

The P-100 and P-200 Pliers are a welding jig for flat belts. These tools can be used to weld at any angle up to 90° (see specifications table for applicable belt widths at different weld angles). It should be kept in mind that VOLTA Flat Reinforced belts must be made endless by welding at an angle of between 15° and 45°. You should observe the following recommendations:

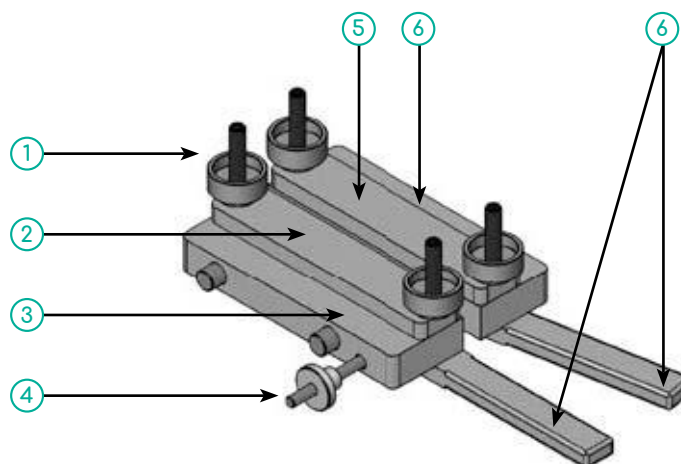
- VOLTA recommends that FRL belts (Shore 80A) be made endless with an angle greater than 30°.
- VOLTA belts with a Shore hardness of 85A or more can be made endless at any angle between 15° and 45°.
- Remember that a greater angle will make a stronger joint.

Specifications:

		P-100	P-200
Tool weight		1.9 kg (4.2 lbs)	2.8 kg (6.2 lbs)
Maximum belt width to weld at standard angles:	90° =	120 mm (5")	220 mm (9")
	15° =	110 mm (4")	210 mm (8")
	30° =	90 mm (3.5")	180 mm (7")
	45° =	65 mm (2.5")	135 mm (5")

Parts Breakdown:

1. Clamping knobs, 4 each
2. Left clamp
3. Left base
4. Fixing knob
5. Right clamp
6. Right base
7. Handles



Welding at an Angle of 90°:

1. Cut the belt material to the correct length. The edges should be cut at a right angle.
2. Loosen the left clamp knobs and swing the clamp out to permit positioning the belt (See Figure 1).
3. Open the pliers to form a gap of 6 mm (1/4") (See Figure 1).
4. Set one belt end snug against the right clamp (A in Figure 1). Swing the left clamp into position and tighten the knobs.
5. Open the pliers to form a gap of 12 mm (1/2") (See Figure 2). Loosen the right clamp knobs and swing the clamp out to permit positioning belt.
6. Set the opposite belt end snug against the first, clamped belt end, ensuring that the sides are properly aligned. Swing the right belt clamp into position and secure with the knobs.
7. Check the vertical and horizontal alignment of the belt.
8. Open the pliers and set the welder between the belt ends.
9. Close the pliers so that the belt ends are in contact with the welder and allow the ends to melt.
10. When sufficient material has been melted on both sides of the welder, quickly open the pliers, remove the welder and close the pliers.
11. Let the belt cool for 5-10 minutes before releasing the clamps.
12. Using a sharp blade remove the flash from both side of the belt.



Clean the bottom of the belt first. When the belt is turned over to clean the top, the belt will rest evenly on the table. This will ensure a clean, smooth surface on the belt top.

