



Heliarc SR-9, SR-9V
Heliarc SR-17, SR-17V
Heliarc SR-26, SR-26V, SR-26-F



Instruction manual and Spare parts list

PLEASE READ AND UNDERSTAND ALL INSTRUCTION BEFORE USE. RETAIN
THIS MANUAL FOR FUTURE REFERENCE.

Complete User Manual at:

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1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!



DANGER!

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.



WARNING!

Means potential hazards which could result in personal injury or loss of life.



CAUTION!

Means hazards which could result in minor personal injury.



WARNING!

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up
 - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts
4. Personal safety equipment:
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
 - Make sure the return cable is connected securely
 - Work on high voltage equipment **may only be carried out by a qualified electrician**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand
 - Lubrication and maintenance must **not** be carried out on the equipment during operation

If equipped with ESAB cooler

Use ESAB approved coolant only. Non-approved coolant might damage the equipment and jeopardize product safety. In case of such damage, all warranty undertakings from ESAB cease to apply.

For ordering information, see the "ACCESSORIES" chapter in the instruction manual.

**WARNING!**

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

**ELECTRIC SHOCK - Can kill**

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

**ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health**

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
 - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
 - Connect the work cable to the workpiece as close as possible to the area being welded.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

**MOVING PARTS - Can cause injuries**

- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.
- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

**FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.



HOT SURFACE - Parts can burn

- Do not touch parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or insulated welding gloves to prevent burns.

MALFUNCTION - Call for expert assistance in the event of malfunction.

PROTECT YOURSELF AND OTHERS!



CAUTION!

This product is solely intended for arc welding.



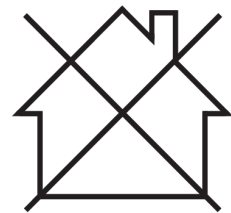
WARNING!

Do not use the power source for thawing frozen pipes.



CAUTION!

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.



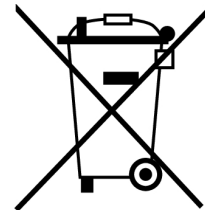
NOTE!

Dispose of electronic equipment at the recycling facility!

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

2 INTRODUCTION




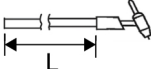



Heliarc TIG torches are intended for manual TIG welding. Certain models are available with flex heads for unlimited movement in confined spaces.

2.1 Equipment

The TIG torch is supplied with:

- Wear parts (except electrodes):
 - Ø 1.6 mm (0.063 in.) Heliarc SR 9
 - Ø 2.4 mm (0.094 in.) Heliarc SR 17
 - Ø 2.4 mm (0.094 in.) Heliarc SR 26
- Safety instructions
- Instruction manual

3 TECHNICAL DATA

	SR 9	SR 9V	SR 17	SR 17V	SR 26 26F	SR 26V
AC [A] / % DC [A] / %	80/60 110/60		100/60 140/60		140/60 200/60	
 Ømm	0.5–1.6 mm (0.02– 0.063 in.)		0.5–2.4 mm (0.02– 0.094 in.)		0.5–4.0 mm (0.02– 0.157 in.)	
	Ar Ar/He					
	4 and 8 m (13 and 26 ft)					
 0.5 A at 42 V Max	X	–	X	–	X	–
 max. kV	12 kV					
 Up max. V	113 V					
Operating temperature range				-10 to +40 °C (+14 to +104 °F)		
Transportation temperature range				-20 to +55 °C (+4 to +131 °F)		
Protection class						
The torches protection class machine side (EN 60 529)				IP3X		

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld or cut at a certain load without overloading. The duty cycle is valid for 40 °C / 104 °F, or below.

Enclosure class

The IP code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects of 2.5 mm Ø and greater. Omitting second characteristic numeral.

4 OPERATION

General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!

Read the operating instructions for the welding components, e.g. power source, and connect accordingly.

4.1 Connections

Tighten the connections for the torch carefully to avoid overheating the connection, connection interference, mechanical damage, or leakage of liquid or gas.

For liquid-cooled torches, connect liquid connections to the torch so that the red terminal is always connected to the corresponding red terminal and the blue terminals are always connected to the corresponding blue terminals.



4.2 Choice of electrode

By alloying the tungsten electrode with 1% to 2% lanthanum or cerium, the electron discharge is increased, which gives better striking and restriking and therefore increased arc stability.

