LEISTER

PLASTIC WELDING

Plastic Fabrication

Swiss made

Extrusion and hot-air hand welders

The right choice for the specialist

www.cmc.pt

We know how.

Dear Leister customers

The selection of machines and equipment greatly influences the quality and success of your work. That is why we offer solutions that you can always count on and with which you are guaranteed to be able generate added value.

Our goal is to exceed your expectations. All of our devices and machines are designed and produced in Switzerland, because for us, quality and innovation are the highest priority. We have more than 70 years of experience in the fields of plastic welding and industrial process heat applications, and are constantly expanding this. Through direct contact with you in your workshop, at the construction site and through social media, we collect the necessary input that we then incorporate into the next generation of devices. Our engineers and designers combine your ideas with the latest technology to create unique products that meet your requirements. Here, we place particular importance on functionality, ergonomics and durability. That is why you can count on a reliable welder in all locations and environments.

We maintain a global and close-knit service and distribution network which enables us to serve you quickly and easily. Our expert distributors and own associations ensure that you can access our services across the globe.

In the following pages, see for yourself how our extensive product range will be able to support you in your work. You will also find a great deal of useful information on plastic welding in the brochure. Motivated by our principle, “Leister. We know how,” we are eager to share our experience with you in order to make your work easier.

I hope you enjoy reading our brochure!

Reto Britschgi
Product Manager Plastic Fabrication

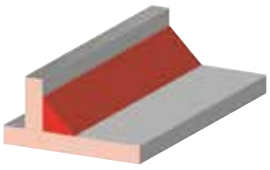
Plastic welding with Leister

With plastic welding, workpieces made of thermoplastic are joined inseparably to one another using a combination of thermal energy and pressure. Central factors are welding speed and the length of the welding process. Plastic welding is used in many areas: For the processing of tarpaulins and plastic sealing sheets, on the roof, in earthworks, hydraulic engineering or tunnel construction, for floor coverings, in vehicle repairs and in equipment construction.

Know-how

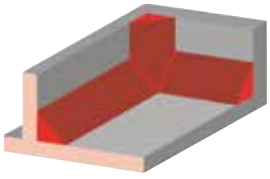
Welding seam geometries galvanic tank

A



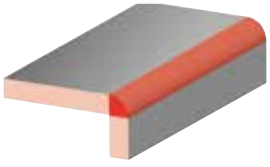
Fillet weld
The fillet weld is one of the most frequently-use seam geometries. It is produced by welding two work-pieces that meet in a T-joint.

B

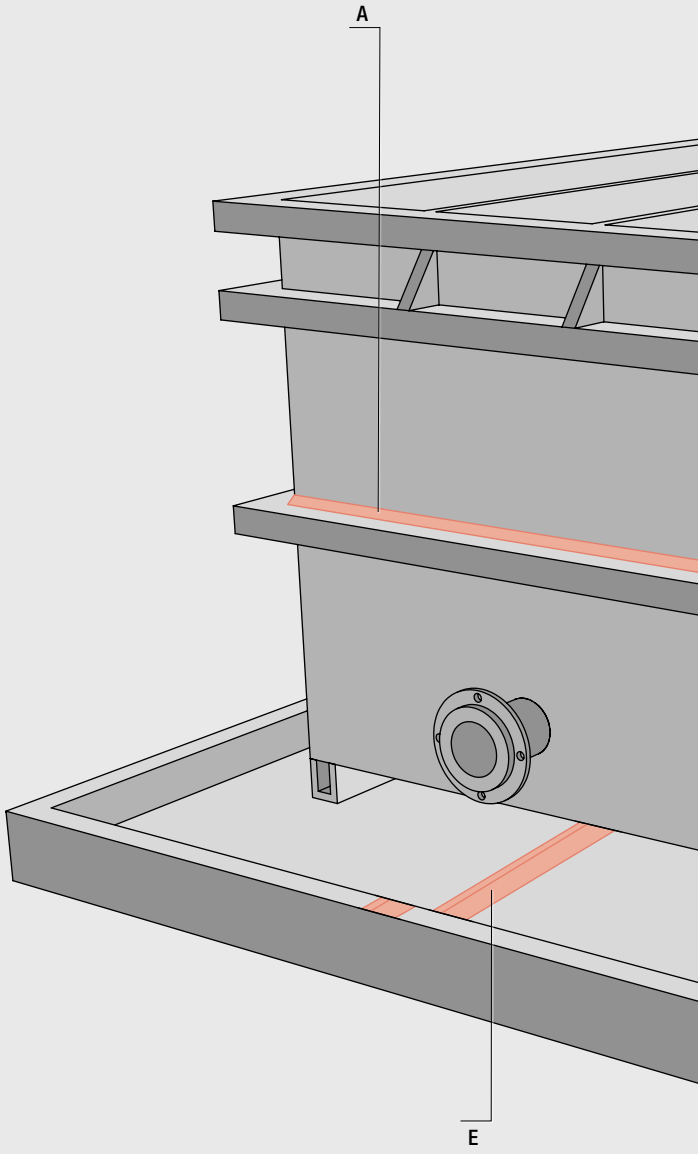


Interior corner seam
Interior corner seams are generally used on difficult-to-reach locations. Free forms and spline-shaped weld seam geometries are welded most efficiently like this.

C

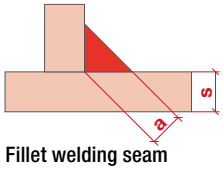


Corner seam appearance
The outer corner seam is a fillet weld in which the weld seam runs along the edge of the workpieces which are standing together. Consequently, the weld is made along the outer longitudinal side (edge).

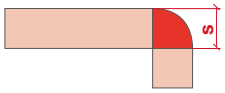


Possibilities of welding seams

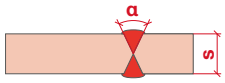
a = seam size **s** = material thickness **α** = milling angle



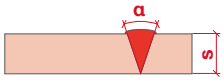
Fillet welding seam



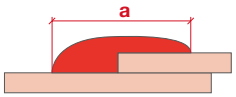
Corner outside seam



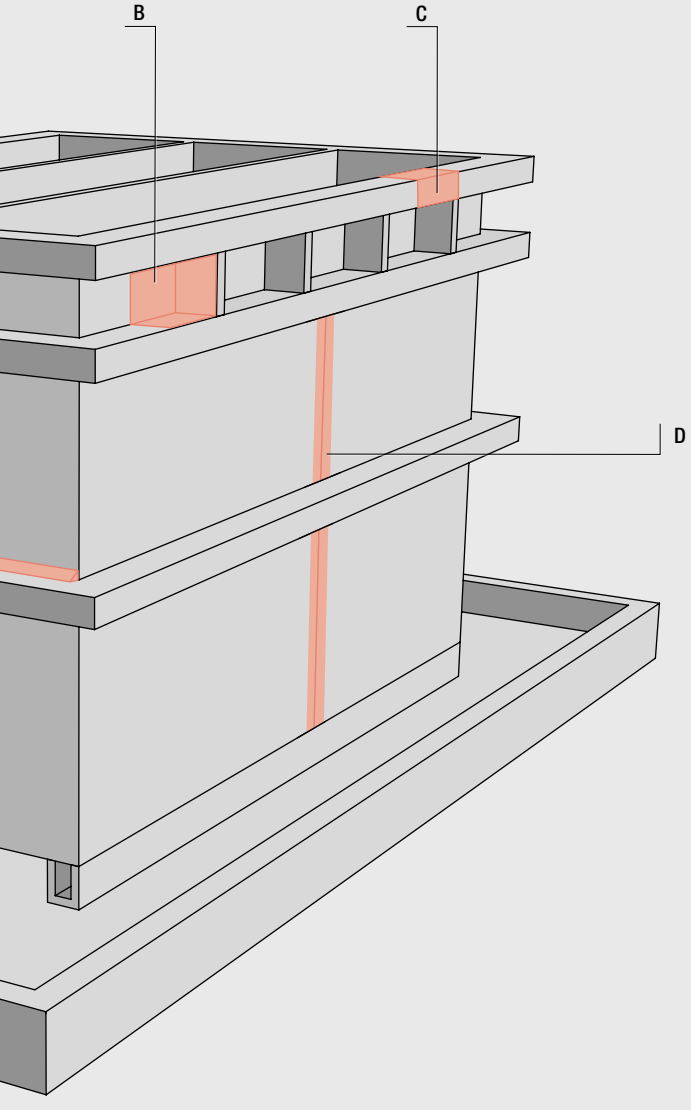
X-seam
s = 10 – 40 mm = α 60°
s = 50 – 60 mm = α 50°



V-seam
s = 5 – 20 mm = α 60°
s = 25 – 30 mm = α 50°



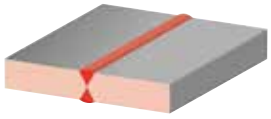
Overlap seam



X-seam

The double-V seam is also known as an X-seam. It is a type of butt weld and consists of a combination of two V-seams on each of the two sides of the components to be joined.

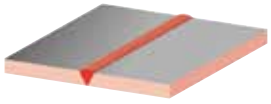
D



V-seam

In order to achieve the V-shaped angle that is typical for the V-seam, the workpieces are either beveled or positioned at an appropriate angle to each other.

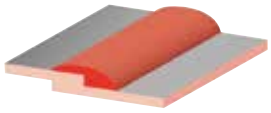
D



Lap seam

Lap seams are mainly used for plastic sheets. Here, the sheets are arranged on top of each other and the weld seam is laid on the upper exposed material edge.

E



FUSION 2, compact and powerful

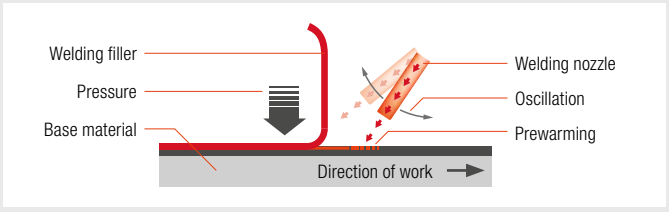
Thermal joining of plastics

Plastic welding requires a correspondence between the three welding parameters temperature, pressure and speed. In contrast to other joining methods, welding can achieve high resiliency and a strong, homogeneous welding seam. Plastic compounds are extremely robust and perfectly sealed when processed correctly. They can also be repaired without a loss of strength.

Hot gas welding with the torch separate from filler rod (WF)

Hot gas welding with the torch separate from filler rod is used primarily for areas that are difficult to access and for short seams. This welding process is preferred for processing amorphous plastics, in particular PVC. Especially with manual welding, pay special attention to maintaining uniform pressure and constant speed.

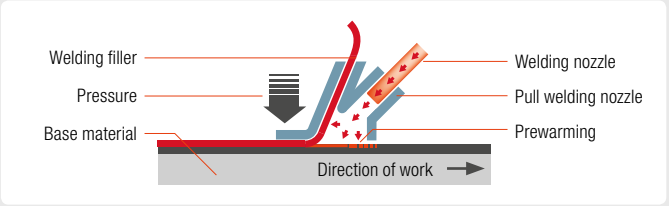
During welding, press the wire by hand vertically onto the groove. The force applied depends on the base material chosen and the dimension of the welding wire. Apply the heat flowing out of the tubular nozzle alternately to the welding wire and to the joint in an oscillating motion in the direction of welding until the end of the seam is reached. When realized correctly with the right temperature and appropriate pressure, a welding seam is formed on both sides of the weld bead in the form of a uniform double bead.



High-speed hot gas welding (WZ)

High-speed hot gas welding requires a high-speed welding nozzle that corresponds to the shape of the fill material. The process is faster, more uniform, and consequently more efficient than pendulum welding. Furthermore, larger cross-sectional surfaces of the welding wire can be processed in one pass. This leads to less residual stress and thus to a lower welding effort.

Hold the welder with one hand, and with the other hand, press the welding wire into the nozzle. The nozzle design divides the hot gas, which in this way heats both the base material and the fill material. The latter is led through a preheating chamber and plasticized shortly before the two materials meet. The presser flap on the end of the nozzle is responsible for the welding force. You can finish the resulting weld seam using a suitable scraper after the welding process.

