

Excellence in seaming



**Seamsonic** 8301/8310/8312

by PFAFF<sub>Home</sub>  
**Made**  
in Germany

## Programmable welding – PFAFF Seamsonic 8301 / 8310 / 8312

Ultrasonic welding machines of the Seamsonic series combine all the physical advantages of ultrasonic welding with the whole range of technological sewing experience. On the PFAFF 8301/8310/8312 Seamsonic the workpiece is held between the sonotrode and the anvil wheel and welded continuously under pressure. When welding continuously by the ultrasonic method, the material to be welded will be subjected to rapid changing pressure vibrations. The heat develops because of molecular vibrations beneath the material surface, for thin materials within the immediate vicinity of the actual weld.

Ultrasonic welding with the Seamsonic is a modern, innovative and economic alternative and complementary to conventional sewing technology. If assembling of laminates, clothing fabrics with high share of polymer and technical nonwovens is required and in particular to get, the use of the Seamsonic is the first choice.

Most of thermoplastic sheets, laminates, textiles  
and non-wovens are weldable \*

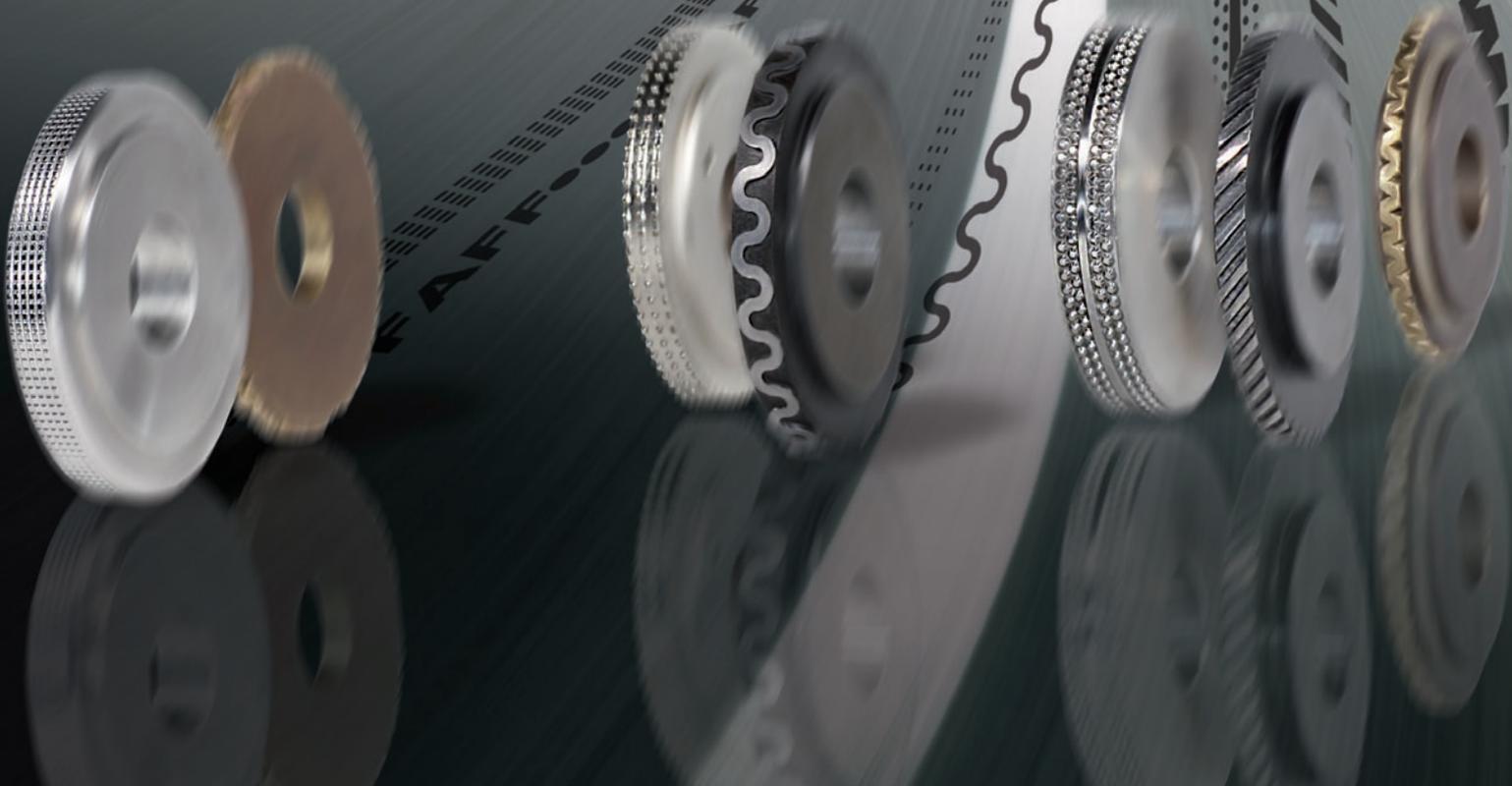
High, continuous production speed

Lingerie items are comfortable to wear  
due to a smooth seam

\* The following materials are easy to weld:

Polyamide, Polyester, Polyurethane Polypropylen, Polyethylen.

Generally, pure textiles are to be preferred; mixed textiles containing  
up to 30% other fibers may also be used.

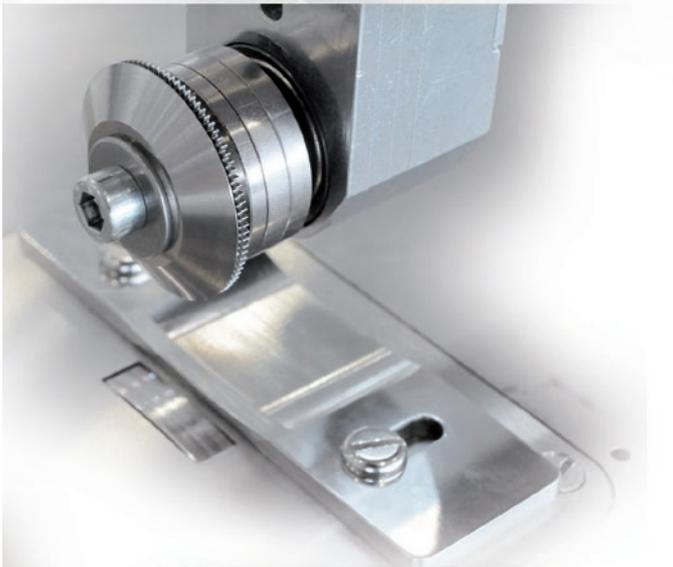


The anvil wheel determines the design of the seam

Individualize the design of your seam using the anvil wheel of the ultrasonic welding machine.



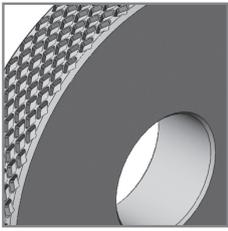
Standard-sized wheel



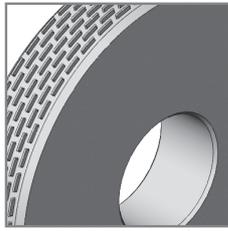
Extra-small anvil wheel to weld narrow radii and tight curves (e.g. welding bras or medical items)



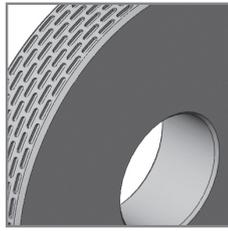
Two anvil wheels (one for cutting and sealing and the other one to realize the second weld seam)



