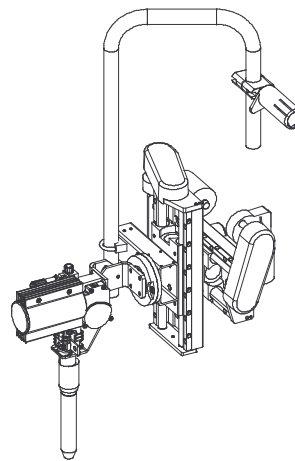
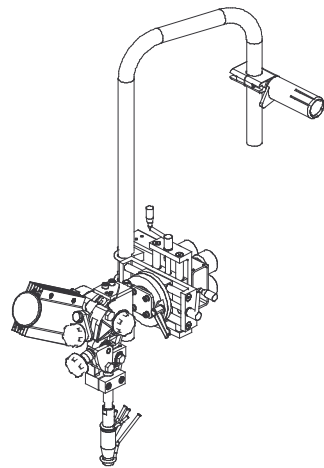
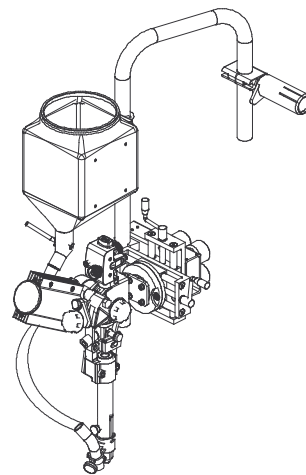
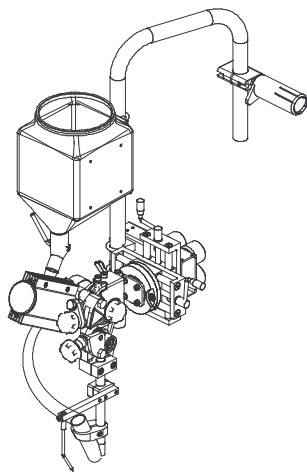


A2 Welding heads

A2SF J1 / A2SF J1 Twin
A2SG J1 / A2SG J1 4WD



Instruction manual

ENGLISH 4

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DECLARATION OF CONFORMITY

In accordance with
the LV-Directive 2006/95/EC, the Machinery Directive 2006/42/EC, the EMC Directive 2004/108/EC

Type of equipment

Feeder of welding wire in combination with movable Welding Automats and stationary Welding heads, used with control box PEK

Brand name or trade mark Fabrikatnamn eller varumärke

ESAB

Type designation etc.

A2 Multitrac, A2 Tripletrac, A2 S-series, A6 Mastertrac, A6 Mastertrac Tandem, A6 S- series

Manufacturer or his authorised representative established within the EEA

Name, address, telephone No, telefax No:

ESAB AB, Welding Equipment
Esabvägen, SE-695 81 LAXÅ, Sweden
Phone: +46 584 81 000, Fax: +46 584 411 924

The following harmonised standards in force within the EEA have been used in the design:

EN 60974-5, Arc welding equipment – Part 5: Wire feeders
EN 12100-2, Safety of machinery – Part 2: Technical principles
EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

Additional information: Restrictive use, Class A equipment, intended for use in locations other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date / Datum
Laxå 2009-09-15

Signature / Underskrift

A handwritten signature in dark ink, appearing to read "Kent Eimbrodt", written over a light-colored background.

Kent Eimbrodt
Clarification

Position / Befattning
Global Director
Equipment and Automation

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1 SAFETY

Users of ESAB welding 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 welding 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 welding 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 welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
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
3. The workplace must:
 - be suitable for the purpose
 - be free from draughts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves. **Note!** *Do not use safety gloves when replacing wire.*
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. Protection against other risks
 - Dust particles of a certain size can be harmful to man. A ventilation system and extractor should therefore be provided to eliminate this risk.
6. 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.

GB



WARNING, RISK OF CRUSHING!

Do not use safety gloves when replacing wire, feed rollers and wire bobbins.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURER'S HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases 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.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION

- Call for expert assistance in the event of malfunction.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

2 INTRODUCTION

2.1 General

All the welding heads included in this instruction manual are designed for SAW and MIG/MAG welding of butt and fillet joints.

They are intended for use in combination with **PEK** and ESAB's welding power sources **LAF** or **TAF**.

2.2 Welding Method

2.2.1 Submerged Arc Welding (SAW)

For submerged arc welding the **A2SF J1/ A2SF J1 Twin** welding head is always to be used.

- **Submerged arc Light Duty.**

Submerged arc light duty with a Ø 20 mm connector permits a load up to 800 A (100%).

This version can be equipped with feed rollers for single or twin wire welding (twin-arc). A special knurled feed roller is available for flux-cored wire, which guarantees even wire feed without the risk of deformation due to high feed pressure.

2.2.2 MIG/MAG Welding

For MIG/MAG welding either the **A2SG J1** or **A2SG J1 4WD** welding heads are to be used.

In MIG/MAG welding the welding bead is shielded by way of shielding gas.

The welding head is water-cooled. The cooling water is supplied by hoses from connections intended for the purpose.

2.3 Definitions

SAW welding	The weld bead is protected by a cover of flux during the welding.
SAW Light duty	Permits welding with lower current load and thin wire.
MIG/MAG welding	The weld bead is protected by shielding gas during welding.
Twin-arc welding	Welding with two wires in one welding head.

2.4 Technical Data

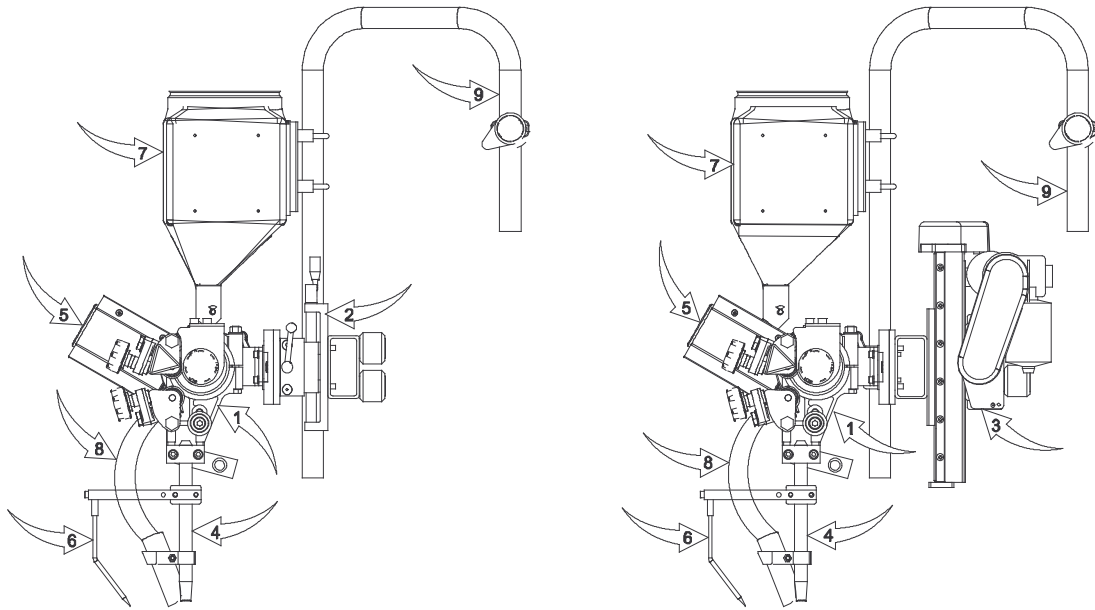
	A2SF J1/ A2SF J1 Twin (SAW)	A2SG J1 (MIG/MAG)
Rated load 100%	800A	600A
Wire dimensions:		
solid single wire	1.6-4.0 mm	0.8-2.5 mm
flux-cored wire	1.6-4.0 mm	1.2-3.2 mm
solid twin wire	2x1.2-2.0 mm	-
Wire feed speed	0.2-9.0 m/min	0.2-16 m/min
Brake drum braking torque	1.5 Nm	1.5 Nm
Max weight, wire	2x30 kg	2x30 kg
Flux hopper (Not to be filled with preheated flux)		
Capacity:	6 l	-
Max. temperature plastic flux hopper:	80° C	-
Weight (flux and wire excluded)		
with hand-operated linear slides	23 kg	23 kg
with motor-driven linear slides	45 kg	44 kg
Sideways tilt, max.	25°	25°
Setting length of the slide*		
hand-operated	90 mm	90 mm
motor-driven	180 mm	180 mm
Enclosure class	IP10	IP10

*) NB. Available in other lengths on request.

	A2SG J1 4WD (MIG/MAG)	
Type of gas:	Mix/Ar	CO ₂
Permissible load at 100 %:	600 A	650 A
Wire dimensions:		
Non-alloy / Low-alloy	1.0-1.6 mm	1.0-1.6 mm
Stainless steel	1.0-1.6 mm	
Cored wire	1.0-2.4 mm	1.0-2.4 mm
Aluminium	1.0 - 2.0 mm	
Wire feed speed	2.0-25 m/min	2.0-25 m/min
Setting range, contact device	±45°	±45°
Brake hub braking torque	1.5 Nm	1.5 Nm
Max. weight of wire	30 kg	30 kg
Weight (wire excluded):		
with hand-operated linear slides	23 kg	23 kg
with motor-driven linear slides	45 kg	45 kg
Max. lateral inclination (whole unit)	25°	25°
Setting length of the slide*		
hand-operated	90 mm	90 mm
motor-driven	180 mm	180 mm
Enclosure class	IP10	IP10

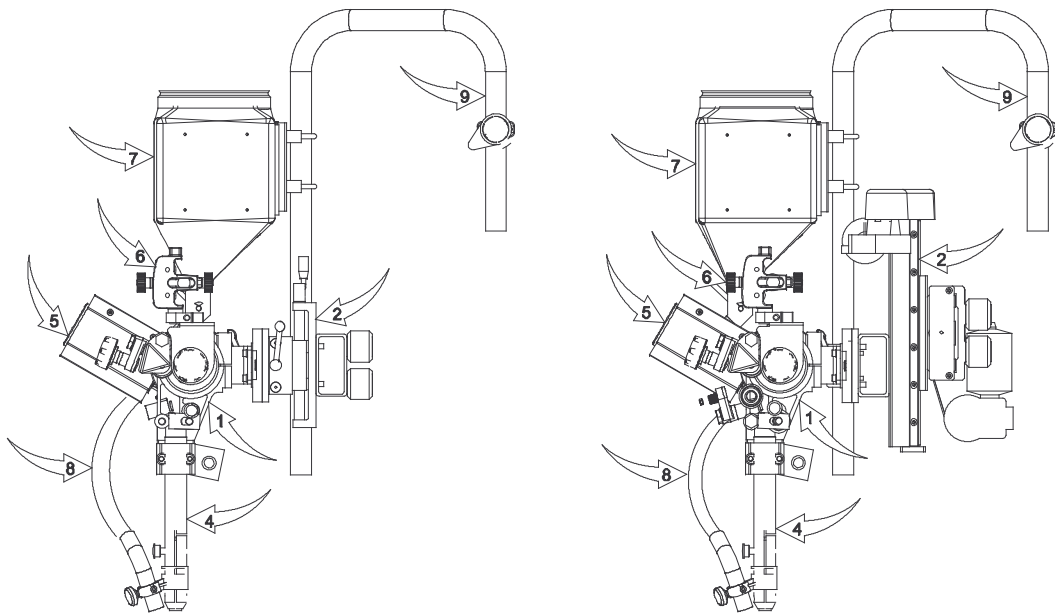
*) NB. Available in other lengths on request.

