



**Civil
engineering
and tunnel
construction
with Leister.**

**Powerful and
reliable.**



You can rely on Leister whenever it matters.

Civil engineering places extreme demands on technology. Leister equipment offers precision welding quality even under the most adverse conditions. It is no accident that Leister has remained the market leader for over 50 years! Our welding machines are extremely efficient and easy to operate and capable of processing PE-HD, PE-LD, PE-C, PVC-P, PP, PFA, ECB, EVA and TPO materials. We offer an entire product range of welding alternatives from hand tools to automatic welding machines with memory card and printer features. We compliment our line of first class quality products with a complete line of accessories and valuable expert advice. As the worldwide market leader in the hot air plastic welding industry, Leister knows what the civil engineering professionals need to succeed.

Combiwedge welding machine

TWINMAT

With a high air flow of 500 l/min and 2500 newton welding force, the TWINMAT produces perfect welding seals, even under humid conditions.



- ¥ Process control by direct measuring and recording of welding pressure
- ¥ Digital display of temperature, speed, pressure and welding length
- ¥ Optional speed control
- ¥ Up to 5 mm material thickness for HD / PE
- ¥ Controlled temperature and drive
- ¥ BAM allowed

Technical Data

Voltage	V~	230 400
Power consumption	W	4600 5800
Frequency	Hz	50 / 60
Temperature	°C	20 – 620
Speed	m/min	0.8 – 5.0
Welding pressure	N	max. 2500
Air flow (20°C)	l/min	500
Pressure static	Pa	5000 (50 mbar)
Material thickness	mm	1.5 – 5.0
Memory card recording		optional
Printer		optional
Size (L × W × H)	mm	600 × 690 × 450
Weight	kg	32.0 with 5 m cord
Marking of conformity		CE
Approval mark		Ⓢ
Certification scheme		CCA
Protection class II		Ⓜ

Hot-wedge welding machine

COSMO

With up to 2500 newton and 2000 watt heating power, the Leister COSMO is the standard against which all others are measured when it comes to joining strength. Leister also offers a special version with process control and data recording.



- ¥ Process control by direct measuring and recording of welding pressure
- ¥ Digital display of temperature, speed, pressure and welding length
- ¥ Optional speed control
- ¥ Welding report for quality assurance
- ¥ Controlled temperature and drive
- ¥ BAM allowed

Technical Data

Voltage	V~	230
Power consumption	W	2000
Frequency	Hz	50 / 60
Temperature	°C	20 – 450
Speed	m/min	0.5 – 5.0
Welding pressure	N	max. 2500
Material thickness	mm	1.5 – 3.0
Memory card recording		optional
Printer		optional
Size (L × W × H)	mm	600 × 380 × 450
Weight	kg	32.0 with 5 m cord
Marking of conformity		CE
Approval mark		Ⓢ
Certification scheme		CCA
Protection class I		Ⓛ

Possible application of COMET

Wedge length	Type of material	Thickness recommended
70 mm copper	PE-HD, PE-C, PP	1.5 — 2.0 mm
	PE-LD	2.0 — 3.0 mm
70 mm steel	PVC-P	2.0 — 3.0 mm
Power consumption 1500 W		

Wedge length	Type of material	Thickness recommended
50 mm copper	PE-HD, PE-C, PP	0.5 — 1.5 mm
	PE-LD	1.0 — 2.0 mm
50 mm steel	PVC-P	1.0 — 2.0 mm
Power consumption 1200 W		

Wedge length	Type of material	Thickness recommended
20 mm steel	PE-HD, PE-C, PP	0.5 — 1.0 mm
	PE-LD	
Power consumption 700 W		

Hot-wedge welding machine

ASTRO

The world's fastest hot-wedge welding machine welds at up to 5 meters per minute — and, of course, the welding seams are also perfect at this speed.



- ¥ High welding performance
- ¥ Digital display of temperature, speed and voltage
- ¥ Extra-practical one-handle operation
- ¥ Steplessly adjustable welding pressure
- ¥ Controlled temperature and drive

Technical Data

Voltage	V~	120 230
Power consumption	W	1800 1800
Frequency	Hz	50 / 60
Temperature	°C	20 – 420
Speed	m/min	0.5 – 5.0
Welding pressure	N	max. 1500
Material thickness	mm	1.5 – 3.0
Size (L × W × H)	mm	430 × 270 × 310
Weight	kg	23.0 with 3 m cord
Marking of conformity		CE
Approval mark		Ⓢ
Certification scheme		CCA
Protection class I		Ⓛ

Wedge welding machine

COMET

The world's smallest and lightest compact machine with an integrated control box. The special wedge with optimized heat transfer guarantees top welding performance.



