

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



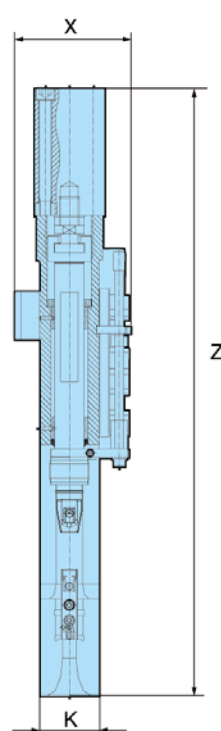
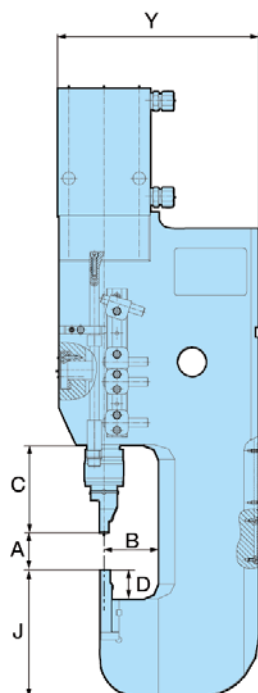
Customer rating:

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

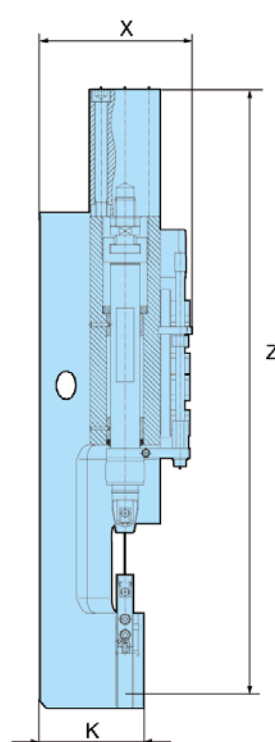
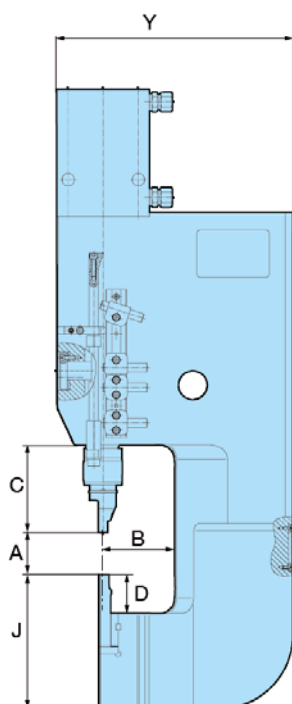
Name	clinchng frame	clinchng frame
Type	DFB-315	DFB-316
Ident no.	00000043678	00000043672/43673
Drive	hydraulic	hydraulic
Pressure force	53 kN / 500 bar	53 kN / 500 bar
Stroke length	63 mm	63 mm
Feature	double-acting	double-acting
Weight	90 kg	153 kg

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

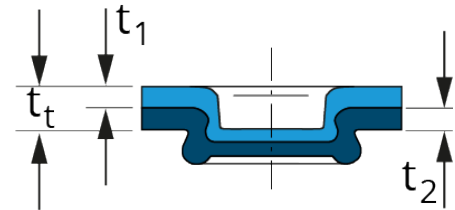
DFB-315



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				

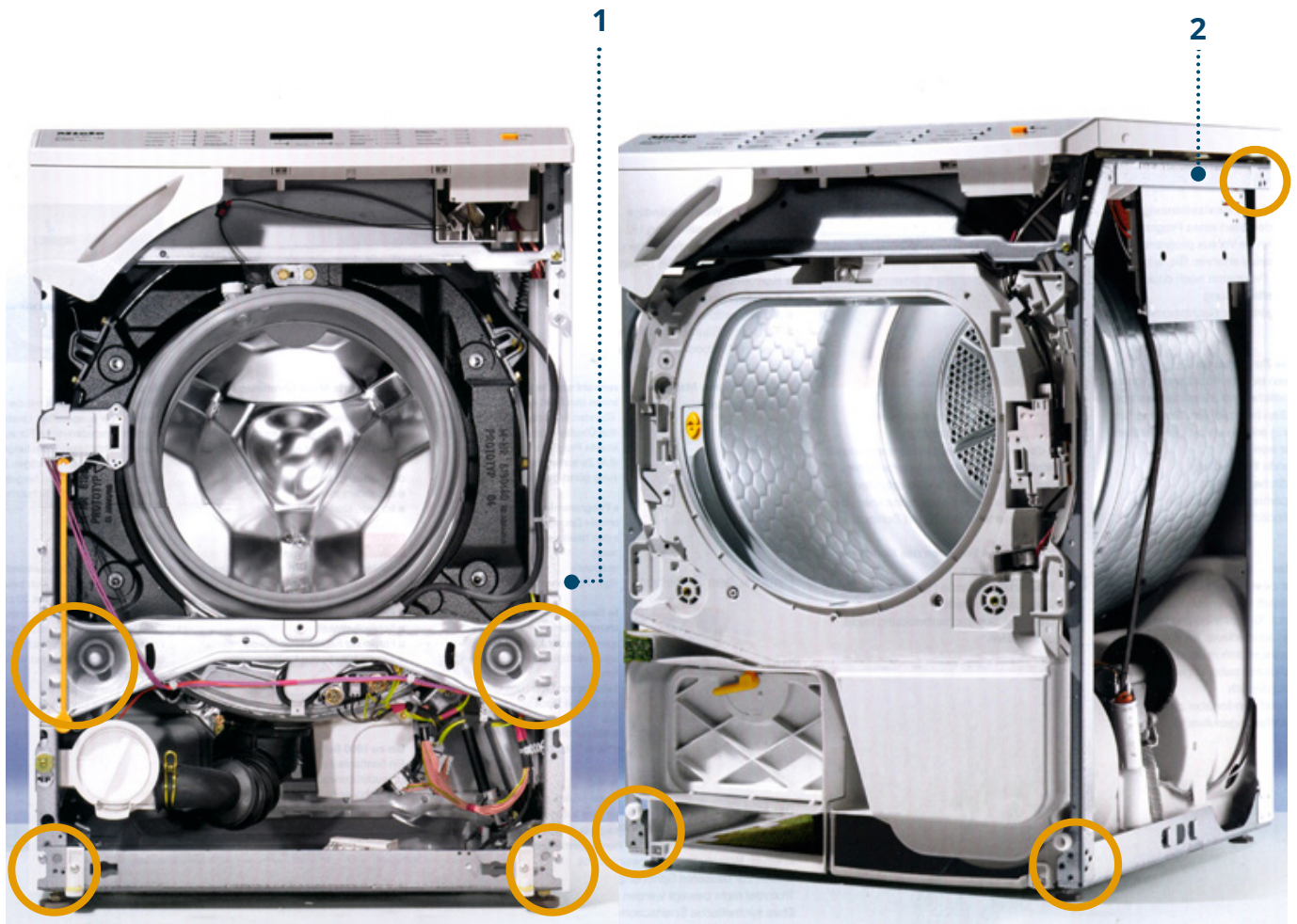


Creation of frames

- 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 GmbH & Co. KG

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



Eckold GmbH & Co. KG
Walter-Eckold-Str. 1
37444 St. Andreasberg
Germany
Tel.: +49 5582 802 0
Fax: +49 5582 802 300
www.eckold.de
info@eckold.de