



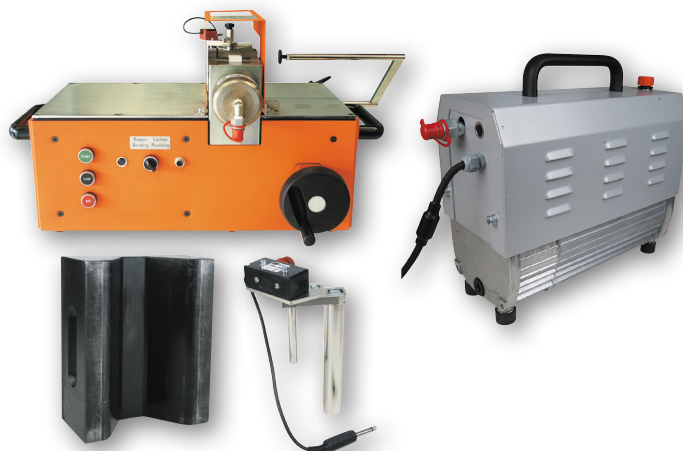
ALFRA BUSBAR BENDING AND PUNCHING MACHINE

Made in Germany by ALFRA

ALFRA busbar set 1:

- Prod.-No. 03200SET
ALFRA busbar bending and punching machine
with electric angle reader R10, bending die R10
and length stop
- Prod.-No. 03852
Electro-hydraulic pump SC05 III B

Prod.-No.
03910

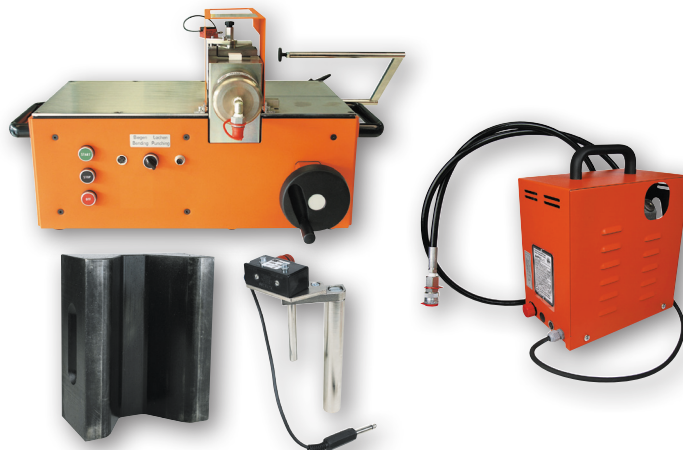


Prod.-No. 03910

ALFRA busbar set 2:

- Prod.-No. 03200SET
ALFRA busbar bending and punching device
with electric angle reader R10, bending die R10
and length stop
- Prod.-No. 03853
Electro-hydraulic pump AHP 03-1

Prod.-No.
03920



Prod.-No. 03920

Accessories

Punches and dies available

Punch Ø mm	Metric screw connection	Prod.-No.
6.6 x	6.0 up to 5 mm material thickness	03204
9.0 x	8.0 up to 6 mm material thickness	03205
9.5 x	8.0 up to 6 mm material thickness	03206
11.0 x	10.0 up to 12 mm material thickness	03207
11.5 x	10.0 up to 12 mm material thickness	03208
13.5 x	12.0 up to 12 mm material thickness	03209
14.0 x	12.0 up to 12 mm material thickness	03210
17.5 o	16.0 up to 12 mm material thickness	03211
18.0 o	16.0 up to 12 mm material thickness	03212
21.0 o	20.0 up to 12 mm material thickness	03213
21.5 o	20.0 up to 12 mm material thickness	03214

x with neoprene stripper and pressure plate
o with neoprene stripper without pressure plate

Dies -S-	Prod.-No.	Dies -L-	Prod.-No.
max. mat. thickness		max. mat. thickness	
6.6 5	03215	6.6 5	03230
9.0 5	03216	9.0 6	03231
9.5 5	03217	9.5 6	03232
11.0 5	03218	11.0 12	03233
11.5 5	03219	11.5 12	03234
13.5 5	03220	13.5 12	03235
14.0 5	03221	14.0 12	03236
17.5 5	03222	17.5 12	03237
18.0 5	03223	18.0 12	03238
21.0 5	03224	21.0 12	03239
21.5 5	03225	21.5 12	03240