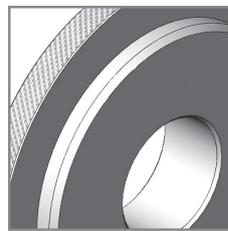
296-256 100-x5



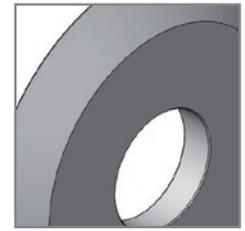
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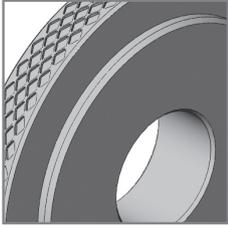
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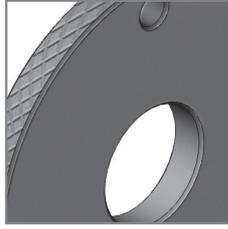
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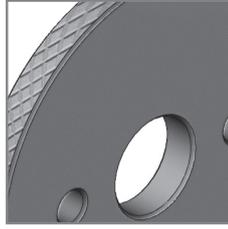
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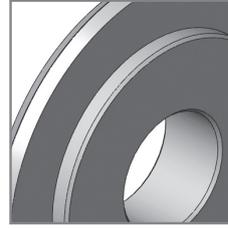
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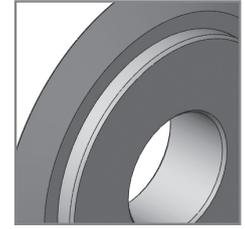
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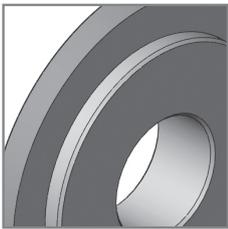
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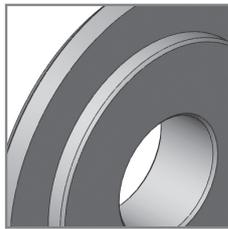
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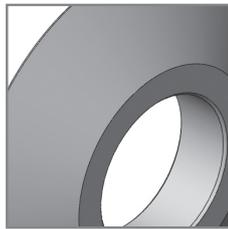
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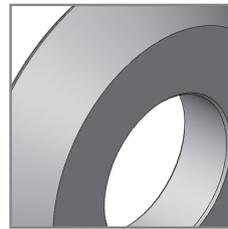
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296-256 284-x5 \*



296-256 285-x5 \*



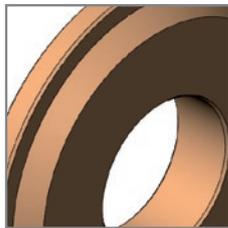
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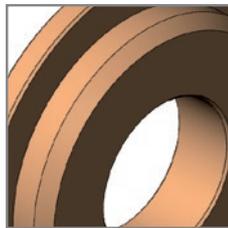
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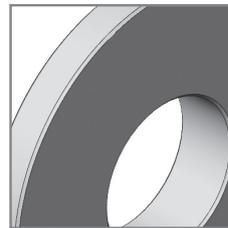
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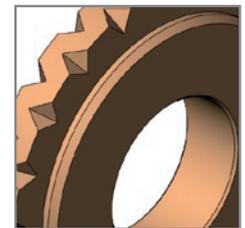
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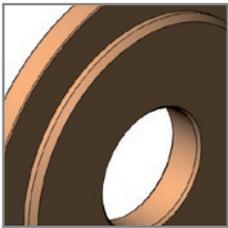
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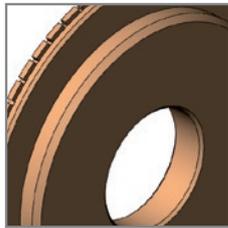
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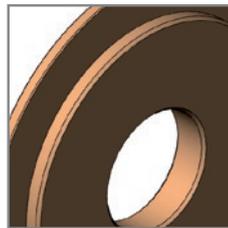
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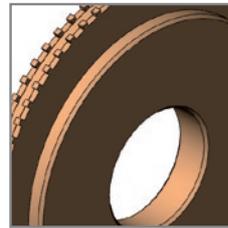
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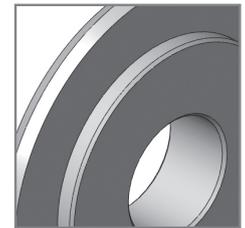
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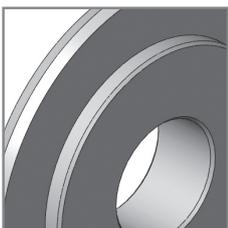
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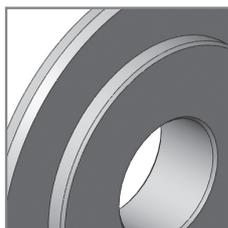
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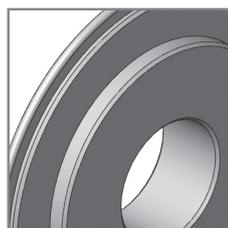
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296-256 387-x5 \*



