

# User report

Plumbers, roofers



Forming



Name	Kraftformer
Type	KF 470 Medium
ID no.	10000005697
Year of manufacture	2017
Order	590644
Quantity	1 unit
Other equipment	

Client	Metallart Taubert
Location	Greiz (Germany)
Project	Berlin Palace
Purpose	Copper dome restoration
Start of project	2017
Completion of project	06/2020
Official opening	17/12/2020

## Task:

Copper cladding of roof and dome of Berlin Palace. To cover the building, a huge range of individual elements have to be produced. There are window frames and sills, curved gutters, arched covers, etc, to be assembled and installed at heights between 35 and 70 m above ground. The diameter of the dome is around 25 m.



## Solution:

Given the scope and size of the project, it was simply impossible to machine the parts in situ on the roof where workers would have been exposed to the elements. That is why the engineers first devised a detailed plan so that most of the elements could be produced in the workshop before being assembled and installed on the roof. The final installation, fitting and trimming tasks on top of the building were performed with hand-held tools, such as the ECKOLD HZ 52.

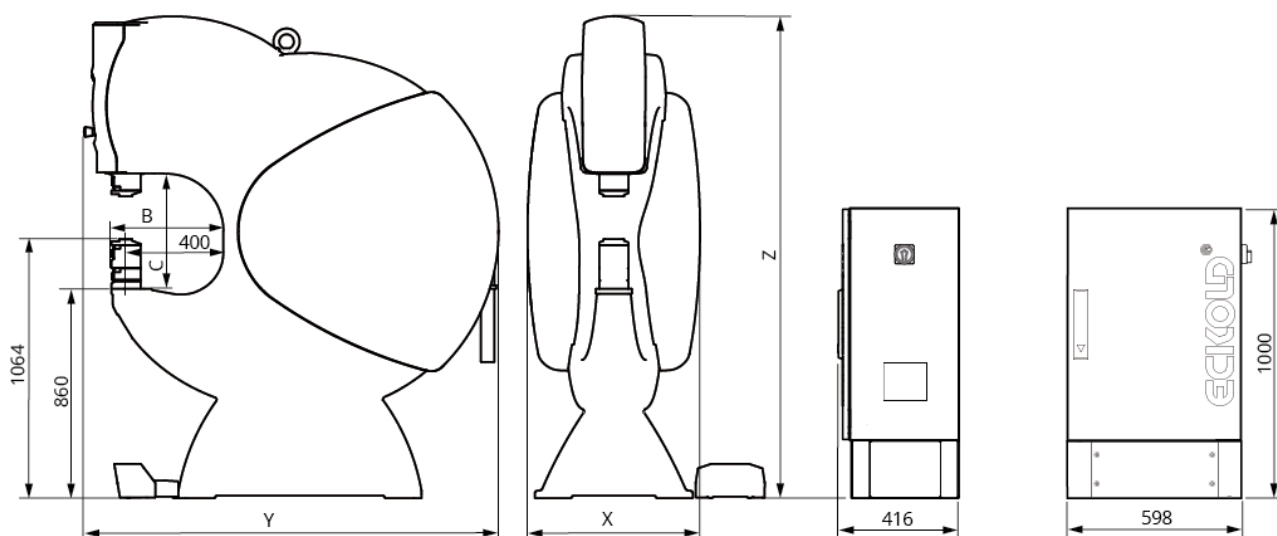
The ECKOLD Kraftformer units were equipped with ECKOLD forming tools for stretching and shrinking, doming and straightening. For the precision forming of the elements, special forming tools made to measure fitting the individual contours of the elements were used.

The hand-held pliers were fitted with stretching and shrinking tools featuring plastic contact faces to protect the surfaces of copper and light metal workpieces.

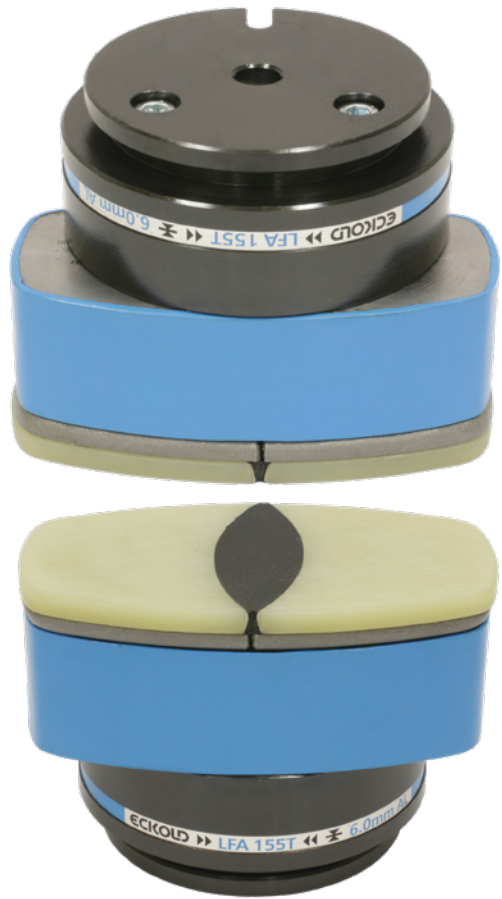
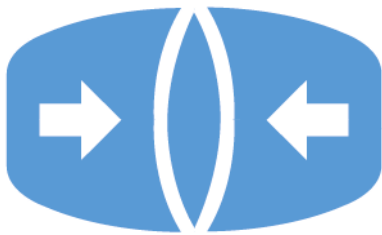