Punches and dies for oblong holes up to max. L x W = 21 x 18 mm	Prod.-No.
up to 5 mm material thickness	03226
up to 12 mm material thickness	03241

Special punches and dies for punching laminated busbars
on request



Round punches and dies



ALFRA BUSBAR BENDING AND PUNCHING MACHINE

Made in Germany by ALFRA



ALFRA busbar bending and punching machine with electric angle reader R10, bending die R10 and length stop	Prod.-No. 03200SET
Electric angle reader R10	03201
Bending die R10	03202
Length stop	03203
Bending die with movable jaws (120 x 10 mm Cu)	03228
Digital angle reader	03229
Step-by-step bending tool with 2 pairs of pressure plates for 5 and 10 mm steps (max. range: 100 x 5 mm / 60 x 10 mm Cu)	03246

Electro-hydraulic pump SC-05 III B

Technical data:

Motor voltage:	230 V/50 Hz (110 V/50 Hz or 60 Hz on request)
Motor output:	0.55 kW
Max. operating pressure:	700 bar
Default setting:	620 bar
Pump capacity:	0.9 l/min.
Tank volume:	5.0 l
Weight:	29 kg
Dimensions L x W x H:	500 x 230 x 370 mm

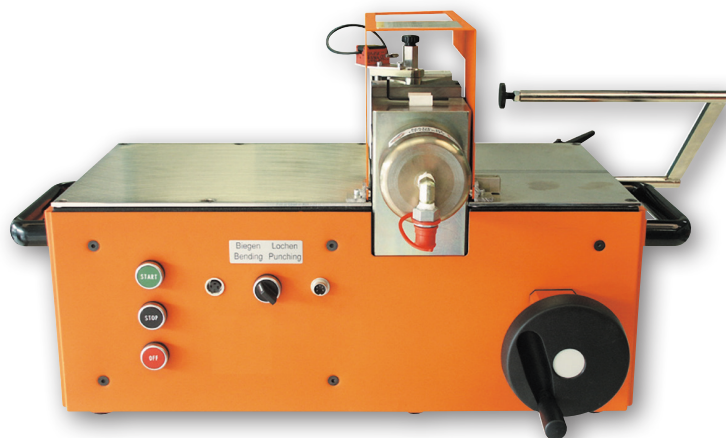
Electro-hydraulic pump SC-05 III B with 2.0 m hydraulic hose + quick coupling	Prod.-No. 03852
Option:	
Foot switch for start function, 1 pedal	03861
Foot switch for start-stop-off function, 3 pedals	03865

Electro-hydraulic pump AHP 03-1

Technical data:

Motor voltage:	230V/50Hz (110 V/50 or 60 Hz on request)
Motor output:	0.55 kW
Max. operating pressure:	700 bar
Pump capacity:	0.52 l / min. at 50 Hz
Tank volume:	2.5 l
Temperature switch:	80°C +/- 5°
Weight:	17 kg
Dimensions L x W x H:	330 x 180 x 350 mm

Electro-hydraulic pump AHP 03-1 with hand switch and 2.0 m hydraulic hose + quick coupling	Prod.-No. 03853
Option:	
Foot switch with 2 pedals, start-stop function	03866



Prod.-No. 03200SET



Freely programmable digital angle reader
Can be used with the devices
Prod.-No. 03200 and 03980

← R10

Prod.-No. 03229

Prod.-No. 03201



Prod.-No. 03228



Prod.-No. 03202



Prod.-No. 03852



Prod.-No. 03853

A



ALFRA BUSBAR BENDING AND PUNCHING MACHINE

Made in Germany by ALFRA

A universal working cylinder is used to bend busbars 120 x 12 mm (160 x 10 mm on request) easily and punch holes from Ø 6.6 to 21.5 mm or oblong holes by simple insertion of hole punches.