- ¥ Sophisticated drive technology, designed to meet the highest demands
- ¥ Digital display of temperature and speed
- ¥ Optional data recording on memory card possible
- ¥ Controlled temperature and drive
- ¥ User-friendly

Technical Data

Voltage	V~	120 230
Power consumption	W	see chart above
Frequency	Hz	50 / 60
Temperature	°C	20 – 420
Speed	m/min	0.8 – 3.2
Welding pressure	N	max. 1000
Material thickness	mm	see chart above
Memory card recording		optional
Size L × W × H	mm	295 × 250 × 245
Weight	kg	7.5 with 3 m cord
Marking of conformity		CE
Approval mark		Ⓢ
Protection class I		Ⓛ



TWINNY T with combi-wedge used to weld a HD-PE liner.



TWINNY T used in a water storage basin.



Welding connections using TRIAC PID with push-fit wide slot nozzle.

Combiwedge welding machine

TWINNY T

The TWINNY T is ideal even for thin materials in civil engineering and tunnel construction. Easy-to-exchange combiwedges are also available with or without a test channel. The display provides information on all the important welding parameters.



- ¥ Easy operation
- ¥ High welding speed
- ¥ Digital display of temperature and speed
- ¥ Optional data recording
- ¥ Controlled temperature and drive
- ¥ Even under harsh environmental conditions perfect welding results thanks to hot-air system

Technical Data					
Voltage	V~	100	120	200	230
Power consumption	W	1600	1900	2200	2300
Frequency	Hz	50 / 60			
Temperature	°C	20 – 560			
Speed	m/min	0.8 – 3.2			
Welding pressure	N	max. 1000			
Air flow (20°C)	l/min	Level 2: 150, Level 3: 190			
Pressure static	Pa	Level 2: 1500 (15 mbar) Level 3: 2100 (21 mbar)			
Noise emission level L _{PA}	dB	71			
Memory card recording		optional			
Size (L × W × H)	mm	340 × 360 × 245			
Weight	kg	6.9 – 7.9 with 3 m cord			
Marking of conformity		CE			
Approval mark		S			
Protection class I		⊕			

Combiwedge welding machine

TWINNY S

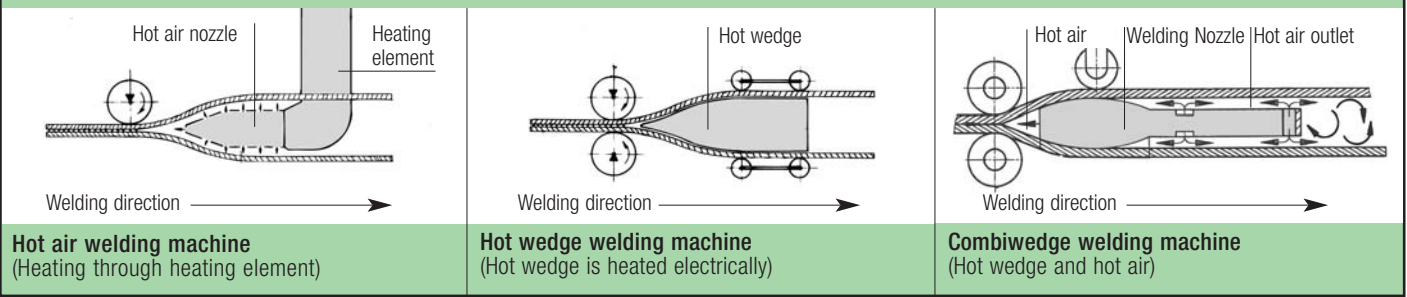
Low weight and effective version for tunnel construction, the TWINNY S, optimized for overhead welding, is ideal also for thin materials in civil engineering and tunnel construction. Exchangeable combiwedges are also available for welding with or without a test channel.