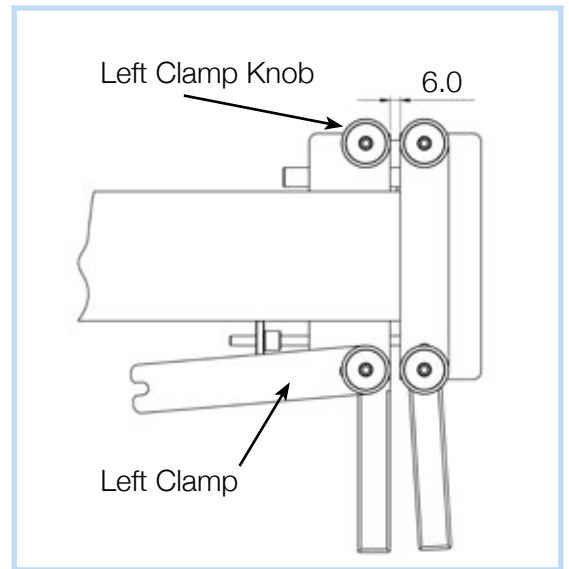


Figure 1

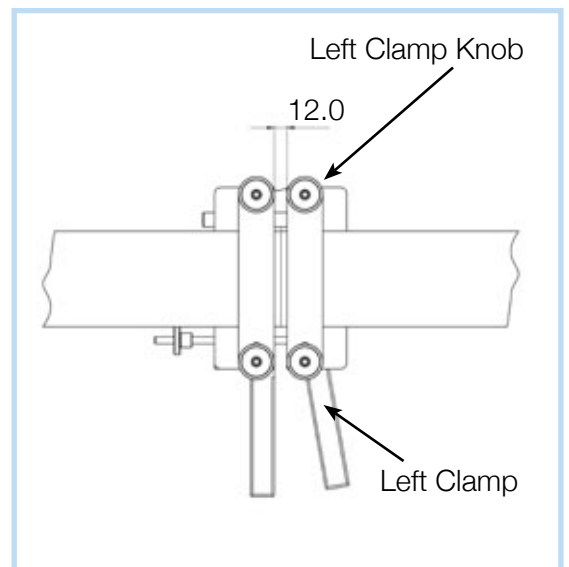


Figure 2

Welding at an Angle Other than 90°:

1. Cut the belt material to the correct length and the appropriate angle according to the recommendations on page 1.
2. Loosen the left clamp knobs and swing the clamp out to permit positioning the belt (See Figure 3).
3. Open the pliers to form a gap of 6 mm ($\frac{1}{4}$ ").
4. Set one belt end snug against the right clamp (A in Figure 2). Swing the left clamp into position and tighten the knobs.
5. Open the pliers bases to form a gap of 12 mm ($\frac{1}{2}$ " (See Figure 4). Loosen the right clamp knobs and swing the clamp out to permit positioning the belt.
6. Set the remaining belt end snug against the clamped belt end. Shift the belt 1.0 mm as shown in Figure 2.



This offset compensates for the material that will be lost during the welding process, leaving a straight belt edge.

Mount the right belt clamp and secure with the knobs.

7. Check the vertical and horizontal alignment of the belt.
8. Open the pliers and set the welder between the belt ends.
9. Close the pliers so that the belt ends are in contact with the welder and allow the ends to melt.
10. When sufficient material has been melted on both sides of the welder, quickly open the pliers, remove the welder and close the pliers.
11. Let the belt cool for 5-10 minutes before releasing the clamps.
12. Using a sharp blade remove the flash from both side of the belt.



Clean the bottom of the belt first. When the belt is turned over to clean the top, the belt will rest evenly on the table. This will ensure a clean, smooth surface on the belt top.