296-256 388-x5 \*



296-256 389-x5 \*



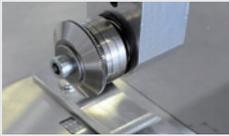
296-256 390-x5



Your individual  
anvil wheel  
?

\* Anvil wheels for 8312 C&S machines

## Overview of the Ultrasonic series

		<b>PFAFF 8301</b> The economical solution
		Flat-bed version
		
Welding / standard		X
Extra-small anvil wheel to weld narrow radii and tight curves (Ø 35mm)		X
Cutting + edge sealing (Cut & Seal)		X
Double wheel solution: simultaneous cutting, edge sealing and welding a second seam (Cut & Seal Dual)		X
All parameters controlled electronically (power, amplitude, speed and pressure)		
Seam distances resp. operating cycles can be programmed (sequence welding)		
Reproducibility of the welding process		
The energy adjusts to the speed (via a pedal) = Dynamic welding		
Equipped with differential feed; separate drive for sonotrode and anvil wheel; that means smooth, non-distorted seams or the possibility of adding a some fullness		X
Process reliability through monitoring of welding parameters with integrated device for constant performance (so that reliable processing is possible even when sewing over cross seams)		
Possibility of spot welding (tacking)		
No start/stop – marks		X
Touch screen (simple handling with pictograms)		
Hardened steel sonotrode, 7 mm		X
Hardened steel sonotrode, 10 mm		X
Titanium sonotrode, up to 10 mm		X
Welding method: 35 kHz, 400 W Ultrasonic generator		X
No compressed air required		
Option: puller, pneumatical		
Option: puller, mechanical		X
Option: further puller		
Optional: Integration into a system and/or control of a conveyor belt		

<sup>1</sup> additional control unit necessary

PFAFF 8310 Programmable welding				PFAFF 8312 Electronical welding
Flat-bed version	Standing post-bed version	Feed-off-the-arm version (from above)	Feed-off-the-arm version (from side)	Flat-bed version
				
X	X	X	X	X
		X	X	X
X				X
				X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X	X	X	X	X
X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X

## Applications:

### Technical section:

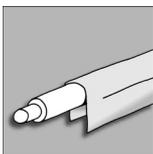
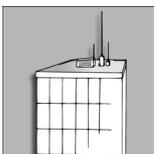
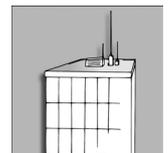
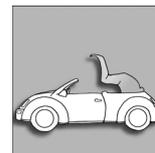
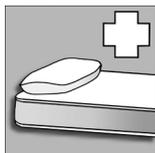
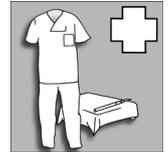
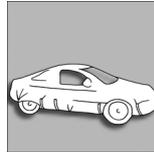
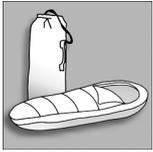
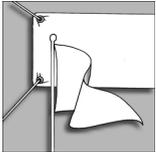
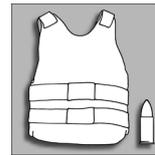
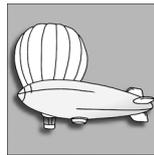
Filter bags, health care articles, medical mattresses and pillows, needle felts, operations sheets, foils, bullet proof vests, blinds and awnings, pleated filter, shower curtains, spacer fabrics, seat covers, MBR-modules and many more