- ¥ Easy operation
- ¥ Low weight
- ¥ High welding speed
- ¥ Controlled temperature and drive
- ¥ Even under harsh environmental conditions perfect welding results thanks to hot-air system

Technical Data					
Voltage	V~	100	120	200	230
Power consumption	W	1600	1900	2200	2300 / 2900
Frequency	Hz	50 / 60			
Temperature	°C	max. 600			
Gearing		256:1		144:1	
Speed	m/min	0.2 – 2.5		0.8 – 4	
Welding pressure	N	max. 1000		max. 500	
Air flow (20°C)	l/min	Level 2: 150, Level 3: 190			
Pressure static	Pa	Level 2: 1500 (15 mbar), Level 3: 2100 (21 mbar)			
Noise emission level L _{PA}	dB	71			
Size L × W × H	mm	350 × 390 × 270			
Weight	kg	6.5 – 6.9 with 3 m cord			
Marking of conformity		CE			
Approval mark		S			
Certification scheme		CCA			
Protection class II		⊞			

Leister is the only manufacturer to offer all possible types of welding systems worldwide.



Hot air welding machine
(Heating through heating element)

Hot wedge welding machine
(Hot wedge is heated electrically)

Combiwedge welding machine
(Hot wedge and hot air)

Semi automatic welding tool

TRIAC DRIVE PID

Horizontal, vertical, diagonal. This tried and tested semi-automatic welding machine can be used universally. The increased welding speed compared with manual welding gives rise to higher productivity.



- ¥ Overlap welding of PVC-P, ECB, EPDM, CSPE and TPO roofing membranes
- ¥ Faster and more efficient than hand welding
- ¥ Small and compact
- ¥ Steplessly adjustable speed for high welding seam quality
- ¥ Can be used in the most confined spaces

Technical Data			
Voltage	V~	230	120
Power consumption	W	1700	
Frequency	Hz	50 / 60	
Temperature	°C	20 – 620, adjustable	
Speed	m/min	0.5 – 3, adjustable	
Noise emission level L _{pA}	dB	65	
Size L x W x H	mm	250 x 165 x 88, handle Ø 63	
Weight	kg	2.3 with 3 m cord	
Marking of conformity		CE	
Approval mark		S	
Certification scheme		CCA	
Protection class I		⊕	

Tensiometer

EXAMO

Is the welding seam closed and can it withstand the requested peeling, tensile and shearing forces? EXAMO performs right on the construction site — quick, reliable and uncomplicated.



- ¥ Designed for construction site conditions
- ¥ Handy, robust and light
- ¥ Digital display of elongation, peak force, tear force, test speed and position
- ¥ With optional data recording on a memory card
- ¥ Optional for geotextiles

Technical Data				
Typ		300 F	600 F	
Voltage	V~	120	230	120 230
Power consumption	W	200	200	200 200
Frequency	Hz	50 / 60		50 / 60
Tensile load	N	4000		
Jaw spacing	mm	5 – 300		5 – 600
Range	mm	300		
Testing speed	mm/min	10 – 300		10 – 300
Sample thickness	mm	max. 7		max. 7
Sample width	mm	max. 40 (60 optional)		max. 40 (60 optional)
Force sensor		yes		
Memory card recording		optional		
Size (L x W x H)	mm	750 x 270 x 190 (storage case)		1050 x 270 x 190 (storage case)
Weight	kg	14		
Weight	kg	17.5		
Marking of conformity		CE		
Approval mark		S		
Protection class I		⊕		



TRIAC DRIVE PID welding a horizontal seam in tunnel construction.



ASTRO achieves perfect welding seams even at the highest speed of 5 m/min.

Hand tool

TRIAC PID

With stepless temperature control and electronic monitoring, the TRIAC PID is the preferred hand tool for welding with high quality.



- ¥ Reproducible results thanks to digital display of set and actual temperature
- ¥ Welding results independent of voltage fluctuations and ambient temperature
- ¥ Adaptor tube with heat protection
- ¥ Electronic heating element protection
- ¥ Motor shut-off at minimal carbon level
- ¥ Suitable for continuous operation
- ¥ Multiple replacement of carbon brushes possible

Technical Data						
Voltage	V~	42	100	120	200	230
Power consumption	W	1000	1400	1600	1400	1600
Frequency	Hz	50 / 60				
Temperature	°C	50 – 600				
Air flow (20°C)	l/min	230				
Pressure static	Pa	ca. 3000 (30 mbar)				
Noise emission level L _{pA}	dB	65				
Size (L × Ø)	mm	340 × 90, handle Ø 56				
Weight	kg	1.4 with 3 m cord				
Marking of conformity		CE				
Approval mark		S				
Certification scheme		CCA				
Protection class II		□				

