Rittal – The System.
Faster – better – everywhere.

Busbar machining made easy
Automating enclosure manufacturing

**Work efficiently and ergonomically with busbars**

The product solutions in the CW-120 product series are designed for bending, punching and cutting busbars. Simple, flexible handling is guaranteed with the static units for busbar machining CW 120-S and the mobile copper workstation CW 120-M. Busbar machining is also far more efficient and ergonomic than manual processes. A range of optional accessories such as hydraulic cylinders and hole punches for machining sheet and stainless steel support the creation of round, square and rectangular cut-outs and special shapes.

- Bending busbars
- Cutting busbars
- Punching busbars
- Making cut-outs in steel and stainless steel e.g. for cable glands in gland plates
Making the entire enclosure manufacturing process more efficient, step by step

**Further optimisation with an eye on the future**

Rittal supports many manufacturing processes with a comprehensive portfolio of solutions, covering everything from manual tools to fully automated plant. A clear boost for your competitiveness.

<table>
<thead>
<tr>
<th>Machining</th>
<th>Fully automated milling or laser machining, plus machining of cable ducts and busbars.</th>
</tr>
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<tbody>
<tr>
<td>Assembly</td>
<td>Automatic manufacturing and component mounting of terminal strips</td>
</tr>
<tr>
<td>Wire processing</td>
<td>Professional, efficient solutions for wire machining and processing</td>
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<td>Solutions for the fully automated wiring of mounting plates</td>
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<tr>
<td>Tools</td>
<td>High-quality hand tools for professional use in industry and trade</td>
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<tr>
<td>Handling</td>
<td>Ergonomic, efficient handling systems for transport and lifting operations</td>
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**Note:**
This flyer only shows a few selected highlights from our comprehensive product range. The complete Rittal Automation Systems brochure, "We automate panel building", is available for downloading at www.rittal.com/ras
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**Busbar machining, mobile CW 120-M**

The Copper Workstation CW 120-M is ideal for bending, punching and cutting busbars. Cutting and bending up to a maximum width of 120 mm and a maximum thickness of 12 mm is supported. The integral precision laser facilitates the cutting and bending process. Generally speaking, round holes with a diameter of 6.6 – 21.5 mm and slots up to a maximum length of 21 mm and a width of 18 mm may be punched. The workstation is equipped with castors for mobile use in the workshop. The integral measuring unit also allows long busbars to be cut to the correct length. Four large drawers provide plenty of space for storing all your tools and documents. Additional tools for machining steel and stainless steel can be operated using the existing hydraulic connection as well as the 230 V electrical connection.

**Benefits**

- High level of bending and punching accuracy
- Simple tool changes
- Flexible workshop use
- All machine tools in one compact workstation

**Technical specifications**

- Dimensions W x D x H: 1380 x 945 x 1270 mm
- Machining surface W x D: 1211 x 811 mm
- Working height: approx. 974 mm
- Weight: 390 kg
- Voltage supply: 230 V/50 Hz
- Motor output: 2.2 kW
- Max. pressure: 700 bar
- Max. compressive force: 230 kN
- Max. machinable copper bars: 120 x 12 mm
- Machining range, round holes: Ø 6.6 – 21.5 mm
- Max. bending angle: 90°
- Max. slots L x W: 21 x 18 mm
- Smallest Z-bend: 72 mm (depends on the material thickness)
- Smallest side length: 50 mm

**Supply includes**

- CW 120-M busbar machining workstation
- Bending die
- Electric protractor
- Foot-switch

**Item name** | **Model No.**
--- | ---
Busbar machining, mobile CW 120-M | 4055.800

**Accessories**

<table>
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<tr>
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<td>Hydraulic cylinder</td>
<td>4055.806</td>
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<tr>
<td>Hydraulic hose, 3 m</td>
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<tr>
<td>Male die, round</td>
<td>4055.740 – 4055.750</td>
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<tr>
<td>Female die, round</td>
<td>4055.770 – 4055.780</td>
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</tr>
<tr>
<td>Male and female dies for slots and special accessories</td>
<td>4055.791</td>
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</table>
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Busbar machining, mobile CW 120-M

- Integral precision laser
- Pull-out measurement system up to 1200 mm for cutting to length, bending and punching (horizontally hinged)
- Electric protractor, mandrel R10, bending die, integral precision laser
- Pull-out side support extension for long copper bars
- System of drawers for tools and documents
- Copper waste is stored safely in an integrated system
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**Busbar bending and hole-punching unit CW 120-S**

The bending and hole-punching unit in the CW 120-S product series is ideal for bending and punching busbars. The punching function includes the option of creating round holes and slots. The integral precision laser marks the 0 point for easier guidance in the bending process. The carrying handles attached to both sides allow it to be moved to your preferred location.

**Benefits**
- Flexible and easy to use
- Simple tool changes
- High level of bending and punching accuracy
- Independent busbar machining

**Technical specifications**
- Dimensions W x D x H: 756 x 462 x 426 mm
- Machining surface W x D: 598 x 300 mm
- Weight: 63 kg
- Voltage supply: 230 V/50 Hz
- Max. pressure: 700 bar
- Max. compressive force: 227 kN
- Max. machinable copper bars: 120 x 12 mm
- Machining range, round holes: Ø 6.6 – 21.5 mm
- Max. slots L x W: 21 x 18 mm
- Smallest Z-bend: 72 mm
  (depends on the material thickness)
- Smallest side length: 50 mm
- Smallest U-bend: 100 mm

**Supply includes**
- Busbar bending and hole-punching unit CW 120-S
- Bending die
- Electric protractor

**Item name** | **Model No.**
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Busbar bending and hole-punching unit CW 120-S | 4055.700

**Also required**

<table>
<thead>
<tr>
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<tbody>
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<tr>
<td>Electro hydraulic pump</td>
<td>4055.720</td>
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**Machining example CW 120-S:**
- Bending
- Punching
Automating enclosure manufacturing

**Busbar cutting unit, static CW 120-S**

Busbars up to 120 x 12 mm can be cut to length with the busbar cutting unit CW 120-S. A precision laser permits accurate marking of the cutting point, while the additional ride-up rollers ensure simple handling of the busbars.

