User report

White goods industry

Clinching

Designation	Clinching frame
Type	DFB-315 / DFB-316
Ident no.	00000043678 • 00000043672 / 043673
Serial no.	1946/5449 - 1947/5555 (DFB-315) 1948/5556 - 1948/5557 (DFB-316)
Manufactured	02/2002
Order	522844
Number	7 pieces of DFB-315, 2 pieces of DFB-316
Other	

Task:

One challenge was to join the colour-coated sheet metal of the housing with the galvanised stiffeners in the back. Furthermore an alternative joining method should replace the previously used welding technique in the whole production line.

Solution:

After extensive preliminary trials the decision was made for the ECKOLD clinching technique. The proven clinching type R-DF turned out to be the ideal solution. Especially when joining coated components the clinching technique is used, as other joining methods are reaching their limits. Furthermore clinching is a truly clean joining method without hazardous fumes, weld spatters or thermal stress at the joining point. In addition, the conversion to the clinching technique resulted in an optimisation of the production costs.

DFB-315 / DFB-316

Customer rating:

- reliable machine technology without malfunctions
- excellent process safety without malfunctions
- trusting cooperation

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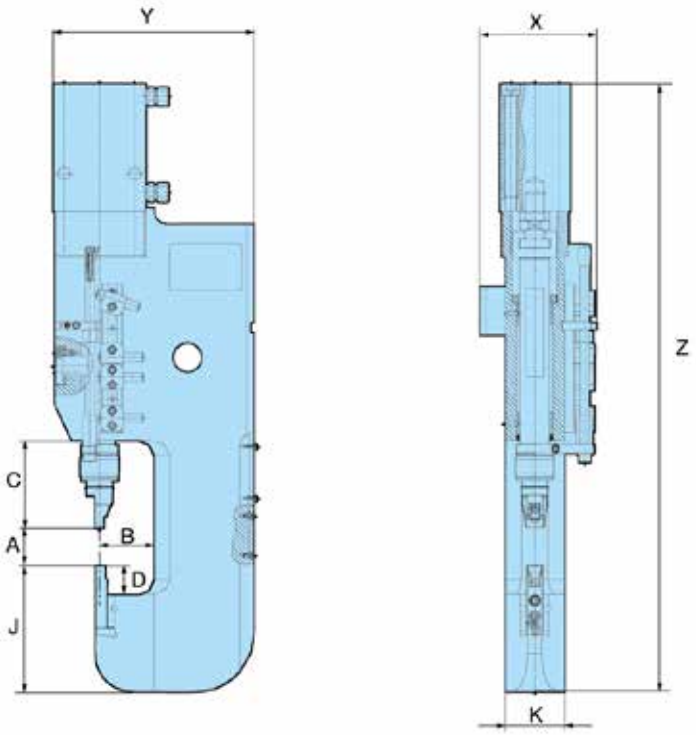
ECKOLD®
The sheet metal connection

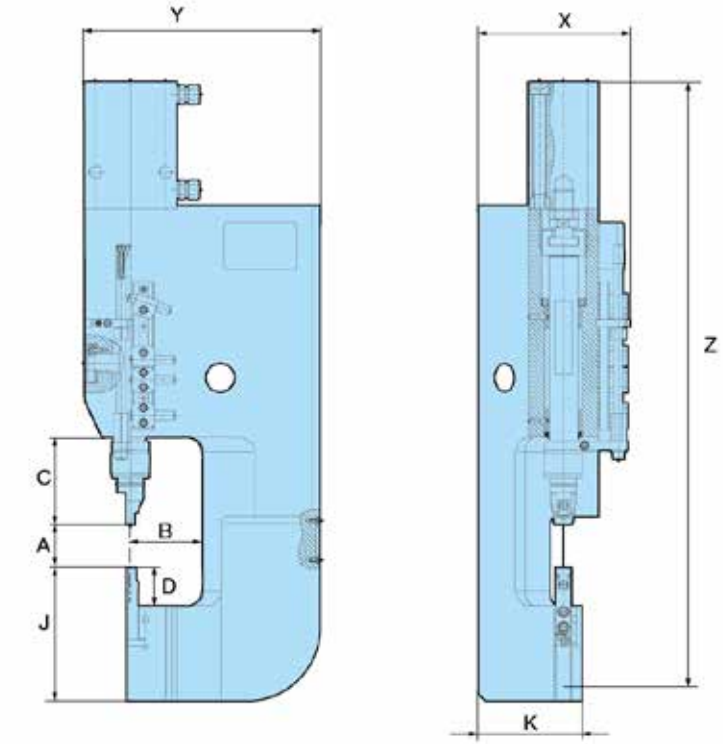
Name	clinching frame	clinching frame
Type	DFB-315	DFB-316
Ident no.	00000043678	00000043672/43673
Drive	hydraulic	hydraulic
Pressure force	53 kN / 500 bar	53 kN / 500 bar
Stroke length	63 mm	63 mm
Feature	double-acting	double-acting
Weight	90 kg	153 kg

Type			DFB-315	DFB-316
Opening width	[A]		50	58
Throat, horizontal	[B]	[mm]	73	97
	[C]	[mm]	118	118
Protrusion	[D]	[mm]	40	52
Frame end height	[J]	[mm]	170	180
C-frame width	[K]	[mm]	80	139
Width	[X]	[mm]	225	267
Length	[Y]	[mm]	268	317
Height	[Z]	[mm]	818	839