Hand tool

TRIAC S



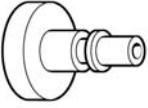

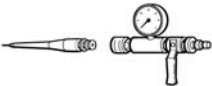

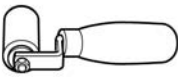



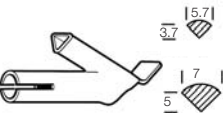
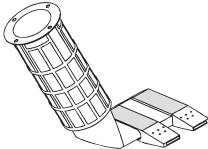
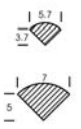







TRIAC S: the reliable, cost-effective and proven hand tool with steplessly controlled temperature.



- ¥ Adaptor tube with heat protection
- ¥ Electronic heating element protection
- ¥ Motor shut-off at minimal carbon level
- ¥ Multiple replacement of carbon brushes possible
- ¥ Suitable for continuous operation

Technical Data						
Voltage	V~	42	100	120	200	230
Power consumption	W	1000	1400	1600	1400	1600
Frequency	Hz	50 / 60				
Temperature	°C	20 – 700				
Air flow (20°C)	l/min	230				
Pressure static	Pa	ca. 3000 (30 mbar)				
Noise emission level L _{pA}	dB	65				
Size (L × Ø)	mm	340 × 90, handle Ø 56				
Weight	kg	1.4 with 3 m cord				
Marking of conformity		CE				
Approval mark		S				
Certification scheme		CCA				
Protection class II		□				

Accessories for Civil Engineering and Tunnel Construction

110.051		Test kit for welding fittings	115.275		Double supporting carrier > TRIAC DRIVE PID
106.950		Welding fitting PE	115.276		Single supporting carrier > TRIAC DRIVE PID
110.052		Test kit with injector needle	115.284		Guide handle > TRIAC DRIVE PID
106.975		One-arm pressure roller 40 mm with ball bearings (silicon)	100.517		Short Combiwedge, 50 mm with test channel
106.976		Pressure roller 28 mm (PTFE)	100.518		Short Combiwedge, 50 mm without test channel > TWINNY T > TWINNY S
106.992		Speed welding nozzle 5.7 mm push-fit on tubular nozzle Ø 5 mm	100.525		Long Combiwedge, 50 mm with test channel
106.993		Speed welding nozzle 7 mm push-fit on tubular nozzle Ø 5 mm > TRIAC PID > TRIAC S	100.526		Long Combiwedge, 50 mm without test channel > TWINNY T > TWINNY S
Profile		Profilschweißdraht endlos 5.7 x 3.7 mm, 7 x 5 mm, aus PVC-U (grau), PVC-P (transparent), PE-HD(schwarz), PE-LD (schwarz), PP (beige)	114.104		Shipping case > ASTRO
107.123		Wide slot nozzle 20 mm, push-fit > TRIAC PID > TRIAC S	115.283		Overlap welding nozzle 12 mm, with grip, inside, push-fit
100.303		Tubular nozzle Ø 5 mm push-fit > TRIAC PID > TRIAC S	115.279		Overlap welding nozzle 30 mm, with grip, inside, push-fit
107.132		Wide slot nozzle 40 mm push-fit > TRIAC PID > TRIAC S	115.281		Overlap welding nozzle 38 mm, with grip, inside, push-fit
107.135		Wide slot nozzle 40 mm, PTFE coated push-fit > TRIAC PID > TRIAC S	115.699		Overlap welding nozzle 12 mm, without grip, inside, push-fit
115.274 115.176 115.186		Pressure roller 12 mm	115.701		Overlap welding nozzle 30 mm, without grip, inside, push-fit
		Pressure roller 30 mm	115.703		Overlap welding nozzle 38 mm, without grip, inside, push-fit > TRIAC DRIVE PID
		Pressure roller 38 mm > TRIAC DRIVE PID	115.282	Overlap welding nozzle 12 mm, with grip, outside, push-fit	
			115.278	Overlap welding nozzle 30 mm, with grip, outside, push-fit	
			115.280	Overlap welding nozzle 38 mm, with grip, outside, push-fit	
			115.698	Overlap welding nozzle 12 mm, without grip, outside, push-fit	
			115.700	Overlap welding nozzle 30 mm, without grip, outside, push-fit	
			115.702	Overlap welding nozzle 38 mm, without grip, outside, push-fit > TRIAC DRIVE PID	

Bei Handgeräten müssen Düsen zusätzlich bestellt werden.
Änderungen der technischen Daten bleiben vorbehalten.