Name	Kraftformer
Type	KF 470 Medium
ID no.	10000005697
Drive system	Electric
Rated power	3.5 kW
Sheet metal thickness for forming	Steel ( $R_m = 400 \text{ mm}^2$ ) max. 3.0 mm Al ( $R_m = 250 \text{ mm}^2$ ) max. 4.0 mm Stainless steel ( $R_m = 600 \text{ mm}^2$ ) max. 2.0 mm
Weight of Kraftformer	~ 1300 kg
Weight of control cabinet	~ 62 kg

Ram adjustment	[A]	[mm]	60
Stroke		[mm]	8
Width (KF)	[X]	[mm]	709
Length (KF)	[Y]	[mm]	1706
Height (KF)	[Z]	[mm]	1980
Throat, horizontal	[B]		460
Throat, vertical	[C]		475

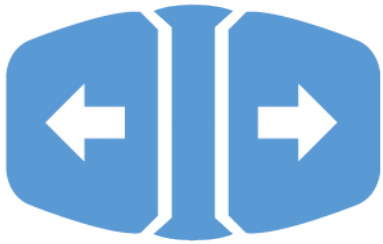


Designation	Forming tool
Type	LFA 155 T
Forming method	Shrinking
Special features	Plastic contact faces
suitable for	Light alloys and stainless steel
Sheet thickness	Steel ( $R_m = 400 \text{ mm}^2$ ) max. 4.0 mm
Sheet thickness	Stainless steel ( $R_m = 600 \text{ mm}^2$ ) max. 3.0 mm
Sheet thickness	Al ( $R_m = 250 \text{ mm}^2$ ) max. 6.0 mm

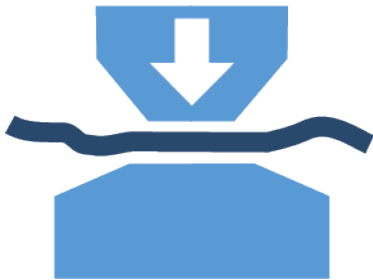


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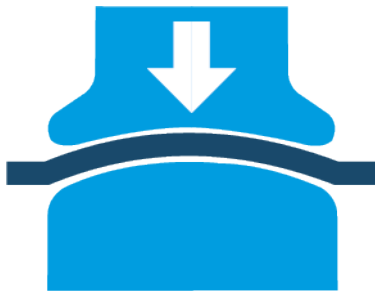
Designation	Forming tool
Type	LFR 155 T
Forming method	Stretching
Special features	Plastic contact faces
suitable for	Light alloys and stainless steel
Sheet thickness	Steel ( $R_m = 400 \text{ mm}^2$ ) max. 4.0 mm
Sheet thickness	Stainless steel ( $R_m = 600 \text{ mm}^2$ ) max. 3.0 mm
Sheet thickness	Al ( $R_m = 250 \text{ mm}^2$ ) max. 6.0 mm



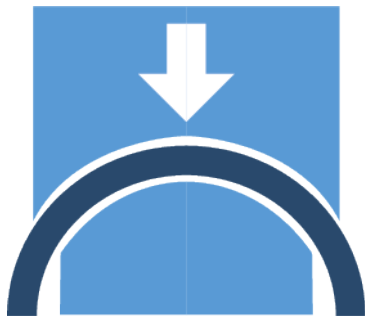
Designation	Planishing tool
Type	TP 25 S
Forming method	Planishing
Special features	Rubber-cushioned impact faces
suitable for	Planishing and polishing
Sheet thickness	Steel ( $R_m = 400 \text{ mm}^2$ ) 0.5 - 2.0 mm
Sheet thickness	Stainless steel ( $R_m = 600 \text{ mm}^2$ ) 0.5 - 2.0 mm
Sheet thickness	Al ( $R_m = 250 \text{ mm}^2$ ) 0.5 - 2.0 mm



Designation	Doming tool
Type	PFW 80 S
Forming method	Doming (crowning)
Special features	ø 80 mm
suitable for	
Sheet thickness	Steel ( $R_m = 400 \text{ mm}^2$ ) 0.5 - 2.0 mm
Sheet thickness	Stainless steel ( $R_m = 600 \text{ mm}^2$ ) 0.5 - 2.0 mm
Sheet thickness	Al ( $R_m = 250 \text{ mm}^2$ ) 0.5 - 2.0 mm



Designation	Reforming tool
Type	WT 100 T / NFW
Forming method	Planishing and calibrating
Special features	Exchangeable inserts
suitable for	Finishing with custom-shaped tools
Sheet thickness	Steel ( $R_m = 400 \text{ mm}^2$ ) 3.0 mm
Sheet thickness	Stainless steel ( $R_m = 600 \text{ mm}^2$ ) 3.0 mm
Sheet thickness	Al ( $R_m = 250 \text{ mm}^2$ ) 3.0 mm



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