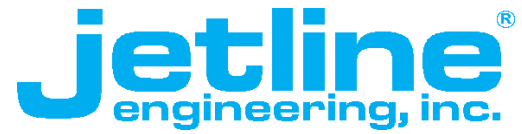


Product Information



Longitudinal Seamwelders

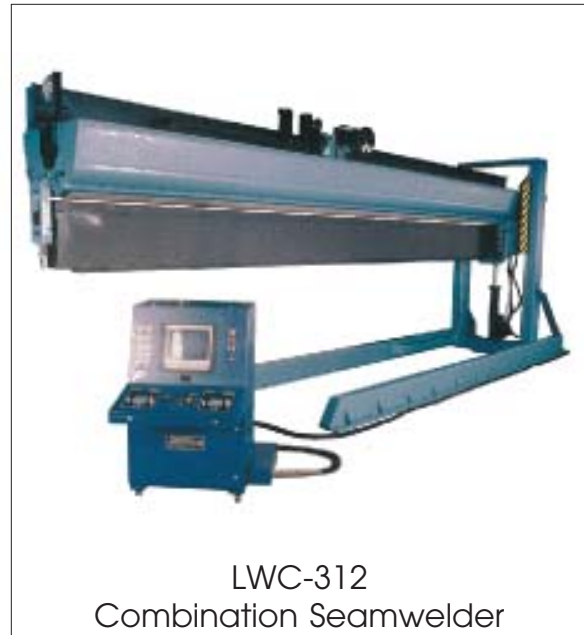
- Complete Product Offering
- Reliable, Simple to Operate
- All Weldable Materials
- Many Custom Options
- No Part Size Limitation
- For All Arc Welding Processes

Longitudinal seamwelding is a process used to produce linear welds on a wide variety of parts. For many industrial applications it is necessary to form the material into a desired shape, e.g. a cylinder or rectangular tube, and then weld the abutting edges to form a rigid structure.

The traditional method of doing this is to manually hold the edges in alignment, tackweld them and then complete the linear weld. This is done manually or using of a simple carriage carrying the welding torch. This type of procedure is costly and time consuming for the following reasons:

- Holding the edges accurately in alignment is difficult for the full length of the part.
- Tackwelding takes time and leads to local defects in the area of the tackweld.
- There is little effective chilling of the weld joint area leading to distortion and oxidation of the weld and surrounding area.
- Maintaining the dimensional accuracy of the part is difficult.

Jetline longitudinal seamwelders provide a solution to these problems. They are designed for the straight line welding of all weldable materials in thicknesses varying from 0.005" (0.1 mm) to 3/8" (10 mm), thicker materials can be accommodated using Jetline's unique mandrel adjustment capability. They optimize the welding process, reduce welding costs and improve the quality of the weld.



All Jetline seamwelders use "chill-shunt" tooling which absorbs and dissipates heat through the use of additional mass operating under pressure against the workpiece in the weld zone.

The longitudinal seamwelder clamps the materials to be welded firmly in alignment giving uniform chill to the weld. It also provides the facility to move the welding equipment accurately along the weld seam. This produces a butt weld free of melt-through, burnbacks, extreme shrinkage or distortion.

Jetline longitudinal seamwelders feature the ultimate in ease-of-operation and accuracy. Modern, simplified controls reduce operator fatigue. The shallow clamping structure design increases visibility and efficiency.

Jetline manufactures a standard range of seamwelders for part lengths up to 240" (6 m), longer lengths are available on special order. The range includes the following models:

