

# Product Information

## AUTOMATIC SEAM WELDERS

- High Volume Production
- Microprocessor Controlled
- GTAW or Plasma Welding
- Aligns Seam Automatically
- Minimum Skill Required
- Short Payback Time

### Introduction

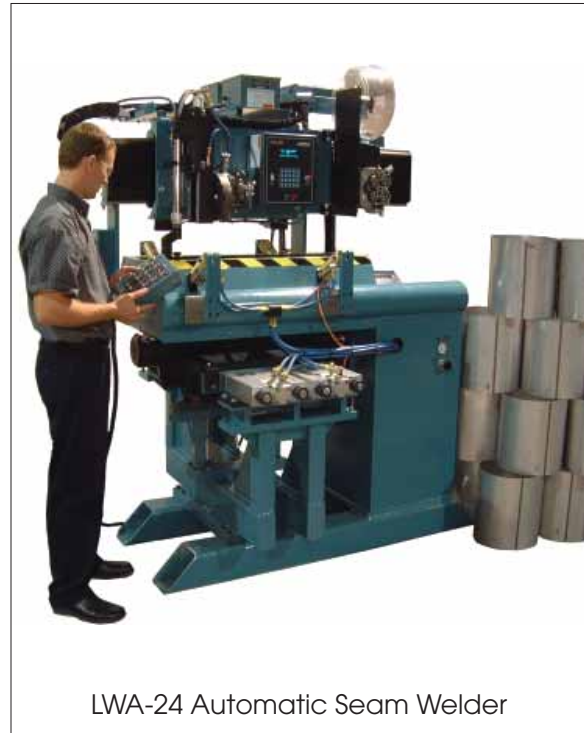
This exciting new range of longitudinal seam welders brings together Jetline's proven design of seam welding machines, advanced microprocessor control systems and a number of innovative electro-mechanical mechanisms.

This development represents an important step forward in the techniques associated with the seam welding of cylindrical and other shaped parts and will be of particular interest to companies requiring high volume seam welding output coupled with minimal operator intervention.

Jetline's established leadership in the field of precision joining of metals is brought to the design and manufacture of this new range of machines. All the tried and tested features of the standard Jetline seam welder are embodied in these automatic models. This provides the user not only with the ability to produce seam welded parts at a production rate previously considered impossible, but also with welds with the highest integrity and joint profile.

### Description

The Jetline range of automatic seam welders is based upon standard products with the addition of a number of features to enhance the loading, aligning, clamping and welding of the part. Although designed primarily for the welding of cylinders, these seam welders can be used for other regular shapes.



LWA-24 Automatic Seam Welder

To speed up the loading and unloading process, automatic seam welders are usually manufactured without a mandrel latch and with a larger diameter mandrel than normal. For special applications, especially where it is necessary to accommodate smaller diameter parts, a mandrel latch is available.

### Benefits

To operate the machine, the operator simply pushes the preformed tube on to the mandrel, it is guided by guide rails on the side and below the mandrel. From this point, the operation is completely automatic, the alignment and closing of the weld seam is carried out using special air-operated devices working with the clamping fingers. This is followed by a fully automatic, pre-programmed weld cycle. During the weld cycle, the operator is free to load/unload a second seam welder or to prepare parts for the next operation. At the end of the weld cycle, the seam welder automatically releases the welded part and resets itself for the next cycle.

The welding cycle is controlled by Jetline's versatile 9500 microprocessor controller. This is simple to use and can store up to 25 weld procedures. And, with our firmware option, unlimited procedures can be stored on a host computer.

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The 9500 microprocessor controller uses closed loop control for all the main welding parameters to achieve consistently high standards of weld quality at all times.

Jetline's automatic seam welders are designed with safety in mind and, following a short period of training, can normally be operated by semi-skilled personnel. Training is provided by Jetline technicians when the product is ready for acceptance.

An important feature of Jetline automatic seam welders is the ability to rapidly change from one part size to another. This is achieved simply by changing three tooling inserts and calling up the appropriate weld schedule held in the 9500 microprocessor's memory. This provides different length, diameter and thickness changes. Changeover from one type of part to the next can normally be achieved in less than 5 minutes. This makes the system an ideal choice for industries where "Just-in-time" manufacturing methods are employed.

A wide range of Jetline manufactured accessories is available to enhance the performance of automatic seam welders. These include arc length controls, wire feeders and magnetic arc oscillators. Rolling and planishing equipment is available to support the operation of the seam welder.

## Sequence of Operation

The outstanding productivity of Jetline automatic seam welders is achieved by the use of a carefully controlled sequence of operation as follows:

1. With the aligning blade in the lowered position, the operator slides a part over the mandrel until it meets the rear stop.
2. When the sensor is activated to detect the correct insertion of the part, the rear clamping fingers are automatically activated to securely hold that edge of the part in its aligned position on the centerline of the seam welder.
3. The aligning blade is automatically raised to its retracted position.
4. The hold down blade moves down until it contacts the upper surface of the part.



5. The pneumatic push-in cylinder moves in to close the gap between the edges of the part and to provide a gap free condition for welding. The hold down blade prevents one edge of the part riding up and over the other.
6. The front clamping fingers activate to secure that edge of the part in position.
7. The hold down blade is automatically raised to its retracted position to clear the weld area of all obstructions;
8. The welding torch is lowered to provide the correct arc starting distance.
9. The arc is automatically initiated and the weld process proceeds according to the weld program selected on the microprocessor controller. All the welding parameters are controlled using closed loop control to ensure high accuracy and consistency.
10. When the torch reaches the end of the part and the weld is complete, the torch is lifted to clear the part for unloading.
11. Both banks of fingers automatically open and, at this time, the operator can remove the part from the seam welder.
12. The aligning blade lowers to ready the machine for the next sequence.

## Applications

Jetline automatic seam welders can be used for a wide variety of applications including:

- Electric motor cases
- Automotive air filters
- Cryogenic vessels
- Washing machine drums
- Automotive exhaust parts
- Stainless steel vacuum flasks
- Fire extinguishers
- Print rollers
- Coffee-maker water tanks
- Swimming pool filters

## Specifications

Due to the variety of applications, please contact Jetline for information on your application.

*See Jetline price list for complete ordering information*

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