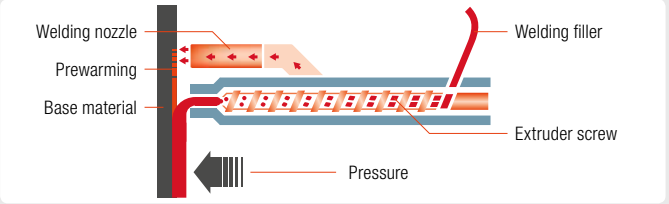


Hot gas extrusion welding (WE)

Hot gas extrusion welding is preferred over high-speed hot gas welding for wall thicknesses from about 6 mm. With extrusion welding, shorter working times, higher strength and lower internal stress is expected compared to manual welding. This leads to higher process reliability and greater efficiency.

For this, you require a welding shoe corresponding to the welding geometry and a welding filler consisting of the same material as the base material, which is plasticized in the extruder.

First, put joining surfaces into the thermoplastic state using hot air. Immediately press the extrudate onto the surfaces or into the joint using the welding shoe. Depending on the working position, you should apply different intensities of pressure. Welding speed is determined by the quantity of extrudate and by the dimensions of the weld seam. In addition, it must correspond to the prewarming of the base material.




MaxiFlex

Welding parameters for hand welding

Based on DVS 2207-3

Welding Process	Materials	Abbreviations	Hot gas temperature [1] °C	Hot gas volume flow [2] l/min	Welding speed [3] mm/min	Welding force (N) with wire ø 3mm	Welding force (N) with wire ø 4mm
Free hand welding (WF)	High-density polyethylene	PE-HD [4]	300 … 320	40 … 50	70 … 90	8 … 10	20 … 25
	Polypropylene, Types 1, 2, 3	PP-H; PP-B; PP-R	305 … 315	40 … 50	60 … 85	8 … 10	20 … 25
	Unplasticised polyvinyl chloride	PVC-U	330 … 350	40 … 50	110 … 170	8 … 10	20 … 25
	Chlorinated polyvinyl chloride	PVC-C	340 … 360	40 … 50	55 … 85	15 … 20	20 … 25
	Polyvinylidene fluoride	PVDF	350 … 370	40 … 50	45 … 50	15 … 20	25 … 30
	Acrylonitrile butadiene styrene	ABS [6]	350	N/A	N/A	N/A	N/A
	Polycarbonate	PC [6]	350	N/A	N/A	N/A	N/A
	Polyamide	PA [6]	400	N/A	N/A	N/A	N/A
	Polybutylene terephthalate	PBT [6]	350	N/A	N/A	N/A	N/A
	Low-density polyethylene	PE-LD [6]	270	N/A	N/A	N/A	N/A
	Polyurethane	PUR (Thermoplast) [6]	300	N/A	N/A	N/A	N/A
	XENOY	XENOY PC/PBTB [6]	350	N/A	N/A	N/A	N/A
	Plasticised polyvinyl chloride	PVC-P [6]	350	N/A	N/A	N/A	N/A
	Polyethylene terephthalate glycol-modified	PETG [6]	200 … 215	N/A	N/A	N/A	N/A
Draw welding (WZ)	Polyvinyl chloride	PE-HD	300 … 340	45 … 55	250 … 350	15 … 20	25 … 35
	Polypropylene, Types 1, 2, 3	PP-H; PP-B; PP-R	300 … 340	45 … 55	250 … 350	15 … 20	25 … 35
	Unplasticised polyvinyl chloride	PVC-U	350 … 370	45 … 55	250 … 350	15 … 20	25 … 35
	Chlorinated polyvinyl chloride	PVC-C	370 … 390	45 … 55	180 … 220	15 … 25	30 … 35
	Polyvinylidene fluoride	PVDF	365 … 385	45 … 55	200 … 250	15 … 25	30 … 35
	Ethylene Chloro Tri Fluoro Ethylene	E/CTFE [5]	350 … 380 [5]	50 … 60 [5]	220 … 250	10 … 15	N/A
	Fluorinated ethylene propylene	FEP	380 … 390	50 … 60	60 … 80	10 … 15	N/A
	Tetrafluorethylen Perfluormethylvinylether	MFA	395 … 405	50 … 60	60 … 80	10 … 15	N/A
	Perfluoroalkoxy alkanes	PFA	400 … 410	50 … 60	70	10 … 15	N/A

[1] Measured 5mm in the nozzle, in the centre of the nozzle opening.
[2] Drawn-in cold air volume at the ambient pressure.
[3] Depending on the welding filler material diameter and the welding groove geometry.
[4] PE 63, PE 80, PE 100
[5] Nitrogene recommended
[6] LEISTER empiric parameters

Please note:
The indicated welding parameter may vary depending on the ambient temperature and the material configuration.
Test welds need to be done and the parameter aligned accordingly! Leister takes no responsibility for poor quality welding!

Welding parameters for extrusion welding

Based on DVS 2207-4

Welding Process	Materials	Abbreviations	Material temperature [1] °C	Hot gas temperature [2] °C	Hot gas volume flow [3] l/min	Welding speed [5] mm/min
Extrusion welding (WE)	High-density polyethylene	PE-HD [4]	210 … 230	210 … 300	300	300
	Polypropylene, Types 1, 2, 3	PP-H; PP-B; PP-R	210 … 240	210 … 300	300	300
	Unplasticised polyvinyl chloride	PVC-U	190 … 200	330 … 360	300	300
	Impact resistant polyvinyl chloride	PVC-HI	170 … 180	280 … 340	300	300
	Chlorinated polyvinyl chloride	PVC-C	195 … 205	300 … 360	300	300
	Polyvinylidene fluoride	PVDF	240 … 260	280 … 350	300	300
	Polyamide 6 [6]	PA 6	280	315	300	300
	Polycarbonate [6]	PC	270	315	270	300
	Acrylonitrile butadiene styrene [6]	ABS	265	300	150	300
	Polystirene [6]	PS	245	280	300	300
	Polypropylen Athylen Propylen Terpolymer [6]	PP-EPDM	200 … 230	200 … 290	300	300
	Polyurethane (Thermoplast) [6] [7]	PUR	180	260 … 300	300	300

1) Measured with an insert thermometer at the exrudate outlet of the hand extruder.
2) Measured 5mm in the nozzle, in the centre of the nozzle opening.
3) Drawn-in cold air volume at the ambient pressure.
4) PE 63, PE 80, PE 100
5) Depending on the preheating
6) LEISTER empiric parameters
7) Welding rod has to be predryed

Please note:
The indicated welding parameter may vary depending on the ambient temperature and the material configuration.
Test welds need to be done and the parameter aligned accordingly! Leister takes no responsibility for poor quality welding!

Welding errors

In addition to a failure to adhere to the welding parameters, the following errors can lead to cavities, vacuoles and poor weld quality:

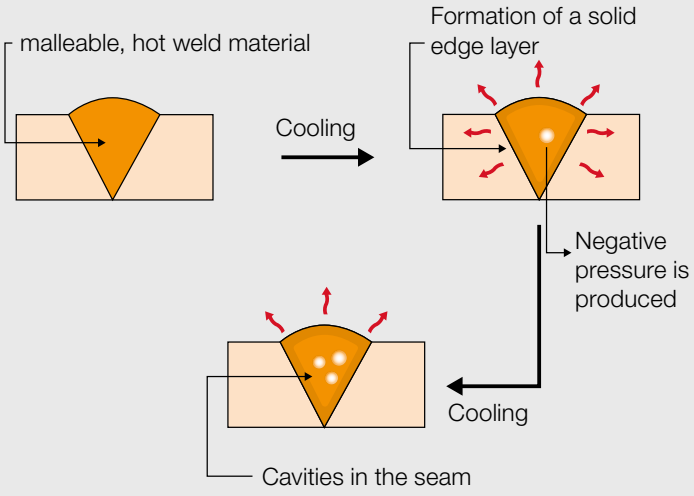
- Excessively high temperature
- Residual moisture in the welding filler
- Excessively high air humidity
- Wet hands
- Excessively cold welding shoe
- Low-quality plastic

Base material and welding filler made of polyolefins can absorb moisture. The thicker the seam, the more frequently these phenomena occur. For this reason, you should store materials in a dry place and in their original packaging. You should avoid temperature differences between the welding parts to prevent the formation of condensation. Very thick welding seams must be welded in several work steps.

Rough surfaces on the seam can therefore be because...

- ...the welding shoe is too short.
- ...the welding shoe is too cold.
- ...the surface over which the welding shoe glides is too rough.

Vacuoles are caused by the excessively fast cooling of large weld seam cross-sections.



Bad example

Good example

Fields of application

Hot gas welding with the torch separate from filler rod, high-speed hot gas welding and hot gas extrusion welding are used in many areas.

General tank construction
Plastic is preferred for producing receptacles and tanks. Depending on the storage medium, they have significant advantages over metallic materials.

Galvanic
Galvanic processes are usually carried out using chemicals. The baths must also be resistant to thermal and electrical influences.

Water management
Fresh water and service water infrastructures place high demands on hygiene and corrosion. Thermoplastics offer stable behavior in this respect.

Ventilation
Ventilation systems in industrial environments often transport aggressive media. A long-term solution is only possible with the right plastic.

Maritime Industry
Boats, rafts and floating docks made of polyolefins are positively buoyant by nature, extremely robust and resistant to salt water.

Aquaculture, greenhouse beds
Aquaculture and greenhouses are very demanding in terms of microbes, fungi and chemical influences. Containers and pipes must be leaktight and capable of being sterilized.

Pipeline construction
Polyethylene is the preferred material for unpressurized pipelines and for jacket tubes for long-distance pipelines. It is very durable against mechanical stress and can be processed extremely flexibly.

Plastic repair
Expertly performed repairs on thermoplastics restore 100% of the original function.


Storage tanks made of polyethylene


Galvanic bath made of polypropylene
© Collini www.collini.eu


Working boats mad of polypropylene

WELDPLAST S2

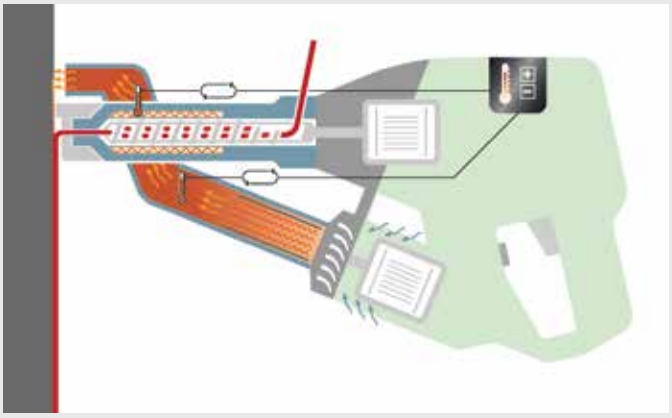
FUSION 3 C

WELDPLAST - Closed loop system

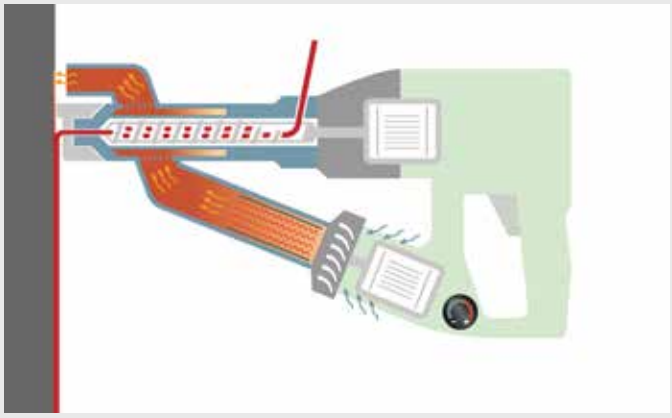
- Closed-loop control
- Little welding experience required
- Integrated display and temperature probe
- Precise temperature independent of environmental factors or quality of voltage source -> process reliability
- DVS-compliant

FUSION - Open loop system

- Open-loop control
- Requires more welding experience
- Neither display nor temperature probe
- Temperature depends on environmental factors and voltage source

