

# User report

Computers electronics



Clinching



|              |                                 |
|--------------|---------------------------------|
| Designation  | C-shaped stationary machine     |
| Type         | DFG 500/150 H in special design |
| Ident no.    | 00000082690                     |
| Serial no.   | 900012108                       |
| Manufactured | 06/2011                         |
| Order        | 583852                          |
| Number       | 1 piece                         |
| Other        |                                 |

## Task:

Joining of tin-plated and silver-plated copper power rail parts which will be installed in fuse-switches afterwards. The previous method needed to be replaced by a reliable process. Process reliability, electrical conductivity and simultaneous multiple clinching were the relevant requirements.

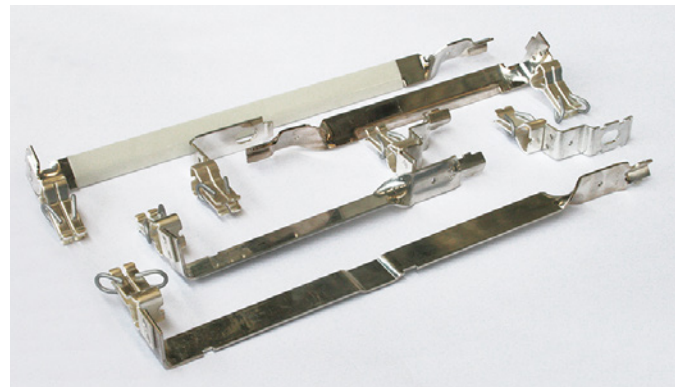
## Solution:

The CONFIX technique met all requirements and was applied. As there could be manufactured just one point on specific components we also used a CON-FIX point with a torsional securing device. Reliability of the machine technique as well as a stable, reliable and fully developed process ensure a smooth production, especially due to our online process monitoring system.

## Customer rating:

- fast response time in both sales and service
- reliable machine technology without malfunctions
- excellent process safety without malfunctions
- increase in quality due to process safety => less scrap and manual inspections due to the online process monitoring

|                 |   |
|-----------------|---|
| Component group | Power distribution components                     |
| Component       | Power rails<br>Feed brackets<br>Connection angles |
| Handling        | Stationary manual work station                    |