Alloyed tungsten electrodes have a longer service life, tolerate higher currents, and are less likely to leave tungsten residue in the weld.

Pure tungsten electrode (AC)	Green	WP	Used for welding light metal alloys.
Cerium alloyed tungsten electrode (AC/DC)	Grey	WC20	Used for welding light metals such as aluminum and magnesium. The electrode tip must be rounded when welding.
Lanthanum alloyed tungsten electrode (DC)	Gold	WL15	Usually used for welding stainless steel, steel, copper, titanium, etc.
Lanthanum alloyed tungsten electrode (AC/DC)	Black	WL10	Used for welding light metal alloys, stainless steel, steel, copper, titanium, etc.

Selection table

		A / AC			A / DC	
		W	CeO ₂	La ₂ O ₃	CeO ₂	La ₂ O ₃
1.0 mm (0.039 in.)	6.4/8.0 mm (0.252/0.315 in.)	10–60	–	15–100	70–80	20–100
1.6 mm (0.063 in.)	6.4/8.0/9.8 mm (0.252/0.315/0.386 in.)	50–100	60–90	70–160	80–140	80–160
2.4 mm (0.094 in.)	9.8/11.2/12.7 mm (0.386/0.441/0.500 in.)	100–160	90–130	110–200	150–210	120–230
3.2 mm (0.126 in.)	11.2/12.7 mm (0.441/0.500 in.)	130–180	140–190	150–205	220–320	200–305
4.0 mm (0.157 in.)	12.7 mm (0.500 in.)	180–230	200–250	180–270	330–420	250–420

4.3 Grinding



NOTE!

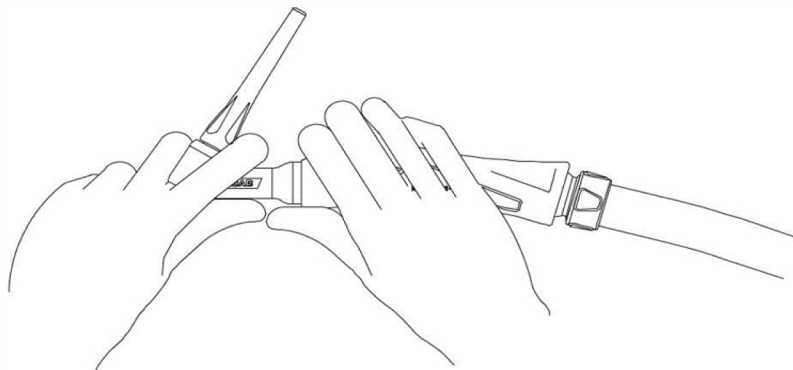
Tungsten electrodes must be grounded lengthways. If they are incorrectly grounded, the arc may be unstable. When the welding current is increased, the angle must also be increased.

When welding with alternating current (AC), the electrode end must be gently rounded. Grinding the electrode is then unnecessary. Light grading of the edge is sufficient. The electrode forms itself if it is carefully overloaded. If the tip becomes ball-shaped while welding using alternating current, this is a sign that the current is too high for the diameter of the electrode being used.

Grind tungsten electrodes according to the following table:

Welding current	Electrode angle	
20 A	30°	
20–100 A	30°–90°	
100–200 A	90°–120°	
over 200 A	120°	

4.4 Bending of the flexible torch



The life of the flexible torch is limited. The maximum bending angle should be 45 degrees.

The life of the torch head can be prolonged by proper technique.

Always make sure that the torch head is supported by the thumb when you bend. This prevents damage at sharp bending.

4.5 Valve torches



CAUTION!

Do not operate TIG torches with an integrated valve in the torch neck on welding systems equipped with an ignition and stabilisation device.

5 MAINTENANCE



NOTE!

Regular maintenance is important for safe and reliable operation.



WARNING!

The mains supply must be disconnected during cleaning and maintenance.



CAUTION!

All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.

5.1 Daily

- Check that all cables and hoses are undamaged and that there are no kinks in them.
- Check that the gas nozzle is free from defects and suitable for the work in question.
- Check that the shielding gas flows evenly and without restriction.
- Check that the electrode is undamaged and that the electrode has been ground to the correct angle.
- Check the coolant flow at the unit's return line (liquid-cooled versions only).

6 TROUBLESHOOTING

Read the operating instructions for the welding components, e.g., power source.

Perform these checks and inspections before sending for an authorised service technician.