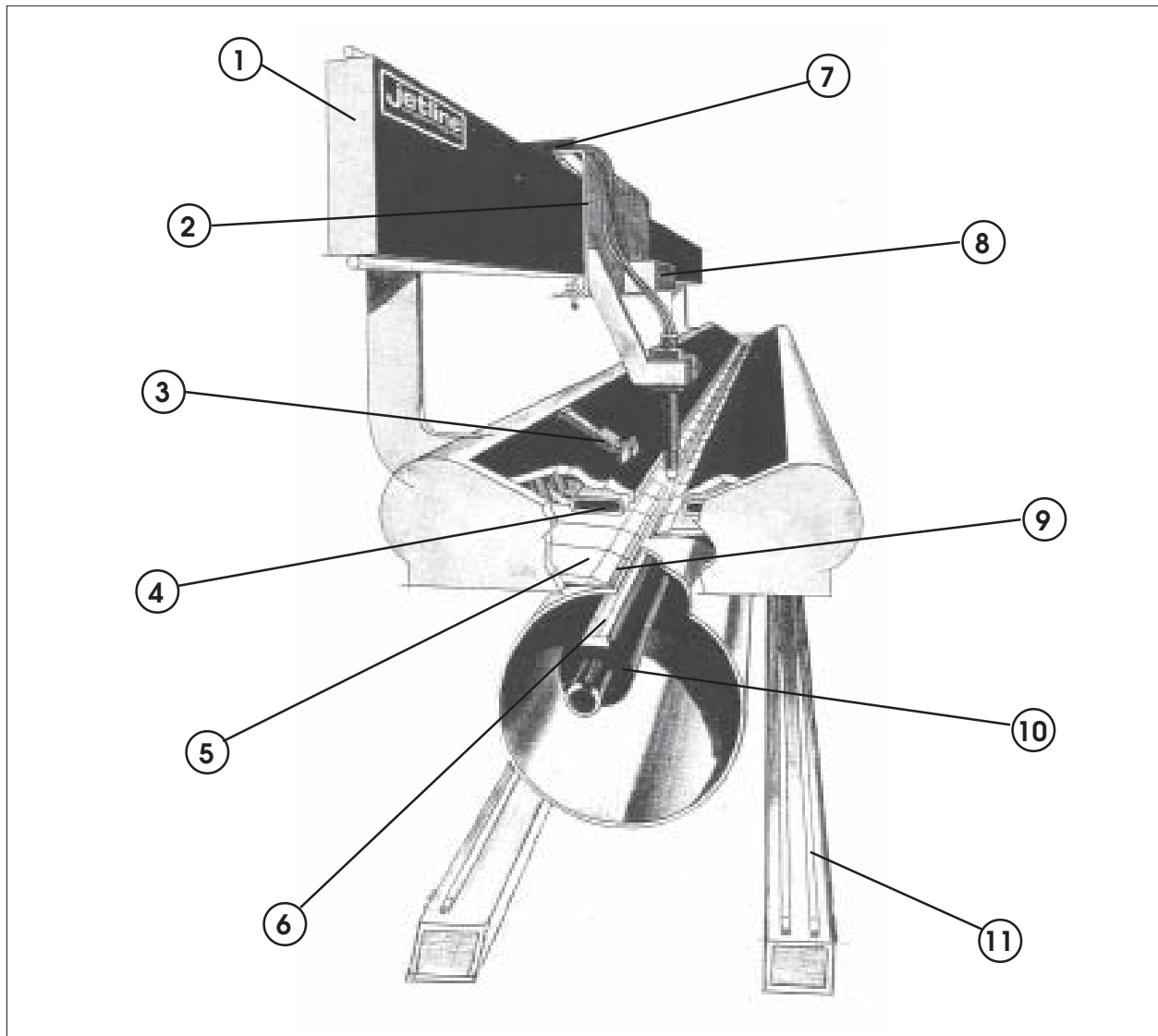
- External Style
- Internal Style
- Combination Style
- Elevating Style
- Bench Style

Jetline has manufactured seamwelders for almost 50 years and offers the widest range available from any manufacturer. Contact us for all your seamwelding requirements.

Jetline is the world's premier manufacturer of seamwelders with over 45 years experience

15 Goodyear St, Irvine, California, 92618 U.S.A. • Tel: (949) 951-1515 • Fax: (949) 951-9237
P O Box 208, Huntingdon, Cambridgeshire, PE29 7FE, UK • Tel: +44(0)1480-433366 • Fax: +44(0)1480-433377