2.5 Main components A2SF J1 (SAW)



- | | | |
|-------------------------|--------------------|--------------------------|
| 1. Wire feed unit | 4. Contact tube | 7. Flux hopper |
| 2. Slide kit, manual | 5. Wire feed motor | 8. Flux tube |
| 3. Slide kit, motorized | 6. Guide pin | 9. Carrier for wire drum |

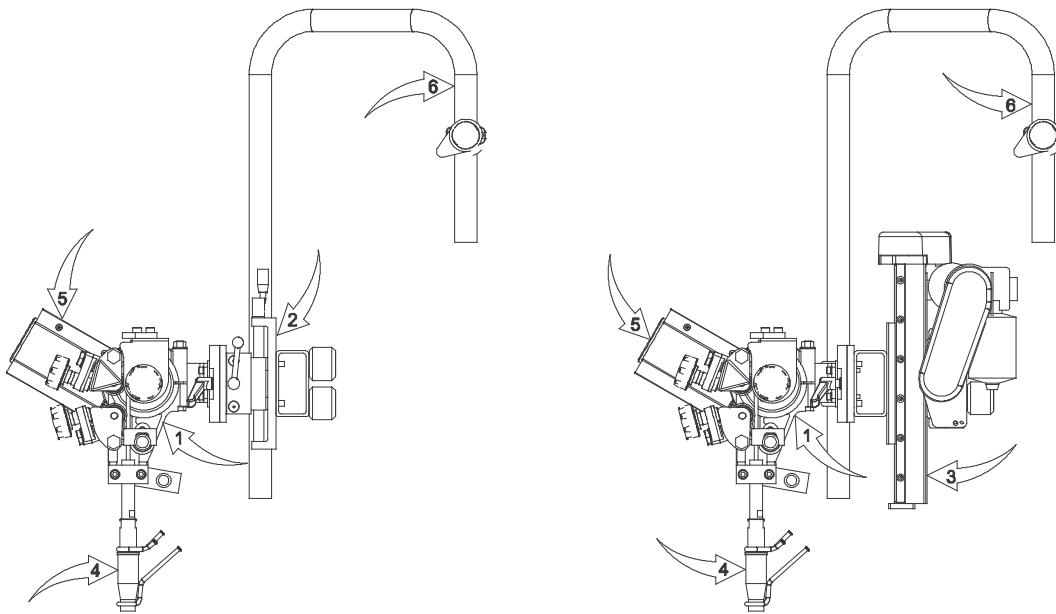
2.6 Main components A2SF J1 Twin (SAW)



- | | | |
|-------------------------|------------------------|--------------------------|
| 1. Wire feed unit | 4. Connector (Twin) | 7. Flux hopper |
| 2. Slide kit, manual | 5. Wire feed motor | 8. Flux tube |
| 3. Slide kit, motorized | 6. Fine-Wire feed unit | 9. Carrier for wire drum |

See on page 12 for a description of the main components.

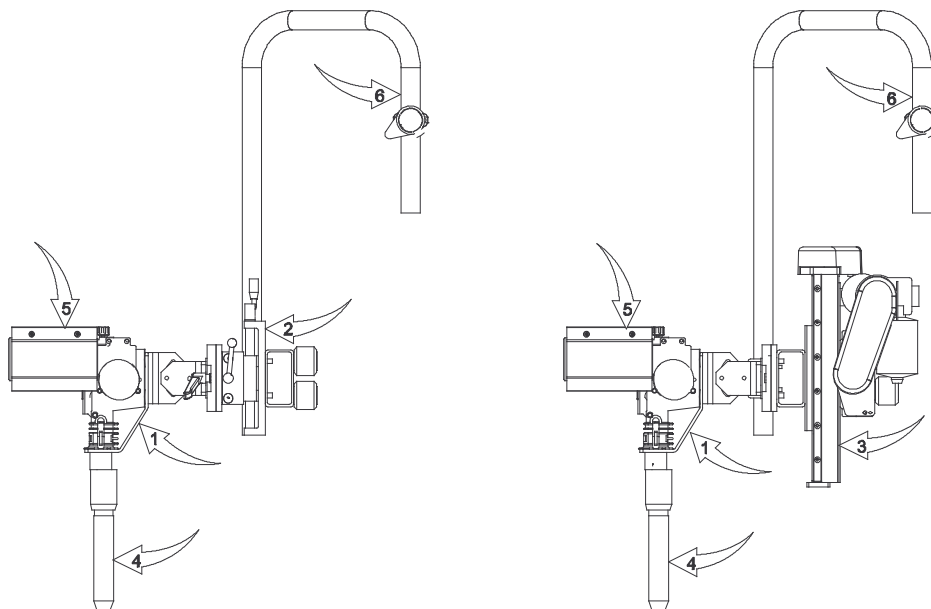
2.7 Main Components A2SG J1 (MIG/MAG)



- 1. Wire feed unit
- 2. Slide kit, manual
- 3. Slide kit, motorized

- 4. Connector (MIG/MAG)
- 5. Wire feed motor
- 6. Carrier for wire drum

2.8 Main Components A2SG J1 4WD (MIG/MAG)



- 1. Wire feed unit with four-wheel drive
- 2. Slide kit, manual
- 3. Slide kit, motorized

- 4. Connector (MIG/MAG)
- 5. Wire feed motor
- 6. Carrier for wire drum

See on page 12 for a description of the main components.

2.9 Description of Main Components

2.9.1 Wire Feed Unit / Wire Feed Unit with four-wheel Drive

The unit is used for guiding and feeding the welding wire down into the contact tube/connector.

2.9.2 Manual and Motorized Slides

The horizontal and vertical position of the welding head is adjusted by way of linear slides. The angular motion can be freely adjusted using the rotary slide.

For the motorized slide (**A6 Slide**), see instruction manual 0443 394 xxx.

2.9.3 Contact Tube / Connector

Transfers welding current to the wire during welding.

2.9.4 Wire Feed Motor

The wire feed motor is used for feeding the welding wire.

2.9.5 Guide Pin

The guide pin is used to help positioning the welding head in the joint.

2.9.6 Fine-wire straightener

The unit is used for the straightening of fine wire.

2.9.7 Flux Hopper / Flux Tube

The flux is filled into the flux hopper and is then transferred to the workpiece through the flux tube.

The amount of flux to be dropped down is controlled by way of the flux valve fitted to the flux hopper.

See “**Refilling with flux**” on page 24.


2.9.8 Carrier for Wire Drum

The carrier is provided with a brake hub on which one the wire drum is to be fitted.

3 INSTALLATION

3.1 General

The installation must be executed by a professional.

	WARNING
<i>Rotating parts can cause injury, take great care.</i>	

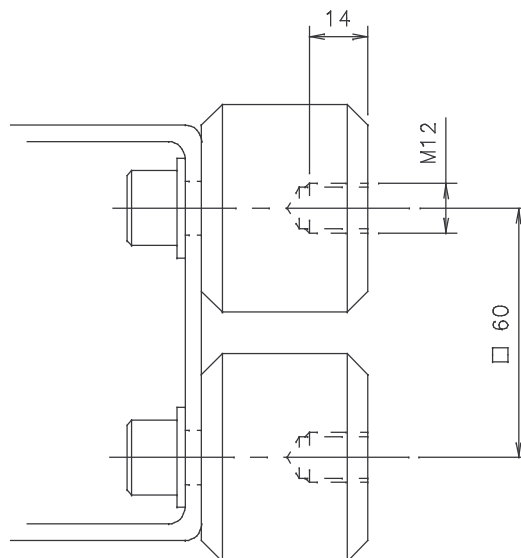
3.2 Mounting

3.2.1 Welding head

The welding head can easily be mounted on a beam-travelling carriage or on a welding column and boom unit by way of four M12 screws.

N.B.

Make sure the bolts do not touch the bottom of the insulator, which has a thread depth of 14 mm.



3.2.2 A6 Slide

For mounting/ dismounting of A6 Slide, see instruction manual 443 394 xxx.

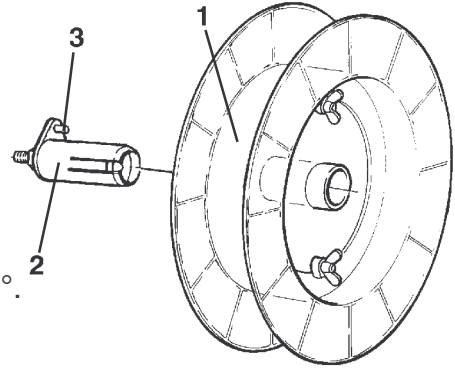
This safety sign is placed on the cover of the vertical slide.



3.2.3 Wire drum (Accessories)

Wire drum (1) is mounted on the brake hub (2).

- Check that the carrier (3) is pointing upwards.



NOTE! The maximum angle for the wire bobbin is 25°. At extreme angles, wear will occur on the brake hub locking mechanism and the wire bobbin will slide off the brake hub.



WARNING

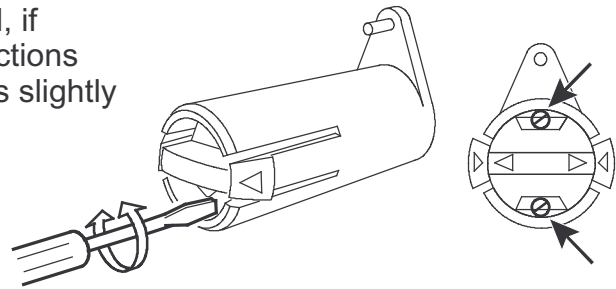
To prevent the reel sliding off the hub:

- Lock the reel in place by turning the red knob as shown on the warning label attached next to the hub.



3.3 Adjusting the brake hub

The brake hub is adjusted when delivered, if readjustment is required, follow the instructions below. Adjust the brake hub so that wire is slightly slack when wire feed stops.



- **Adjusting the braking torque:**

- Turn the red handle to the locked position.
- Insert a screwdriver into the springs in the hub.

Turn the springs clockwise to reduce the braking torque

Turn the springs anticlockwise to increase the braking torque.

NB: Turn both springs through the same amount.

