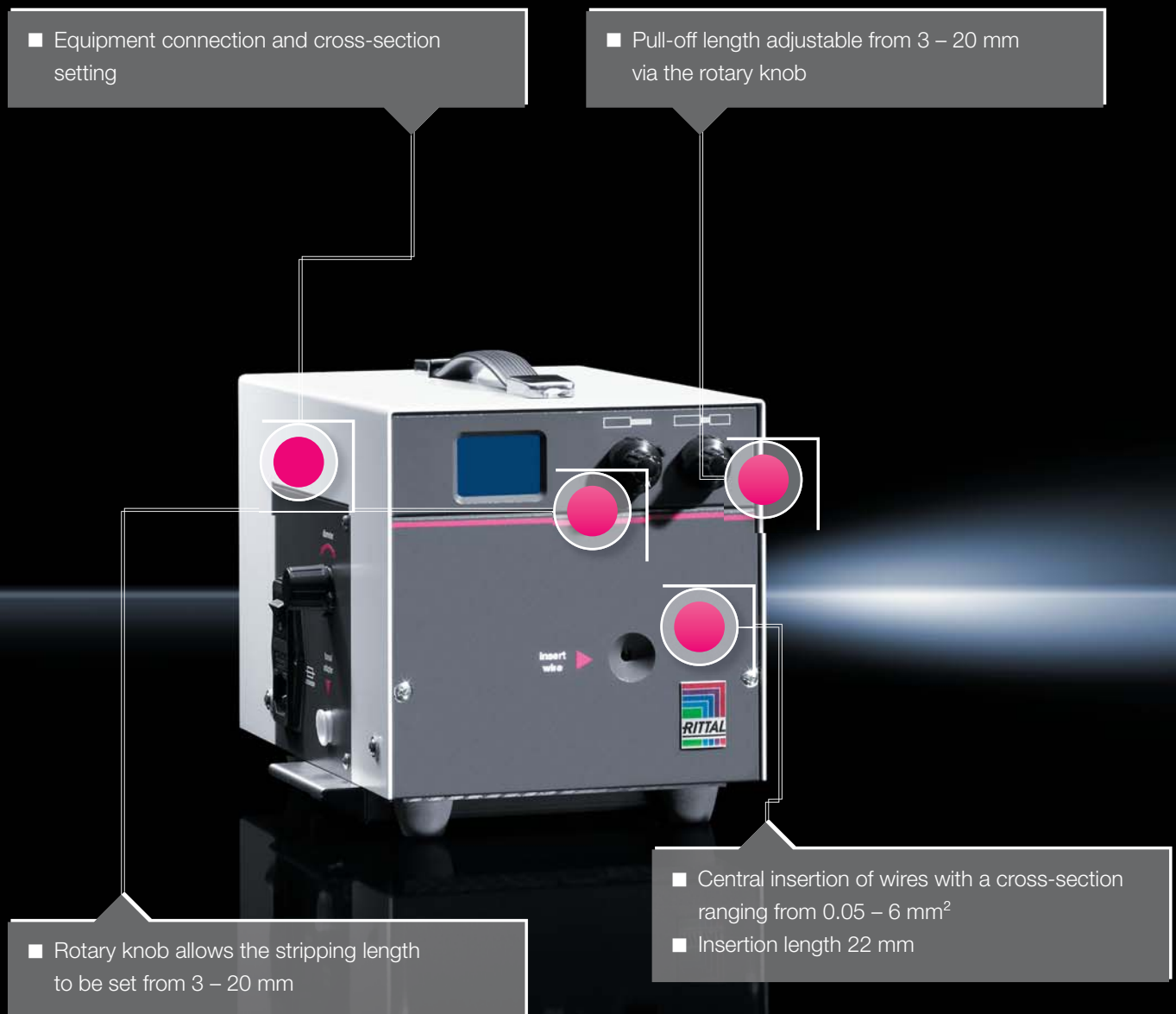
Item name	Model No.
Cutting machine C8	4050.450

Stripping machine S22

The stripping machine S22 is electrically driven. It ensures accurate, careful stripping of the insulation from your wires. The draw-off and stripping length is set with linear control. The stripping machine also features a pre-integrated spare blade inside the enclosure. You benefit from the running total counter and daily counter, which are easily read from the touch display.