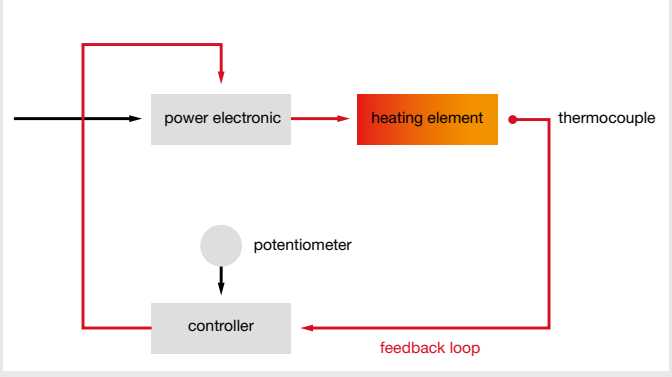


WELDPLAST

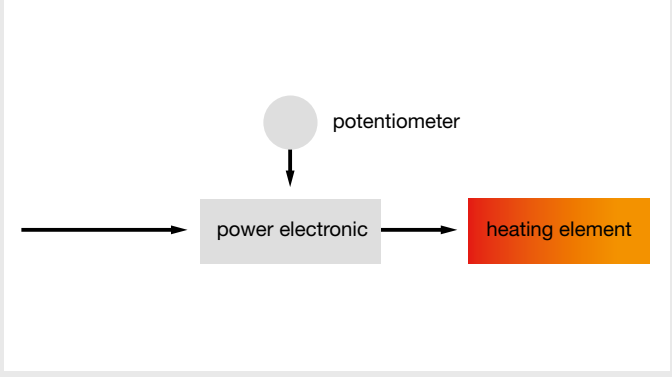


FUSION

Closed loop system



Open loop system



The benefits of Leister at a glance:

Device components

- Robust, corrosion-resistant components
- High welding speeds and top performance
- Durable heating elements
- Ergonomic design
- Intuitive to use
- Made in Switzerland

Service

- Everything available from a single source thanks to a wide product range
- Tight distribution network with short delivery times
- Support and device demonstration by our field service representatives
- Complete quality check before delivery
- Quick repair and service
- 7 Long spare parts guarantee when discontinued after 7 years

Air purification system, Spain. Material: HD-PE

The Wave House, San Diego. Material: PVC

Electroplating tank, Turkey. Material: PP

Plastic Fabrication

Hot-Air Hand Tools

The right tool for every application

LEISTER hand extruders differ in their method of process control, output volume and design. To achieve optimal welding results, it is important to chose the right tool. Decisive selection criteria are the plastics to be processed, the thickness of the welding material, the product requirements and the welder's expertise. The following two tables serve as a selection guide. For more detailed information, please contact your LEISTER sales partner.

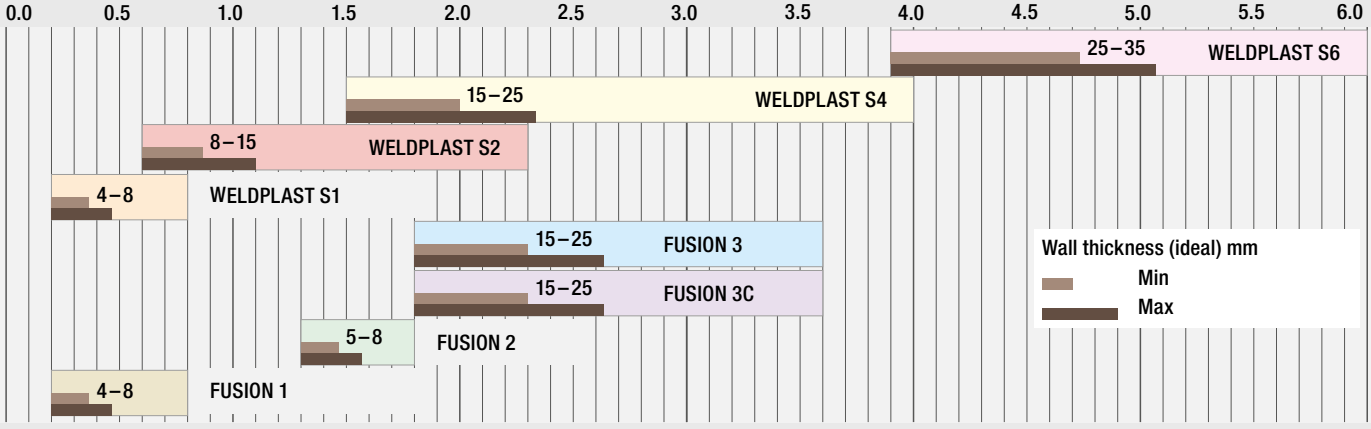
Product comparison

	Digitally regulated extrusion welders				Air heated extrusion welders			
								
Device type	**WELDPLAST S6**	**WELDPLAST S4**	**WELDPLAST S2**	**WELDPLAST S1**	**FUSION 3**	**FUSION 3C**	**FUSION 2**	**FUSION 1**
Output (HDPE) kg/hr	3.9 – 6	1.5 – 4	0.6 – 2.3	0.2 – 0.8	1.8 – 3.6	1.8 – 3.6	1.3 – 1.8	0.2 – 0.8
Material	HD-PE, PP	HD-PE, PP	HD-PE, PP, PVC	PE, PP, PVC, etc.	HD-PE, PP	HD-PE, PP	HD-PE, PP	PE, PP
Wall thickness mm	15 – 40	8 – 35	4 – 20	4 – 10	8 – 25	8 – 25	6 – 15	4 – 10
Welding rod ∅ mm	4 – 5	3 – 4 / 4 – 5	3 – 4	3 – 4	3 – 4 / 4 – 5	3 – 4 / 4 – 5	4	3 – 4
Weight kg	14	8.7	5.8	4.7	7.2	6.9	5.9	3.4
Length mm	821	560	450	435	690	588	450	435
Voltage V~	230	230	230	230 / 120	230	230	230	230
Screw extruder	yes	yes	yes	yes	yes	yes	yes	yes
Container construction	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Pipeline construction	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
Landfills / civil engineering	✓✓	✓✓	✓	❍	✓✓	✓	❍	❍
Brushless blower	yes	yes	yes	yes	no	no	no	no
Remarks	1	1	1	1	2	2	2	3
Catalog page	20	21	22 / 23	24	25 / 26	25 / 26	27	18 / 19

✓✓ very suitable ✓ suitable ❍ unsuitable

1: Air and Plast temperatures electronically controlled with integrated display.
2: Hot air heated extruder temperature controlled manually.
3: Warm air heated extruder, air temperature electronically controlled with integrated display.

Overview of Extrusion Welders Output (kg/hr)




LEISTER

Ingeniously simple – FUSION 1

Your satisfaction is our goal. Which is why we are developing welding devices to meet your requests and requirements. And with the usual LEISTER quality, of course. The reduced design of the FUSION 1 offers increased maneuverability when welding. Flexibility guarantees an optimally mountable handle. Ingeniously simple extrusion welding – FUSION 1.

Digitally regulated extrusion welder

FUSION 1

1

Rod shape:
Reduced design for increased maneuverability in small spaces

2

Double-sided wire intake:
For more flexibility when welding

3

LED light:
To illuminate the welding area

4

Handle:
Can be mounted for one-handed welding

FUSION 1 – More flexibility during welding thanks to its slim design.

Digitally regulated extrusion welder

FUSION 1

- **Controlled:** Automatically controlled air temperature
- **Suspension device:** Effortlessly weld longer by hanging up the device
- **Compact and slimline:** Thanks to integrated air guide

Technical data		
Voltage	V~	230
Power	W	1200
Materials		PE, PP
Welding rod ∅	mm	3 – 4
Output ∅ 3 HD-PE	kg/h	0.2 – 0.5
Output ∅ 4 HD-PE	kg/h	0.3 – 0.8
Size (L × B × H)	mm	435 × 92 × 133 (236 with handle)
Weight	kg	3.4
Conformity marking		CE
Protection class II		⧈

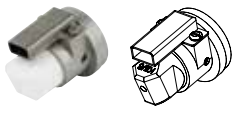
Article No.:

162.799 FUSION 1, 120 V / 1450 W, with US-plug
162.800 FUSION 1, 230 V / 1200 W, with EU-plug
163.165 FUSION 1, 230 V / 1200 W, with CEE-plug

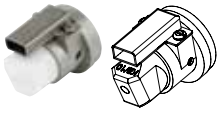
Included with purchase: FUSION 1, case, welding shoe, Allen key, instruction manual, handle

Accessories FUSION 1

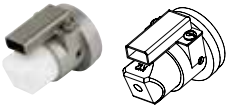
163.793 Welding shoe CL14 IA



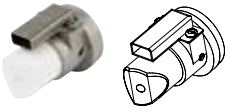
163.778 Welding shoe K5/6 IA



163.780 Welding shoe K8/10 IA

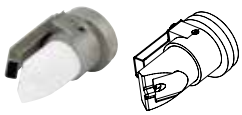


163.779 Welding shoe K12 IA

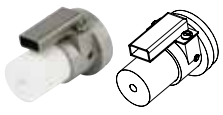


163.782 Angled welding shoe AK-10 70°

163.784 Angled welding shoe AK-10 30°



163.785 Angled welding shoe AV-10 30°



163.786 Welding shoe Rohling IA

162.665 Insulation sleeve

General accessories ↘ 30

WELDPLAST S6: The workhorse.

WELDPLAST S6 is the world's highest rated handheld extrusion welder. With an output of 6 kg/hr, it is surprisingly maneuverable. It features a brushless, preheat motor, multifunction display and comfortable ergo-grip – making the S6 Leister's flagship extrusion welder.

The WELDPLAST S6 is guided easily with the practical control wheel grip.

Digitally regulated extrusion welder

WELDPLAST S6

- 6 kg output per hour
- Highest possible preheating capacity
- Adjustable control wheel
- Maintenance-free hot-air blower
- Multifunctional display

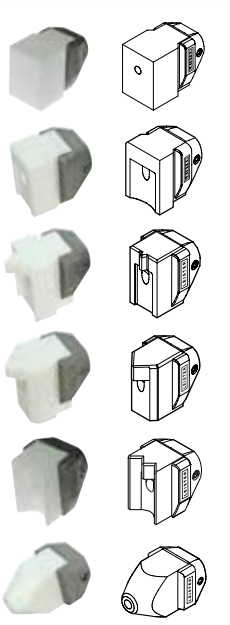
Technical Data		
Voltage	V~	230
Power	W	4600
Material		PE / PP
Welding rod	mm	∅ 4 or ∅ 5
Output	kg/h	3.9 – 6.0
Size (L × W × H)	mm	821 × 116 × 240
Weight	kg	14
Conformity mark		CE
Protection class I		⏚

Article No.:

134.318 WELDPLAST S6, 230 V / 4600 W, CEE 32A plug

Included with purchase: WELDPLAST S6, overlap welding shoe, storage case

Accessories WELDPLAST S6



	Welding shoe complete
146.239	54 × 40 × 52 mm blank welding shoe
146.240	74 × 50 × 58 mm blank welding shoe
146.241	25 mm overlap
146.706	30 mm overlap
146.242	35 mm overlap
145.899	40 mm overlap
146.245	20 mm V-seam
146.246	25 mm V-seam
146.247	30 mm V-seam
146.232	20 mm fillet weld seam (a = 14 mm*)
146.233	25 mm fillet weld seam (a = 17.5 mm*)
146.234	30 mm fillet weld seam (a = 21 mm*)
146.644	Corner outside seam 10 mm
146.646	Corner outside seam 12 mm
146.652	Corner outside seam 15 mm
146.230	Corner seam ∅ 14 mm
146.218	Corner seam ∅ 20 mm

*a = Welding seam thickness

117.055 35 mm preheating nozzle, large

136.859 50 mm preheat nozzle, XL Large

117.790 Side hot-air guide

149.744 Insulation sleeve WELDPLAST S6

General accessories ↘ 30

WELDPLAST S4: The workmate.

The WELDPLAST S4 is the first extruder of its kind with a brushless, maintenance-free motor for generating pre-heated air. Output of up to four kilograms per hour is made possible thanks to the S4's powerful drive system.

The powerful WELDPLAST S4 in use.