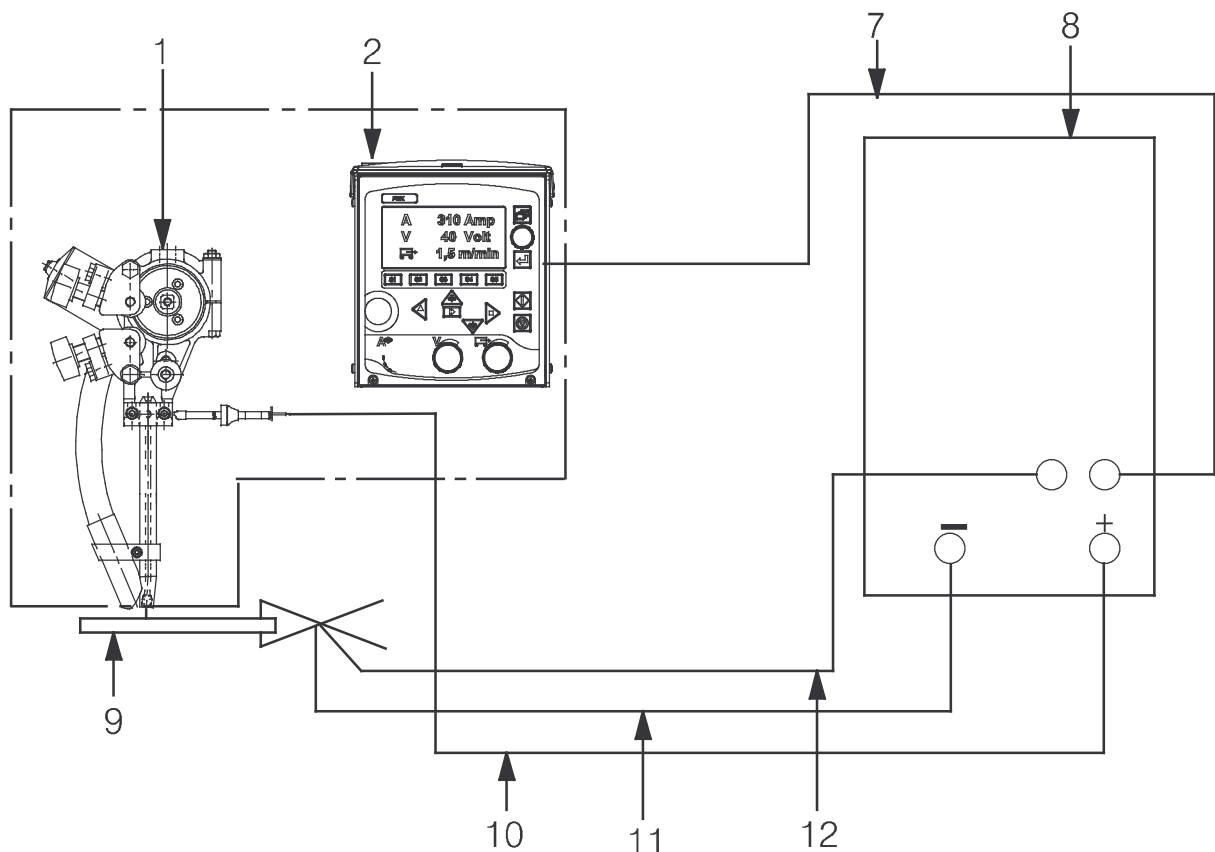
3.4 Connections

3.4.1 General

- **PEK** is to be connected by a qualified person.
See instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.
- For the connection of **A6 GMH**, see instruction manual 0460 671 xxx.
- For the connection of **A6 PAV**, see instruction manual 0460 670 xxx.

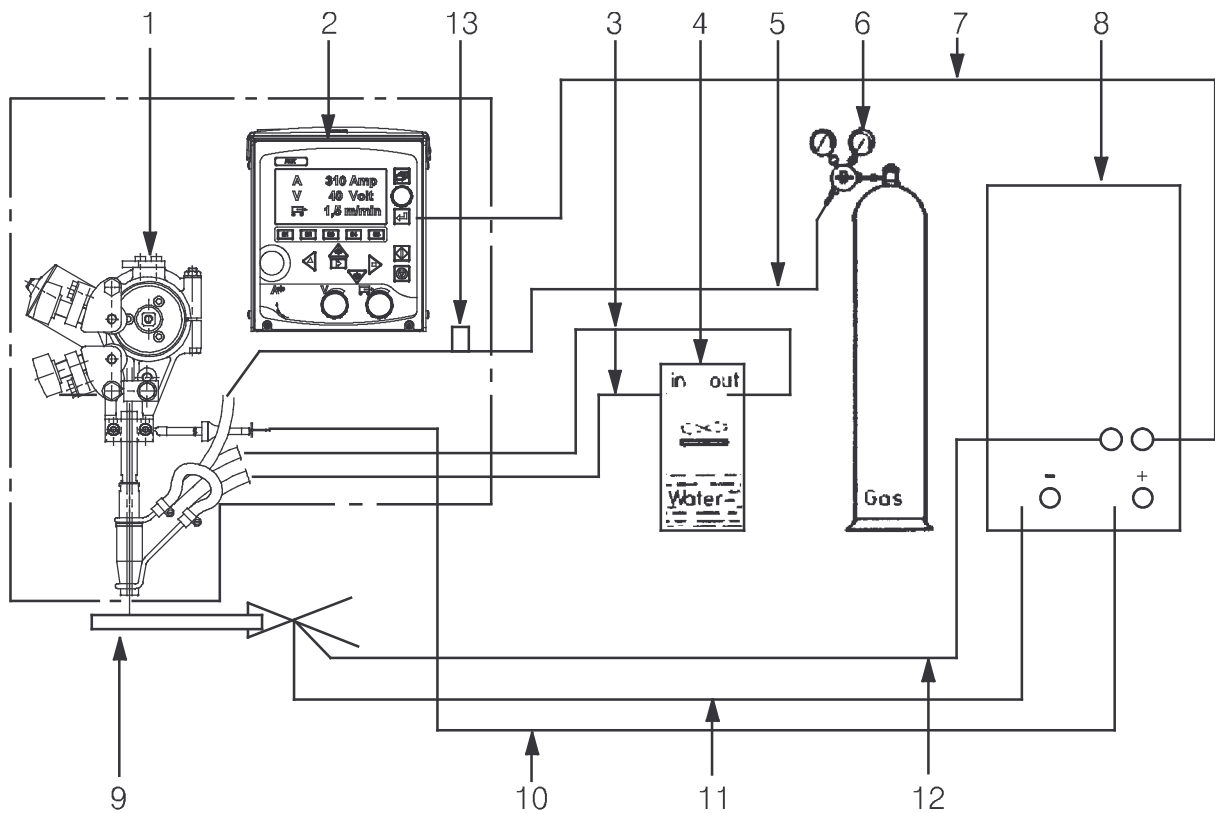
3.4.2 Welding head A2SF J1/ A2SF J1 Twin (Submerged arc welding, SAW)

1. Connect the control cable (7) between the welding power source (8) and the **PEK** (2).
2. Connect the return cable (11) between the welding power source (8) and the work piece (9).
3. Connect the welding cable (10) between the welding power source (8) and the welding head (1).
4. Connect the measuring cable (12) between the welding power source (8) and the work piece (9).



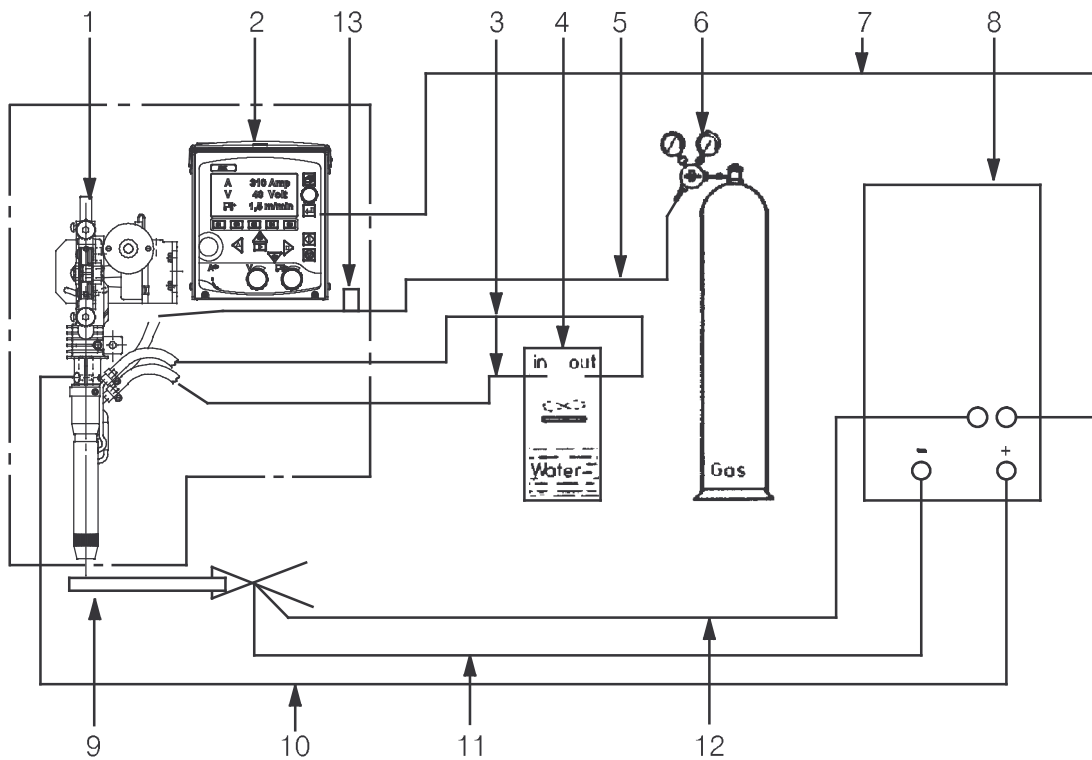
3.4.3 Welding head A2SG J1 (Gas metal arc welding, MIG/MAG)

1. Connect the control cable (7) between the welding power source (8) and the **PEK** (2).
2. Connect the return cable (11) between the welding power source (8) and the work piece (9).
3. Connect the welding cable (10) between the welding power source (8) and the welding head (1).
4. Connect the gas hose (5) between the reduction valve (6) and the gas valve on the welding head (13).
5. Connect the hoses for cooling water (3) between the cooling unit (4) and the welding head (1).
6. Connect the measuring cable (12) between the welding power source (8) and the work piece (9).



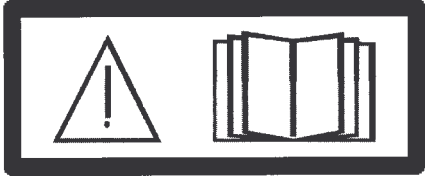
3.4.4 Welding head A2SG J1 4WD (Gas metal arc welding, MIG/MAG)

1. Connect the control cable (7) between the welding power source (8) and the PEK (2).
2. Connect the return cable (11) between the welding power source (8) and the work piece (9).
3. Connect the welding cable (10) between the welding power source (8) and the welding head (1).
4. Connect the gas hose (5) between the reduction valve (6) and the gas valve on the welding head (13).
5. Connect the hoses for cooling water (3) between the cooling unit (4) and the welding head (1).
6. Connect the measuring cable (12) between the welding power source (8) and the work piece (9).