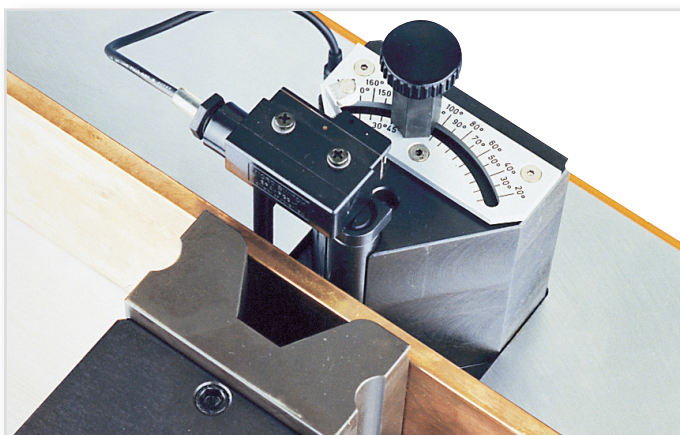
Bending busbars

Switch position to "bending".

For bending, the bending die is inserted into the hydraulic piston and the electric angle reader is set into the round guide groove of the counter block. The contact cable is connected to the electric motor.

The desired angle is fixed on the angle scale using a set screw. Depending on material thickness, we recommend setting the angle 1° - 3° larger than the desired angle, because copper springs back.

The first bending angle should be checked. This bending angle can be reproduced as often as required, because the bending process is interrupted by the electric contact switch as soon as the angle has been reached.



Punching busbars

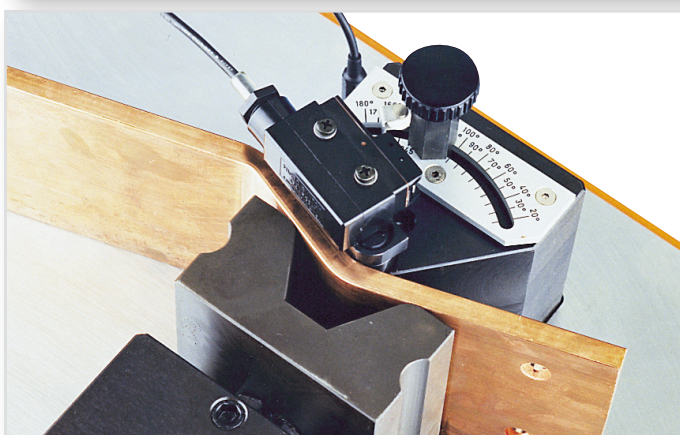
Switch position to "punching".

The punch with neoprene stripper and the corresponding die are inserted in the mounting hole.

The punch is fixed at the side using a headless screw. The machining block can be continuously raised or lowered hydraulically using the handwheel in accordance with the busbar width and the required hole layout. A counter fixed on the handwheel indicates the height of the hole centre in mm.

We recommend centre-punching the busbar with subsequent alignment of the centring tip of the punch to this point – thus guaranteeing an exact hole pattern.

The neoprene stripper and a built-in electric sensor ensure automatic punch retraction.



Technical data:

Bending	
Bending Cu max.	120 x 12 mm
Bending angle up to:	over 90°
Smallest leg length:	50 mm
Smallest U-bending:	100 mm
Smallest Z-bending:	72 mm (depending on material thickness)

The specified values are based on a Cu rail 120 x 10 mm

Punching	
Punching Cu:	6.6 - 21.5 mm including oblong holes up to max. L = 21 mm

Material thickness Cu max.:	12 mm
Material width up to:	110 mm centric
Outer dimensions L x W x H:	700 x 410 x 410 mm
Weight:	60 kg

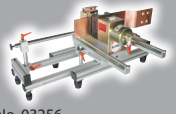
Special version for machining busbars up to 160 x 10 mm available on request.





PUMP OVERVIEW



Recommended combination Possible combination	 FOOT PUMP	 AHP 03-01	 SC-05 III B	 DSP-120	 LHP 700	 ALH 600
Prod.-No.	02121	03853	03852	02027	02140	03190
 Prod.-No. 02012 / 02013	■ ■	■ ■	■ *	■	■	■
 Prod.-No. 03200SET		■	■ ■			
 Prod.-No. 03250	■	■ ■	■ *	■	■	■
 Prod.-No. 03256	■	■ ■	■ *	■	■	■
 Prod.-No. 03258	■	■ ■	■ *	■	■	■
 Prod.-No. 03260	■	■ ■	■ *	■	■	■
 Prod.-No. 03300	■	■ ■	■ *	■	■	■
 Prod.-No. 03360/03380	■ ■	■ ■				■ ■
 AP 250		■			■	■ ■
 AP 400		■			■	■ ■
* in combination with optional foot switch						

A