Scope of supply

- Stripping machine S22
- Mains connection cable



Item name	Model No.
Stripping machine S22	4050.451

Crimping machine L8 and R8

Electropneumatically 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.

Scope of supply

- Crimping machine L8
- Oscillating conveyor (2 pcs.)
- Mains connection cable

Scope of supply

- Crimping machine R8
- Mains connection cable

- Wire cross-sections from 0.5 to 2.5 mm² can be machined
- Automatic detection of cross-sections
- Handling of special wires supported
- UL-certified crimping in conjunction with wire end ferrules from Rittal

- Simple filling and processing of loose wire end ferrules

- User-friendly menu prompting via touch display



Item name	Model No.
Crimping machine L8	4050.452

Item name	Model No.
Crimping machine R8	4050.453

Assembly frames

When it comes to the automation and rationalisation of processes throughout every stage of machining, assembly, wiring and testing of enclosures, we have the right ergonomic solution for you. Our assembly frames are mobile, tiltable and (depending on the version) height-adjustable frames for machining mounting plates and enclosures. All types offer simple, variable fixing of mounting plates using quick-release fasteners, are independent from the mains power, and take up minimal space when not in use. For easier handling of enclosure panels, we additionally offer the storage and transport trolley LT 1000.



Numerous adaptation options available:

- Widening to 1900 mm
- Wire routing
- Wire reel holder
- Reel track for side insertion of mounting plates

More options from page 73

■ Tilt-adjustable and optionally height-adjustable for ergonomic, effective, time-saving construction, wiring and testing of mounting plates or complete enclosures

■ Simple handling due to four castors including total lock function

Item name	Assembly frame 150 MN	Assembly frame 200 EN	Assembly frame 300 ENH
Adjustment range	Infinitely adjustable from the vertical to the horizontal using a crank handle	Infinitely adjustable tilt angle via battery-powered electric motor	Infinitely adjustable height and tilt angle via battery-powered electric motor
Working height	1 m	0.90 m	0.80 – 1.10 m
Tilt adjustment	approx. 0 – 80°	approx. 0 – 80°	approx. 0 – 80°
Dimensions (W x D) mm	1400 x 1250	1400 x 1250	1400 x 1250
Clampable workpieces (W x H) mm	min. 1110 x 1250 max. 1110 (1900) x 1900	min. 1110 x 1250 max. 1110 (1900) x 1900	min. 1110 x 1250 max. 1110 (1900) x 1900
Max. support load	150 kg	200 kg	300 kg
Model No.	4050.150	4050.200	4050.300

LT 1000 storage and transport trolley



■ Individually adjustable thanks to height-adjustable supports

■ User-friendly transportation through the workshop on castors

■ Eight wide compartments for effortless storage and transportation of enclosure panels

Technical specifications

- Support surface W x D 1000 x 1000 mm
- Height 1500 mm
- Max. load capacity 500 kg

Item name	Model No.
LT 1000 storage and transport trolley	4050.000

Practical and mobile

Functional trolley

The functional trolley is a veritable multi-talent. Whether for transporting materials and tools to the installation site or for commissioning, the functional trolley is perfectly suited for assembly technicians and service personnel.

The refined system with its fold-out concept is the ideal solution when you are on the road, and its compact dimensions mean it can be transported by car.



Item name	Model No.
Functional trolley	4050.130

■ Surface suitable for computer mouse



■ Made from V2A stainless steel for robustness and durability



■ Converts from a transport function to a desk by simply unfolding

Screwdriver

Material: Blade: Chrome-molybdenum-vanadium alloy; Handle core: Hard plastic; Handle body: Elastic, highly flexible plastic. **Colour:** Handle - Anthracite and Rittal pink



Screwdriver set

insulated

Multi-part screwdriver set. With a long, slender handle and high-performance tips with non-transfer insulation.

