

# Manual Mini-Bender



Read, observe and follow this manual and the other applicable documents, especially all safety instructions and warnings.



Always wear protection gloves!



Mini-Bender  
in 200 or 350 mm length,  
0°-90° or 0°-100°



Duo-Mini-Bender  
in 200 or 350 mm length,  
0°-90° or 0°-100°

Item no.:	<b>Bending 0°- 90°</b>	Bending height	kg
91544	<b>Mini-Bender 3/200</b>	5 – 200 mm	1,4
91544S3	<b>Mini-Bender 3/350</b>	5 – 350 mm	2,0
91562	<b>Duo-Mini-Bender 3/200</b>	5 – 200 mm	3,1
91562S3	<b>Duo-Mini-Bender 3/350</b>	5 – 350 mm	4,5

Item no.:	<b>Bending 0°- 100°</b>	Bending height	kg
91544100	<b>Mini-Bender 4/200</b>	5 – 200 mm	1,4
91544100S3	<b>Mini-Bender 4/350</b>	5 – 350 mm	2,0
91562100	<b>Duo-Mini-Bender 4/200</b>	5 – 200 mm	3,1
91562100S3	<b>Duo-Mini-Bender 4/350</b>	5 – 350 mm	4,5

91548-1	<b>Adapter set (adapter &amp; handle) to connect two Mini-Benders and ensure a convenient grip</b>		1,5
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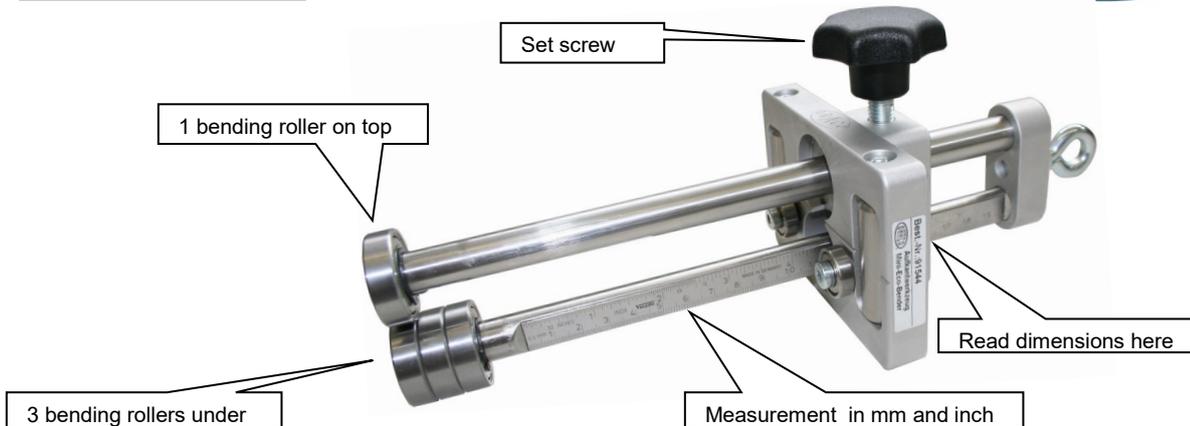
## Max. thickness of materials:

Copper / zinc / alumium	up to 1,00 mm (19 ga.)
Galvanized steel	up to 0,70 mm (22 ga.)
Stainless steel / Uginox	up to 0,50 mm (25 ga.)



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## Tool elements



## Way of working with Mini- as well as Duo-Mini-Bender:

- 1) Unlock the set screw(s) and adjust the desired bending height by using the integrated measuring device and lock it with the set screw(s).
- 2) Place the metal between the bending rolls. The single roller is on top and shows in the bending direction (bending edge), the other three rollers carry the force to bend up.
- 3) First pass: Hold the bender in the most convenient way for you. Move the bender forwards and backwards and push up at an angle of 10-25°. The pressure should be held on the middle of the bending rolls and always move bender all the way to the edges. Depending on the material characteristics, proceed in the following way:
  - 4) Move bender back at an angle of 20-45°.
  - 5) Move bender forward at an angle of 60° (now it may be easier to hold the bender from below).
  - 6) Continue to move bender forwards and backwards by pushing slightly up until the requested angle is reached. Maximum angle of Mini-Bender 3 is 90° or 100° with Mini-Bender 4.



*If necessary, depending on the material characteristics, repeat movement more often and in smaller steps.*

## Addition to Duo-Mini-Bender:

The Duo-Mini-Bender consists of two Mini-Benders connected by an adapter. If working on shorter and more curvy sheets it may be helpful to detach the Duo-Mini-Bender into two Mini-Benders. With only two guide rollers the Mini-bender has a lot more curve ability.