4 OPERATION

4.1 General

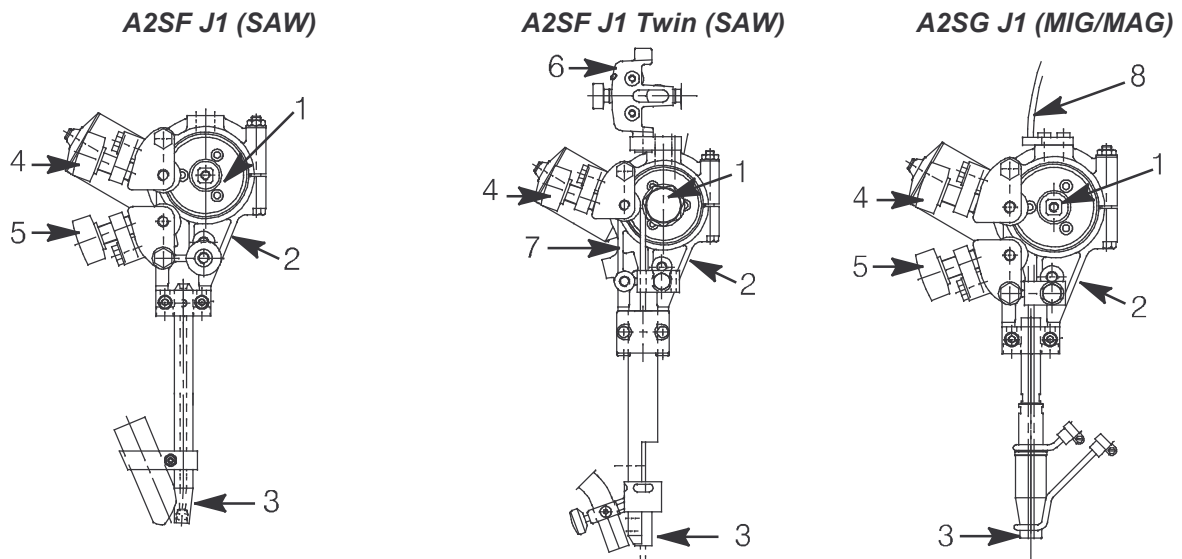
	<p>WARNING: <i>Have you read and understood the safety information ? You must not operate the machine before then !</i></p>
---	--

General safety regulations for the handling of the equipment can be found on page 5. Read through before you start using the equipment!

Return cable

Before welding start, check that the return cable is connected. See page 15- 17.

4.2 Loading the welding wire (A2SF J1/ A2SF J1 Twin, A2SG J1)



1. Mount the wire drum according to the instructions on page 14.
2. Check that feed roller (1) and contact jaw or contact tip (3) are of the correct dimension for the selected wire size.
3. For A2SF J1Twin and A2SG J1:
 - Feed the wire through the wire guide (8).
4. When welding with fine wire:
 - Feed the wire through the fine Wire feed unit (6).

Ensure that the straightener is correctly adjusted so that the wire emerges straight out through the contact jaws or contact tip (3).
5. Pull the end of the wire through the straightener (2).
 - For a wire diameter greater than 2 mm; straighten out 0.5 m of wire and feed it by hand down through the straightener.
6. Locate the end of the wire in the feed roller (1) groove.
7. Set the wire tension on the feed roller with the knob (4).

Setting the wire feed pressure:


Start by making sure that the wire moves smoothly through the wire guide. Then set the pressure of the wire feeder's pressure rollers. It is important that the pressure is not too great.

To check that the feed pressure is set correctly, you can feed out the wire against an insulated object, e.g. a piece of wood.

When you hold the contact tip approx. 20 mm from the piece of wood the feed rollers should slip.

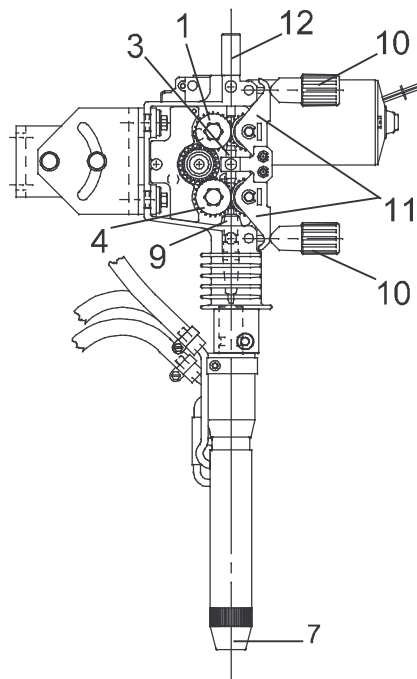
IMPORTANT!

Never tension the feed rollers more than is required to achieve an even feed. Overtensioning reduces the life of the equipment. **Never** use any tool to tension the feed rollers.

8. Feed the wire forward 30 mm below the contact tip by pressing  on the control box **PEK**.
9. Direct the wire by adjusting the knob (5).

- **Always** use a guide tube (7) to ensure even feed of fine wire (1.6 - 2.5 mm).
- For MIG/MAG welding with wire sizes < 1.6 mm, use a guide spiral, which is inserted in the guide tube (7).

4.3 Loading the welding wire (A2SG J1 4WD)




1. Check that the feed rollers (1, 4) and the contact nozzle (7) are of the correct dimension for the wire size selected.

NOTE!

The feed rollers are marked with their respective groove diameter (D) on the opposite side of the roller.

2. Undo the pressure devices (10) and put up the pressure arms (11).
3. Put the end of the wire through the wire guide nipple (12).
4. Locate the end of the wire in the groove of the feed roller (1) and feed it through the intermediate nozzle (3).
5. Locate the end of the wire in the groove of the other feed roller (4) and feed it through the outlet nozzle (9).
6. Put down the pressure arms (11) and adjust the wire tension on the feed rollers (1, 4) by way of the pressure devices (10).

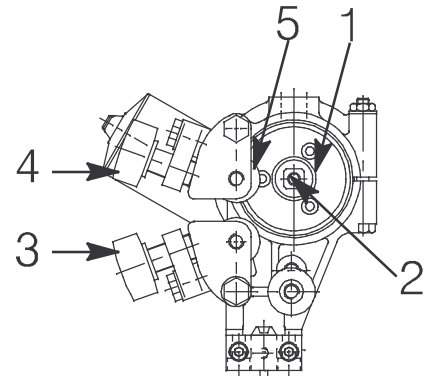
NOTE! Do not tighten down too hard.

7. Feed the wire forward 30 mm below the contact nozzle by pressing  on the control box **PEK**.

4.4 Changing the feed roller (A2SF J1/ A2SF J1 Twin, A2 SG J1)

Single wire

- Release the knobs (3) and (4).
- Release the hand wheel (2).
- Change the feed roller (1).
They are marked with their respective wire sizes.



Twin wire (Twin-arc)

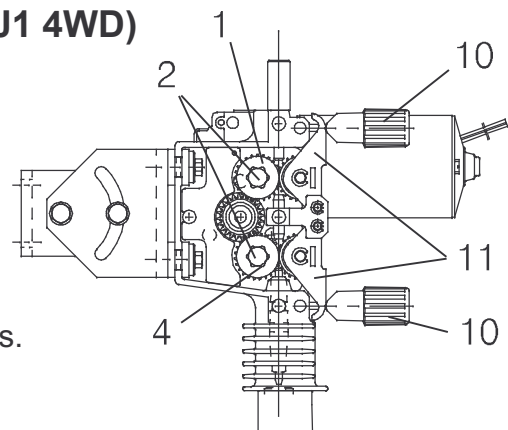
- Change the feed roller (1) with twin grooves in the same way as for single wire.
- **NOTE!** The pressure roller (5) must also be changed. A special curved pressure roller for twin wire replaces the standard pressure roller for single wire.
- Assemble the pressure roller with special stub shaft (order no. 0146 253 001).

Flux-cored wire for knurled rollers (Accessories)

- Change the feed roller (1) and pressure roller (5) as a pair for the wire size to be used.
- **NOTE!** A special stub shaft is required for the pressure roller (order no. 0212 901 101).
- Tighten the pressure screw (4) with moderate pressure to ensure that the flux-cored wire does not deform.

4.5 Changing the feed rollers (A2SG J1 4WD)

- Undo the pressure devices (10).
- Put up the pressure arms (11).
- Undo the mounting screws (2) of the feed rollers.
- Replace the feed rollers (1, 4).
- Adjust the wire tension on the new feed rollers.



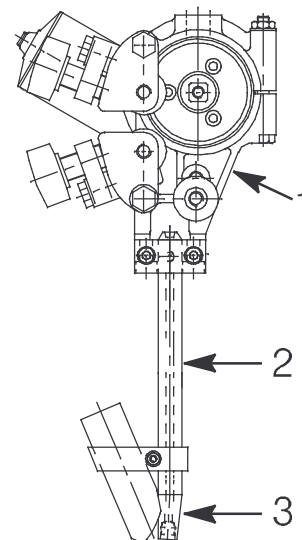
4.6 Contact equipment for Submerged arc welding

4.6.1 For single wire 1.6 - 4.0 mm. Light duty (D20)

Use welding head A2SF J1(SAW) where the following are included:

- Wire feed unit (1),
- Connector D20 (2)
- Contact tip (3) (M12 thread).

Tighten the contact tip (3) with a key in order to ensure that a good contact is achieved.

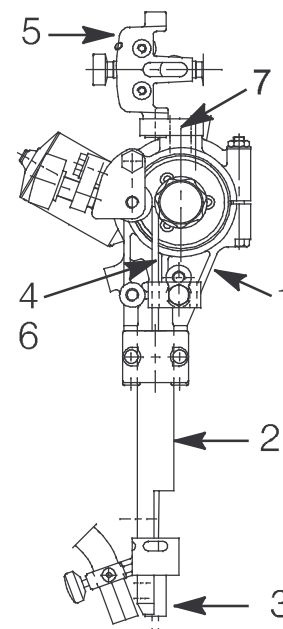


4.6.2 For twin wires 2 x 1.2 - 2.0 mm, Light Twin (D35)

Use welding head A2SF J1 Twin (SAW) where the following are included:

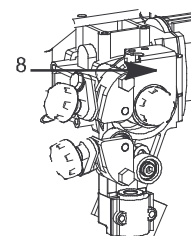
- Wire feed unit (1),
- Connector Twin D35 (2)
- Contact tip (3) (M6 thread).
- Fine-Wire feed unit (5)
- Guide tubes (4, 6).

Tighten the contact tip (3) with a key in order to ensure that a good contact is achieved.



Accessories:

- Fine-wire straightener (5) to be fitted on top of the clamp of the wire feed unit (1).
- N.B.** When mounting the fine-wire straightener, remove the plate (7) if it's exists.
- N.B.** The protection plate (8) shall not be removed



Adjustment of the wires for Twin-arc welding:

- Position the wires in the joint so as to achieve optimal weld quality by rotating the connector. The two wires can be rotated so that they are positioned one after the other along the line of the joint, or in any position up to 90° across the joint, i.e. one wire on each side of the joint.

