

Manual EcO-Bender

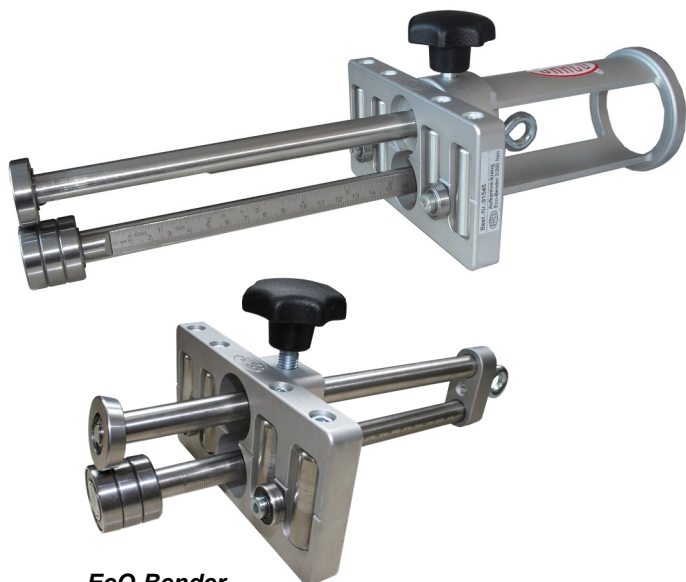


Read, observe and follow this manual and the other applicable documents, especially all safety instructions and warnings.

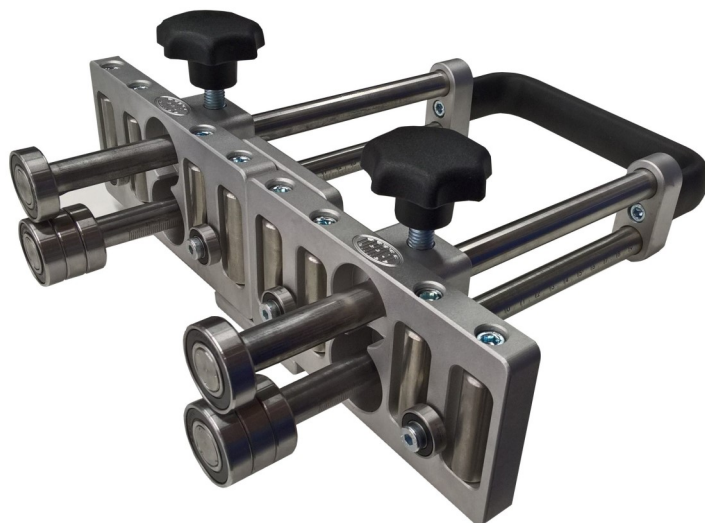


Always wear protective gloves!

Handle tool carefully and protect against dirt. If necessary lubricate shafts (e.g., sewing machine oil).





EcO-Bender
in 200 or 350 mm length,
0°-90° or 0°-100°, with or without O-handle



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

Item no.:	Bending 0° - 90°	Bending height	kg
91545	EcO-Bender 3/200 , with O-handle	5 – 200 mm	1.8
91545S3	EcO-Bender 3/350 , with O-handle	5 – 350 mm	2.2
91545S1	EcO-Bender 3/200	5 – 200 mm	1.5
91545S4	EcO-Bender 3/350	5 – 350 mm	1.9
91563	Duo-EcO-Bender 3/200	5 – 200 mm	3.4
91563S3	Duo-EcO-Bender 3/350	5 – 350 mm	5.0

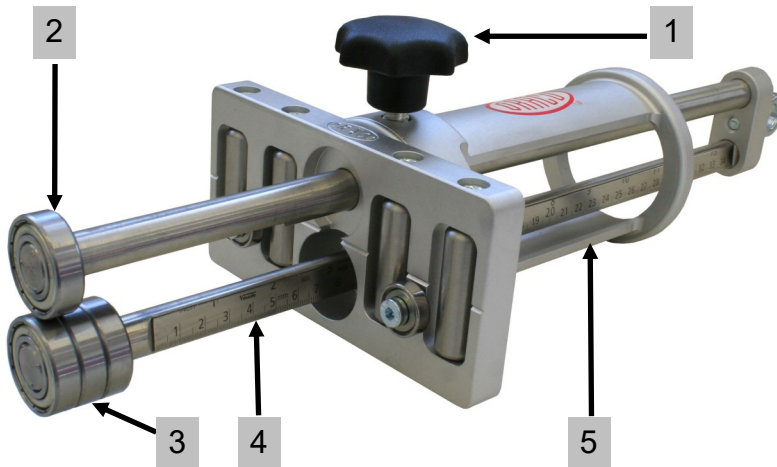
Item no.:	Bending 0° - 100°	Bending height	kg
91545100	EcO-Bender 4/200 , with O-handle	5 – 200 mm	1.8
91545100S3	EcO-Bender 4/350 , with O-handle	5 – 350 mm	2.2
91545100S1	EcO-Bender 4/200	5 – 200 mm	1.5
91545100S4	EcO-Bender 4/350	5 – 350 mm	1.9
91563100	Duo-EcO-Bender 4/200	5 – 200 mm	3.4
91563100S3	Duo-EcO-Bender 4/350	5 – 350 mm	5.0

Item no.:	Accessories		kg
91549-1	Adapter set (adapter + handle) the adapter connects two EcO-Benders and the handle ensure a convenient grip		1.5
KH70400	O-Handle for EcO-Bender		0.3

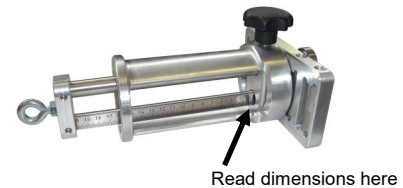


Manual EcO-Bender

1. Tool elements



1	Set screw
2	One bending roller above
3	Three bending rollers below
4	Measuring scale (mm & inch)
5	Optional O-Handle



2. Operation method EcO- & Duo-EcO-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.



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

Addition to Duo-EcO-Bender:

The Duo-EcO-Bender consists of two EcO-Bender connected by an adapter. If working on shorter and more curvy sheets, it may be helpful to detach the Duo-EcO-Bender into two EcO-Benders.