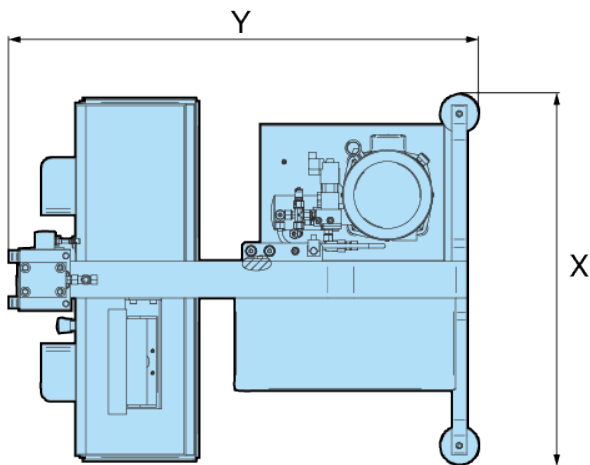
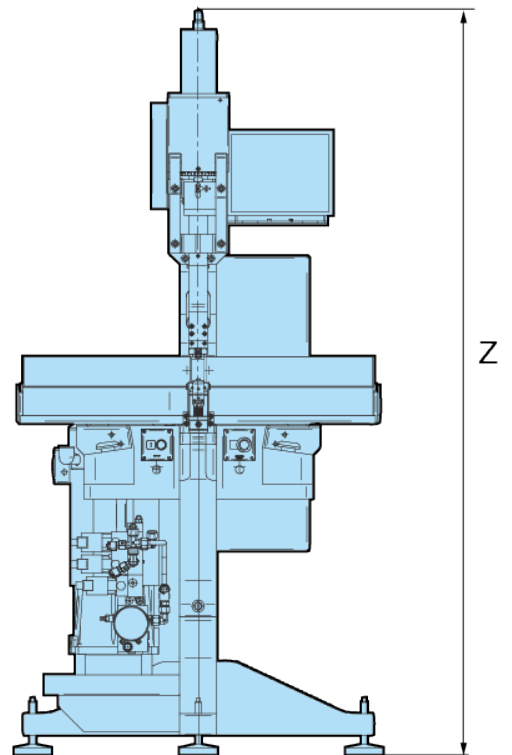
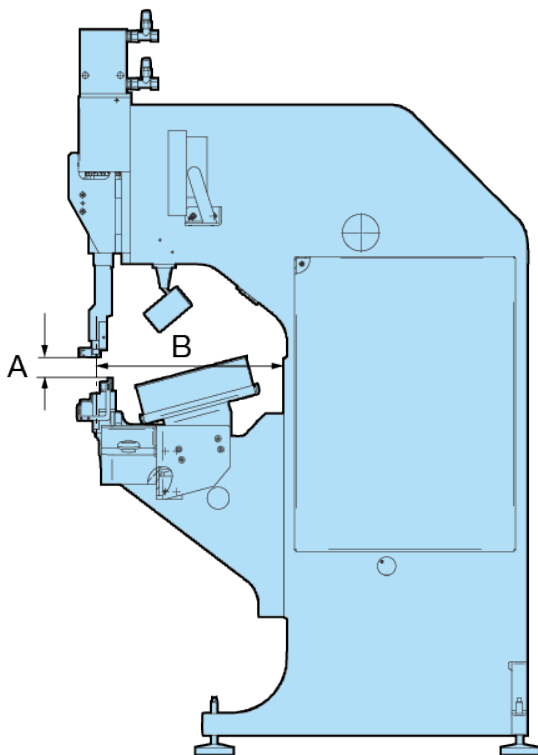


DFG 500/150 H

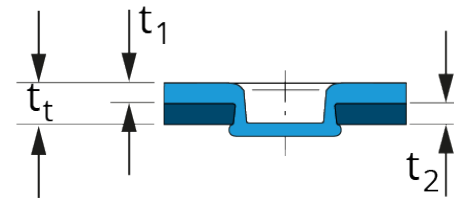
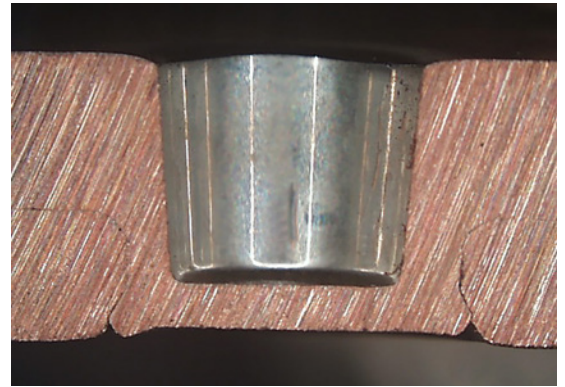


|                |                                    |
|----------------|------------------------------------|
| Name           | c-shaped stationary machine        |
| Type           | DFG 500/150 H<br>in special design |
| Ident no.      | 00000082690                        |
| Drive          | hydraulic                          |
| Pressure force | max. 150 kN at 500 bar             |
| Stroke length  | 100 mm                             |
| Connection     | 400 V / 3 Ph / 50 Hz               |
| Weight         | 1438 kg                            |

|                    |     |      |      |
|--------------------|-----|------|------|
| Opening width      | [A] | [mm] | 58   |
| Throat, horizontal | [B] | [mm] | 471  |
| Width              | [X] | [mm] | 1003 |
| Length             | [Y] | [mm] | 1275 |
| Height             | [Z] | [mm] | 2106 |