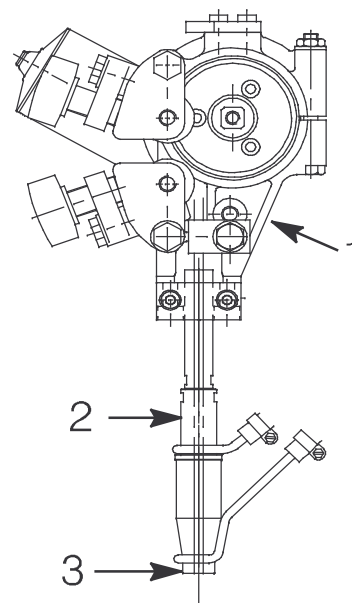
4.7 Contact equipment for MIG/MAG welding

4.7.1 For single wire 1.6 - 2.5 mm (D35)

Use welding head A2SG J1 (MIG/MAG) where the following are included:

- Wire feed unit (1),
- Connector D35 (2)
- Contact tip (3) (M10 thread).

Tighten the contact tip (3) with a key in order to ensure that a good contact is achieved.

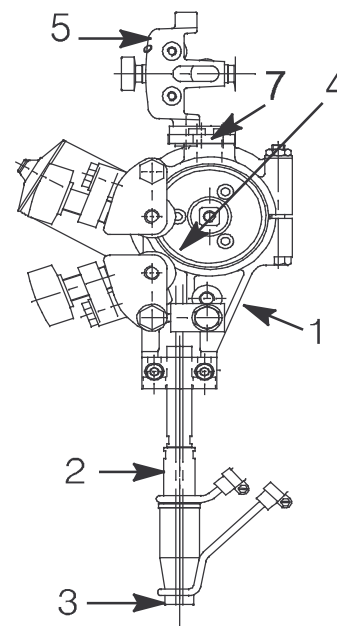


4.7.2 For single wire < 1.6 mm (D35)

Use welding head A2SG J1 (MIG/MAG) where the following are included:

- Wire feed unit (1),
- Connector D35 (2)
- Contact tip (3) (M12 thread).
- Guide tubes (4).

Tighten the contact tip (3) with a key in order to ensure that a good contact is achieved.

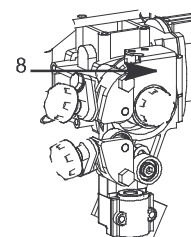


Use the following accessories:

- Fine-wire straightener (5) to be fitted on top of the clamp of the wire feed unit (1).
- Guide spiral to be inserted into the guide tube (4).

N.B. When mounting the fine-wire straightener, remove the plate (7) if it's exists.

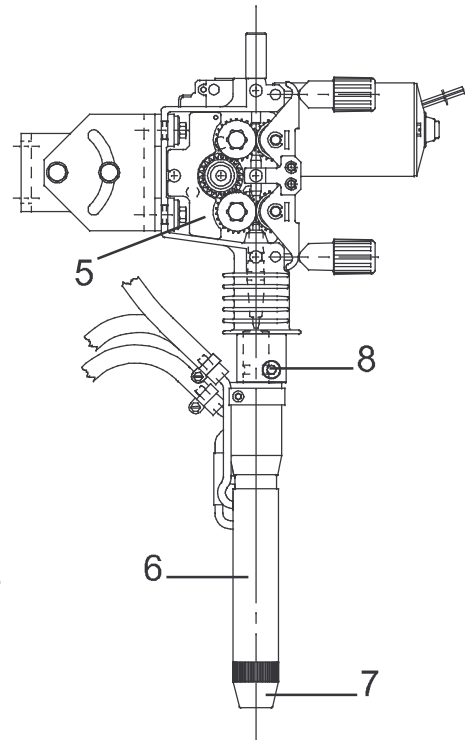
N.B. The protection plate (8) shall not be removed



4.7.3 For single wire 1.0 - 2.4 mm (wire feed unit with four-wheel drive)

Use welding head A2SG J1 4WD (MIG/MAG) where the following are included:

- Wire feed unit (5),
- Contact device D35 (6)
Tighten the contact device (6) using the Allen screw (8).
- Contact nozzle (7).
Tighten the contact nozzle in order to ensure that good contact is achieved.



Select a wire guide insert of the correct dimension for the type of wire to be used. See the instruction manual for contact device **MTW 600** (0449 006 xxx).

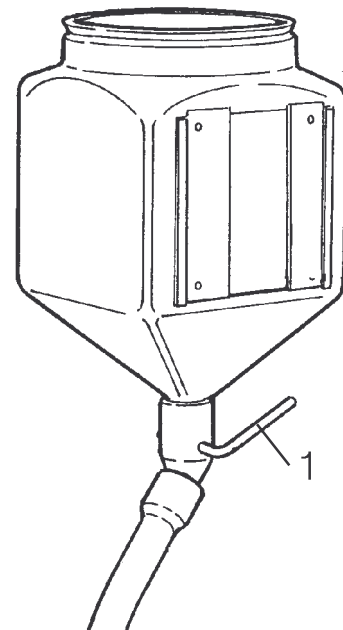
4.8 Refilling with flux powder (Submerged arc welding)

1. Close the flux valve (1) on the flux hopper.
2. Remove the cyclone on the flux recovery unit, if fitted.
3. Fill with flux powder.

NOTE! The flux powder must be dry.

4. Position the flux tube so that it does not become kinked.
5. Adjust the height of the flux nozzle above the weld so that the correct amount of flux is delivered.

Flux coverage should be sufficient so that penetration of the arc does not occur.



4.9 Conversion of A2SF J1/ A2SF J1 Twin (Submerged arc welding) to MIG/MAG welding

For the conversion kit see instruction manual 0456 756 xxx.

4.10 Conversion of A2SF J1 (Submerged arc welding) to Twin-arc

For the conversion kit see instruction manual 0456 757 xxx.

5 MAINTENANCE

5.1 General

Note:

All warranty undertakings given by the supplier cease to apply if the customer attempts to rectify any faults on the machine during the warranty period.

NB! Before doing any kind of maintenance work, make sure the mains is disconnected.

For the maintenance of the **PEK**, see the instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.

5.2 Daily

- Keep the moving parts of the welding head clean.
- Make sure contact nozzles, hoses and electric cables are properly connected.
- Make sure all bolted joints are tightened and that the conduit and the feed rollers are not worn or damaged.
- Check the brake hub braking torque. It should not be so low, that the wire reel continues to rotate when wire feed is stopped and it should not be so great that the feed rollers slip. As a guide, the braking torque for a 30 kg wire reel should be 1.5 Nm.
To adjust the braking torque see on page 14.

5.3 Regularly

- Check the wire feed motor brushes once every three months. Replace when they are worn down to 6 mm.
- Examine the slides and lubricate if they bind.
- Inspect the wire guides, drive rollers and contact tip on the wire feed unit. Replace any worn or damaged components, (see spare parts list on page 35).
- Inspect the gas nozzle and clear it regularly of welding spatter.
- Blow the wire conduit clean at regular intervals and clean the gas nozzle.
- For trouble-free wire feed the wear parts of the feed mechanism should be cleaned and replaced at regular intervals.
NOTE that too hard pre-tensioning can lead to abnormal wear of the pressure roller, feed roller and wire conduit.

6 FAULT TRACING

6.1 General

Equipment

- Instruction manual for **PEK**, 0460 948 xxx, 0460 949 xxx, 0459 839 036.

Check

- that the power supply is connected for the correct mains supply
- that all three phases are supplying the correct voltage (phase sequence is not important)
- that welding cables and connections are not damaged
- that the controls are correctly set
- that the mains supply is disconnected before starting repairs

6.2 Possible faults

1. Symptom **Current and voltage readings show large fluctuations**

Cause 1.1 Contact jaws or nozzle are worn or wrong size.

Action Replace contact jaws or nozzle.

Cause 1.2 Feed roller pressure is inadequate.

Action Increase pressure on feed rollers.

Cause 1.3 The gas nozzle is choked up.

Action Clear of welding spatter.

2. Symptom **Wire feed is irregular**

Cause 2.1 Pressure on feed rollers incorrectly set.

Action Adjust the pressure on the feed rollers.

Cause 2.2 Feed rollers wrong size.

Action Replace feed rollers.

Cause 2.3 Grooves in feed rollers are worn.

Action Replace feed rollers.

3. Symptom **Welding cables overheating**

Cause 3.1 Poor electrical connection.

Action Clean and tighten all electrical connections.

Cause 3.2 Cross-sectional area of welding cables too small.

Action Use cables with a larger cross-section or use parallel cables.

7 ACCESSORIES

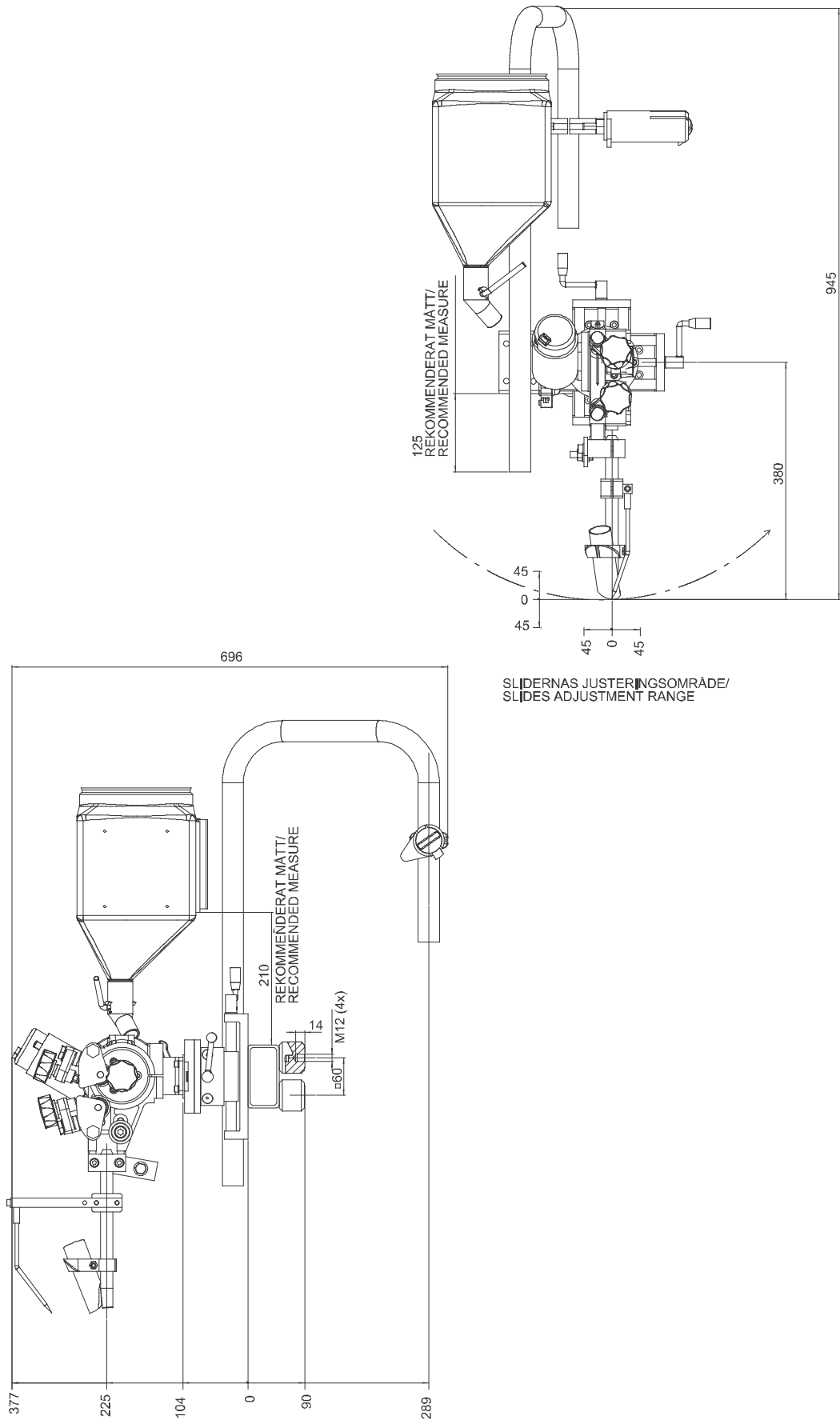
Denomination	Ordering no.
Fine-wire straightener	0332 565 880
Conversion kit A2 SF J1/ A2SF J1 Twin to MIG/MAG welding	0413 526 881
Conversion kit A2 SF J1 to Twin with fine-wire straightener (LD)	0413 541 882
Pilot lamp (D20)	0153 143 886
Adapter M6/M10	0147 333 001
To use preheated powder, the standard plastic flux hopper can be exchanged for one made of silumin alloy.	
Flux hopper of silumin alloy, 6 l	0413 315 881