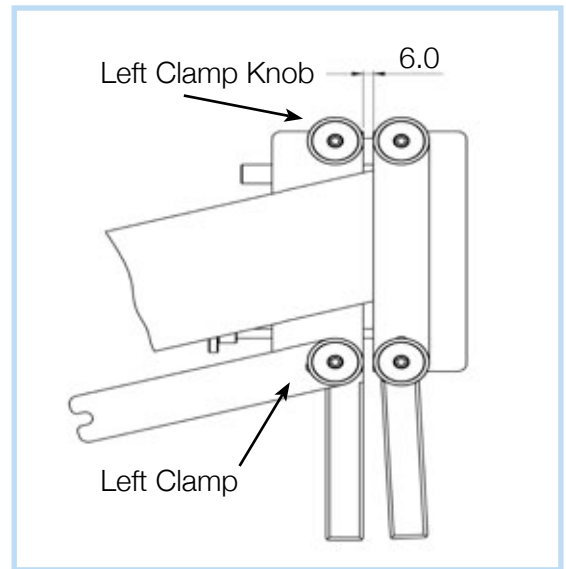


Figure 3

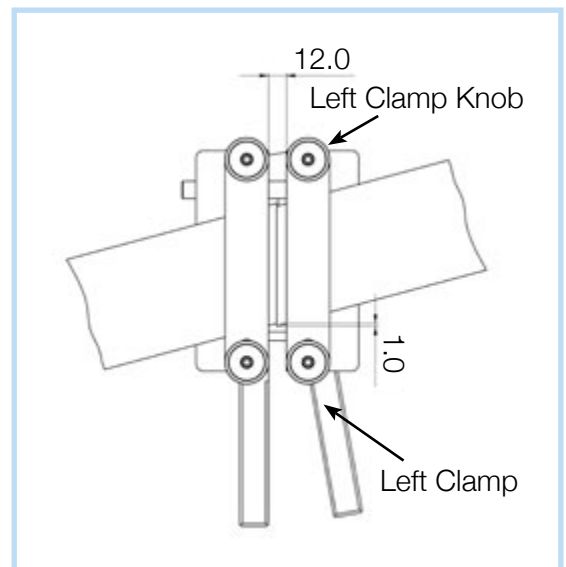
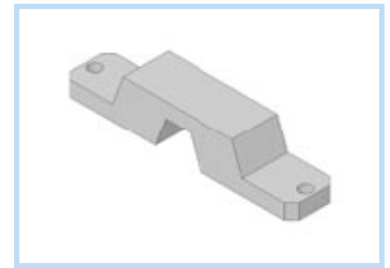


Figure 4

Adapter for V-Profiles

The P-100 can be used for welding large V profiles such as D (32 mm) and E (40 mm). To weld these profiles it is necessary to use the V-Belt Adapter (catalog # 8130302). To mount the adapter:

1. Remove the 4 clamping knobs (Figure 1 item 1).
2. Remove the two clamps, right and left (Figure 1 items 2 and 4).
3. Place the two adapters on the Mounting bolts with the open end downwards.
4. Position the 4 clamping knobs.



Welding V-Profiles:

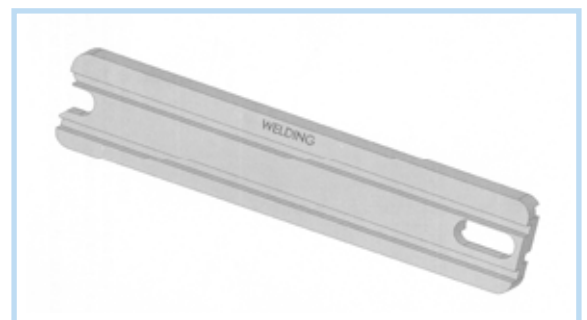
1. Loosen / remove the left adapter.
2. Open the pliers to form a gap of 6mm (1/4").
3. Place one profile end against the right clamp and close the adapter on the profile using the clamping knobs.
4. Loose / remove the right adapter.
5. Open the pliers to form a gap of 12mm (1/2").
6. Place the second profile end against the first end and close the adapter on the profile using the clamping knobs.
7. Continue in accordance to welding at an angle of 90°. From step 7.

Welding Adapter for Volta "Spikes" Impression Top Belt

The "Spikes" Welding Adapter is designed to provide correct alignment and mounting in the P-100 pliers when welding belts that have been topped (coated) with VOLTA "Spikes".

Note that one side of the adapter is marked "WELDING" and the other marked "CUTTING".

1. With the side of the adapter marked "Cutting" up, position the Adapter on the belt and cut the two ends of the belt with "Spike".
2. Mount one end of the "Spikes" belt in the pliers with the spikes up. Place the adapter on the belt with the side marked "WELDING" facing up and tighten the belt in the pliers.
3. Mount the second end of the belt in the pliers. Remember that you must offset the second end of the belt by approximately 1 mm to compensate for the loss of material during welding. (See "**Welding at an Angle Other than 90°**" paragraph 6.
4. Continue by performing steps 7-12 of "**Welding at an Angle Other than 90°**".



Spikes Welding Adapter