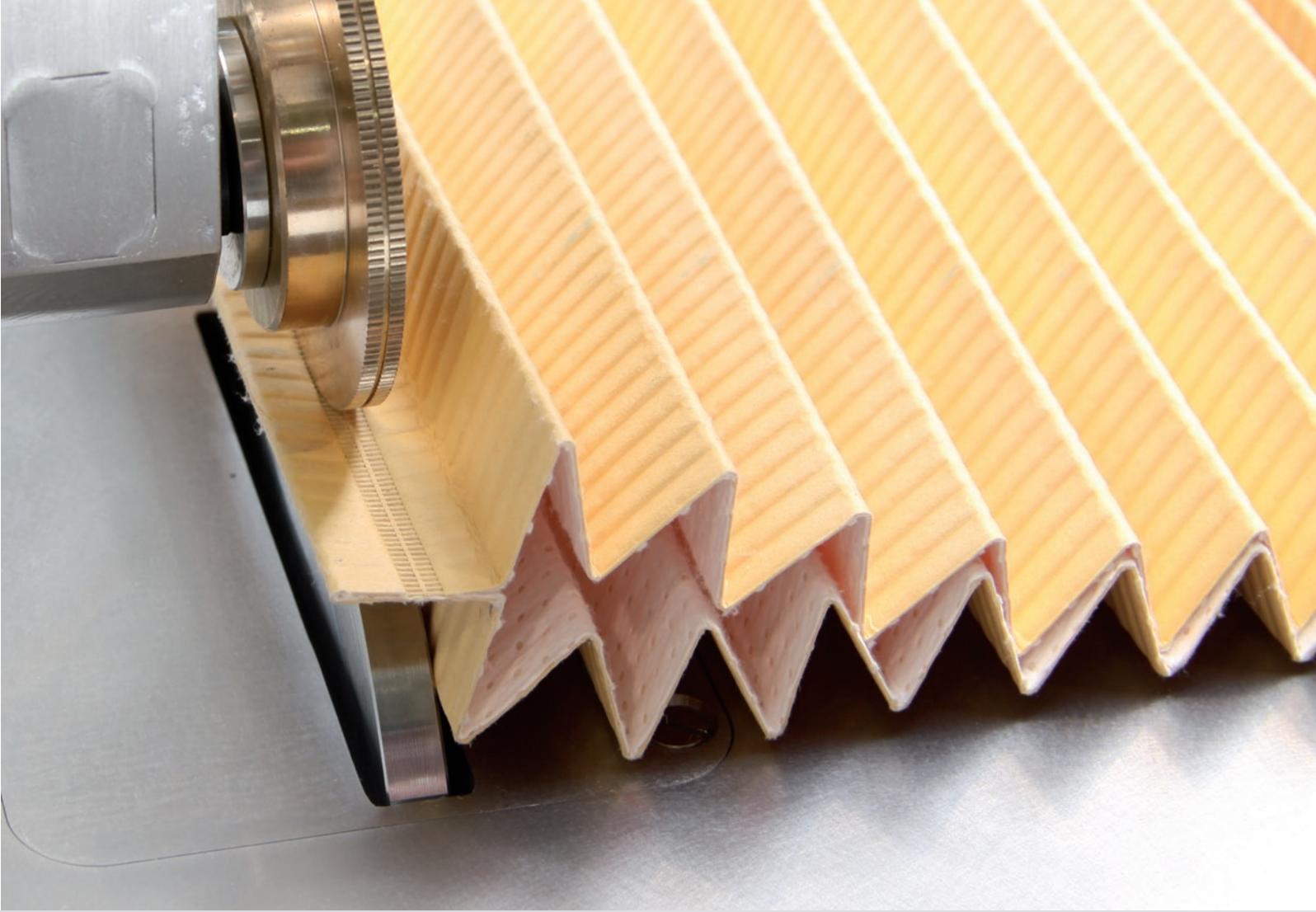
### Garment section:

Outdoor garment, tyvek protective clothing, bras, lingerie, medical garment & drapes, softshell a, sport garments, clean-room garments and many more

### Automotiver section:

Vehicle interior and insulation item, protective car covers, sunshades and many more





## Technical data:

- Digital PLC-control
- Operated through touch screen

Functions: manual or automatic operation with speed regulation via foot pedal, amplitude from 50 – 100 %, start delay for ultrasonic generator and motor, stop delay for speed, automatic reverse Tacking function

Available optional: with free arm, feed-off-the-arm for overlap seams and tubes, as well as with post beds (modules can be interchanged) and as a flat bed version. (The types 8301 and 8312 will be delivered only as flat-bed-version.)