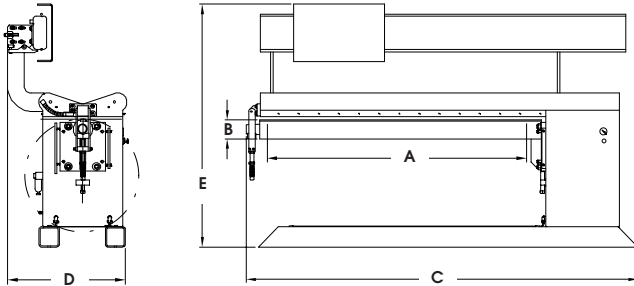
STANDARD SEAMWELDER FEATURES



- ① Unique side beam track uses case hardened roundways for smooth, precise carriage travel. Linear accuracy is within ± 0.005 " (0.1 mm) on the precision model and ± 0.015 " (0.3 mm) on the standard model.
- ② The travel carriage rides on the track using hardened bearings. The 9627 microprocessor controller provides precision speed control. Various speed ranges are available, standard speed holding accuracy is $\pm 2\%$ of the rated speed, with a tach-generator this is improved to better than $\pm 1\%$. A precision model provides $\pm 0.1\%$ speed holding accuracy.
- ③ Various types of alignment gages are available for the accurate placement of the sheet.
- ④ Air-operated, clamping hose generates a clamping force of up to 5000 lb/ft (75 kg/cm).
- ⑤ Hold down fingers are aluminum to assist in the chilling of the weld joint. They are of a precise width to assure consistent chill and to avoid aspiration of air in critical applications.
- ⑥ Back-up bar insert. Grooved to specification. Gas backing is optional. Made from copper, steel or stainless steel. Special configurations are available as required.
- ⑦ Cable support bracket. A flexible cable support system is optionally available to support all the hoses and cables to the carriage.
- ⑧ 9627 Microprocessor-based travel speed controller is supplied as the standard controller with all Jetline seamwelders. The control interfaces with suitable power supplies for weld sequence control. Jetline offers a range of weld system controllers.
- ⑨ Dual-edged, replaceable copper finger tip. Precision machined for distortion-free welding.
- ⑩ Back-up mandrel, water cooling is optional, special mandrels are available on request.
- ⑪ "Toe-Touch" tapeswitch control. Activates the finger clamping. A pendant control is optionally available.

EXTERNAL STYLE SEAMWELDERS

LWS - Standard
LWP - Precision
LWX- Ultra-Precision



Model Number	Welding Length "A" Inches (mm)	Min. Dia. Piecepart "B" Inches (mm)	Overall Length "C" Inches (mm)	Overall Width "D" Inches (mm)	Overall Height "E" Inches (mm)	Shipping Wt. (Approx) Lbs. (kg)
LW? - 24	24 (610)	2½ (67)	70 (1,780)	40 (1,000)	69 (1,750)	2,300 (1,040)
LW? - 36	36 (915)	3½ (90)	82 (2,080)	40 (1,000)	69 (1,750)	2,600 (1,180)
LW? - 48	48 (1,220)	4¼ (108)	94 (2,390)	40 (1,000)	69 (1,750)	4,000 (1,815)
LW? - 60	60 (1,525)	5¼ (133)	106 (2,690)	40 (1,000)	69 (1,750)	4,700 (2,130)
LW? - 72	72 (1,830)	6 (152)	118 (3,000)	40 (1,000)	69 (1,750)	5,300 (2,400)
LW? - 84	84 (2,135)	6¾ (175)	130 (3,300)	40 (1,000)	69 (1,750)	5,900 (2,675)
LW? - 96	96 (2,440)	7¼ (184)	142 (3,605)	40 (1,000)	69 (1,750)	6,400 (2,900)
LW? - 120	120 (3,050)	9½ (241)	176 (4,470)	42 (1,070)	76 (1,930)	12,000 (5,450)
LW? - 144	144 (3,660)	12¼ (311)	200 (5,080)	42 (1,070)	76 (1,930)	13,000 (5,900)
LW? - 168	168 (4,270)	15¼ (387)	224 (5,690)	42 (1,070)	76 (1,930)	14,000 (6,350)
LW? - 192	192 (4,875)	18½ (470)	248 (6,300)	42 (1,070)	76 (1,930)	15,000 (6,800)
LW? - 216	216 (5,485)	21¼ (540)	272 (6,900)	42 (1,070)	76 (1,930)	16,000 (7,250)
LW? - 240	240 (6,100)	24¼ (616)	296 (7,500)	42 (1,070)	76 (1,930)	17,000 (7,700)

LW? - Use S, P or X according to model

Maximum diameter part is 32" (810 mm)

LWS - Standard External Seamwelder

For all weldable metals
 For 0.020" to 3/8" (0.5 to 10 mm) thickness
 Rack and Pinion carriage drive
 Travel accuracy is ±0.015" (0.4 mm) per 10ft (3 m).

LWP - Precision External Seamwelder

As standard but designed for thin materials
 For 0.005" to 3/8" (0.1 to 10 mm) thickness
 Continuous hold down strips are standard
 Travel accuracy is ±0.005" (0.1 mm) per 10ft (3 m).