Digitally regulated extrusion welder

WELDPLAST S4

- Compact housing design reduces noise and guarantees optimal cooling for the electronics and drive.
- Microprocessor regulates the welding process and monitors the tool
- Menu with function programs
- Dual-sided, twist-free wire intake
- Maintenance-free blower

Technical Data		
Voltage	V~	230
Power	W	3680
Material		PE / PP
Welding rod	mm	∅ 3 – 4 / ∅ 4 – 5 mm
Output	kg/h	1.5 – 4.0
Size (L × W × H)	mm	560 × 110 × 300
Weight	kg	8.7
Conformity mark		CE
Protection class I		⏚

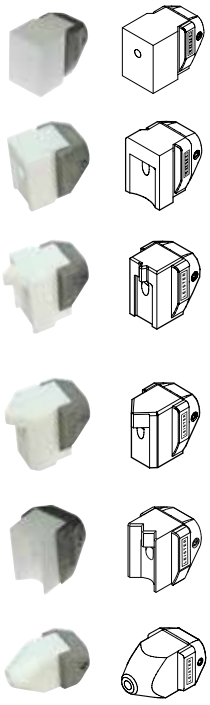
Article No.:

116.948 WELDPLAST S4, 230 V / 3680 W, 3 – 4 mm, Euro plug, blank welding shoe

146.813 WELDPLAST S4, 230 V / 3680 W, 4 – 5 mm, Euro plug, welding shoe K 15

Included with purchase: WELDPLAST S4, preheat nozzle large, medium and small, storage case

Accessories WELDPLAST S4



	Welding shoe complete
146.239	54 × 40 × 52 mm blank welding shoe
146.240	74 × 50 × 58 mm blank welding shoe
146.241	25 mm overlap
146.706	35 mm overlap
146.242	35 mm overlap
145.899	40 mm overlap
146.243	12 mm V-seam
146.244	15 mm V-seam
146.245	20 mm V-seam
146.246	25 mm V-seam
146.247	30 mm V-seam
146.525	12 mm fillet weld seam (a = 8.5 mm*)
146.231	15 mm fillet weld seam (a = 10 mm*)
146.232	20 mm fillet weld seam (a = 14 mm*)
146.233	25 mm fillet weld seam (a = 17.5 mm*)
146.234	30 mm fillet weld seam (a = 21 mm*)
146.642	Corner outside seam 8 mm
146.644	Corner outside seam 10 mm
146.646	Corner outside seam 12 mm
146.652	Corner outside seam 15 mm
146.230	Corner seam ∅ 14 mm
146.218	Corner seam ∅ 20 mm

* a = Welding seam thickness

144.904	Angled adapter 45°
145.704	Angled adapter 90°

Caution: You must use welding shoes with an integrated air guide for this.

117.064	Side hot-air guide
117.065	Top hot-air guide

	Preheat nozzle
117.053	20 mm, small
117.518	25 mm, medium
141.177	35 mm, large

149.723	Insulation sleeve WELDPLAST S4

General accessories ↘ 30

WELDPLAST S2 / S2 PVC: The masterpieces.

WELDPLAST S2 and S2 PVC are masterpieces of modern technology. While externally they fulfill the highest requirements of functionality and design, their interior satisfies the highest expectations concerning the material to be processed. The WELSDPLAST S2 PVC has integrated corrosion protection and has been especially designed to satisfy the high requirements of PVC extrusion welding. Their perfect seam quality makes both – WELDPLAST S2 and S2 PVC – reliable partners for today and tomorrow.

Digitally regulated extrusion welder

WELDPLAST S2

- Maintenance-free blower
- Perfect weld seam quality
- Multifunctional display
- Ergonomic and handy
- Successfully operated worldwide

Technical Data		
Voltage	V~	230
Power	W	3000
Material		PE / PP Other materials on request
Welding rod	mm	∅ 3 oder ∅ 4
Output ∅ 3 mm	kg/h	PE: 0.6 – 1.3 I PP: 0.5 – 1.2
Output ∅ 4 mm	kg/h	PE: 1.0 – 2.0 I PP: 0.9 – 2.0
Size (L × W × H)	mm	450 × 98 × 260
Weight	kg	5.8
Conformity mark		CE
Protection class I		⏚

Article No.:
127.215 WELDPLAST S2, 230 V / 3000 W, Euro plug

Included with purchase: WELDPLAST S2, welding shoe raw part, storage caseIncluded with purchase: WELDPLAST S4, preheat nozzle large, medium and small, storage case

Digitally regulated extrusion welder

WELDPLAST S2 PVC

- Optimized for PVC-U
- Perfect weld seam quality
- PVC specific extrusion menu
- Corrosion protection
- Standby mode

Technical Data		
Voltage	V~	230
Power	W	3000
Material		PVC-U, PE, PP Other materials on request
Welding rod	mm	∅ 3 oder ∅ 4
Output ∅ 3 mm	kg/h	PVC-U: 0.9 – 1.7 I PE: 0.6 – 1.3
Output ∅ 4 mm	kg/h	PVC-U: 1.5 – 2.7 I PE: 1.0 – 2.3
Size (L × W × H)	mm	450 × 98 × 260
Weight	kg	5.8
Conformity mark		CE
Protection class I		⏚

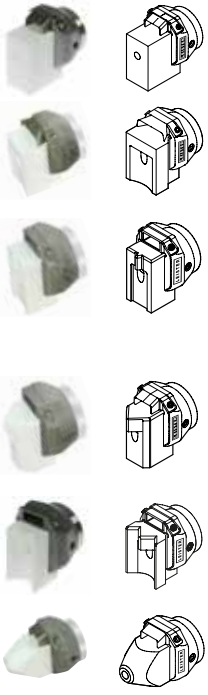
Article No.:
135.724 WELDPLAST S2 PVC, 230 V / 3000 W, Euro plug

Included with purchase: WELDPLAST S2 PVC, 3 preheati nozzles, welding shoe K 8 / 10 mm (Art. no. 146.236), storage case

The handy WELDPLAST S2 in action.

Even inside radiuses are easy to weld.

Accessories WELDPLAST S2



	Welding shoe complete
145.945	45 × 30 × 54 mm blank welding shoe
145.946	74 × 50 × 58 mm blank welding shoe
145.896	25 mm overlap
145.947	30 mm overlap
145.897	35 mm overlap
145.912	5 / 6 mm V-seam
145.915	8 /10 mm V-seam
145.907	12 mm V-seam
145.903	15 mm V-seam
145.909	20 mm V-seam
145.916	25 mm V-seam
145.943	5 / 6 mm fillet weld (a = 4.2 mm*)
145.944	8 / 10 mm fillet weld (a = 7 mm*)
145.815	12 mm fillet weld (a = 8.5 mm*)
145.812	15 mm fillet weld (a = 10 mm*)
145.940	20 mm fillet weld (a = 14 mm*)
145.816	25 mm fillet weld (a = 17.5 mm*)
146.643	Corner outside seam 8 mm
146.645	Corner outside seam 10 mm
146.649	Corner outside seam 12 mm
146.651	Corner outside seam 15 mm
145.811	Corner seam ∅ 14 mm
145.488	Corner seam ∅ 20 mm

* a = Welding seam thickness

139.460 45° angled adapter

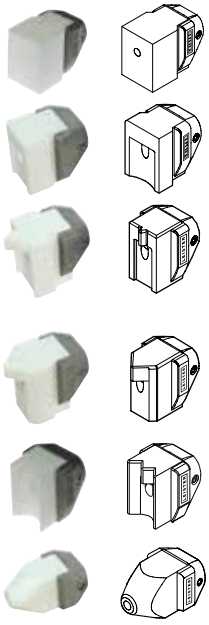
139.461 90° angled adapter

154.002 Insulation sleeve WELDPLAST S2

161.119 Support clamp WELDPLAST S2

With the WELDPLAST S2 perfect welds are possible

Accessories WELDPLAST S2 PVC



	Welding shoe complete
146.239	54 × 40 × 52 mm blank welding shoe
146.240	74 × 50 × 58 mm blank welding shoe
146.241	25 mm overlap
146.706	30mm overlap
146.242	35 mm overlap
146.248	5 / 6 mm V-seam
146.249	8 / 10 mm V-seam
146.243	12 mm V-seam
146.244	15 mm V-seam
146.235	5/6 mm fillet weld seam (a = 4.2 mm*)
146.236	8/10 mm fillet weld seam (a = 7 mm*)
146.525	12 mm fillet weld seam (a = 8.5 mm*)
146.231	15 mm fillet weld seam (a = 10 mm*)
146.642	Corner outside seam 8 mm
146.644	Corner outside seam 10 mm
146.646	Corner outside seam 12 mm
146.652	Corner outside seam 15 mm
146.230	Corner seam ∅ 14 mm
146.218	Corner seam ∅ 20 mm

* a = Welding seam thickness

133.850 Top hot-air guide

The 45° angled adapter for the WELDPLAST S2 facilitates welding in difficult positions. (accessory)

General accessories ↘ 30

WELDPLAST S1: Outstandingly compact.

With the new WELDPLAST S1 compact extruder, you can achieve perfect seam quality

Nozzle welding made easy with the WELDPLAST S1.

Digitally regulated extrusion welder

WELDPLAST S1

- Functional, ergonomic design with comfort grip areas
- Extremely high output power of 0.8 kg/h (HD-PE)
- Integrated LED lighting and hanging point
- Can work with all typical kinds of plastic
- Multifunction panel with predefined welding parameters
- BL blower, adjustable air volume

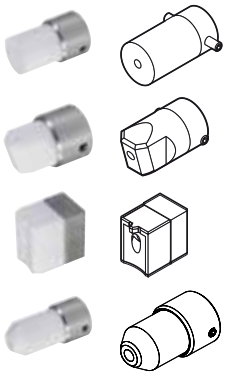
Technical Data		
Voltage	V~	230 / 120 / 100
Power	W	1600 / 1800 / 1500
Material		HD-PE, LD-PE, PP, PVC-U PVC-C, PVDF, ECTFE, PA
Welding rod	mm	∅ 3 – 4
Output	kg/h	0.2 – 0.8 (PVC up to 1.15 kg/h)
Size (L × W × H)	mm	435 × 91 × 264
Integrated welding profiles		HD-PE, PP, PVC-U,PVC-C, PVDF 10 free profile storage spaces
Weight	kg	4.7
Conformity mark		CE
Protection class I		⏚

Article No.:

148.396 WELDPLAST S1, 230 V / 1600 W, ∅ 3 – 4 mm, Euro plug
148.395 WELDPLAST S1, 120 V / 1800 W, ∅ 3 – 4 mm, without plug
148.394 WELDPLAST S1, 100 V / 1500 W, ∅ 3 – 4 mm, Euro plug

Included with purchase: WELDPLAST S1, user manual, 4 pre-heating nozzles ∅ 14 mm, welding shoe K10, storage case

Accessories WELDPLAST S1



Welding shoe complete
149.430 Blank
149.402 Fillet weld 5 / 6
148.627 Fillet weld 8 / 10
149.401 Fillet weld 12
149.388 V-seam 3 / 4
149.383 V-seam 5 / 6
149.385 V-seam 8 / 10
149.364 Corner
For additional welding shoes, see Weldplast S2 PVC

152.720 Nozzle extension

153.143 Angled adapter 45°
153.236 Angled adapter 90°

149.600 Top hot-air guide

149.456 Hot-air tube, position 6h ∅ 14 mm
149.461 Hot-air tube, position 6h ∅ 16 mm

149.467 Hot-air tube, position 9h/3h ∅ 14 mm (standard)
149.469 Hot-air tube, position 9h/3h ∅ 16 mm

154.107 Air nozzle set ∅ 14 mm (standard)
154.106 Air nozzle set ∅ 16 mm

154.002 Insulation sleeve WELDPLAST S1/S2

General accessories ↘ 30

FUSION 3: Long and slim.

With its long and narrow shape, the FUSION 3 enables comfortable work, even on the floor.

FUSION 3C: Short and handy.

The somewhat shorter FUSION 3C provides an astounding output volume of up to 3.6 kilograms per hour.