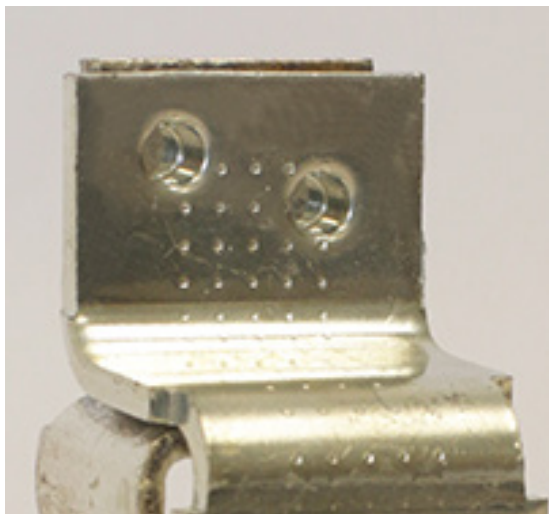
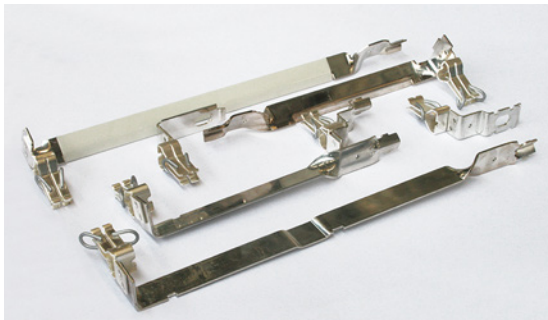


| Joining task               |       | 1                     | 2                     |
|----------------------------|-------|-----------------------|-----------------------|
| Clinching variant          |       | CONFIX                | CONFIX                |
| Component                  | $t_1$ | power rail            | power rail            |
| Material                   | $t_1$ | copper, silver-plated | copper, silver-plated |
| Punch side layer thickness | $t_1$ | 3.0 mm                | 3.0 mm                |
| Intermediate layer         |       | -                     | -                     |
| Component                  | $t_2$ | feed bracket          | connection angle      |
| Material                   | $t_2$ | copper, silver-plated | copper, silver-plated |
| Die side layer thickness   | $t_2$ | 2.5 mm                | 2.5 mm                |
| Number of clinching points |       | 2                     | 2                     |