LWX - Ultra-Precision Seamwelder

As precision but for critical applications
 Linear drive replaces rack and pinion drive

Consult factory for:

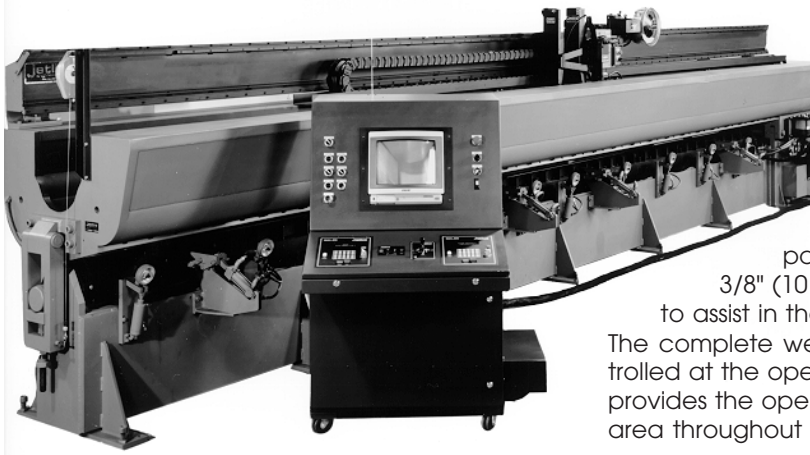
Mandrel modification for other diameters or shapes.
 Installation of a riser for larger diameters.

Carriages and Speeds

Model	Speed Range ipm	Speed Range mm/min	Speed Holding
For seamwelders up to 16 ft (4.8 m) long			
SWCA-3A	3 - 135	75 - 3,450	±2%
SWCA-3B	1.2 - 60	30 - 1,500	±2%
SWCA-3D	0.2 - 188	5 - 4,775	±0.1%
For seamwelders over 16 ft (4.8 m) long			
SWC-6A	4 - 165	100 - 4,190	±2%
SWC-6B	3 - 108	75 - 2,750	±2%
SWC-6C	2 - 67	50 - 1,700	±2%
SWC-6D	1 - 45	25 - 1,150	±2%
For LWX Ultra-Precision seamwelders			
SWCA-4A	4 - 170	100 - 4,300	±2%
SWCA-4B	2 - 85	50 - 2,100	±2%
SWCA-4C	0.32 - 60	8 - 4,060	±0.1%
SWCA-4D	0.22 - 106	5 - 2,700	±0.1%

Note: Addition of a tach-generator to the standard carriage motor improves the speed holding accuracy to ±1% of the rated speed.

INTERNAL STYLE SEAMWELDERS



Model LWI-312

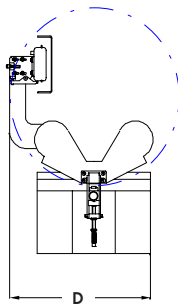
The internal style seamwelder shown is designed for the welding of tanks used in the road transportation industry. It has a weld length of 312" (8 m) and is fitted with Dual-Arc™ Plasma/TIG welding equipment capable of producing single pass welds in stainless steel sheets up to 3/8" (10 mm) thick. Elevating rollers are fitted to assist in the loading and unloading of cylinders. The complete welding process is monitored and controlled at the operator control station. Video monitoring provides the operator with a clear view of the welding area throughout the complete process

Model Number	Welding Length "A" Inches (mm)	Min. Dia. Piecepart "B" Inches (mm)	Overall Length "C" Inches (mm)	Overall Width "D" Inches (mm)	Overall Height "E" Inches (mm)	Shipping Wt. (Approx) Lbs. (kg)
LWI - 72	72 (1,830)	50 (1,270)	146 (3,700)	38 (965)	44 (1,120)	5,500 (2,500)
LWI - 84	84 (2,135)	50 (1,270)	158 (4,000)	38 (965)	44 (1,120)	6,050 (2,750)
LWI - 96	96 (2,440)	50 (1,270)	170 (4,320)	38 (965)	44 (1,120)	6,600 (3,000)
LWI - 120	120 (3,050)	50 (1,270)	194 (4,925)	41 (1,040)	51 (1,300)	12,200 (5,530)
LWI - 144	144 (3,660)	50 (1,270)	218 (5,540)	41 (1,040)	51 (1,300)	13,300 (6,030)
LWI - 168	168 (4,270)	50 (1,270)	242 (6,150)	41 (1,040)	51 (1,300)	14,400 (6,530)
LWI - 192	192 (4,875)	60 (1,525)	266 (6,750)	43 (1,090)	53 (1,350)	15,500 (7,030)
LWI - 216	216 (5,485)	60 (1,525)	290 (7,370)	43 (1,090)	53 (1,350)	16,600 (7,530)
LWI - 240	240 (6,100)	60 (1,525)	314 (7,980)	43 (1,090)	53 (1,350)	17,700 (8,030)