Air heated extrusion welder

FUSION 3

- High-quality welding performance
- Compact and handy
- Motor start-up protection prevents cold start
- Simple operation
- Dual-sided twist-free wire intake
- 360° rotating welding shoe

Technical Data

		Version ∅ 3 – 4		Version ∅ 4 – 5	
Welding rod ∅	mm	3	4	4	5
Output PE	kg/h	2.0 - 2.5	2.7 – 3.6	2.1 – 2.6	2.7 – 3.6
Output PP	kg/h	1.8 – 2.3	2.5 – 3.4	1.8 – 2.4	2.5 – 3.4
Voltage	V~	230			
Power	W	3500			
Material		PE / PP			
Size (L × W × H)	mm	670 × 90 × 180			
Weight	kg	7.2			
Conformity mark		CE			
Protection class II		⧈			

Article No.:

118.300 FUSION 3, 230 V / 3500 W, welding rod ∅ 3 – 4 mm, Euro plug
144.615 FUSION 3, 230 V / 3500 W, welding rod ∅ 4 – 5 mm, Euro plug

Included with purchase: FUSION 3, welding shoe overlap 30 mm, storage case

Air heated extrusion welder

FUSION 3C

- High-quality welding performance
- Compact and handy
- Motor start-up protection prevents cold start
- Simple operation
- Dual-sided, twist-free wire intake
- 360° rotating welding shoe

Technical Data

		Version ∅ 3 – 4		Version ∅ 4 – 5	
Welding rod ∅	mm	3	4	4	5
Output PE	kg/h	2.0 - 2.5	2.7 – 3.6	2.1 – 2.6	2.7 – 3.6
Output PP	kg/h	1.8 – 2.3	2.5 – 3.4	1.8 – 2.4	2.5 – 3.4
Voltage	V~	230			
Power	W	3200			
Material		PE / PP			
Size (L × W × H)	mm	588 x 98 x 225			
Weight	kg	6.9			
Conformity mark		CE			
Protection class II		⧈			

Article No.:

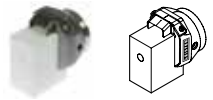
123.866 FUSION 3C, 230 V / 3200 W, welding rod ∅ 3 – 4 mm, Euro plug
144.826 FUSION 3C, 230 V / 3200 W, welding rod ∅ 4 – 5 mm, Euro plug

Included with purchase: FUSION 3C, blank welding shoe, storage case

Perfectly stored in the case.

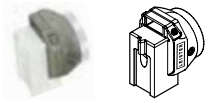
FUSION 3C during the welding of a fillet weld.

Accessories FUSION 3 / 3C



	Welding shoe complete
145.945	45 × 30 × 54 mm blank welding shoe
145.946	74 × 50 × 58 mm blank welding shoe

145.896	25 mm overlap
145.947	30 mm overlap
145.897	35 mm overlap



145.912	5 / 6 V-seam
145.915	8 / 10 mm V-seam
145.907	12 mm V-seam
145.903	15 mm V-seam
145.909	20 mm V-seam
145.916	25 mm V-seam

145.943	5 / 6 mm fillet weld (a = 4.2 mm*)
145.944	8 /10 mm fillet weld (a = 7 mm*)
145.815	12 mm fillet weld (a = 8.5 mm*)
145.812	15 mm fillet weld (a = 10 mm*)
145.940	20 mm fillet weld (a = 14 mm*)
145.816	25 mm fillet weld (a = 17.5 mm*)

146.643	Corner outside seam 8 mm
146.645	Corner outside seam 10 mm
146.649	Corner outside seam 12 mm
146.651	Corner outside seam 15 mm

145.811	Corner seam ∅ 14 mm
145.488	Corner seam ∅ 20 mm

* a = Welding seam thickness

148.817	45° angled adapter
148.816	90° angled adapter

149.421	Insulation sleeve FUSION 3
149.420	Insulation sleeve FUSION 3C

* a = Welding seam thickness

The insulation sleeve protects the machine from heat loss, as well as protects the operator from direct contact with the extruder.

General accessories ↘ 30

FUSION 2:
The small powerhouse.

The FUSION 2 convinces with its ergonomic design. The simple operation and first-class welding quality have helped it to become the breakthrough product.

In operation during container construction in China.

Air heated extrusion welder

FUSION 2

- At 450 mm, it is the shortest in its performance class!
- Motor start-up protection prevents cold start
- Simple operation
- Dual-sided, twist-free wire intake
- 360° rotating welding shoe
- Integrated electronics for stepless adjustment of the preheating temperature and output quantity

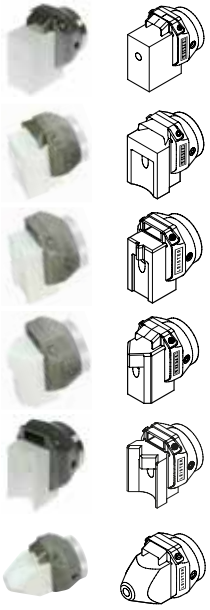
Technical Data		
Voltage	V~	230 / 120
Power	W	2800
Material		PE / PP
Air temperature	°C	up to 340
Plastification temperature	°C	up to 300
Welding rod	mm	∅ 4
Output PE	kg/h	1.3 – 1.8
Size (L × W × H)	mm	450 × 98 × 225
Weight	kg	5.9
Conformity mark		CE
Protection class II		⧈

Artikel-Nr.

119.200 FUSION 2, 230 V / 2800 W, Euro plug
150.102 FUSION 2, 120 V / 2800 W, CEE plug

Included with purchase: FUSION 2, blank welding shoe, storage case

Accessories FUSION 2



	Welding shoe complete
145.945	45 × 30 × 54 mm blank welding shoe
145.946	74 × 50 × 58 mm blank welding shoe
145.896	25 mm overlap
145.947	30 mm overlap
145.897	35 mm overlap
145.912	5 / 6 V-seam
145.915	8 / 10 mm V-seam
145.907	12 mm V-seam
145.903	15 mm V-seam
145.943	5 / 6 mm fillet weld (a = 4.2 mm*)
145.944	8 / 10 mm fillet weld (a = 7 mm*)
145.815	12 mm fillet weld (a = 8.5 mm*)
145.812	15 mm fillet weld (a = 10 mm*)
146.643	Corner outside seam 8 mm
146.645	Corner outside seam 10 mm
146.649	Corner outside seam 12 mm
146.651	Corner outside seam 15 mm
145.811	Corner seam ∅ 14 mm
145.488	Corner seam ∅ 20 mm

* a = Welding seam thickness

147.602 45° angled adapter

147.601 90° angled adapter

166.524 Insulation sleeve FUSION 2

General accessories ↘ 30

Automated, modular, customized – WELDPLAST 200-i / 600-i

LEISTER offers you two modules for automated extrusion welding and 3D printing. WELDPLAST 200-i and 600-i are set up to allow both simple and fully automated expansion and can be mounted on robots or integrated into machines. This modular design allows you to bring your projects to fruition without making any compromises.

Built-in extruder module

WELDPLAST 200-i / 600-i

Customized
Depending on requirements – choose between extruder modules which can be extended to meet specific needs

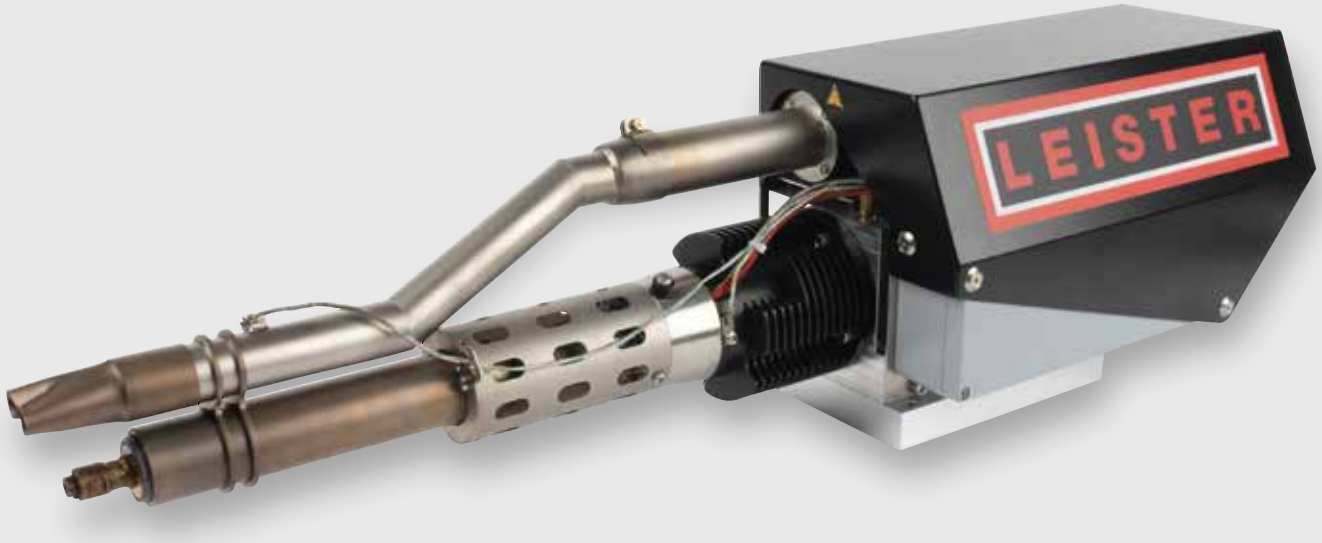
Modular
Select an extruder module and simply add the relevant hot air and communication components

Controlled
Monitor and control all parameters such as temperatures and emissions

The drive and communication components of both extruder modules, which can be freely chosen by the user, can be tailored fully to meet individual needs. By incorporating additional sensors, the process can be controlled and monitored as required.

Electrical and mechanical adaptation points are already set up so that the modules for various processes such as those requiring preheated air can be integrated.

State-of-the-art industrial interfaces or similar interfaces can be installed to aid communication.



WELDPLAST 200-i / 600-i – robotic extrusion welding and 3D printing designed for automated continuous operation

Built-in extruder module

WELDPLAST 200-i / 600-i

- **Automated:** Designed for automated continuous operation
- **Up to date:** All components are compliant with current industry standards

Technical data		WELDPLAST 200-i	WELDPLAST 600-i
Heating voltage	V~	230	230
Heating power	W	600	800
Welding rods / filament ∅	mm	3 – 4	4 – 5
Output ∅ 4 HD-PE	kg/h	2	6
Plastic		HD-PE, LD-PE, PP, PVC-U, PVC-C, PVDF, ECTFE, ABS, PC, PA, PS, PUR	HD-PE, LD-PE, PP
Weight full disassembly	kg	15	22
Dimensions full disassembly (L × W × H)	mm	660 × 191 × 220	876 × 191 × 210
Protection class I		⏚	⏚

Included with purchase: Extrusion module, CAD data, parts list, operating manual, suggested electrical diagram

WELDPLAST 200-i

163.322 Extruder module 200-i

163.575 Connection kit 200-i / 600-i

164.414 Preheated air kit 200-i

139.869 LHS 21S Classic
140.455 LHS 21S Premium
140.459 LHS 21S System

WELDPLAST 600-i

163.326 Extruder module 600-i

163.575 Connection kit 200-i / 600-i

164.415 Preheated air kit 600-i

139.872 LHS 21L Classic
140.457 LHS 21L Premium
140.461 LHS 21L System

Check the weld seam dimension easily.