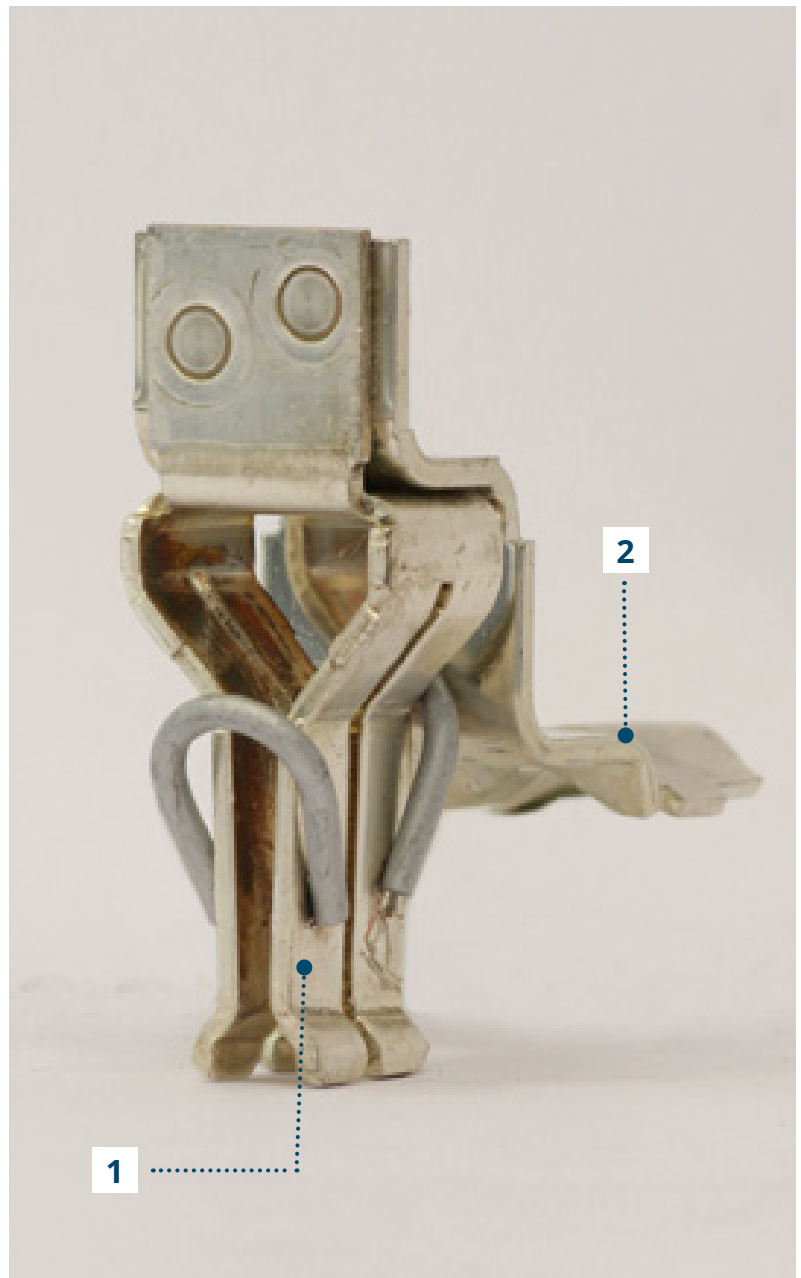
### Power distribution components

- 1 power rail
- 2 feed bracket / connection angle



### Note:

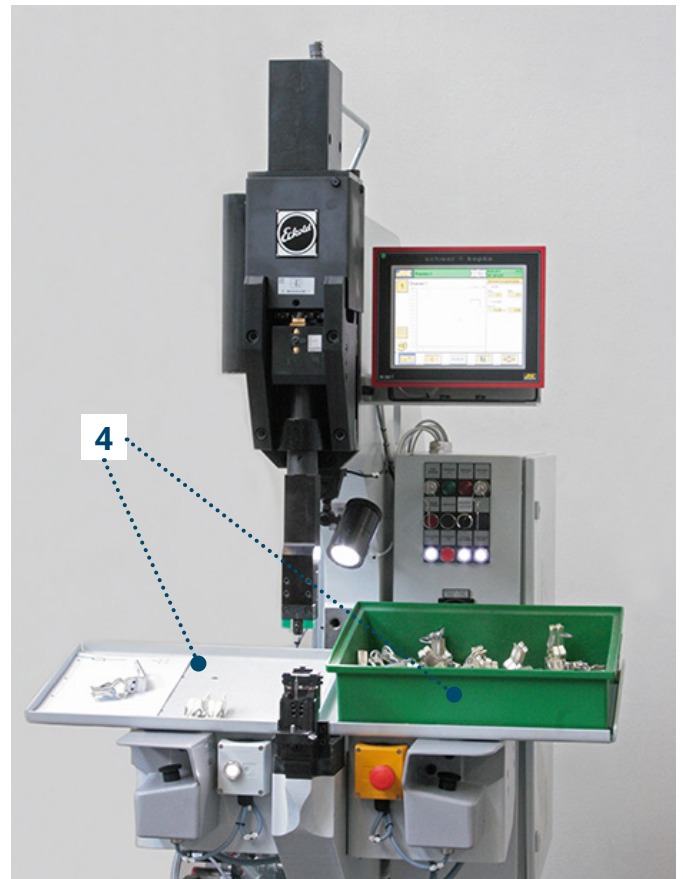
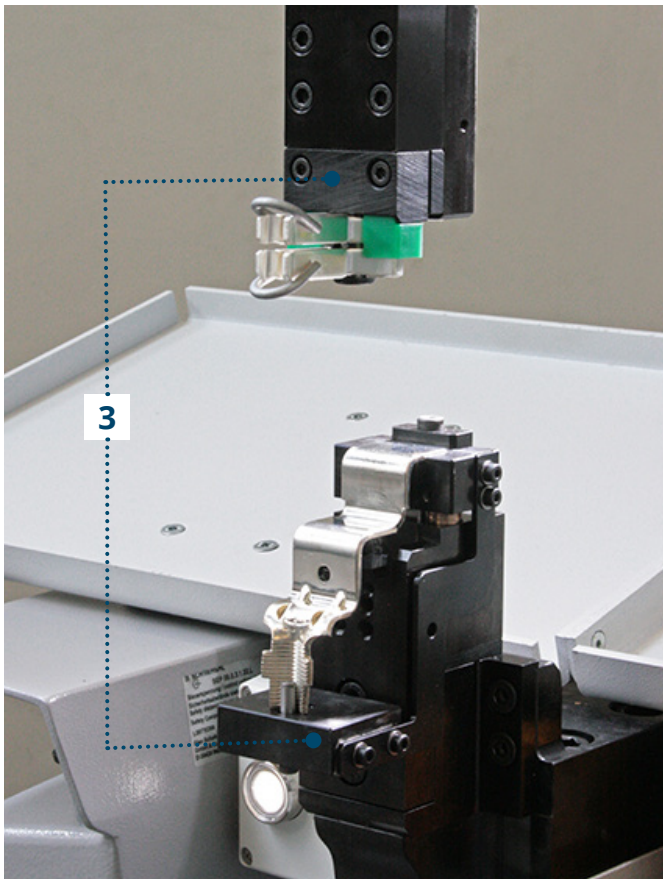
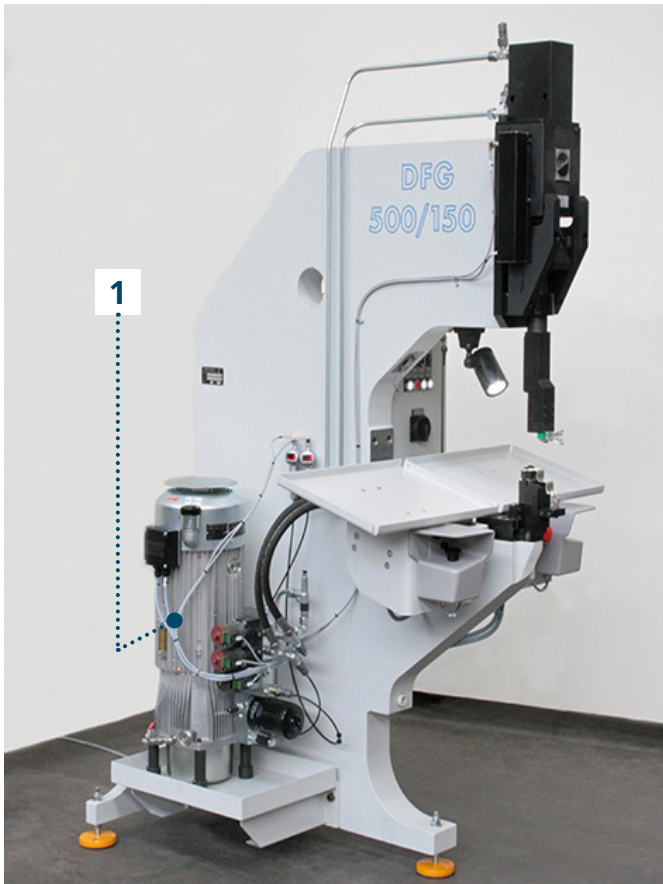
Manufacturing CONFIX joints the die side layer must be prepunched.





## Universal, sturdy machine technology

Choosing from a series of universal c-shaped stationary machines the customized machine is adapted to the individual requirements of our customers and provided with appropriate features.