Type of fault	Possible cause	Corrective action
The arc does not strike	<ul style="list-style-type: none"> • Cable or contact is poor. • Torch electrode is badly oxidized. • There are impurities in the shielding gas (moisture, air). • The electrode used is too large or stubby at a low current. 	<ul style="list-style-type: none"> • Check the cable and contact. • Regrind along the length of the electrode. • Flush clean with gas. • Replace with a smaller electrode.
No trigger function	Control cable interrupted/faulty.	Check/repair.
Gas shielding is poor	<ul style="list-style-type: none"> • There are impurities in the shielding gas (moisture, air). • There are impurities in the base material (rust, lubricant). • Insufficient or total lack of shielding gas. • It is too draughty at the welding site. • Welding spray has fastened on the gas lens or the gas hood. 	<ul style="list-style-type: none"> • Flush clean with gas. • Clean the base material. • Check the contents of the gas bottle/hoses and the pressure setting. • Shield the welding area with protective screens. • Clean or replace.

7 ORDERING SPARE PARTS



CAUTION!

Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

Heliarc SR-9, SR-9V, SR-17, SR-17V, SR-26, SR-26V, and SR-26-F torches are designed and tested in accordance with the international and European standards **IEC-/ EN 60974-7**. On completion of service or repair work, it is the responsibility of the person(s) performing the work to ensure that the product still complies with the requirements of the above standards.

Spare parts and wear parts can be ordered through your nearest ESAB dealer, see [esab.com](https://www.esab.com). When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