General accessories hand extruder

Tool rest

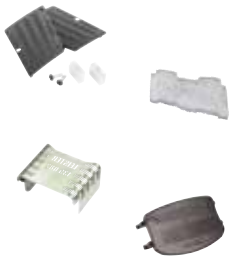
131.451 WELDPLAST S2 / S2 PVC / FUSION 2 FUSION 3C

148.923 WELDPLAST S1

160.454 WELDPLAST S4 / WELDPLAST S6 / FUSION 3

Pre-heat reflector

136.231 WELDPLAST S1/S2 / S2 PVC / S4 / S6 FUSION 2 / 3 / 3C



134.361 Air filter WELDPLAST S1 / S2 / S2 PVC (included with purchase)

143.776 Textile dust filter WELDPLAST S1 / S2 PVC (in combination with Air filter) (not included with purchase)

135.082 Air filter FUSION 2 / 3C

155.829 Air filter WELDPLAST S2

153.009 Corner Press Tool

152.676 Welding Gauge

154.259 Scraper blade

154.026 Contour scraper

Heating element

134.567 230 V / 2600 W, WELDPLAST S6
109.984 230 V / 2200 W, WELDPLAST S4 / S2 / S2 PVC
113.268 230 V / 1100 + 1100 W, FUSION 3
123.561 230 V / 1750 W, FUSION 2 / 3C
149.265 230 V / 1000 W, WELDPLAST S1
149.529 120 V / 1100 W, WELDPLAST S1
149.530 100 V / 1050 W, WELDPLAST S1
151.026 120 V / 1750 W, FUSION 2

144.095 Welding rod de-reeler

Storage case
(included with purchase)
116.367 WELDPLAST S6
123.173 WELDPLAST S4 / FUSION 3
119.540 WELDPLAST S2 / S2 PVC / S1 / FUSION 2/ 3C

PLASTFIX lends the weld seam the necessary holding pressure.

TRIAC ST: Design meets experience

The new TRIAC ST from Leister is primarily used for welding and plastic fabrication. During its development, a deliberate choice was made to do without extra technical features. Instead it is distinguished by comfort, being reliable versatile, robust and user friendly, like its predecessor the TRIAC S. A prominent feature here is the two-component handle, which is not only attractive, but also gives the user perfect grip. The low weight of less than 1 kg/2.18 lbs ensures a perfect weight balance.

Product advantage

1

Ergonomic handling:
The 2-component handle and perfect tool balance ensure ideal grip and optimum working even under the toughest conditions.

Perfect weight:
Weighing less than 1 kg, the TRIAC ST is even lighter than its predecessor.

2

Always keeps a cool head:
There is an actively cooled protective tube for greater work safety.

3

Welding power:
Thanks to the optimized, highly robust motor, TRIAC ST guarantees high welding power.

4

Reliability:
A new temperature manager and a high dust resistance provide the heating elements with a long service life.

5

Swiss thoroughness:
The air filters, located on either side, can easily be removed and cleaned. This ensures optimum air flow and maximum power output.

Optimum protection:
The filters offer active protection against moisture and dust.

TRIAC AT: Robust and intelligent.

The TRIAC AT is an intelligent hot-air hand tool for welding and shrinking plastics that is suitable for on-site use. It is designed for the needs of even the most demanding professional. Every tool undergoes stringent quality checks prior to leaving the factory in Switzerland. This high-quality hot-air hand tool is equipped for all situations. Its universal areas of application are virtually unlimited. The TRIAC AT will continue to prove its merit in any weather condition and is just as effective outside as it is indoors – all during continuous operation.

Hot-air hand tool

TRIAC ST

- Suitable for the work site
- Functional design: two-component handle grip and optimum center of gravity ensure good ergonomics
- Quick clean air filters
- Automatic carbon stop and heating element protection provide automatic protective measures

Technical data		
Voltage	V~	120 / 230
Frequency	Hz	50 / 60
Power	W	1600 / 1600
Temperature	°C	40 – 700
Air volume (20°C)	l/min	240 (500 at max. temp)
Dynamic pressure	Pa	3000
∅ Nozzle holder	mm	31.5
Emission	dB(A)	67
Size (L × ∅)	mm	338 × 90, handle ∅ 56
Weight	kg	<1 (without power cord)
Conformity mark		CE
Approval mark		
Protection class II		

Article No.:

141.308	TRIAC ST, 120 V / 1600 W for push-fit nozzles with UK-plug
141.309	TRIAC ST, 230 V / 1600 W for push-fit nozzles with UK-plug
141.311	TRIAC ST, 230 V / 1600 W for push-fit nozzles with CH plug
141.227	TRIAC ST, 230 V / 1600 W for push-fit nozzles with Euro plug
144.013	TRIAC ST, 230 V / 1600 W for screw-on nozzles with Euro plug
153.891	TRIAC ST, 220 V / 1600 W for push-fit nozzles with KR-plug

Hot-air hand tool

TRIAC AT

- Suitable for the work site
- Closed loop controlled temperature
- Open loop controlled air volume
- Intelligent «e-Drive» operating unit
- Ergonomic handling
- Modern design

Technical data		
Voltage	V~	120 / 230
Frequency	Hz	50 / 60
Power	W	1600 / 1600
Temperature	°C	40 – 620
Air volume (20°C)	l/min	160 – 240 (500 at max. temp)
Dynamic pressure	Pa	1600 – 3000
∅ Nozzle holder	mm	31.5
Emission	dB(A)	67
Size (L × ∅)	mm	338 × 90, handle ∅ 56
Weight	kg	1 (without power cord)
Conformity mark		CE
Approval mark		
Protection class II		

Article No.:

141.319	TRIAC AT, 120 V / 1600 W, with UK-plug
141.320	TRIAC AT, 230 V / 1600 W, with UK-plug
141.314	TRIAC AT, 230 V / 1600 W, with Euro-plug
141.322	TRIAC AT, 230 V / 1600 W, with CH-plug
142.737	TRIAC AT, 230 V / 1600 W for screw-on nozzles with Euro plug
148.005	TRIAC AT, 220 V / 1600 W, for push-fit nozzles with KR-plug

Quick welding.

Draw welding with combination nozzle.

Accessories TRIAC ST / TRIAC AT

100.303 ∅ 5 mm, tubular nozzle, push-fit

105.575 ∅ 5 × 100 mm, tubular nozzle, push-fit

106.982 ∅ 5 × 150 mm, extension nozzle, push-fit

105.576 tubular nozzle ∅ 5 mm, 90° curved

106.996 Tacking nozzle, push-fit on ∅ 5 mm tubular nozzle

D

105.431 3 mm speed weld nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

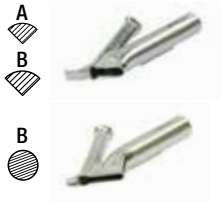
105.432 4 mm speed weld nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

105.433 5 mm speed weld nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

C

107.139 4.5 × 12 mm speed weld nozzle for fillet weld, push-fit on ∅ 5 mm tubular nozzle

107.137 8 mm speed weld nozzle for tape welding, push-fit on ∅ 5 mm tubular nozzle



A

B

B

Speed weld nozzle, push-fit on ∅ 5 mm tubular nozzle

106.992 5.7 mm, profie A

106.993 7 mm, profile B

106.989 ∅ 3 mm

106.990 ∅ 4 mm

106.991 ∅ 5 mm

156.470 Speed weld nozzle bend ∅ 5 mm, push-fit on ∅ 5 mm tubular nozzle

105.622 ∅ 5 mm, tubular nozzle, screw-on

106.988 Tacking nozzle, screw-on

126.552 ∅ 4 mm drawing nozzle, screw-on for fluor plastics

D

113.666 ∅ 3 mm drawing nozzle with tacking tip, screw-on

113.399 ∅ 4 mm drawing nozzle with tacking tip, screw-on

113.876 ∅ 3 mm drawing nozzle without tacking tip, screw-on

113.874 ∅ 4 mm drawing nozzle without tacking tip, screw-on

A

B

Drawing nozzle triangular-shaped

113.670 With tacking tip, screw-on 5.7 mm, profile A

113.877 Without tacking tip, screw-on 5.7 mm, profile A

106.986 Without tacking tip, screw-on 7 mm, profile B

106.987 Without tacking tip 7 × 5.5 mm

107.344 135 mm welding mirror, push-fit

143.833 Nozzle adapter for screw-on nozzles

143.332 Protection tube for screw-on nozzles (for TRIAC ST until april 2017)

156.092 Protection tube for screw-on nozzles (for TRIAC ST from mai 2017)

144.134 Protection tube for screw-on nozzles (for TRIAC AT)

141.375 Connection adapter M14 for ∅ 21 mm nozzle with plug

Heating element for

142.717 TRIAC ST / TRIAC AT, 230 V / 1550 W

142.718 TRIAC ST / TRIAC AT, 120 V / 1550 W

HOT JET S: Small and powerful.

As the most compact hot-air hand tool from Leister, the HOT JET S' low weight of 600 grams (including cord and slim handle) ensures high-powered, fatigue-free welding.

Popular for repair work: HOT JET S

Hot-air hand tool

HOT JET S

- The smallest Leister hot-air hand tool
- Stepless, electronically controlled temperature
- Stepless, electronically controlled air flow
- Low noise
- Flexible, integrated tool stand

Technical data		
Voltage	V~	120 / 230
Frequency	Hz	50 / 60
Power	W	460 / 460
Temperature	°C	40 – 600
Air volume (20°C)	l/min	40 – 110 (200 at max. temp)
Pressure static	Pa	230 – 1600
∅ Nozzle holder	mm	21.3
Emission	dB(A)	59
Size (L × ∅)	mm	235 × 70, handle ∅ 40
Weight	kg	0.4 (without power cord)
Conformity mark		CE
Approval mark		
Protection class II		

Article No.:

100.648 HOT JET S, 230 V / 460 W, with Euro plug
100.862 HOT JET S, 120 V / 460 W, without plug
100.854 HOT JET S, 230 V / 460 W, with AUS plug
140.030 HOT JET S, 220V/ 460W for push-fit nozzles with KR-plug

Accessories HOT JET S

107.144 ∅ 5 mm tubular nozzle, push-fit

105.567 ∅ 5 × 150 mm extension nozzle, straight
105.566 ∅ 8 mm tubular nozzle, straight

106.996 Tacking nozzle, push-fit on ∅ 5 mm tubular nozzle

D

106.989 3 mm speed welding nozzle, push-fit on ∅ 5 mm tubular nozzle

106.990 4 mm speed welding nozzle, push-fit on ∅ 5 mm tubular nozzle

106.991 5 mm speed welding nozzle, push-fit on ∅ 5 mm tubular nozzle

156.470 Speed weld nozzle bend ∅ 5 mm, push-fit on ∅ 5 mm tubular nozzle

A
B

106.992 5.7 mm, A profilee speed welding nozzle, push-fit

106.993 7 mm, B profilee speed welding nozzle, push-fit

D

105.431 3 mm speed welding nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

105.432 4 mm speed welding nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

105.433 5 mm speed welding nozzle, with small air-slide, push-fit on ∅ 5 mm tubular nozzle

C

107.137 8 mm speed welding nozzle for tape welding, push-fit on ∅ 5 mm tubular nozzle

HOT JET S the small companion for filigree work.

	**107.139**	4.5 × 12 mm speed welding nozzle for fillet weld, push-fit on ∅ 5 mm tabular nozzle
	**107.305**	15 × 25 mm ironing nozzle
	**143.831**	Nozzle adapter for screw-on nozzles
	**114.734**	Ski repair nozzle with base plate
	**100.818** **103.607**	230 V / 435 W heating element 120 V / 435 W heating element
	**131.867**	∅ 5 mm, tubular nozzle, 90° angled, push-fit

Small and handy: The HOT JET S is perfect when welding complicated details.

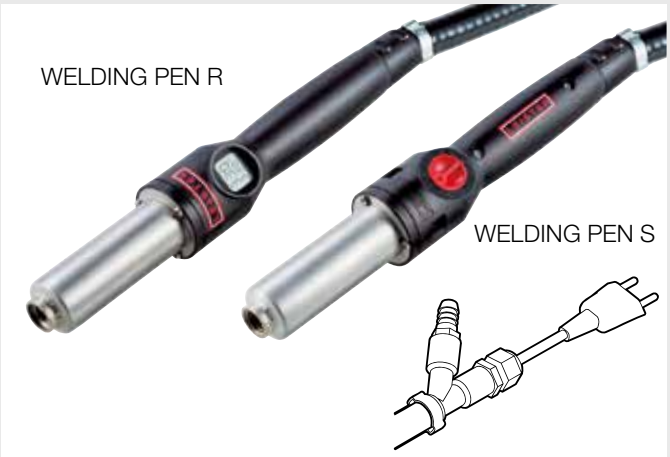
WELDING PEN: Slim and flexible.

The WELDING PEN is a hot-air hand tool optimized for draw welding. Due to its slim design and swivelling external air supply it makes hard work easy.

WELDING PEN R combined with angle adapters make welding possible even in very tight spaces.