## Ultrasonic unit:

- Welding power constant control and amplitude control
- Inaudible operating frequency of 35 KHz
- Automatic and speed dependent regulation of the power and the amplitude
- Automatic tuning of sonotrode before and during welding
- Steel sonotrode or titanium sonotrode

## Optional accessories:

- Custom-made anvil wheels, milled or engraved, cutting wheels, guide aids for overlap and peeling seams, hemmers and binders.
- Material puller with separate left and right side switching
- Puller aggregate for better transport of heavy material or long material-sheets



ICCOOPFAI

# Cut & Seal

Welding and Cutting in ONE operation

## Single-wheel solution

The proved single-wheel solution was optimized by the use of steel-sonotrode. This will reduce wear and associated costs greatly. For our customers the fine C&S-seam with its high strength is the main argument to buy this class of machines.

### Main advantages are:

- Two manufacturing processes in one flow (Cut & Seal)
- Minimum seam width (micro seam) at high firmness
- High wearing comfort of welded materials
- Flat, not applied seams after taping with PFAFF 8303 or PFAFF 8330
- New: Almost no wearing due to steel sonotrode (up to 10 mm width)

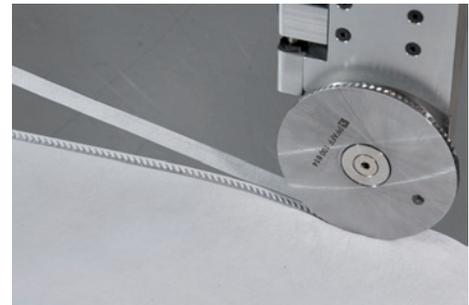


## Double-wheel solution

This solution features two anvil wheels (one for cutting and sealing and the other one to realize the second weld seam) on one post, but on separate shafts. With this patented solution the load may be individually adjusted – the two wheels are still running in sync. This is an absolute unique selling point (USP) for this technology. The machine may be adjusted better and more specifically to the material at hand and increases the process reliability when welding and cutting to weld seams. The minimum distance between weld seam and cutting is around 1 mm.

### Main advantages are:

- All the advantages listed "single-wheel solution"
- Edge cutting and sealing and a second weld seam as reinforcement IN ONE OPERATION
- Differently shaped anvil-wheels provide optimal seam-quality
- The pressure of both wheels are adjusted separately
- Distance of the edge to of the weld-seam is always equal to 100%