Benefits:

- Minimal force required, thanks to ergonomically styled handle
- Handle head with anti-roll protection and clear screw labelling
- Black coated blade tip to preserve precision and accuracy of fit
- Handle 30% and insulation up to 50% slimmer than comparable tools

Supply includes:

- Set with 5 screwdrivers

Standards:

- IEC 60 900

Approvals:

- VDE
- Tested safety GS

Blade tip	Packs of	Model No.
SL 3 x 0.5 mm SL 4 x 0.8 mm SL 5.5 x 1 mm PH 1 PH 2	1 pc(s).	4052.210
SL 3 x 0.5 mm SL 4 x 0.8 mm SL 5.5 x 1 mm PZ 1 PZ 2	1 pc(s).	4052.211
SL 3 x 0.5 mm SL 4 x 0.8 mm PH 1 PH 2 Z 2	1 pc(s).	4052.212



Screwdriver set

uninsulated

Multi-part screwdriver set.

Benefits:

- Minimal force required, thanks to ergonomically styled handle
- Handle head with anti-roll protection and clear screw labelling
- Black coated blade tip to preserve precision and accuracy of fit

Approvals:

- Tested safety GS

Blade tip	Product-specific scope of supply	Packs of	Model No.
SL 3.5 x 0.6 mm SL 6.5 x 1.2 mm PZ 1 PZ 2 PH 1 PH 2	6-part set	1 pc(s).	4052.200
PH 1 PH 2 TX 15 TX 20 TX 25 TX 30	6-part set	1 pc(s).	4052.201
TX 10 TX 15 TX 20 TX 25 TX 30	5-part set	1 pc(s).	4052.202



Interchangeable screwdriver set

uninsulated

13-piece tool set with comfortable, foldable, lockable handle.

Technical specifications:

- PH 1 - SL 4 x 0.8 mm
- PH 2 - SL 4 x 0.8 mm
- PZ 1 - SL 5 x 0.8 mm
- PZ 2 - SL 6 x 1 mm
- PZ 3 - SL 7 x 1.2 mm
- TX 6 - TX 7
- TX 8 - TX 9
- TX 10 - TX 15
- TX 20 - TX 25
- TX 30 - TX 40
- Hex socket 3 mm - hex socket 4 mm
- Hex socket 5 mm - hex socket 6 mm

Supply includes:

- Combined blade holder: Screwdriver and T handle
- 12 blades each with 2 tips
- Storage box

Blade length mm	Handle length mm	Handle dia. mm	Packs of	Model No.
160	105	39	1 pc(s).	4053.450



Cutting tools



Side cutter

For copper and aluminium conductors.

Benefits:

- Guarantees long-term stable cutting performance and a clean cut
- Ergonomically styled handles for fatigue-free, non-slip working

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink

For cable diameters mm	Length mm	Design	Packs of	Model No.
0.2 - 11	160	Straight	1 pc(s).	4054.600



Electrician's scissors

For cutting copper, aluminium, Kevlar and plastic.

Benefits:

- High cutting performance thanks to micro-serration in the cutting zone
- Ergonomically styled handles
- Two-component handle with anti-slip soft zone
- Adjustable screw joint

Material:

- High-quality special tool steel

Surface finish:

- Brushed

Colour:

- Handle: Anthracite and Rittal pink

For cable diameters mm	Length mm	Packs of	Model No.
0.1 - 3.7	160	1 pc(s).	4054.700



Cable cutter

For copper and aluminium conductors.

Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working

Material:

- High-quality special tool steel

Colour:

- Handle: Anthracite and Rittal pink



For cross-section mm ²	For cable diameters mm	Length mm	Design	Packs of	Model No.
0.5 - 35	12	160	Straight	1 pc(s).	4054.650
0.5 - 50	18	180	Angled	1 pc(s).	4054.660

Crimping pliers

Crimping pliers

for wire end ferrules

For use with wire end ferrules with no insulating collar to DIN 46228 Part 1 and wire end ferrules with insulating collar to DIN 46228 Part 4.