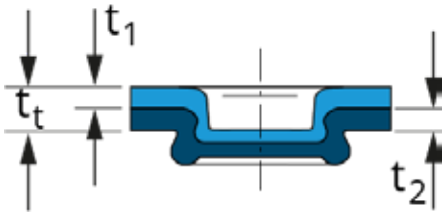
DFB-315



DFB-316



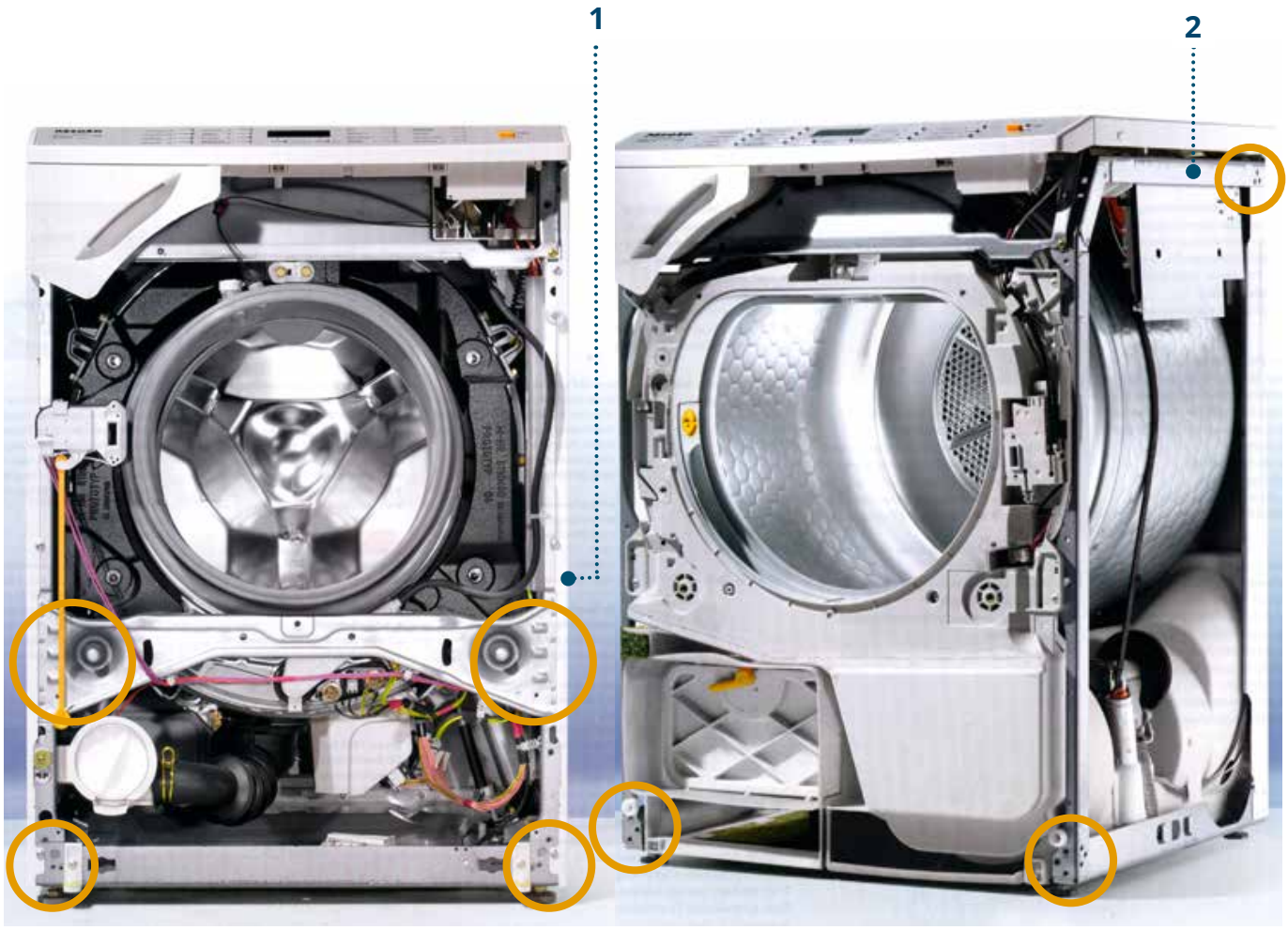
Joining task		1	2	3
Clinching frame (type)		DFB-315	DFB-316	DFB-316
Clinching variant		R-DF 8	R-DF 8	R-DF 8
Component	t_1	housing	frame	frame
Material	t_1	DX53D+ZA 130-A-GL	DX53D+ZA 150-B-O	DX53D+ZA 150-B-O
Punch-side layer thickness	t_1	1.25 mm	1.00 mm	1.00 mm
Intermediate layer		-	-	-
Component	t_2	frame	housing	housing
Material	t_2	DX53D+ZA 130-A-GL	DX53D+ZA 130-A-GL	DX53D+ZA 130-A-GL
Die-side layer thickness	t_2	1.50 mm	1.25 mm	1.25 mm
Number of clinching points				



Creation of frames

1 housing
2 frame

Note:
The challenge was to join coated and galvanised sheet metals. The previously used welding technique should have been replaced in the whole production line.



Sturdy machine technology

The stationary clinching frames are integrated into a fixture of a production line. The components are moved by robots through the production line and thus through the clinching frames. The machines are driven hydraulically via a central unit. The solid construction ensures a very low incidence of malfunctions.

DFB-315

DFB-316

ECKOLD technics GmbH & Co. KG

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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