APPENDIX

ORDERING NUMBERS

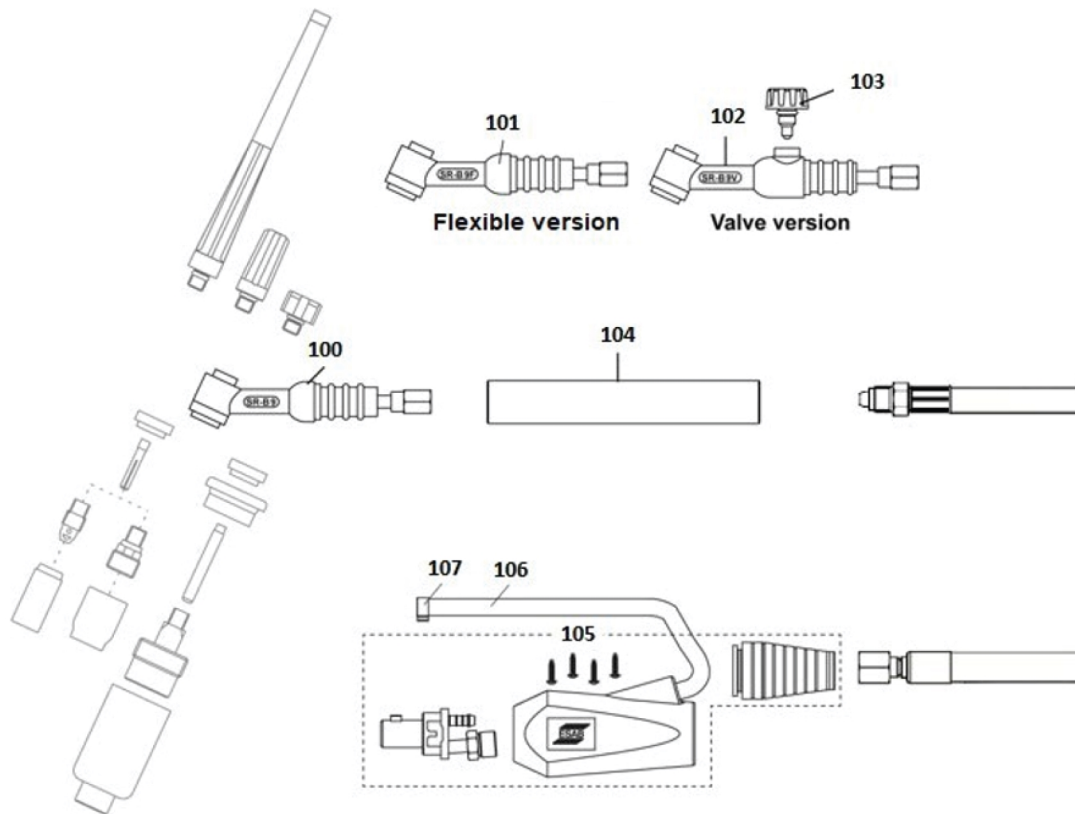


Ordering number	Denomination	Torch head			TSB 3550	
		Ridgid	Valve	Flexible	4 m / 12.5 ft	8 m / 25 ft
0700 026 600	ESAB Heliarc SR-9 12.5 ft	X			X	
0700 026 601	ESAB Heliarc SR-9 25 ft	X				X
0700 026 604	ESAB Heliarc SR-9V 12.5 ft		X		X	
0700 026 605	ESAB Heliarc SR-9V 25 ft		X			X
0700 026 610	ESAB Heliarc SR-17 12.5 ft	X			X	
0700 026 611	ESAB Heliarc SR-17 25 ft	X				X
0700 026 614	ESAB Heliarc SR-17V 12.5 ft		X		X	
0700 026 615	ESAB Heliarc SR-17V 25 ft		X			X
0700 026 620	ESAB Heliarc SR-26 12.5 ft	X			X	
0700 026 621	ESAB Heliarc SR-26 25 ft	X				X
0700 026 622	ESAB Heliarc SR-26-F 12.5 ft			X	X	
0700 026 623	ESAB Heliarc SR-26-F 25 ft			X		X
0700 026 624	ESAB Heliarc SR-26V 12.5 ft		X		X	
0700 026 625	ESAB Heliarc SR-26V 25 ft		X			X
0460 697 *	Instruction manual					

The three last digits in the document number of the manual show the version of the manual. Therefore they are replaced with * here. Make sure to use a manual with a serial number or software version that corresponds with the product, see the front page of the manual.

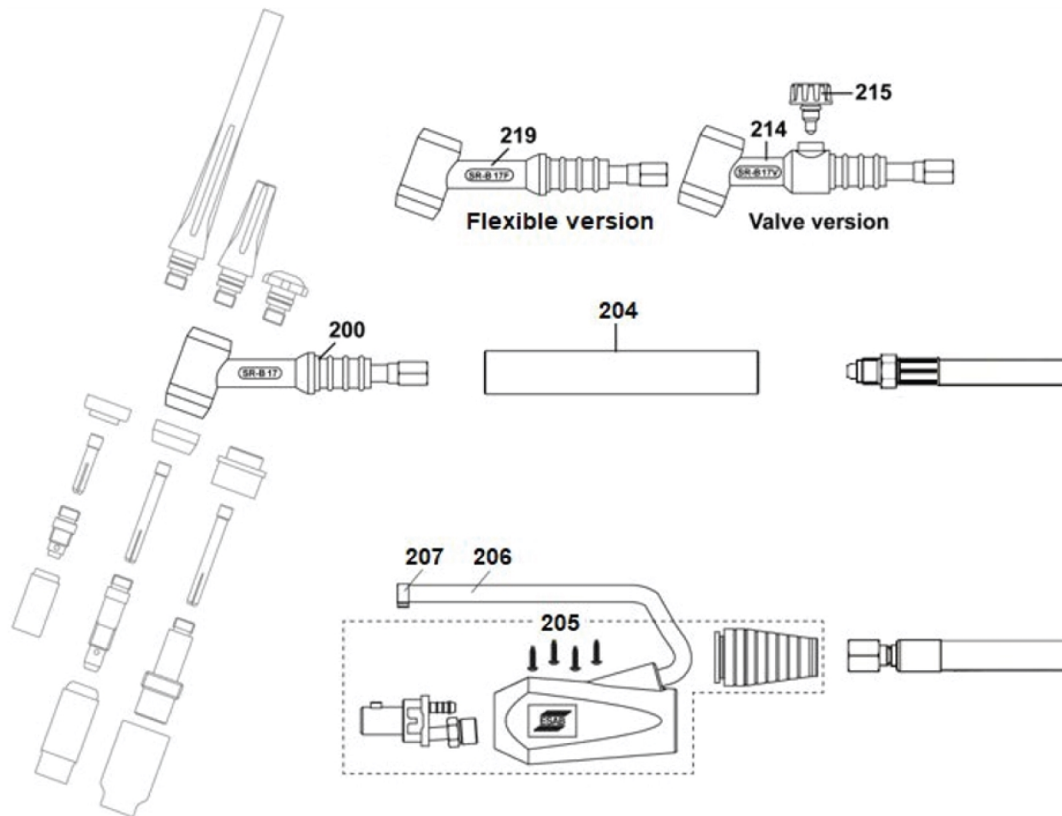
Technical documentation is available on the Internet at: www.esab.com