Benefits:

- Minimal effort required with large conductor cross-sections
- Uniformly high quality compression
- Marked die stations for precise machining of the relevant cross-sections
- Releasable ratchet

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink

Accessories:

- Wire end ferrules, see page 40

For cross-section mm ²	AWG	Direction of cable entry	Compression	Length mm	Design	Packs of	Model No.
0.25 - 6	24 - 10	Side	Trapezoid crimp	198	Angled	1 pc(s).	4054.000
0.5 - 6	22 - 10	Front	Square crimp	198	Angled	1 pc(s).	4054.001
10 - 25	8 - 4	Side	WM crimp	256	Straight	1 pc(s).	4054.004
35 - 50	2 - 1	Side	WM crimp	256	Straight	1 pc(s).	4054.008



Pliers

Slip-joint pliers

For width across flats 10 - 36 mm.

Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working
- Smooth cheeks avoid the usual damage caused by wrenches and pipe wrenches on screws/nuts
- QuickSnap ratcheting for fast adjustment to the workpiece with no push-button
- Robust box-joint

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink

Length mm	Packs of	Model No.
260	1 pc(s).	4054.900

Pliers



Combination pliers

Length mm	Packs of	Model No.
180	1 pc(s).	4054.800

With serrated gripping surface and integral ring spanner M8 to M10.

Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working
- Favourable transmission ratios for good holding and cutting performance
- Minimal force required

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink



Needle-nose pliers

Length mm	Packs of	Model No.
200	1 pc(s).	4054.850

With serrated gripping surface.

Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink



Electronic needle-nose pliers

Length mm	Packs of	Model No.
120	1 pc(s).	4054.860

With smooth gripping surface.

Benefits:

- Ergonomically styled handles for fatigue-free, non-slip working
- Even, smooth-running opening with opening spring

Material:

- High-quality special tool steel

Surface finish:

- Matt, plated

Colour:

- Handle: Anthracite and Rittal pink

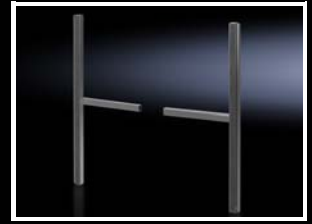
Accessories

for assembly frame

Assembly frame extension

To widen assembly frames 150 MN, 200 EN, 300 ENH to a maximum width of 1900 mm.

To fit Model No.	Product-specific scope of supply	Packs of	Model No.
4050.150/ 4050.200/ 4050.300	Assembly parts Assembly frame extension	1 pc(s).	4050.210



Wire reel holder

for assembly frame

For adapting wire reels or drums on assembly frame 150 MN, 200 EN, 300 ENH.

To fit Model No.	Packs of	Model No.
4050.150/ 4050.200/ 4050.300	1 pc(s).	4050.216

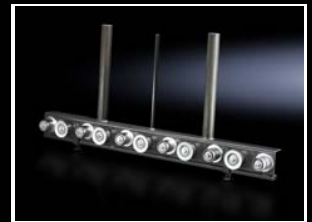


Roller conveyer

for assembly frame

For inserting the mounting plate sideways into the enclosure. To fit assembly frame 300 ENH.

To fit Model No.	Packs of	Model No.
4050.300	1 pc(s).	4050.220



Clamping unit

for assembly frame

For secure attachment of a mounting plate onto assembly frame 150 MN, 200 EN, 300 ENH.

To fit Model No.	For	Design	Product-specific scope of supply	Packs of	Model No.
4050.150/ 4050.200/ 4050.300	Mounting plate TS/SE	Top	1 clamping unit pack, top	1 pc(s).	4050.213
4050.150/ 4050.200/ 4050.300	Mounting plate TS/SE	Bottom	1 clamping unit pack, bottom	1 pc(s).	4050.214



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