8 ORDERING OF SPARE PARTS

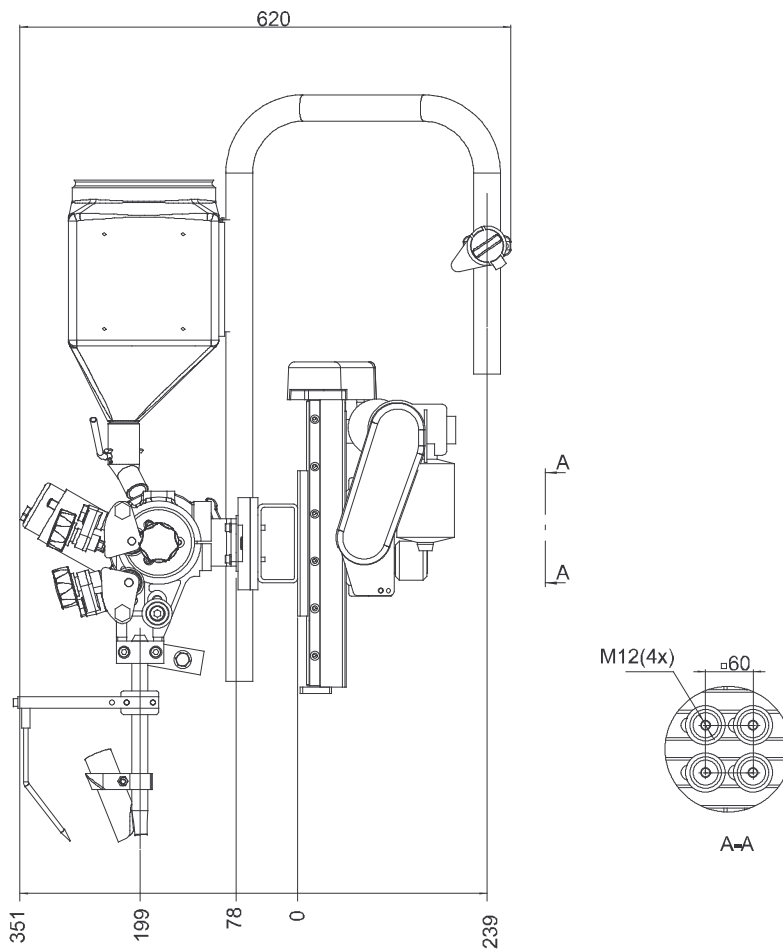
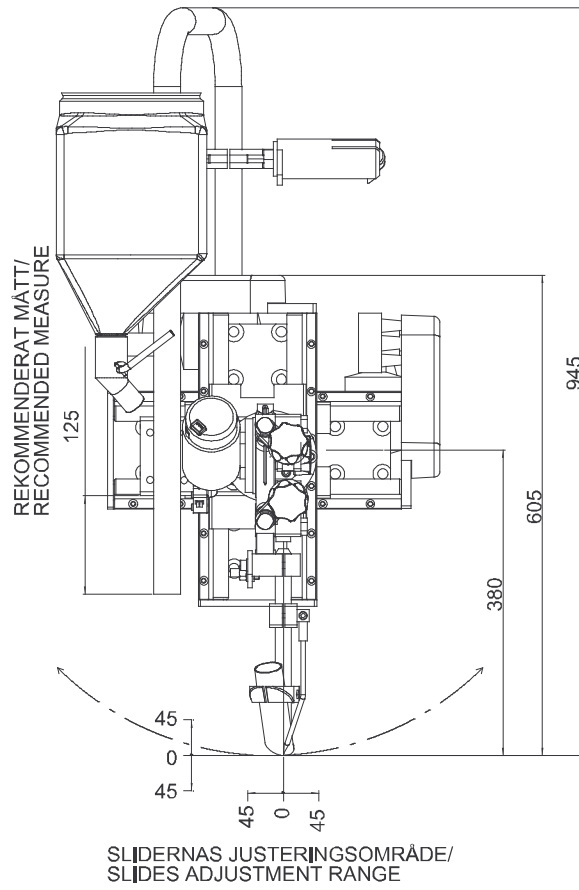
Spare parts are ordered through your nearest ESAB representative, see back cover. When ordering spare parts, please state machine type and number as well as designation and spare part number as shown in the spare parts list on page 35. This will simplify dispatch and ensure you get the right part.

DIMENSION DRAWING

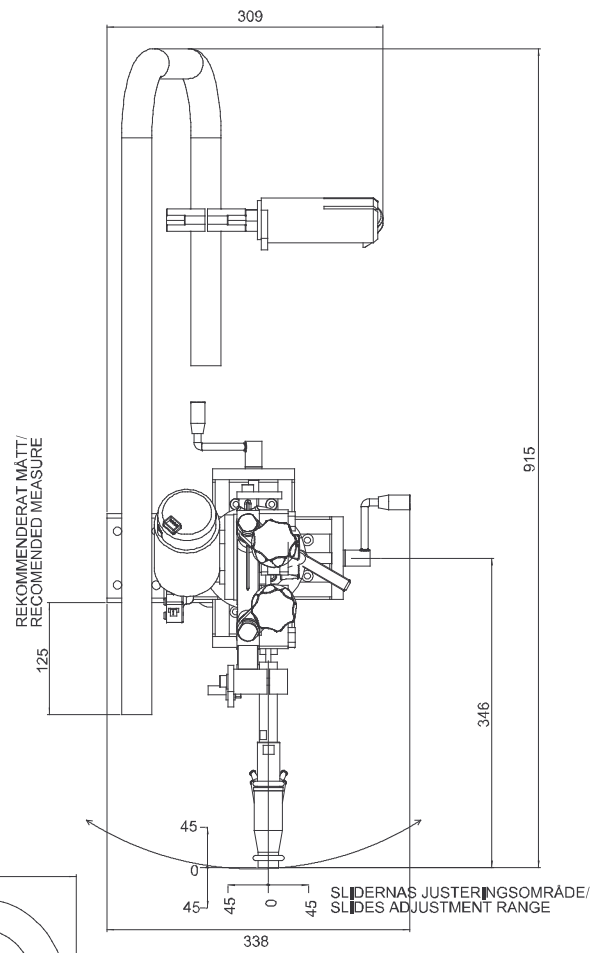
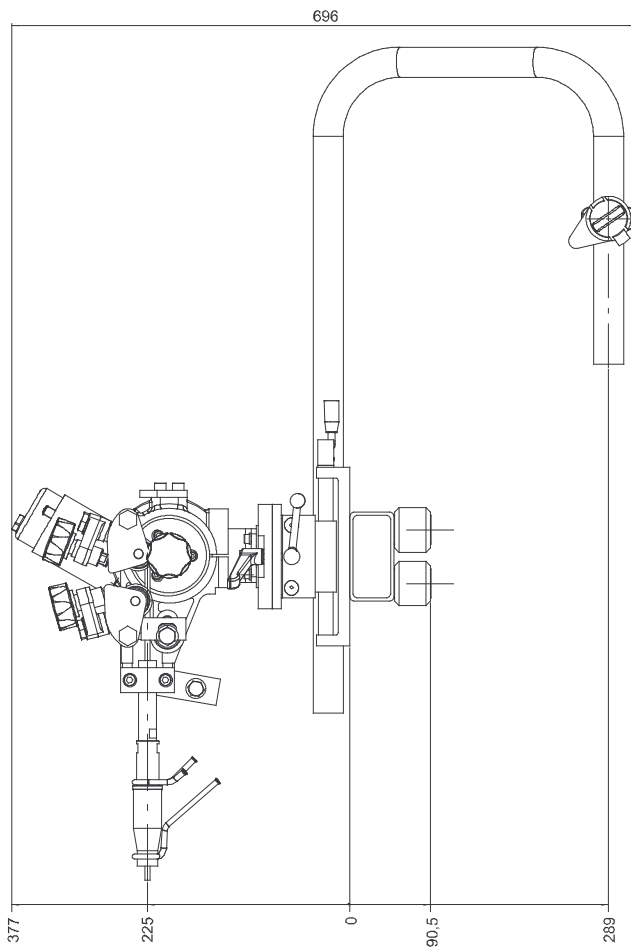
A2SF J1, Manual Slide kit