Hand extruder

WELDPLAST S4*

Compact and ergonomic. The WELDPLAST S4 hand extruder is the first of its type with its brushless, maintenance-free motor for generating preheated air. An output of up to 4 kg/h is possible thanks to its powerful drive system.



- ¥ Compact housing design reduces noise and guarantees optimal cooling for the electronics and drive
- ¥ Terminal with illuminated graphic display and operating keys suitable for construction sites
- ¥ Microprocessor to regulate the welding process
- ¥ Menu with function programs
- ¥ Air flow up to 450 l/min
- ¥ Twist-free welding rod feed for 3 mm or 4 mm rod
- ¥ Complies with DVC (German Welding Association) standards

Technical data

Model	Screw extruder with integrated preheat hot air blower (brushless) and barrel heater	
Voltage	V~	230
Power consumption	W	3680
Frequency	Hz	50 / 60
Material	PE / PP (PVC on inquiry)	
Welding rod	mm	∅ 3 or ∅ 4
Output (HDPE ∅ 4)	kg/h	2.5 – 4.0
Size (L × B × H)	mm	560 × 110 × 300 (without welding shoe)
Weight	kg	8.7 (without cord)
Mark of conformity	CE	
Mark of approval	S	
Certification scheme	CCA	
Protection class I	Ⓛ	

Hand extruder

WELDPLAST EC4

World first! The WELDPLAST EC4 hand extruder with two brushless motors for drive and preheated air. Advanced features and compact design makes it an ideal partner for professional work in process equipment manufacture and civil engineering.



- ¥ Servo-drive with integrated electronics
- ¥ Compact housing design reduces noise and guarantees optimal cooling for the electronics and drive
- ¥ Terminal with illuminated graphic display and operating keys suitable for construction sites
- ¥ Microprocessor to regulate the welding process
- ¥ Menu with function programs
- ¥ Air flow up to 450 l/min
- ¥ Twist-free welding rod feed for 3 mm or 4 mm rod
- ¥ Complies with DVC (German Welding Association) standards

Technical data

Model	Screw extruder with brushless drive, integrated preheat hot air blower (brushless) and barrel heater	
Voltage	V~	230
Power consumption	W	3680
Frequency	Hz	50 / 60
Material	PE / PP (PVC on inquiry)	
Welding rod	mm	∅ 3 or ∅ 4
Output (HDPE ∅ 4)	kg/h	2.5 – 4.0
Size (L × B × H)	mm	560 × 110 × 300 (without welding shoe)
Weight	kg	8.7 (without cord)
Mark of conformity	CE	
Mark of approval	S	
Certification scheme	CCA	
Protection class I	Ⓛ	

* WELDPLAST A4 with external air supply

Hand extruder

WELDPLAST S6

With an astounding output of 6 kg per hour, WELDPLAST S6 is Leister's most powerful hand extruder and therefore the work horse in process equipment manufacture and civil engineering.



- ¥ Compact housing design reduces noise and guarantees optimal cooling for the electronics and drive
- ¥ Terminal with illuminated graphic display and operating keys suitable for construction sites
- ¥ Microprocessor to regulate the welding process
- ¥ Menu with function programs
- ¥ Twist-free welding rod feed for 4 mm or 5 mm rod
- ¥ Grid connection 400V
- ¥ Complies with DVC (German Welding Association) standards

Technical data

Model	Screw extruder with integrated preheat hot air blower and barrel heater	
Voltage	V~	400
Power consumption	W	6000
Frequency	Hz	50 / 60
Material	PE / PP	
Welding rod	mm	Ø 4 or Ø 5
Output (HDPE Ø 4)	kg/h	3.5 – 6.0
Size (L × B × H)	mm	680 × 110 × 310 (without welding shoe)
Weight	kg	11.5 (without cord)
Mark of conformity	CE	
Mark of approval	S	
Certification scheme	CCA	
Protection class I	⊕	

Hand extruder

WELDPLAST G6

As an alternative to using welding rods, the fitted funnel on the WELDPLAST G6 makes it an ideal tool for creating perfect welds with granulate media.



