

# User report

Windows, doors, gates



Clinching



Designation	Clinching frame with hydraulic drive unit
Type	DFB-1313 / HA 510 DW
Ident no.	00000099323 / 10000022795
Serial no.	900021955 / 900021957
Manufactured	2021
Order	594037
Number	1 piece
Other	

Component group	Sectional doors
Component	Door rails
Handling	Manual workstation



## Task:

The sheet thicknesses of components in roller and sectional door production require joining technologies with robust machines. Sturdy and easy-to-use machines combined with a reliable joining technology have to support the production of door rails durably and also have to guarantee a firm handle and accurate guiding.

## Solution:

The parts of the required door rails in various designs are joined by a portable, hand-held clinching frame, using the ECKOLD clinching type G-DF. The clinching type G-DF with its fixed die and robustness is the ideal option for this task. The clinching frame is driven by a standardised hydraulic drive unit.

DFB-1313 / HA 510 DW



## Customer rating:

- Good consulting
- Sturdy design
- Easy handling and maintenance

Name	Clinching frame
Type	DFB-1313
Ident no.	00000099323
Drive	Hydraulic
Pressure force	max. 98.5 kN at 500 bar
Max. stroke length	60 mm
Gap	58 mm
Throat, horizontal	90 mm
Weight	Approx. 70 kg

Name	Hydraulic drive unit
Type	HA 510 DW
Ident no.	10000022795
Operating pressure, flow	30 - 500 bar, adjustable
Operating pressure, return	150 bar, non-adjustable
Max. pressure	530 bar
Oil pump	2.6 l/min.
Connection system load	Pioneer screw coupling
Power supply	380 - 420 V / 3 Ph / 50 Hz
Power rating	3.1 kW
Rated current	7.1 A
Weight	Approx. 142 kg



## Clinching frame for the production of door rails for roller and sectional doors

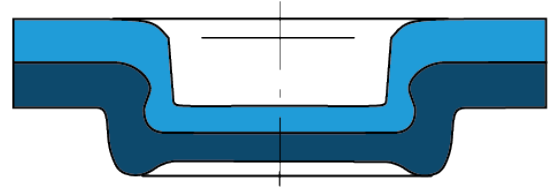
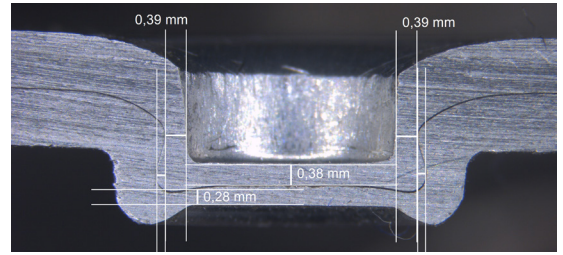
The components are joined by a portable, hand-held clinching frame. The suspension is ideally carried out by using a spring balancer. The stroke is released by a two-hand safety control.





Joining task

	1	2	3
Clinching type	G-DF 10	G-DF-10	G-DF-10
Component	t <sub>1</sub> Door rail	Door rail	Door rail
Material	t <sub>1</sub> Steel, galv.	Steel, galv.	Steel, galv.
Punch-side layer thickness	t <sub>1</sub> 2.00 mm	1.50 mm	2.00 mm
Intermediate layer	-	-	-
Component	t <sub>2</sub> Frame	Retaining plate	C-rail
Material	t <sub>2</sub> Steel, galv.	Steel, galv.	Steel, galv.
Die-side layer thickness	t <sub>2</sub> 2.00 mm	1.50 mm	2.00 mm
No. of clinching points	1/stroke	1/stroke	1/stroke



Door rail 1



Door rail 2



Door rail 3



## G-DF is the ideal choice

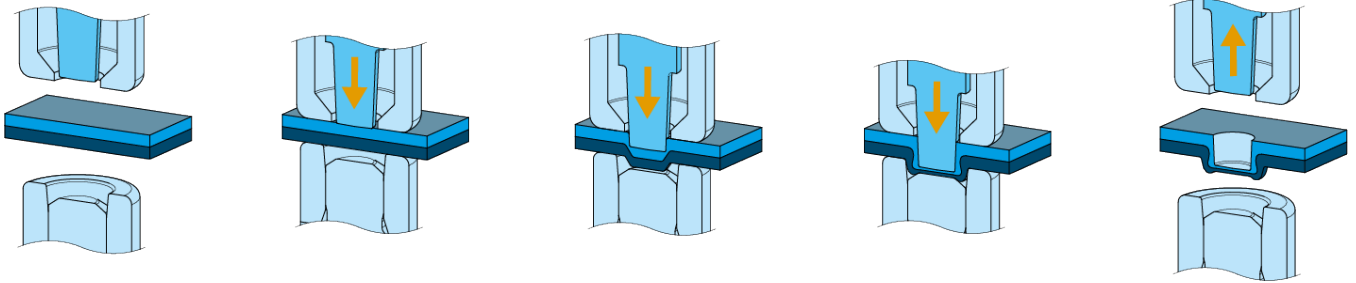
ECKOLD offers various clinching types with different characteristics and advantages, depending on the application. In this case our customer opted for the clinching type G-DF, a sturdy joining technology with high holding forces. The robust and resistant clinching tools are the ideal option for good results even if inclined positions can be expected, caused by the manual operation.

### Characteristics G-DF:

- Round clinching element
- Clinching without partial cutting => workpieces at punch side and at die side are not cut
- Fixed die
- Shear strengths independent of direction of force

### Advantages G-DF:

- Fluid-tight joint (media: gases, liquids)
- Available joining tools with a die-side element diameter of 4, 6, 8, 10 and 12 mm
- Particularly recommended for workpieces of different forming behaviour
- Minimum workpiece deformation/warping



## Trading successful for over 85 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 von A-Z

- Tests and analyses for our customers
- Creation of sample sheets/components
- Preparation of feasibility studies for the design of moulds
- Concept development and constructive realisation of the technical solution
- Production in our own factory
- Commissioning at the customer's premises
- Carrying out regular maintenance
- Support with optimisations in the customer's process
  - Support with the robot position teaching process
  - Creation of micrographs / evaluation of clinching point quality
  - Online support

Start-up support after commissioning up to SOP

Training of system operators/maintenance staff/experts

### Data and facts

- Founded in 1936
- Products in use in over 100 countries
- Over 25 sales partners worldwide
- Sales companies in Great Britain, Hungary, USA
- Certified according to ISO 9001:2015
- Certified according to ISO 14001:2015



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