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**Technical specifications**

- Dimensions W x D x H: 238 x 318 x 372 mm
- Weight: 20.5 kg
- Voltage supply: 230 V/50 Hz
- Max. pressure: 700 bar
- Max. compressive force: 230 kN
- Max. machinable copper bars: 120 x 12 mm

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**Supply includes**

- CW 120-S busbar cutting unit, static

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<tr>
<td>Busbar cutting unit, static CW 120-S</td>
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<tr>
<td>Ride-up rollers for busbars</td>
<td>4055.714</td>
<td>9</td>
</tr>
</tbody>
</table>

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**Machining example CW 120-S: Cutting a busbar to length**
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**Electro hydraulic pump CW 120-S**

The electro hydraulic pump powers the CW 120-S group of tabletop units and the optional hydraulic cylinder. A 230 V connection is sufficient for operation. The side handles allow easy handling and are additionally used to hang up the connection cable.

### Technical specifications

- Dimensions W x D x H: 402 x 335 x 325 mm
- Weight: 29 kg
- Voltage supply: 230 V/50 Hz
- Max. pressure: 700 bar
- Max. delivery rate: 1.1 l/min
- Fill volume of tank: 3.0 l
- Operating volume: 2.2 l
- Noise emissions: 92 dB (A) at a distance of 300 mm

### Supply includes

- CW 120-S electro hydraulic pump, filled
- Hose with control cable for desktop units, 2 m
- Cable adaptor for foot-switch, 4-pin to 7-pin
- Accessories for filling and draining the pump

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<tr>
<td>Busbar bending and hole-punching unit</td>
<td>4055.700</td>
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</tr>
<tr>
<td>Busbar cutting unit, static</td>
<td>4055.710</td>
<td>7</td>
</tr>
</tbody>
</table>

Connection example CW 120-S: Electro hydraulic pump combined with the bending and hole punching unit, static

Machining example CW 120-S: Electro hydraulic pump combined with the cutting unit, static
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Accessories – busbar machining

Make use of our range of accessories and benefit from the many time- and labour-saving features, such as the ride-up roller for busbars, which facilitates easier handling of the busbars when inserting into the cutting unit, or the female die with neoprene ring, which prevents the die from bending in the workpiece and scrapes off the copper residue.

- Male and female dies for round holes
- Male and female dies for slots
- Ride-up roller for busbars
- Foot-switch
- Hydraulic hose

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<tr>
<td>6.6</td>
<td>4055.740</td>
<td>4055.770</td>
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<tr>
<td>9.0</td>
<td>4055.741</td>
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<td>9.5</td>
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<tr>
<td>14.0</td>
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<td>4055.776</td>
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<td>17.5</td>
<td>4055.747</td>
<td>4055.777</td>
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<td>18.0</td>
<td>4055.748</td>
<td>4055.778</td>
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<tr>
<td>21.0</td>
<td>4055.749</td>
<td>4055.779</td>
</tr>
<tr>
<td>21.5</td>
<td>4055.750</td>
<td>4055.780</td>
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</table>

- Ride-up roller for busbar  | 4055.714 |
- Foot-switch                | 4055.712 |
- Hydraulic hose, 3 m        | 4055.807 |

Note:
- For special accessories for making slots, please use Model No. 4055.791 for your enquiry.
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Hydraulic cylinder CW 120

The hydraulic cylinder is ideal for punching steel and stainless steel. In this way, it is possible to make round, square and rectangular cut-outs, as well as special shapes.

Technical specifications

- Dimensions: Ø 70 x 142 mm
- Weight: 2.5 kg
- Max. pressure: 700 bar
- Max. compressive force: 107 kN
- Maximum machinable sheet steel thickness: 3.0 mm
- Maximum machinable stainless steel thickness: 2.0 mm

Supply includes

- Hydraulic cylinder CW 120

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<td>Hydraulic cylinder CW 120</td>
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Note:

- The following may be used for operation.
  CW 120-M busbar machining workstation 4055.800
  CW 120-S electro hydraulic pump 4055.720

The product solutions in the CW 120 series, combined with the hydraulic hose 4055.807 and the hydraulic cylinder 4055.806, allow you to make cut-outs in steel and stainless steel.

Accessories: Hole punches for punching round, square and rectangular cut-outs, as well as special shapes, can be found on www.rittal.com
Business unit “Rittal Automation Systems”

Rittal automates enclosure manufacturing

The Rittal Automation Systems business unit broadens Rittal’s extensive portfolio of solutions for controlgear and switchgear engineering, by offering a comprehensive range of equipment for professional workshop operation. Alongside the potential efficiency gains from using assembly-friendly enclosure systems, an extensive range of system accessories and intelligent software solutions, there is also a growing focus on the automation of manual tasks. To accelerate individual production stages, Rittal Automation Systems offers a range of automation concepts which may be cost-effectively adapted to suit individual requirements and different sized companies. The product portfolio ranges from manual tools through to fully automated machining centres.
Rittal – The System.

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- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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