Internal seamwelders are designed for applications where the diameter of the parts to be welded is large. They do not employ a conventional mandrel. Instead, they are fitted with a sturdy base structure on which the insert holder and back-up insert are mounted. The advantage of this design is that there is virtually no limit to the diameter of cylinder that can be accommodated. The only limitations are the size and facilities of the building in which the seamwelder is situated. Internal seamwelders are manufactured to the same exacting specifications as the external range and have the following features:

- For all weldable materials
- For all arc welding processes
- For 0.020 to 3/8" (0.5 to 10 mm) thickness
- Rack and Pinion carriage drive
- Travel accuracy is $\pm 0.015"$ (0.1 mm) per 10ft (3 m)

A number of optional items are available to enhance the capability of the system for your application. Please consult Jetline for further details on these features.



Carriages and Speeds

Model	Speed Range		Speed Holding
	ipm	mm/min	
For seamwelders up to 16 ft (4.8 m) long			
SWCA-3A	3 - 135	75 - 3,450	$\pm 2\%$
SWCA-3B	1.2 - 60	30 - 1,500	$\pm 2\%$
SWCA-3D	0.2 - 188	5 - 4,775	$\pm 0.1\%$
For seamwelders over 16 ft (4.8 m) long			
SWC-6A	4 - 165	100 - 4,190	$\pm 2\%$
SWC-6B	3 - 108	75 - 2,750	$\pm 2\%$
SWC-6C	2 - 67	50 - 1,700	$\pm 2\%$
SWC-6D	1 - 45	25 - 1,150	$\pm 2\%$

Note: Addition of a tach-generator to the standard carriage motor improves the speed holding accuracy to $\pm 1\%$ of the rated speed.

COMBINATION STYLE SEAMWELDERS



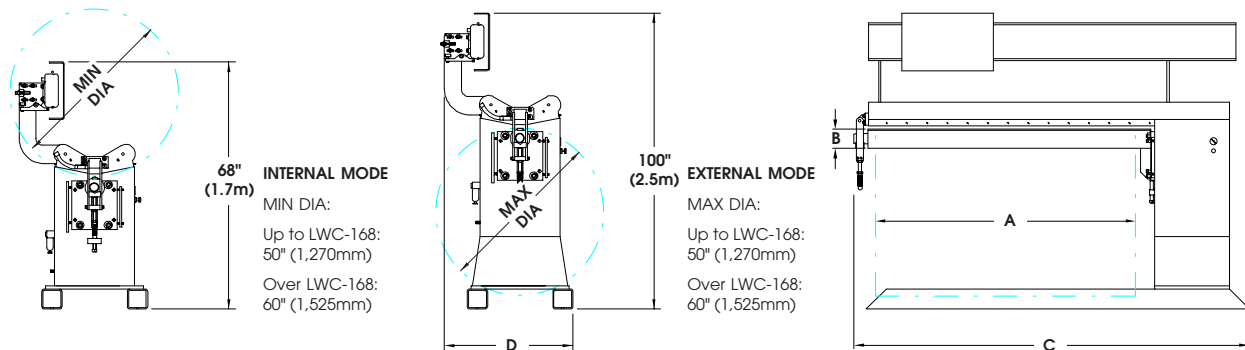
Model LWC-96

The combination style seamwelder shown is designed for the welding of cylindrical tanks and vessels. The parts can be loaded either under (for smaller diameters) or over the tabletop (for larger diameters).

The system illustrated is fitted with a complete set of GTAW (TIG) welding equipment with the unique Jetline model 9500, 4 channel micro-processor control, arc length control, wire feed, motorized cross seam adjustment and video monitoring.

The operator can monitor and control the welding process from a control podium conveniently located at floor level.