Animation assembly

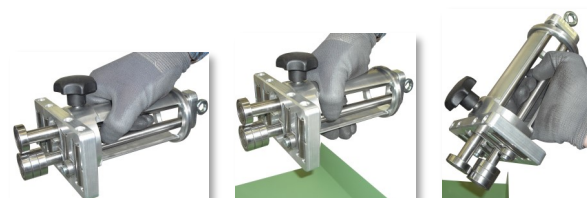


You want to expand your EcO-Bender into a Duo-EcO-Bender?

Get a second EcO-Bender and an adapter (*item no. 91549-1*) and connect them to a Duo-EcO-Bender. A Duo-EcO-Bender makes bending even easier when working on long and straight sheets.

Addition to O-Handle:

The optional O-Handle enables the full usage even when leverage is entirely extended to 200 or 350 mm (8 or 14 inch). The O-Handle also offers three ergonomic grip positions.



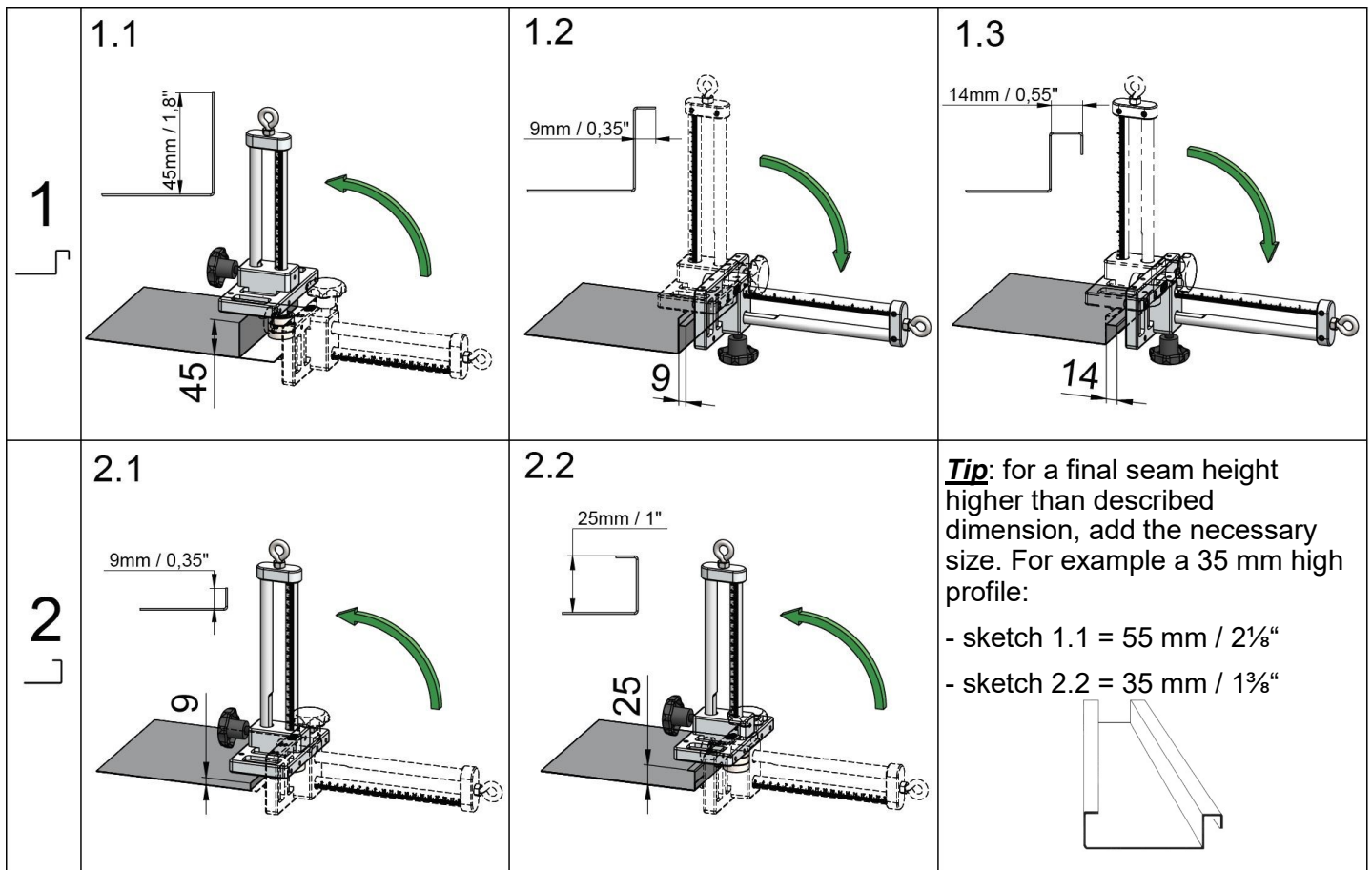
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3. Technical data

Max. thickness of materials:

Copper / zinc / aluminium	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.)

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



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 (0.55") (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°.

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5. Spare parts

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

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