External air hand tool

WELDING PEN R / WELDING PEN S



- Digital temperature display (WELDING PEN R)
- Connection makes working easier.
- Cooled heating element tube
- Used in combination with ROBUST blower or compressed air

Technical data		
Voltage	V~	230
Power	W	1000
Temperature	°C	20 – 600
Size (L × ∅)	mm	270 × 43, handle ∅ 32
Weight	kg	1.0 (with 3 m cord / air hose and Y-connection)
Conformity mark		CE
Protection class II		⧈

Article No.:

114.275	WELDING PEN S, 120 V / 600 W, with UK-plug, 2.5 m hose
114.380	WELDING PEN R, 230 V / 1000 W, with Euro plug, 2.5 m hose
113.081	WELDING PEN S, 230 V / 1000 W, with Euro plug, 2.5 m hose
114.926	WELDING PEN R, 230 V / 1000 W, with Euro plug, 6 m hose
114.274	WELDING PEN S, 230 V / 1000 W, with Euro plug, 6 m hose
114.927	WELDING PEN R, 230 V / 1000 W, with Euro plug, 9 m hose
114.273	WELDING PEN S, 230 V / 1000 W, with Euro plug, 9 m hose

Accessories WELDING PEN R / S

	**105.622**	∅ 5 mm tubular nozzle, 15° screw-on
	**106.988**	Tacking nozzle, screw-on
 D	**113.666** **113.399** **113.876** **113.874**	∅ 3 mm round drawing nozzle with tacking tip, screw-on ∅ 4 mm round drawing nozzle, with tacking tip, screw-on ∅ 3 mm round drawing nozzle without tacking tip, screw-on ∅ 4 mm round drawing nozzle, without tacking tip, screw-on
 A B	**113.670** **113.877** **106.986** **106.987**	Triangular drawing nozzle with tacking tip, screw-on, 5.7 mm, profile A without tacking tip, screw-on 5.7 mm, profile A without tacking tip, screw-on 7 mm, profile B without tacking tip, screw-on 7 × 5.5 mm
	**126.552**	∅ 4 mm drawing nozzle, screw-on for fluor plastics
	**127.726** **127.727**	Angular adapter for screw-on nozzles, screw-on 30° 45°
	**141.375**	Connection adapter M14 for ∅ 21.3 mm nozzle with plug
	**113.412**	230 V / 1000 W heating element for WELDING PEN R and WELDING PEN S

Swiveling air hose for easy working.

AIRSTREAM ST: The quiet and efficient air supply unit.

With its plug & play functionality, all you need to do is plug in the AIRSTREAM ST for a constant supply of clean, dry air – for welding constructions with the highest cleanliness requirements. Also ideal for use in quiet environments. Need to work with two hand tools in parallel? No problem thanks to the simultaneous power and air supply. The unit includes a hand tool stand, fits into every work bench, and is fitted with castors for easy mobility. A highly practical solution!

1

Dual operation:
The two tool connections enable parallel operation of two tools or offer the added flexibility of having a second hand tool ready for a subsequent work step.

2

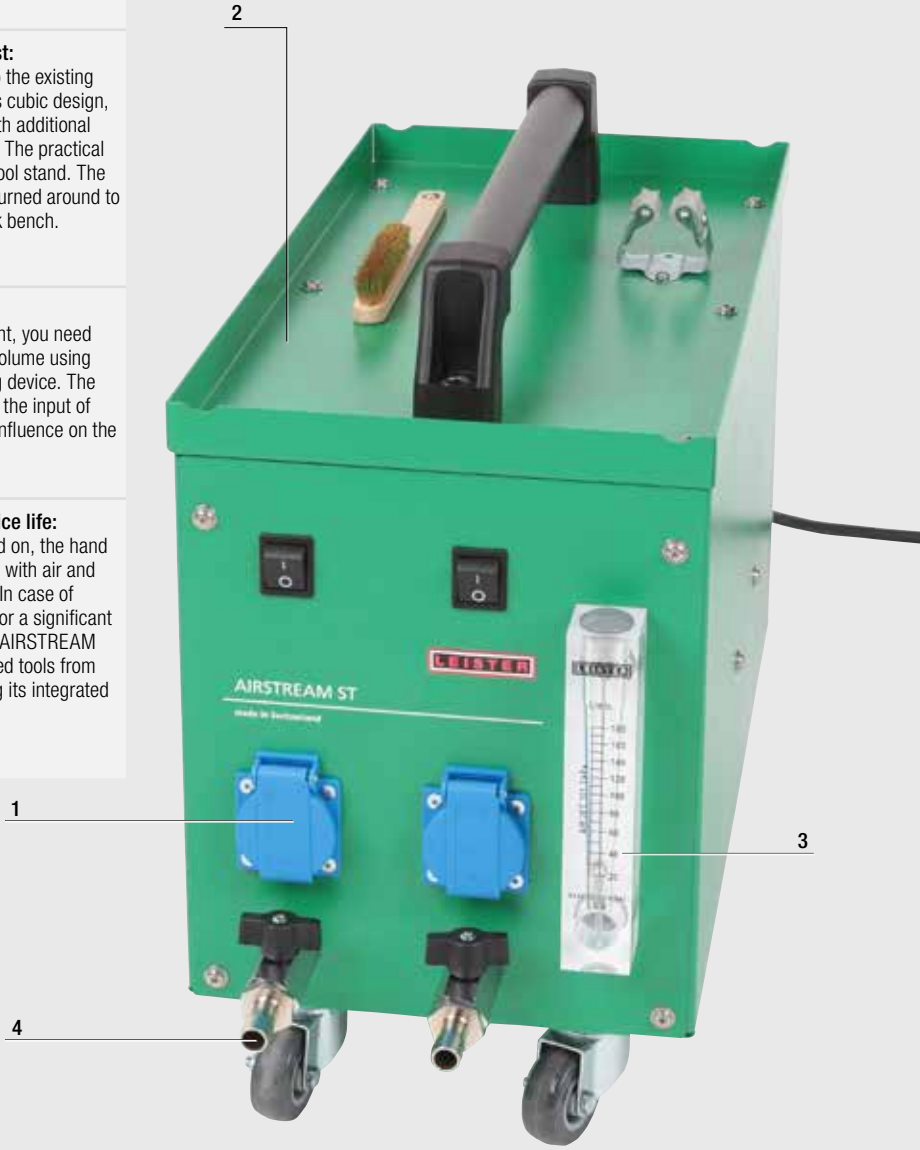
The quick-change artist:
It is easy to integrate into the existing environment thanks to its cubic design, and can also be fitted with additional castors for easy mobility. The practical cover can be used as a tool stand. The AIRSTREAM ST can be turned around to fit perfectly into any work bench.

3

Quality is measurable:
If you know what you want, you need to be able to set the air volume using the air volume measuring device. The volume flow is crucial for the input of energy and has a direct influence on the quality of the weld.

4

Logic for a longer service life:
When the unit is switched on, the hand tools are always supplied with air and power at the same time. In case of reaching the daily target or a significant pause in production, the AIRSTREAM ST prevents the connected tools from overheating by employing its integrated cool-down mode.



AIRSTREAM ST, the quiet air supply unit.

Blower

AIRSTREAM ST

- Quiet operating mode
- Cool-Down-Mode
- Low energy consumption
- Two hand tools can be connected
- Compatible mit WELDING PEN, DIODE and LABOR
- Flow meter
- Brushless technology

Technical Data		
Voltage	V~	230
Power	W	215
Frequency	Hz	50
Air volume	L/min	200 (Total)
Emission	L_{pA} (dB)	< 48 (with 3 m hose)
Size (L × B × H)	mm	600 × 250 × 362 (with handle)
Weight	kg	24
Conformity mark		CE
Protection class I		⏚

Scope of delivery:
Air supply unit, hose transition pieces, clips, quick guide

Article-No.:
158.822 AIRSTREAM ST, 230 V/215 W, EU-plug

Accessories AIRSTREAM ST

159.535 Roller set

159.481 Air hose connection set

Easy parallel operation.

ROBUST: The powerhouse.

Versatile and operable at high ambient temperatures of up to 60 °C. Despite its small size, the ROBUST is a real powerhouse. This blower can simultaneously supply air for up to three hot-air hand tools.

ROBUST blower, serving as the external air supply for the WELDING PEN.

Blower

ROBUST

- High-performance, compact design
- Sound-suppression
- Can be integrated at any position
- Can be used as an external air supply to 1 WELDING PEN R or up to max. 3 DIODE S / PID or max. 3 LABOR S (with 107.281 hose adapter)

Technische Daten				
Frequency	Hz	50		60
Power	W	250		250
Air volume (20 °C)	l/min	1200		1300
Static pressure	kPa	8.0		10.5
Max. ambient temperature	°C	60		60
Max. air inlet temperature	°C	60		60
Noise emission level	dB(A)	62		62
Protection (IEC 60529)		IP 54		IP 54
Outside diameter air inlet	∅ mm	38		38
Outside diameter air outlet	∅ mm	38		38
Weight	kg	8.0		8.0
Conformity mark				
Protection class I		⏚		⏚
Artikel-Nr.:				
Voltage V~	50 Hz 60 Hz	1 × 120	1 × 230	3 × 230 / 400 3 × 440 – 480
Without cord	Article No.:	**103.434**		**103.429**
3 m cord / Euro plug	Article No.:		**103.432**	

Accessories ROBUST

	**107.354**	Stainless steel filter, push-fit on air intake
	**107.281**	∅ 38 mm hose connection adapter, 3 output each 14 mm
	**113.859**	∅ 14 mm air hose
	**101.031**	∅ 14 mm hose clip for air hose

DIODE PID / S: The powerful pair.

There are two options for high-quality work: The closed-loop DIODE PID provides the perfect welding temperature at all times. The DIODE S easily puts you in control with a manual temperature knob.

Convenient wire welding using the powerful and lightweight DIODE PID.

External air hand tool

DIODE PID / DIODE S

- Operated with MINOR or ROBUST blower or with compressed air
- Digitally controlled and displayed temperatures (DIODE PID)
- Cooled heating element tube
- Suitable for field applications when used in combination with a MINOR blower

Technical data

Voltage	V~	120 / 230
Power	W	1600
Temperature	°C	20 – 600
Size (L × ∅)	mm	265 × 57, handle ∅ 40
Weight	kg	1.15 kg (with 3 m cord / 3 m air hose)
Conformity mark		CE
Protection class II		⧈

Article No.:

101.303 DIODE PID, 230 V / 1600 W, push-fit, with Euro plug
101.281 DIODE S, 230 V / 1600 W, push-fit, with Euro plug
101.304 DIODE PID, 230 V / 1600 W, screw-on, with Euro plug
101.282 DIODE S, 230 V / 1600 W, screw-on, with Euro plug
101.293 DIODE S, 120 V/1600 W for push-fit nozzles, with UK-plug

Additional versions available upon request

Hand tool and blower

DIODE PID / DIODE S with MINOR

MINOR blower and DIODE PID with screw-on drawing nozzle.

- Ideal for assembly work

Technical data

Voltage	V~	120 / 230
Power	W	1600
Temperature	°C	20 – 600
Size (L × ∅)	mm	265 × 57, handle ∅ 40
Weight	kg	2.5 kg (with 3 m cord / 1.5 m air hose)
Conformity mark		CE
Protection class II		⧈

Article No.:

108.880 DIODE PID with MINOR, 230 V / 1700 W, screw-on, 1.5 air hose, Euro-plug
101.441 DIODE S with MINOR, 230 V / 1700 W, push-fit, 1.5 air hose, Euro-plug

Additional versions available upon request

The MINOR blower as an air suppy for the DIODE PID.

MINOR: The mobile air supplier.

Don’t be deceived by the MINOR’s small size and low weight. This blower delivers sufficient air to enable quality work with the DIODE PID / DIODE S or LABOR S.