Model Number	Welding Length "A" Inches (mm)	Min. Dia. Piecepart "B" Inches (mm)	Overall Length "C" Inches (mm)	Overall Width "D" Inches (mm)	Shipping Wt. (Approx) Lbs. (kg)
LWC - 72	72 (1,830)	6 (152)	118 (3,000)	40 (1,000)	5,300 (2,400)
LWC - 84	84 (2,135)	6 ⁷ / ₈ (175)	130 (3,300)	40 (1,000)	5,900 (2,675)
LWC - 96	96 (2,440)	7 ¹ / ₄ (184)	142 (3,605)	40 (1,000)	6,400 (2,900)
LWC - 120	120 (3,050)	9 ¹ / ₂ (241)	176 (4,470)	42 (1,070)	12,000 (5,450)
LWC - 144	144 (3,660)	12 ¹ / ₄ (311)	200 (5,080)	42 (1,070)	13,000 (5,900)
LWC - 168	168 (4,270)	15 ¹ / ₄ (387)	224 (5,690)	42 (1,070)	14,000 (6,350)
LWC - 192	192 (4,875)	18 ¹ / ₂ (470)	248 (6,300)	42 (1,070)	15,000 (6,800)
LWC - 216	216 (5,485)	21 ¹ / ₄ (540)	272 (6,900)	42 (1,070)	16,000 (7,250)
LWC - 240	240 (6,100)	24 ¹ / ₄ (616)	296 (7,500)	42 (1,070)	17,000 (7,700)



Combination seamwelders are supplied with a removable riser which increases the diameter of parts that can be accommodated underneath the tabletop. Removal of the riser reduces the overall height of the machine. The tabletop is designed to allow internal welding.

In the external mode, small diameter parts can be placed over the mandrel which defines the smallest acceptable diameter. With the riser fitted, the seamwelder will accept parts up to the minimum diameter which can be loaded over the tabletop thus providing the widest range of acceptable diameters of all Jetline seamwelders

Carriages and Speeds

Model	Speed Range		Speed Holding
	ipm	mm/min	
For seamwelders up to 16 ft (4.8 m) long			
SWCA-3A	3 - 135	75 - 3,450	±2%
SWCA-3B	1.2 - 60	30 - 1,500	±2%
SWCA-3D	0.2 - 188	5 - 4,775	±0.1%
For seamwelders over 16 ft (4.8 m) long			
SWC-6A	4 - 165	100 - 4,190	±2%
SWC-6B	3 - 108	75 - 2,750	±2%
SWC-6C	2 - 67	50 - 1,700	±2%
SWC-6D	1 - 45	25 - 1,150	±2%

Note: Addition of a tach-generator to the standard carriage motor improves the speed holding accuracy to ±1% of the rated speed.

ELEVATING STYLE SEAMWELDERS

The elevating style seamwelder is essentially a variation of the combination model. Instead of a fixed height riser, the tabletop and mandrel on this model are mounted on support columns on which they can be moved up or down. Movement is effected using a hydraulic cylinder with special fail-safe valves to ensure that the unit remains firmly in position, even in the event of a power failure.

The tabletop design can be modeled on the type used on the external seamwelder version, in this case, all the welding is done with the part below the tabletop. As an alternative, the tabletop can be an internal style to permit parts to be loaded under or over the tabletop, this provides the maximum range of part diameters.

Elevating style seamwelders can be fitted with any type of welding equipment for any arc welding process. Due to the elevated working height, they are often supplied with remote control facilities including video monitoring and operator control stations.

For details of capacities and sizes, consult the specifications for the combination seamwelder.



Model LWH-312

The model illustrated is shown complete with Dual-Arc™ Plasma/TIG welding capability. It has a weld length of 312" (8 m) and can be elevated to accept cylinders up to 8 ft (2.4 m) diameter.

The system is fitted with a "droop-style" mandrel, this can be hydraulically lowered to ease the loading and unloading of cylinders. Jetline can provide loading carts as required.

BENCH STYLE SEAMWELDERS

Bench style seamwelders are designed with a bracket to permit them to be mounted to a workshop bench or table. They are suitable for the GTAW (TIG) and Plasma (PAW) welding of materials from 0.020" to 3/16" (0.5 to 5 mm) thick. Actuation of the pneumatically powered clamping fingers is by foot-operated air valves.