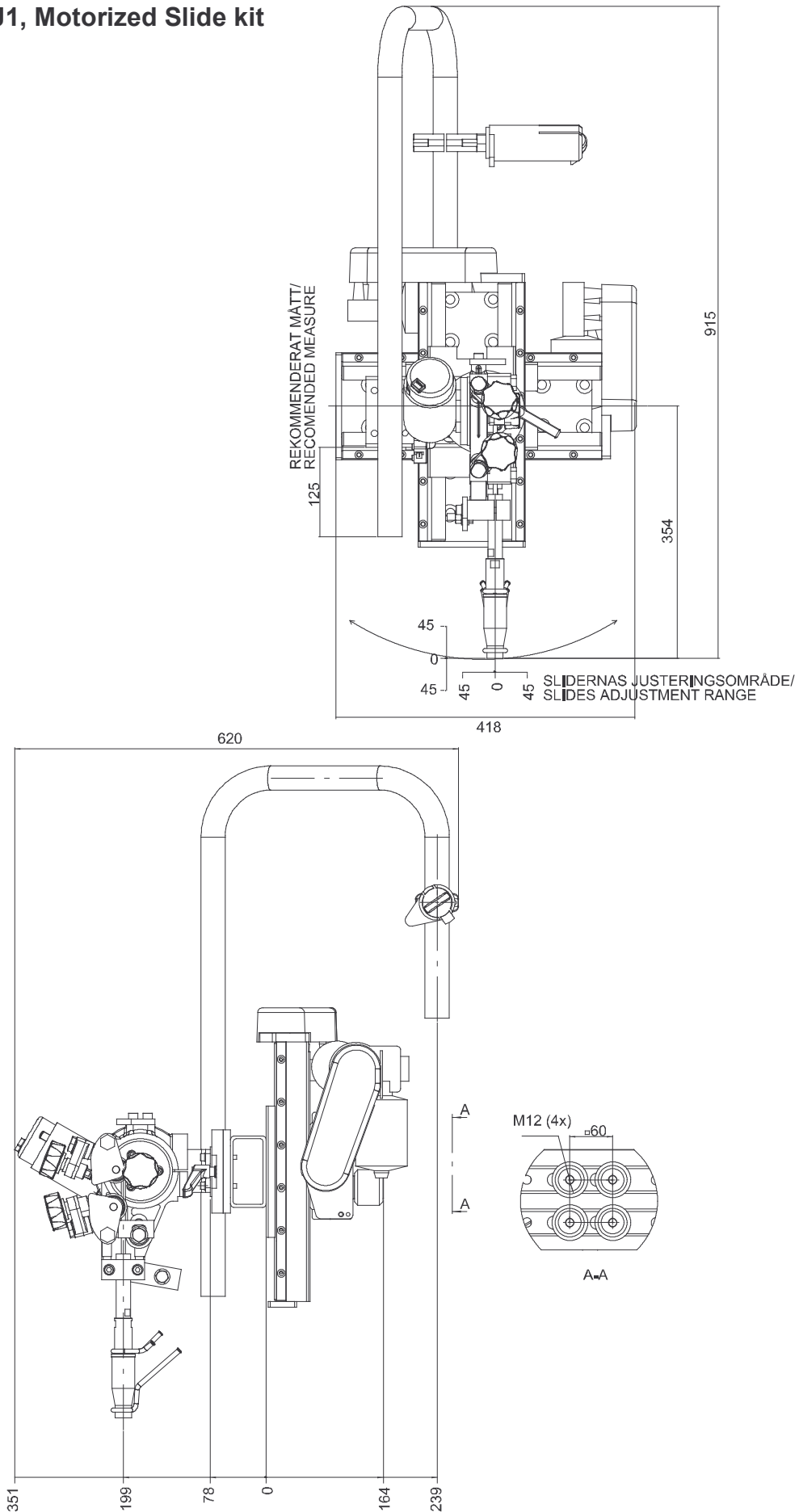
A2SF J1, Motorized Slide kit



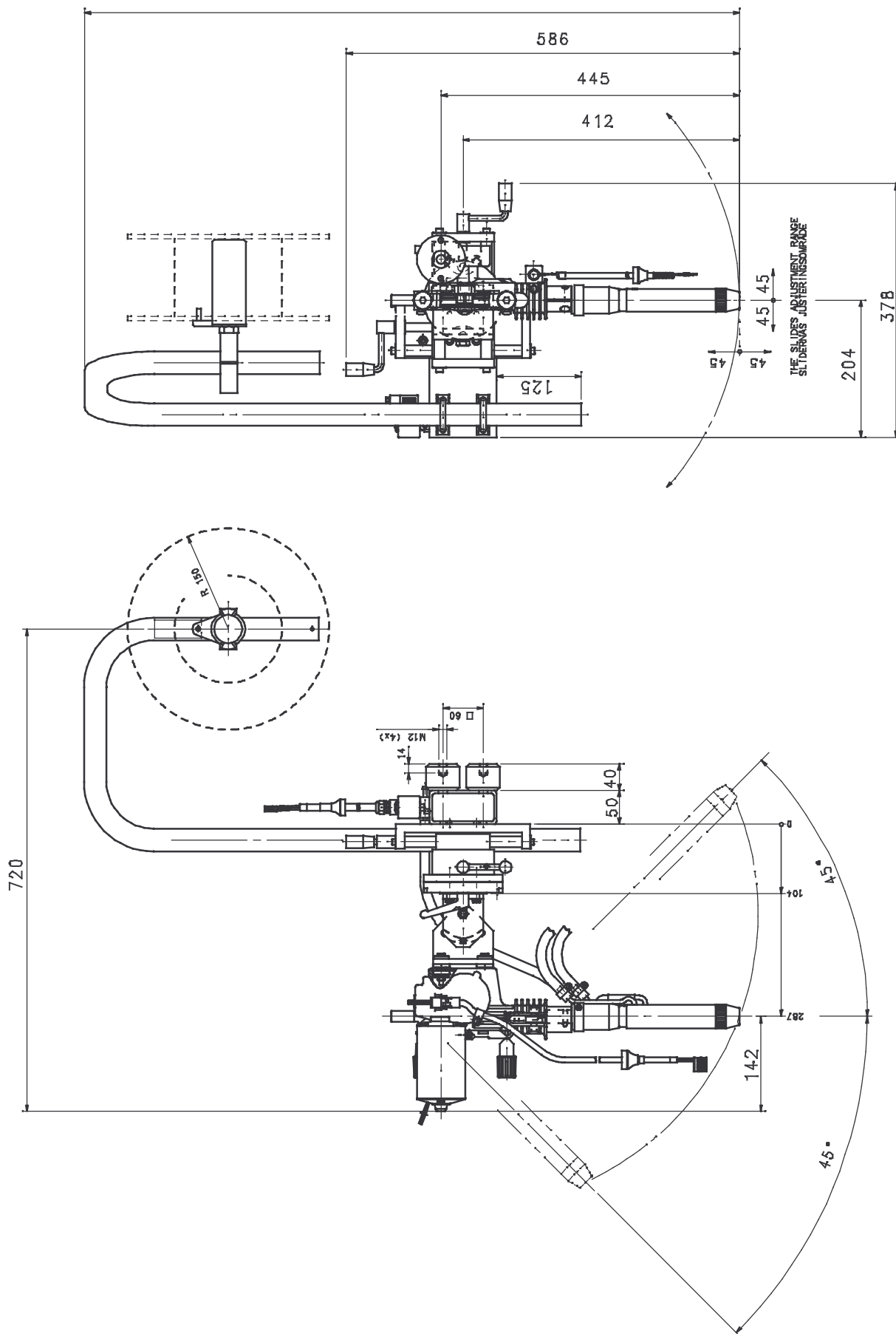
A2SG J1, Manual Slide kit



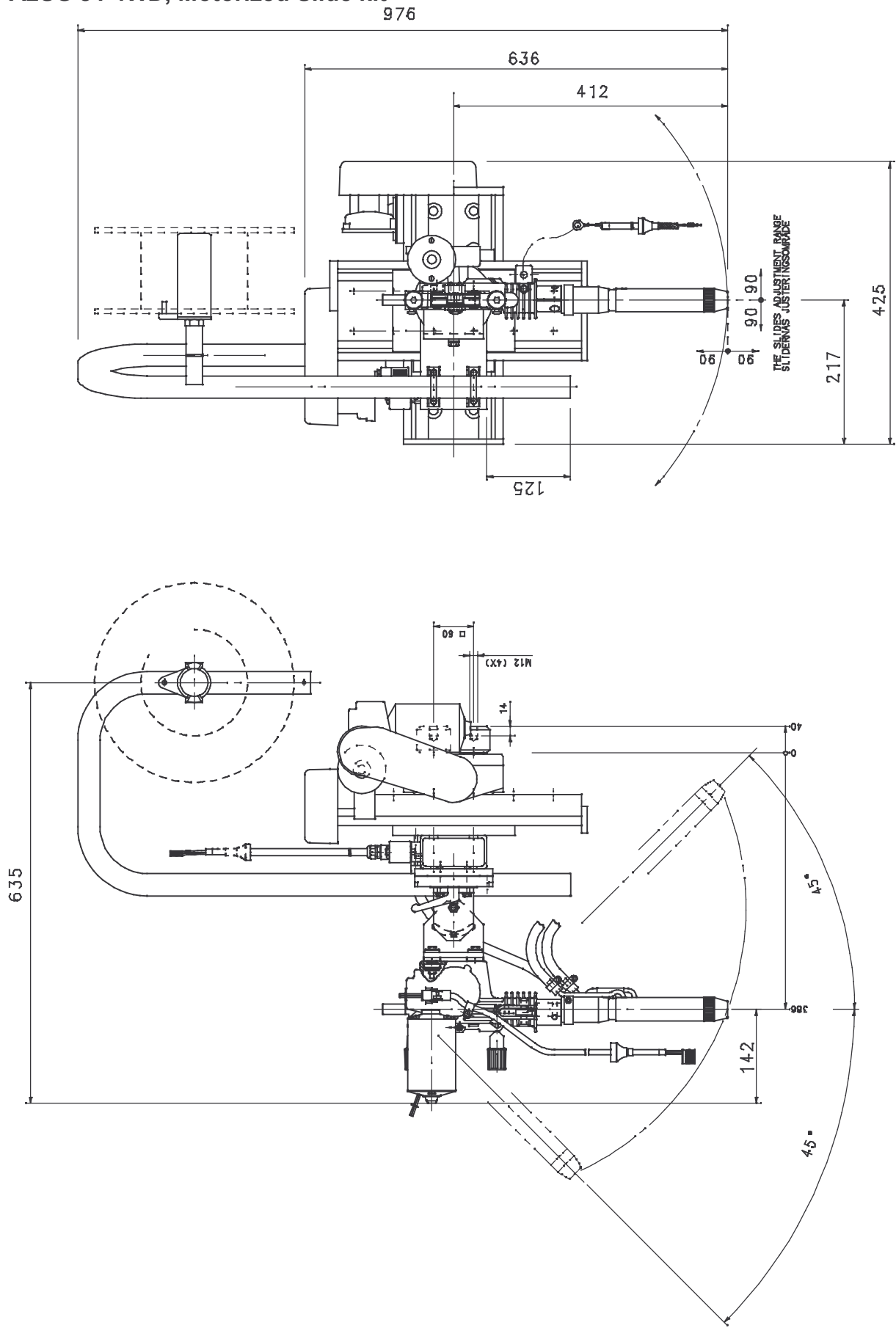
A2SG J1, Motorized Slide kit



A2SG J1 4WD, Manual Slide kit 976



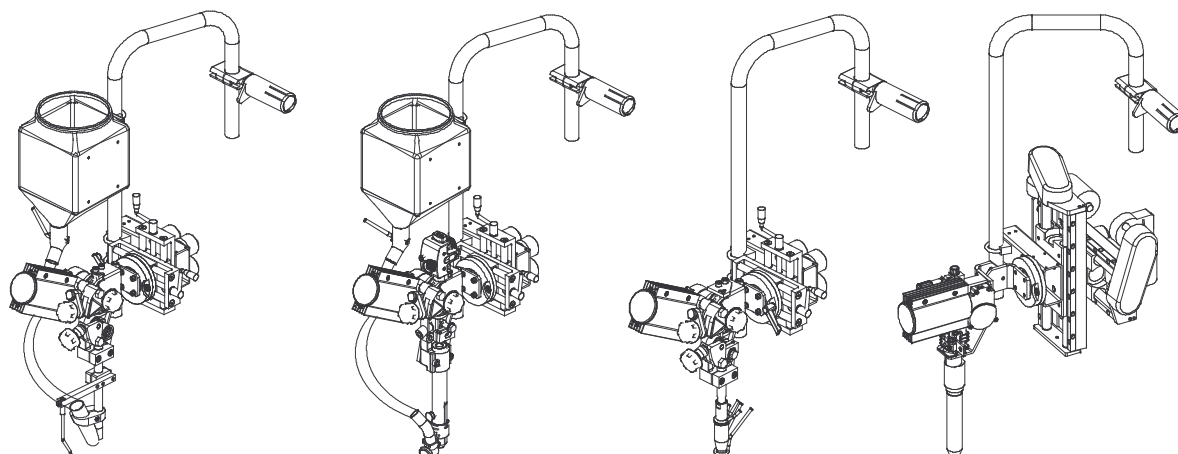
A2SG J1 4WD, Motorized Slide kit



SPARE PARTS LIST

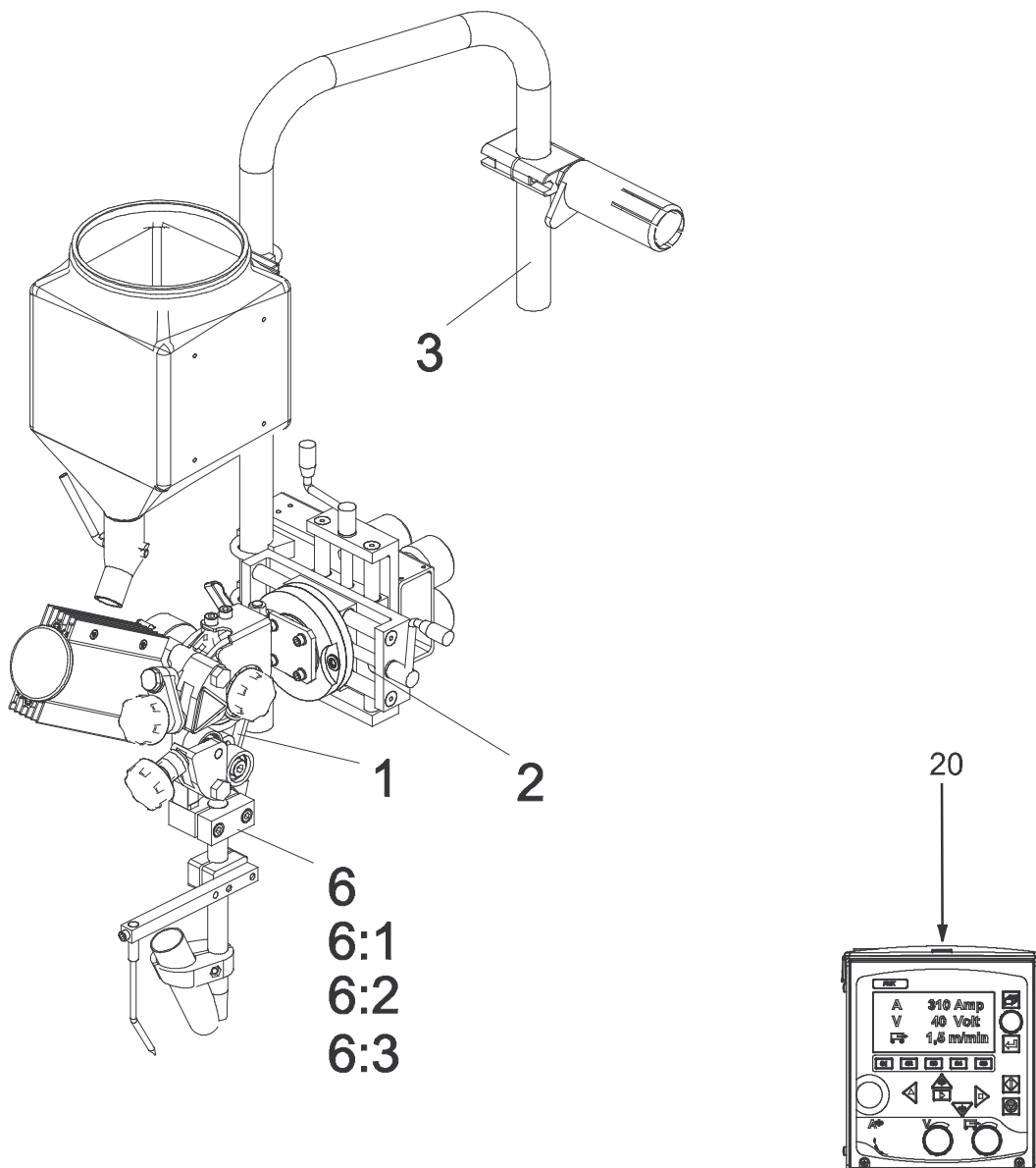
A2SF J1 / A2SF J1 Twin A2SG J1 / A2SG J1 4WD

Edition 2009-11-10

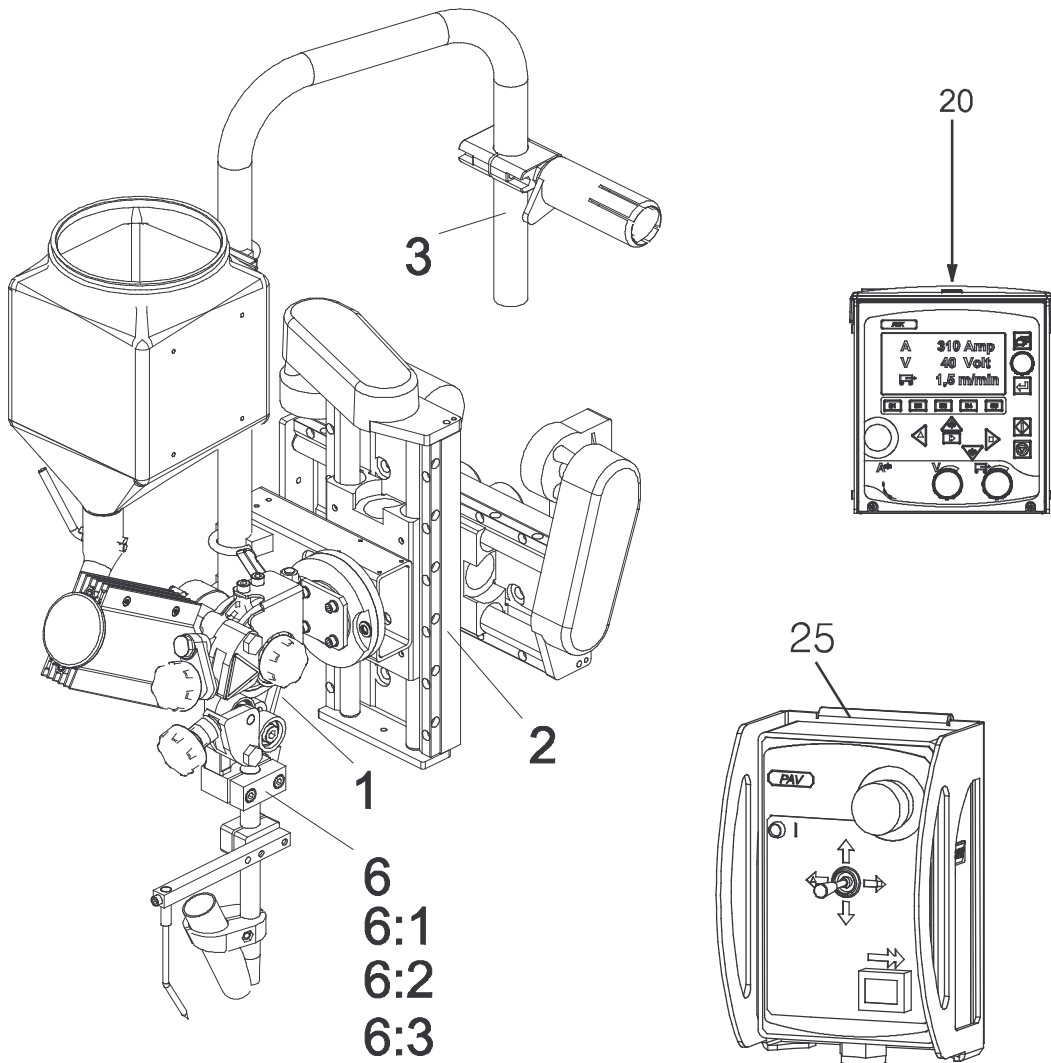


Ordering no.	Denomination	Notes
0449 170 900	Welding head	A2SF (SAW) with PEK
0449 170 901	Welding head	A2SF (SAW) with PEK, motorised slide and A6 PAV
0449 170 902	Welding head	A2SF (SAW) with PEK, motorised slide and A6 GMH
0449 170 903	Welding head	A2SF(SAW) with PEK and motorised slide
0449 170 904	Welding head	A2SF (SAW) with PEK, motorised slide and A6 PAV
0449 170 905	Welding head	A2SF (SAW) with PEK, motorised slide and A6 GMH
0449 170 906	Welding head	A2SF (SAW) with PEK and motorised slide
0449 171 900	Welding head	A2SF (SAW, Twin) with PEK
0449 171 901	Welding head	A2SF (SAW, Twin) with PEK, motorised slide and A6 PAV
0449 171 902	Welding head	A2SF (SAW, Twin) with PEK, motorised slide and A6 GMH
0449 171 903	Welding head	A2SF (SAW, Twin) with PEK and motorised slide