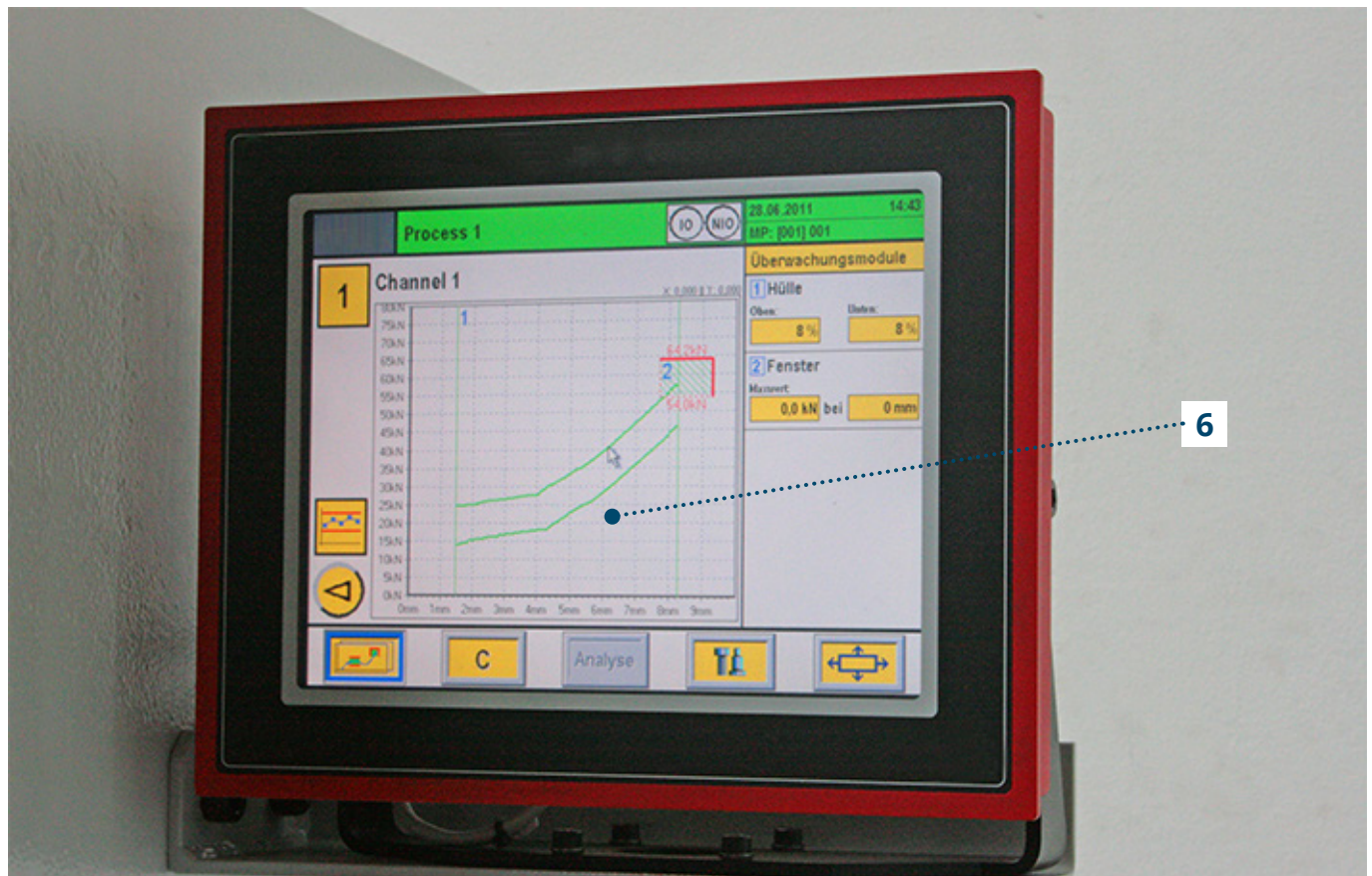
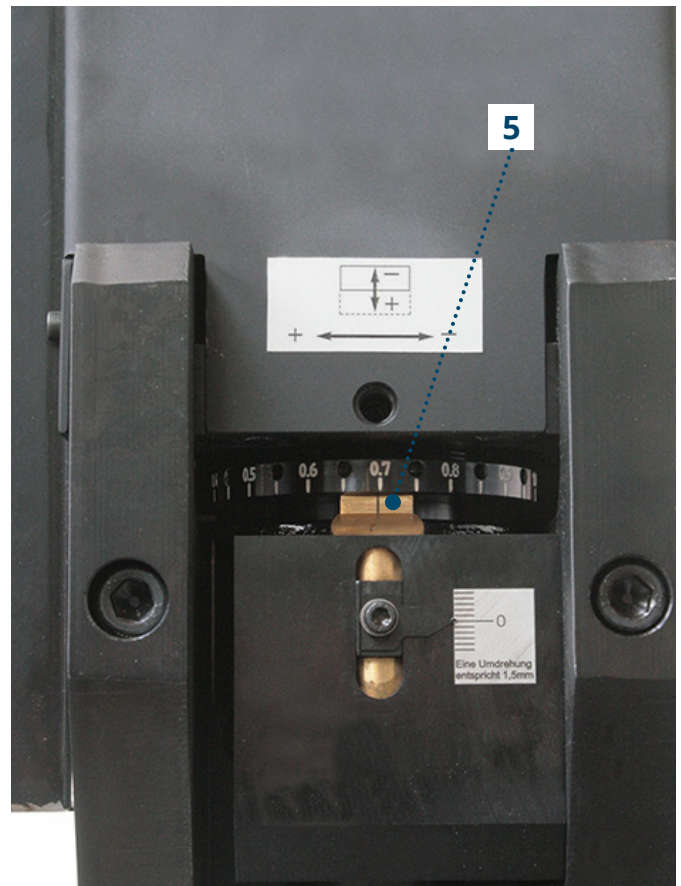
## Equipment adjusted to customers' requirements for an optimal series production