The unit illustrated is complete with an optional self-standing base, toe-touch switches (as used on our other models) are available at extra cost. All bench seamwelders use Jetline's unique 9627 microprocessor travel control which can interface with suitable power supplies and with a pneumatic torch lift to provide complete sequence control of the weld process.

Contact the factory for special mandrels and other non-standard features.



Model Number	Welding Length Inches (mm)	Min. Dia. Piecepart Inches (mm)	Overall Length Inches (mm)	Overall Width Inches (mm)	Overall Height Inches (mm)	Shipping Wt. (Approx) Lbs. (kg)
LWB - 6	6 (150)	2 5/8 (67)	33 (840)	20 (510)	30 (760)	400 (181)
LWB - 12	12 (300)	2 5/8 (67)	39 (1,000)	20 (510)	30 (760)	600 (270)
LWB - 18	18 (450)	2 5/8 (67)	45 (1,150)	20 (510)	30 (760)	900 (410)
LWB - 24	24 (600)	2 5/8 (67)	51 (1,300)	20 (510)	30 (760)	1200 (550)
LWB - 36	36 (900)	3 1/2 (89)	63 (1,600)	20 (510)	30 (760)	1500 (680)

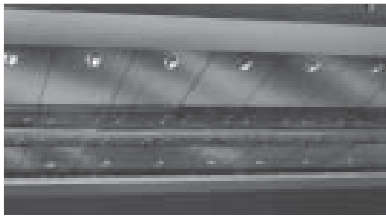
STANDARD PERFORMANCE FEATURES



Travel Carriage and Control

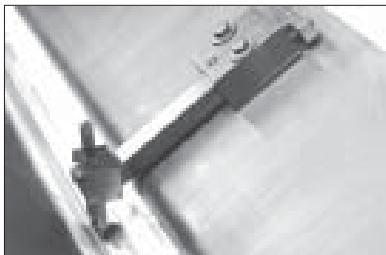
The combination of powered round-way travel carriages and side beams provide the high degree of accuracy demanded in today's precision welding. All carriages feature a large mounting surface which will accommodate all types of welding equipment. Each carriage is mounted on self-aligning, triple roller bearings held in "V"-shaped mounting blocks.

The carriage is driven by a DC servomotor with a rack and pinion drive to the track. Control of travel speed is provided by the 9627 microprocessor control which provides a standard speed holding accuracy of $\pm 2\%$ of the rated speed. Using an optional tach-generator on the motor, the speed holding accuracy can be improved to better than $\pm 1\%$.



Hold-down Fingers

Opposing rows of aluminum fingers clamp the edges to be welded securely against the mandrel's backup bar insert. Precision, reversible copper tips are screwed to the ends of the fingers and can be easily replaced if damaged or worn. The fingers "float" to compensate for any unevenness in the workpiece.



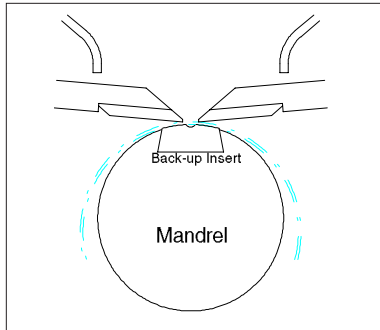
Retractable Edge Aligning Device

Each seamwelder has two alignment gages. Each gage has a blade which can be swung down to the centerline of the backup insert to assist the operator in aligning the sheet to the centerline of the seamwelder.



Clamping Control

Toe touch pressure at any point along the length of the toe touch pad mounted on the seamwelder support legs instantly clamps or releases the clamping fingers. This allows total flexibility in joint gap closing, the finger design permits the second side of the joint to be "pushed-in" as clamping takes place to provide a tight butt joint.



Back-Up Mandrel

The mandrel is designed to support the part being welded and to restrain the clamping forces. It has a groove to accommodate interchangeable back-up inserts. The mandrel is usually of circular section but can be made to accept any shape of part, e.g. for corner welding or for the welding of square and rectangular sections.

Water cooling or preheating of the mandrel can be accomplished using optional facilities.

Back-Up Bar Inserts

The insert is designed to slide into the groove on the mandrel which maintains the alignment of the insert. Inserts are quickly and easily exchanged. Most inserts are made of copper to carry away the heat generated during welding. The upper surface of the insert is grooved, the size and shape of the groove is designed specifically for the range of material and thicknesses to be welded. Additional inserts are available to cover a wide range of materials.