SPARE PARTS - SR-9, SR-9V



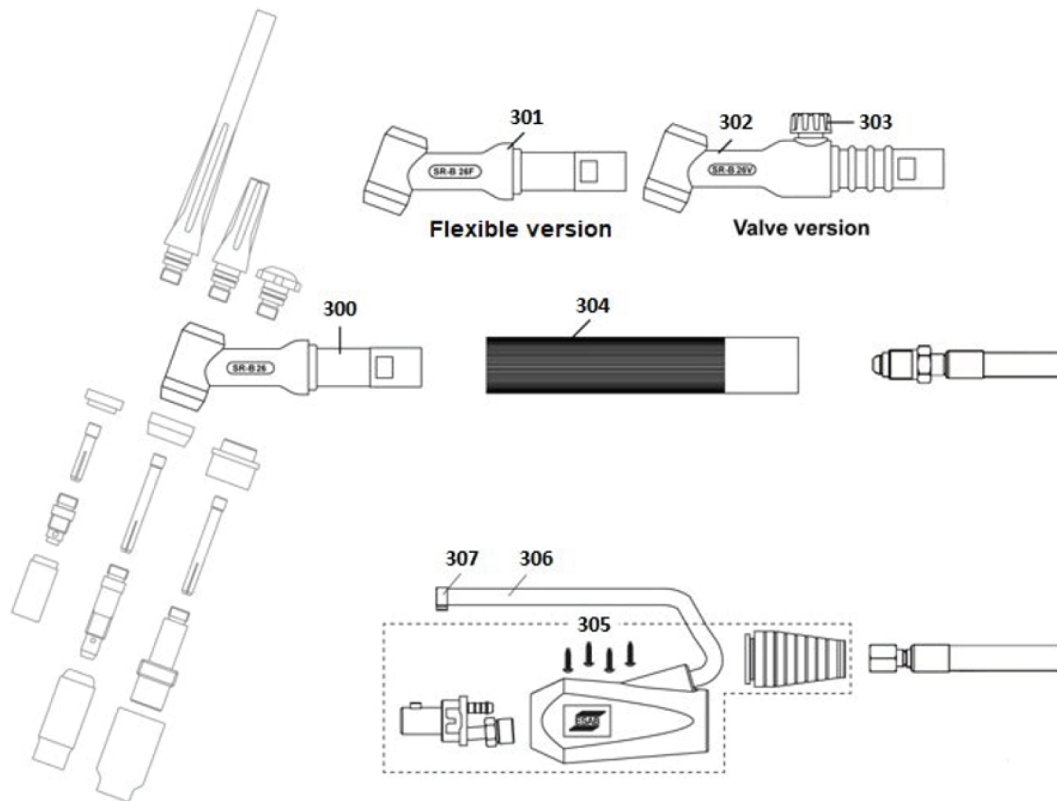
Item	Qty	Ordering no.	Denomination
100	1	0700 300 569	Torch head rigid, SR-9
102	1	0700 300 570	Torch head valved, SR-9V
103	1	0700 300 581	Gas valve
104	1	0700 025 631	Handle, H100
105	1	0700 025 623	TIG connector 3550
106	1	0700 025 993	Gas hose
107	4	0700 025 975	Hose clamp with ring

SPARE PARTS - SR-17, SR-17V



Item	Qty	Ordering no.	Denomination
200	1	0700 300 590	Torch head rigid, SR-17
202	1	0700 300 571	Torch head valved, SR-17V
203	1	0700 300 581	Gas valve
204	1	0700 025 631	Handle, H100
205	1	0700 025 623	TIG connector 3550
206	1	0700 025 993	Gas hose
207	4	0700 025 975	Hose clamp with ring

SPARE PARTS - SR-26, SR-26V, SR-26-F



Item	Qty	Ordering no.	Denomination
300	1	0700 025 606	Torch head rigid, SR-26
301	1	0700 025 607	Torch head flexible, SR-26-F
302	1	0700 025 594	Torch head valved, SR-26V
303	1	0700 025 599	Gas valve
304	1	0700 025 632	Handle, H200
305	1	0700 025 623	TIG connector 3550
306	1	0700 025 993	Gas hose
307	4	0700 025 975	Hose clamp with ring



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