- ¥ Compact housing design reduces noise and guarantees optimal cooling for the electronics and drive
- ¥ Terminal with illuminated graphic display and operating keys suitable for construction sites
- ¥ Microprocessor to regulate the welding process
- ¥ Menu with function programs
- ¥ Twist-free welding rod feed for 4 mm or 5 mm rod
- ¥ Grid connection 400V
- ¥ Granulate funnel
- ¥ Complies with DVC (German Welding Association) standards
- ¥ Optional handle for landfill

Technical data

Model	Screw extruder for granulate with integrated preheat hot air blower and barrel heater	
Voltage	V~	400
Power consumption	W	6000
Frequency	Hz	50 / 60
Material	PE / PP	
Welding rod	mm	Ø 4 or Ø 5
Output (HDPE Ø 4)	kg/h	3.5 – 6.0
Size (L × B × H)	mm	680 × 110 × 310 (without welding shoe)
Weight	kg	12 (without cord)
Mark of conformity	CE	
Mark of approval	S	
Certification scheme	CCA	
Protection class I	⊕	

Hand extruder

FUSION 3

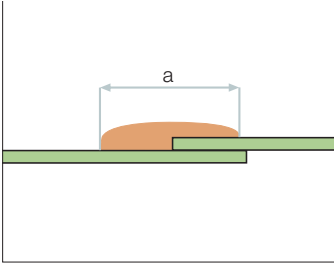
Clever and smart: Despite its simple and symmetrical construction, the FUSION 3 hand extruder achieves an output of up to 3.8 kg/h. A single warm air blower is sufficient for heating the plastic filler and preheated air.



- ¥ Compact and handy
- ¥ Integrated electronics for stepless adjustment of the preheating temperature and output quantity
- ¥ Electronic drive protection
- ¥ Revolvable welding shoe
- ¥ Twist-free welding rod feed for 3 mm or 4 mm rod

Technical data

Model	Screw extruder with on board preheat hot air blower	
Voltage	V~	230
Power consumption	W	3500
Frequency	Hz	50 / 60
Material	PE / PP	
Welding rod	mm	fl 3 or fl 4
Output (HDPE fl 4)	kg/h	2.0 – 3.5
Size (L × B × H)	mm	670 × 90 × 180 (without welding shoe)
Weight	kg	7.2 kg (without cord)
Mark of conformity	CE	
Mark of approval	S	
Certification scheme	CCA	
Protection class II	□	

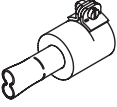
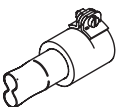




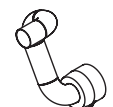






Overlap welding seam
a = Welding seam thickness



Without welding rod:
The WELDPLAST G6 is with its granulate funnel an independent partner.

Accessories for hand extruders

117.053		Preheating nozzle small > WELDPLAST 4 > WELDPLAST 6
117.518		Preheating nozzle medium > WELDPLAST 4 > WELDPLAST 6
117.055		Preheating nozzle large > WELDPLAST 4 > WELDPLAST 6
119.188 119.189 119.190 119.191		Welding shoe complete, overlap a = 25 mm a = 30 mm a = 35 mm a = 40 mm > WELDPLAST 4 > WELDPLAST 6
118.190 119.184 119.185 119.186		Welding shoe complete, overlap a = 25 mm a = 30 mm a = 35 mm a = 40 mm > FUSION 3
117.065		Hot air guide > WELDPLAST 4
117.795		Hot air guide > WELDPLAST 6
118.259		Handle for landfill > WELDPLAST 4 > WELDPLAST 6
118.568		Handle for landfill > FUSION 3
117.993		Tool rest > WELDPLAST 4 > WELDPLAST 6 > FUSION 3
118.188		Welding rod de-reeler > WELDPLAST 4 > WELDPLAST 6 > FUSION 3



The WELPLAST EC4 as well as the welding rod roll are very well placed on the tool rest.



Thanks to the de-reeler the welding rod is always close to the event.



Thanks to the handle for landfill the welding process of long welding seams becomes even more comfortable.



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Our close worldwide network of more than 120 Sales and Service Centres in more than 60 countries.