Inserts are available with or without gas back-up facilities. Where back-up gas is required, the insert includes a gas chamber and holes which feed the gas to the backing groove.



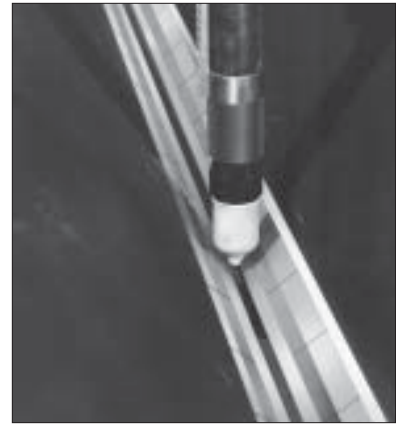
Pressure Hold-down

Clamping pressure is adjustable up to 5,000 lb/ft (75 kg/cm).



Safety Switch

The safety switch is activated when the mandrel latch is closed. It protects the mandrel by preventing clamping when the latch is disengaged.



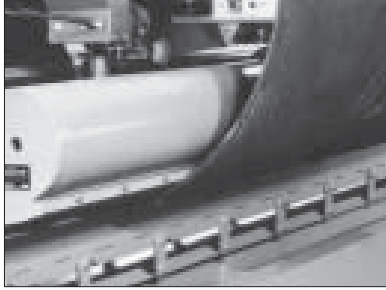
Continuous Hold-down Strips

All precision seamwelders feature these strips which are optionally available on standard models. They are designed for the welding of materials under 0.020" (0.5 mm) thick and for the welding of refractory materials. They minimize the effect of air aspiration between the segmented fingers and create an uninterrupted "chill-shunt" effect along the entire length of the weld.

Mandrel Tooling Adjustment

All Jetline seamwelders incorporate a 2" (50mm) back-up tooling adjustment. This is effected by lifting or lowering the whole mandrel and provides the ability to accommodate thicker back-up inserts or to adjust for the welding of different parts.

OPTIONAL ACCESSORIES



Retractable Tooling

This facility provides an air-operated, quick acting mechanism to lower the back-up insert to provide additional clearance between the fingers and the mandrel for easier part loading and unloading.

Riser Block

Risers are available to increase the height of the tabletop and therefore increase the diameter of parts that can be externally welded.

Note: This is a factory installed option and must be specified at the time of ordering the seamwelder.



Arc Length Control

Jetline's Model 401 microprocessor-controlled arc length control is used for GTAW (TIG) and Plasma (PAW) welding. It is designed to maintain a precise and consistent arc length throughout the weld process. The unit includes a touch retract facility to preset the arc length prior to welding.

The microprocessor design provides easy-to-use setup screens and an uncluttered front panel for operator convenience.



Cold and Hot Wire Feeders

A full range of wire feeders, both for cold and hot wire feeding, are available. Wire sizes from 0.020 to 3/32" (0.5 to 2.4 mm) can be accommodated. Models include both two and four drive roll varieties.



9500 System Controller

The 9500 System Controller is a microprocessor-based system capable of simultaneously controlling four welding parameters. The unit has closed loop control capabilities, this provides parameter accuracy levels better than $\pm 1\%$ of the set level.

The 9500 can be used for the control of any arc welding process and will store up to 25 weld programs in its memory. Additional program storage is available through the use of the optionally available memory pendant and memory cards.

The unit can be set to control multi-pass welding and can be programmed to control up to 25 sequential weld passes, each pass can use entirely different parameters.



Auto-Loading Seamwelder

In addition to the extensive range of longitudinal seamwelders shown in this brochure, Jetline manufactures the type illustrated above. This is a variation of a standard external seamwelder with additional features to automate the loading, aligning, clamping and welding of the parts.

Using this system, over 100 parts per hour can be produced. For further details, request our separate product information sheet.

MIG Welding Seamwelder

Jetline produces a seamwelder model designed specifically for use with the GMAW (MIG) welding process. The unit is supplied complete with weld gear and is available on short delivery in 4, 6 and 10 ft models.

Welding Gear

Jetline can interface the welding power supply and other weld gear with the seamwelder to provide a completely integrated welding system.

Equipment for any welding process can be fitted. All necessary cables and hoses will be supplied to provide a system which can be introduced into production immediately following delivery. Cable tracks to support all the cables can be supplied and fitted.



See Jetline pricelist for complete ordering information

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