Manual work station in consideration of ergonomical requirements and safety aspects.

### Features:

- 1 hydraulic drive
- 2 two-hand safety control
- 3 interchangeable tool holders
- 4 component storage surface
- 5 adjustable stroke limitation
- 6 visualisation of online process monitoring

The process monitoring system is based on a force/displacement measurement. The results are visualised via envelope or window method on a touch screen. 16 measurement programmes can be saved.



### Trading successful for over 80 years

Since our company was established in 1936 by Walter Eckold, the only aspect of our business not to change from that year to this has been our commitment to our customers. Our priority remains to provide our customers with economical and environmentally viable cutting edge technological solutions to their ever changing manufacturing processes.

During our 80 years of trading we have amassed a knowledgeable highly skilled engineering workforce in our specialist areas of shaping and joining sheet metal. These specialist skills enable us to quote from one off standard pieces of equipment to fully tailor-made automated robotic systems. A full range of all our specialist techniques can be found in all sheet metal, craft and industry work-places. Join with us, the successful sheet metal experts, to shape your future metalworking solutions.

### Service from A to Z

- Test runs and analyses for customers
- Production of sample sheets / workpieces
- Feasibility studies for tool dimensioning
- Process planning and implementation of technical solutions
- Production at own factory
- Commissioning at customer premises
- Routine maintenance service
- Customer support for process optimisation
- – Assistance in teach-in process for robot positions
- – Production of microsections / assessment of clinching point quality
- – Online support
- Continuous assistance from commissioning to SOP
- Training of operators / maintenance technicians / machine experts

### Facts & figures

- Founded 1936
- Products in operation in more than 100 countries
- More than 25 sales partners worldwide
- Sales offices in Great Britain, Hungary, USA, Switzerland, Japan and the Czech Republic
- Certified according to ISO 9001:2015



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