C&S seam  
single-wheel solution



C&S seam with  
double-wheel solution

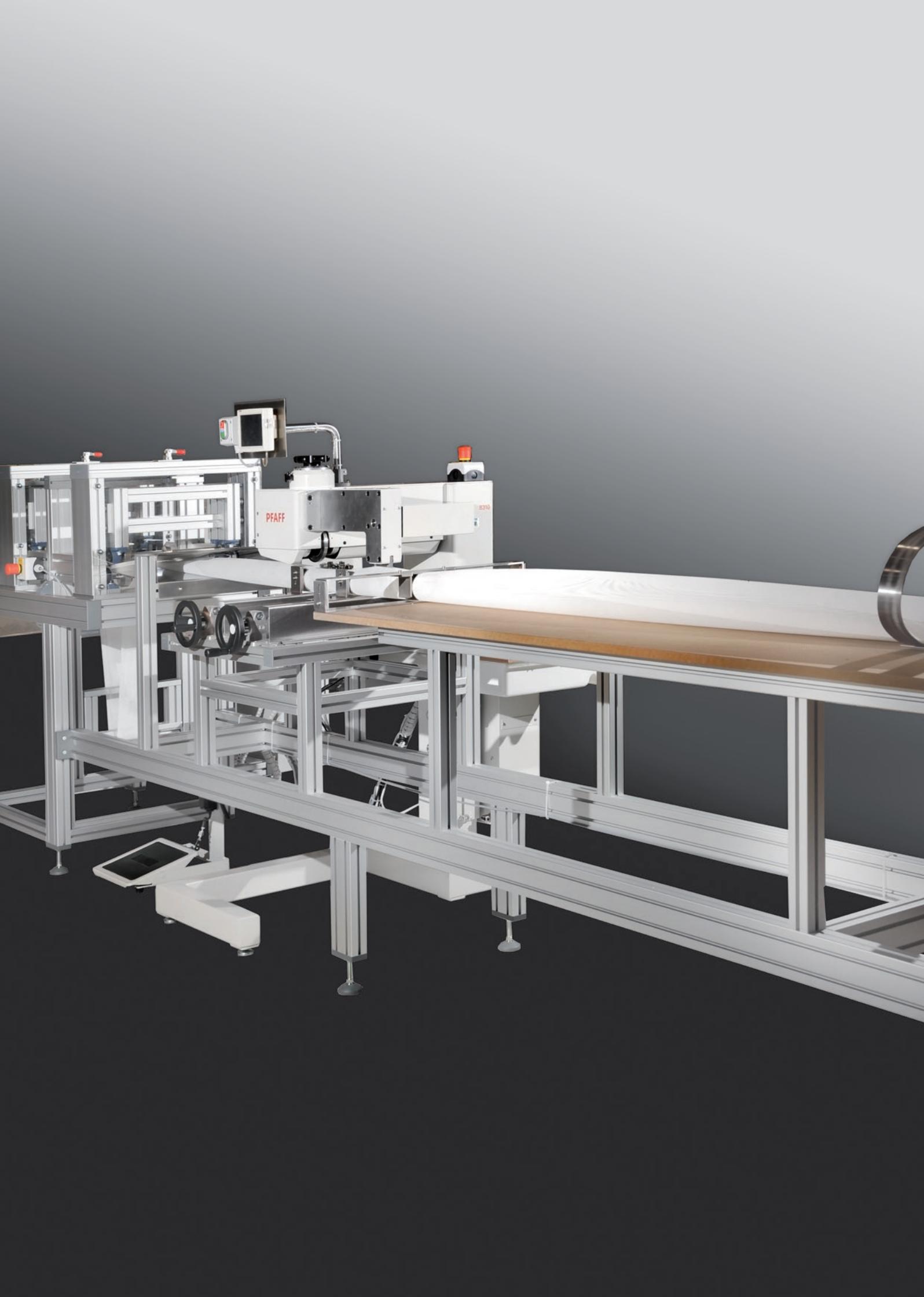
# Customized

Solutions with the customer in dialog

## Ultrasonic technology in a production unit

PFAFF Industriesysteme und Maschinen AG is the world's only supplier to offer innovative solutions for both types of joining – sewing and welding (hot-air, hot-wedge, ultrasonic). Joining methods are under continual scrutiny on this ever expanding market for technical textiles. Over the last few years, PFAFF has intensively expanded its activities in sealing textile materials winning industrial awards for several innovations. Customers trust in the competency and innovative ability of PFAFF in filter production. The new PFAFF Industriesysteme und Maschinen AG can now plan and implement entire production lines with welding technology.





## Technical data:

**Welding speed:**

0,5 - 20,0 m/min.  
standard until 10,0 m/min.

**Seam width:**

0,5 – 10 mm

**Throat:**

400 mm

**Material thickness:**

> 50  $\mu$

**Gap adjustment:**

0 – 2 mm, Precise adjustment 1/50 mm

**Welding pressure (only 8301/8310):**

0 – 400 N (5 bar)

**Power supply:**

230 V, 50/60 Hz, 16 A

**Consumption:**

4 A, 800 VA

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