Accessories DIODE PID / DIODE S

With push-fit nozzle

	**100.303**	∅ 5 mm tubular nozzle, for versions with nozzles, push-fit
 A B		Speed welding nozzle, push-fit on ∅ 5 mm tubular nozzle
	106.992	5.7 mm, profilee A
	106.993	7 mm, profilee B
	106.989	3 mm
	106.990	4 mm
	106.991	5 mm
	156.470	5 mm bent
	**106.996**	Tacking nozzle, push-fit on ∅ 5 mm tubular nozzle
	**143.833**	Nozzle adapter for screw-on nozzles
	**100.296**	Heating element DIODE PID, 230 V /1550 W
	100.650	Heating element DIODE PID, 120 V /1600 W
	100.689	Heating element DIODE S, 230 V / 1550 W
	100.702	Heating element DIODE S, 120 V / 1600 W

With screw-on nozzle

	**105.622**	∅ 5 mm tubular nozzle, screw-on
	**106.988**	Tacking nozzle, screw-on
 D		
	113.666	∅ 3 mm round drawing nozzle with tacking tip, screw-on
	113.399	∅ 4 mm round drawing nozzle, with tacking tip, screw-on
	113.876	∅ 3 mm round drawing nozzle without tacking tip, screw-on
	113.874	∅ 4 mm round drawing nozzle, without tacking tip, screw-on
 A B		
	113.670	Triangular drawing nozzle, with tacking tip, screw-on, 5.7 mm
	113.877	Without tacking tip, screw-on 5.7 mm, profile A
	106.986	Without tacking tip, screw-on 7 mm, profile B
	106.987	7 × 5.5 mm
	**126.552**	4 mm drawing nozzle, screw-on, for fluor plastics
	**141.375**	Connection adapter M14 for ∅ 21.3 mm nozzle with plug

Blower

MINOR

- Lightweight and compact
- Powerful
- Serves as a mobile air supply for the DIODE PID / DIODE S and LABOR S
- Suitable for work on construction sites

Technical data

Voltage	V~	230
Power	W	100
Air volume (20°C)	l/min	400
Pressure static	Pa	4000 (40 mbar)
Air outlet (external)	mm	14.5
Size (L × ∅)	mm	250 × 95, handle ∅ 64
Weight	kg	1.15 (with 3 m cord)
Conformity mark		CE
Protection class II		⧈

Article No.:

108.747 MINOR, 230 V / 100 W, with Euro plug
109.988 MINOR, 120V / 100W, with UK plug

Additional versions available upon request

LABOR S: Small and handy.

Developed for laboratory use but also eminently suitable for small welding tasks where access is difficult.

LABOR S, used in combination with MINOR as an external air supply.

External Air Hand tool

LABOR S

- Temperature adjustment via rotary knob
- Very small and handy device
- Ideal for draw welding and tacking
- Air supply with ROBUST blower, MINOR (p. 27) or with compressed air
- Ideal for mobile use when coupled with MINOR blower

Technical data		
Voltage	V~	230
Power	W	800 / 900
Temperature	°C	20 – 600
Size (L × ∅)	mm	180, handle ∅ 32
Weight	kg	0.15 (without air hose and without cordl)
Conformity mark		CE
Approval mark		
Protection class II		⧈

Article No.:

101.716 LABOR S with connection box, 230 V / 800 W with Euro plug, air hose 3 m

101.754 LABOR with MINOR blower, 230 V / 900 W with Euro plug, air hose 1.5 m

Additional versions available upon request

Accessories LABOR S

	**107.144**	∅ 5 mm tubular nozzle, push-fit
 A B		Speed weld nozzle, push-fit on ∅ 5 mm tubular nozzle
	106.992	5.7 mm, profilee A
	106.993	7 mm, profilee B
	106.989	3 mm
	106.990	4 mm
	106.991	5 mm
	156.470	5mm bent
	**106.996**	Tacking nozzle, push-fit on ∅ 5 mm tubular nozzle
	**143.831**	Nozzle adapter for screw-on nozzles
	**107.146**	∅ 2 mm soldering nozzle
	107.151	∅ 4 mm soldering nozzle
	107.148	∅ 3 × 1.5 mm soldering nozzle, oval
	**105.622**	∅ 5 mm tubular nozzle, screw-on
	**106.988**	Tacking nozzle, screw-on
 D	**113.666**	∅ 3 mm round drawing nozzle with tacking tip, screw-on
	113.399	∅ 4 mm round drawing nozzle, with tacking tip, screw-on
	113.876	∅ 3 mm round drawing nozzle without tacking tip, screw-on
	113.874	∅ 4 mm round drawing nozzle, without tacking tip, screw-on
 A B	**113.670**	Triangular drawing nozzle, with tacking tip, screw-on, 5.7 mm
	113.877	Without tacking tip, screw-on 5.7 mm, profile A
	106.986	Without tacking tip, screw-on 7 mm, profile B
	106.987	7 × 5.5 mm
	**126.552**	4 mm drawing nozzle, screw-on, for fluor plastics
	**101.581**	230 V / 800 W heating element

Remove the oxide layer from the welding rod.

With the contour scraper, perfect weld seam pre- and post-processing is achieved.

General accessories

106.976 28 mm pressure roller (PTFE)

106.972 Brass pressure roller with ball bearings

152.676 Weld seam template

157.544 Leister Universal scissors 260 mm with special shaft grinding

154.259 Scraper blade

154.026 Contour scraper

106.997 ∅ 6 mm rotary burr for drilling machine, for car repairs

116.798 Brass brush

142.647 Brass brush ∅ 3 mm

107.348 Tool rest for TRIAC AT, TRIAC ST, LABOR S

137.855 Leister cutter with four spare blades

138.902 Hooked blade for LEISTER-cutter (10 dispenser with 10 pcs=100 pcs)

138.539 Straight-edge blade for LEISTER-cutter (10 dispenser with 10 pcs = 100 pcs)

151.382 Kehlfix

153.009 Plastfix

160.353 Cable cord roller 25 m, with 1 × CEE 400V and 2 × EU socket 230V

161.152 Cable cord roller 25 m, with 1 × CEE 400 V and 2 × T23 CH socket 230 V

161.207 Cable cord roller 25 m, with 1 × CEE 400 V and 2 × Typ E with ground pin socket 230 V

164.048 Cable cord roller 45 m, 4 × 230 V, EU socket

160.015 Cable extension cord 15 m PUR 5 x 2.5 mm2, with CEE 400V plug

159.239 Cable extension cord 15 m PUR 3 x 2.5 mm2, with EU plug 230V

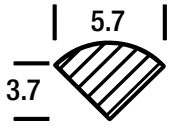
Welding rods

Article		Profile	Colour	kg
Welding accessories PE				
104.283	HDPE welding rod	A	■	3
104.294	HDPE welding rod	A	□	3
104.284	HDPE welding rod	B	■	5
104.299	HDPE welding rod	B	□	5
106.650	HDPE welding band	C	□	1
104.300	LDPE welding rod	A	■	3
161.612	HDPE welding rod	D	■	2
116.918	HDPE welding rod	D	□	2
Welding accessories PP				
104.287	PP welding rod	A	□	3
104.301	PP welding rod	A	■	3
106.642	PPs welding rod, flame resistant	A	□	3
104.288	PP welding rod	B	□	5
126.356	PP welding band	C	□	2
161.611	PP welding rod	D	□	2
Welding accessories PVC				
104.296	PVC-U welding rod	A	□	3
104.278	PVC-U welding rod	A	■	3
106.641	PVC-U welding rod	A	■	3
104.280	PVC-U welding rod	B	■	5
104.279	PVC-U welding rod	B	■	5
109.925	PVC-U welding rod	D	■	4
104.302	PVC-P welding rod (soft)	A	□	3
Welding accessories ABS				
104.295	ABS welding rod	A	□	3
113.587	ABS welding rod	A	■	3
107.027	ABS welding band	C	□	1

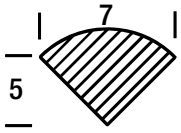
Article		Profile	Colour	kg
Welding accessories div.				
104.297	PA welding rod	A	■	3
104.298	PC welding rod	A	□	3
104.313	PC welding rod / ABS / ALPHA (Honda)	A	■	3
104.308	PUR welding rod	A	■	3
106.654	Xenoy welding band	C	■	2
104.304	PVDF welding rod	A	□	3
104.303	POM welding rod	A	□	3
112.185	PC/PBTX Xenoy welding rod	A	□	3
Test bundles				
107.036	Test bundle bodywork welding rods, each consisting of profile A pieces of 37 cm single marked 6× HDPE, 6× PP, 6× PA, 6× PC, 6× ABS, 6× PCABS / APLHA Honda, 6× PC / PBTP / Xenoy	A		
107.037	Test bundles standard each consisting of profile A pieces of 37 cm single marked 5× PVC-U, 5× PVC-P, 5× PP, 5× ABS, 5× HDPE, 3× PC, 3× PA, 3× POM, 3× LDPE, 3× PC / ABS / ALPHA Honda, 3× PC / PBTP / Xenoy	A		
107.040	Test bundle welding band each consisting of profile C pieces of 37 cm single marked 9× HDPE, 8× 2 mm white, 9× PP, 8× 2 mm natural, 9× ABS, 8× 2 mm white, 9× PC / PBTP / Xenoy grey	C		

Profile sizes

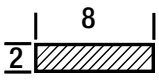
Profile A



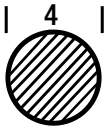
Profile B



Profile C



Profile D



Dimensions in mm

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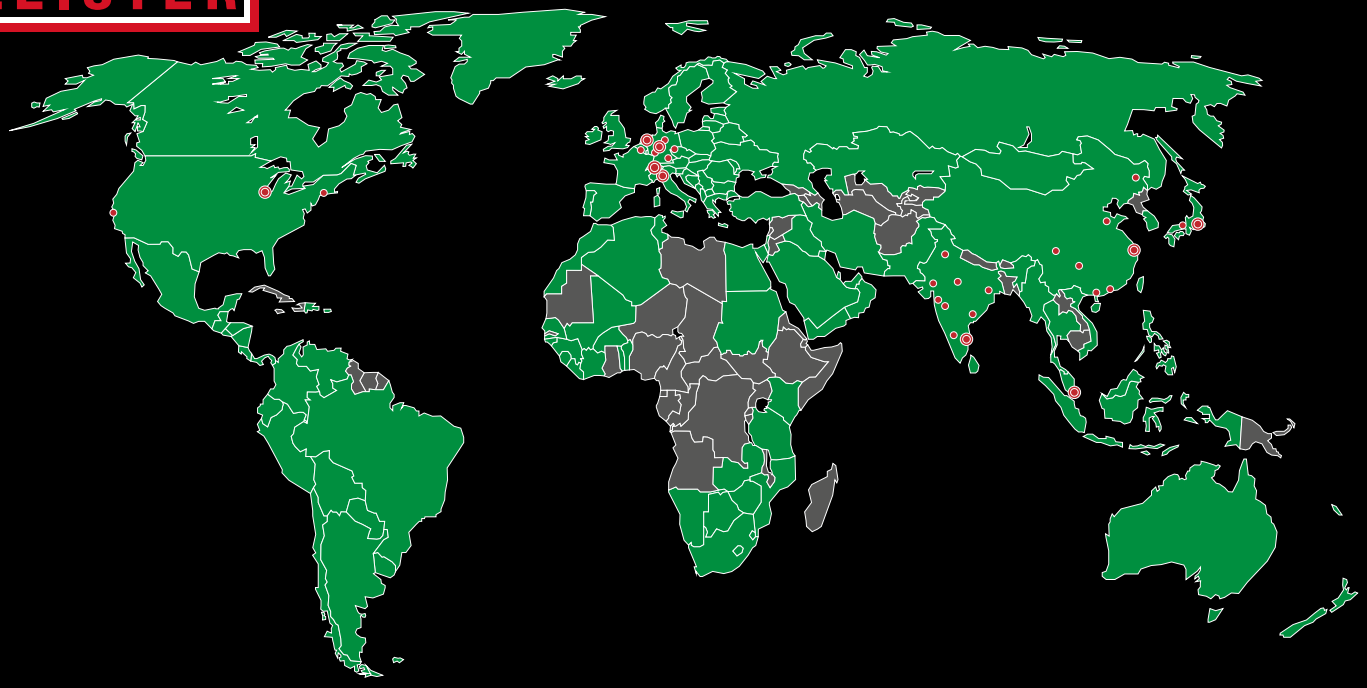

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