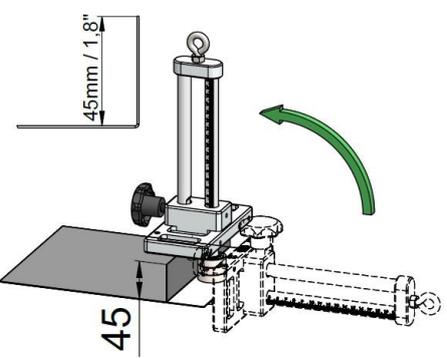
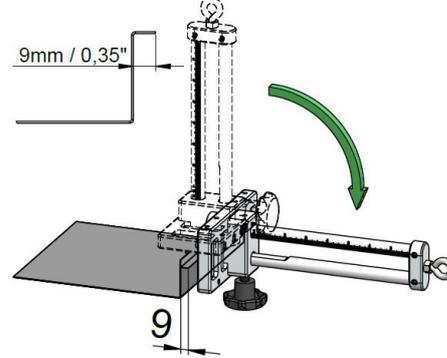
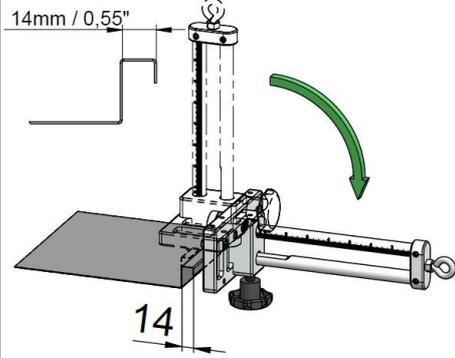
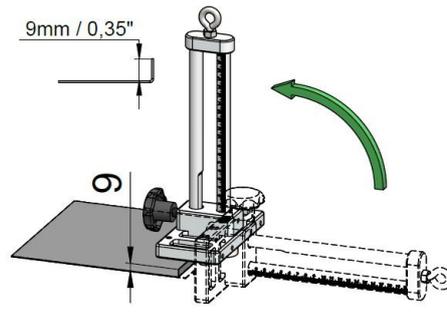
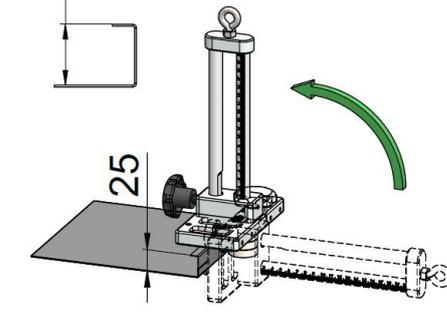
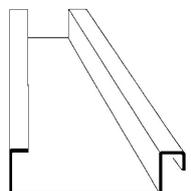
Animation (dis-)assembly



You want to expand your Mini-bender into a Duo-Mini-Bender? Get a second Mini-Bender and the adapter (*item no. 91548-1*) and connect them to a Duo-Mini-Bender. A Duo-Mini-Bender makes bending even easier when working on long and straight sheets.

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## Fabrication of standing seam profile (25 mm/1" height)

<p>1</p>	<p>1.1</p> 	<p>1.2</p> 	<p>1.3</p> 
<p>2</p>	<p>2.2</p> 	<p>2.1</p> 	<p>Tip: for a final seam height higher than described dimension, add the necessary size.          For example a 35 mm high profile:          sketch 1.1 = 55 mm / 2 1/8"          sketch 2.2 = 35 mm / 1 3/8"</p> 

### 1 Female profile (over cloak)

- 1.1 Set the bending height to 45 mm (1.8") and bend up to 90° in accordance with the "Operation Method" explained on the previous page.
- 1.2 Set the height to 9 mm (0.35"), about the width of the upper bending roller, and bend up to 90° in the opposite direction. The single bending roller is always the bending edge, the 3 bending rollers are always the bending bar.
- 1.3 Set the height to 14 mm (0.5") (depending on material specifications) and bend to 90° over the second bend downwards.

### 2 Male profile (under cloak)

- 2.1 Set the bending height to 9 mm (0.35"), about the width of the upper bending roller, and bend it to 90° in accordance with the "Operation Method" explained on the previous page.
- 2.2 Set the height to 25 mm (1") and bend up over the first profile to 90°.

# Manual Mini-Bender

## Spare parts list

Mini-Bender 3/200	MGKH70403
Mini-Bender 3/350	MGKH70418
Mini-Bender 4/200	MGKH70403S1
Mini-Bender 4/350	MGKH70418S1

Mini-Bender 3/200	MGKH70404
Mini-Bender 3/350	MGKH70419
Mini-Bender 4/200	MGKH70404
Mini-Bender 4/350	MGKH70419