0449 171 904	Welding head	A2SF (SAW, Twin) with PEK, motorised slide and A6 PAV
0449 171 905	Welding head	A2SF (SAW, Twin) with PEK, motorised slide and A6 GMH
0449 171 906	Welding head	A2SF (SAW, Twin) with PEK and motorised slide
0449 180 900	Welding head	A2SG (MIG/ MAG) with PEK
0449 180 901	Welding head	A2SG (MIG/ MAG) with PEK, motorised slide and A6 PAV
0449 180 902	Welding head	A2SG (MIG/ MAG) with PEK, motorised slide and A6 GMH
0449 180 903	Welding head	A2SG(MIG/ MAG) with PEK and motorised slide
0449 180 904	Welding head	A2SG (MIG/ MAG) with PEK, motorised slide and A6 PAV
0449 180 905	Welding head	A2SG (MIG/ MAG) with PEK, motorised slide and A6 GMH
0449 180 906	Welding head	A2SG (MIG/ MAG) with PEK and motorised slide
0449 181 900	Welding head	A2SG (4WD, MIG/ MAG) with PEK
0449 181 901	Welding head	A2SG (4WD MIG/ MAG) with PEK, motorised slide and A6 PAV
0449 181 902	Welding head	A2SG (4WD MIG/ MAG) with PEK, motorised slide and A6 GMH
0449 181 903	Welding head	A2SG (4WD MIG/ MAG) with PEK and motorised slide
0449 181 905	Welding head	A2SG (4WD MIG/ MAG) with PEK, motorised slide and A6 PAV
0449 181 906	Welding head	A2SG (4WD MIG/ MAG) with PEK, motorised slide and A6 GMH
0449 181 907	Welding head	A2SG (4WD MIG/ MAG) with PEK and motorised slide

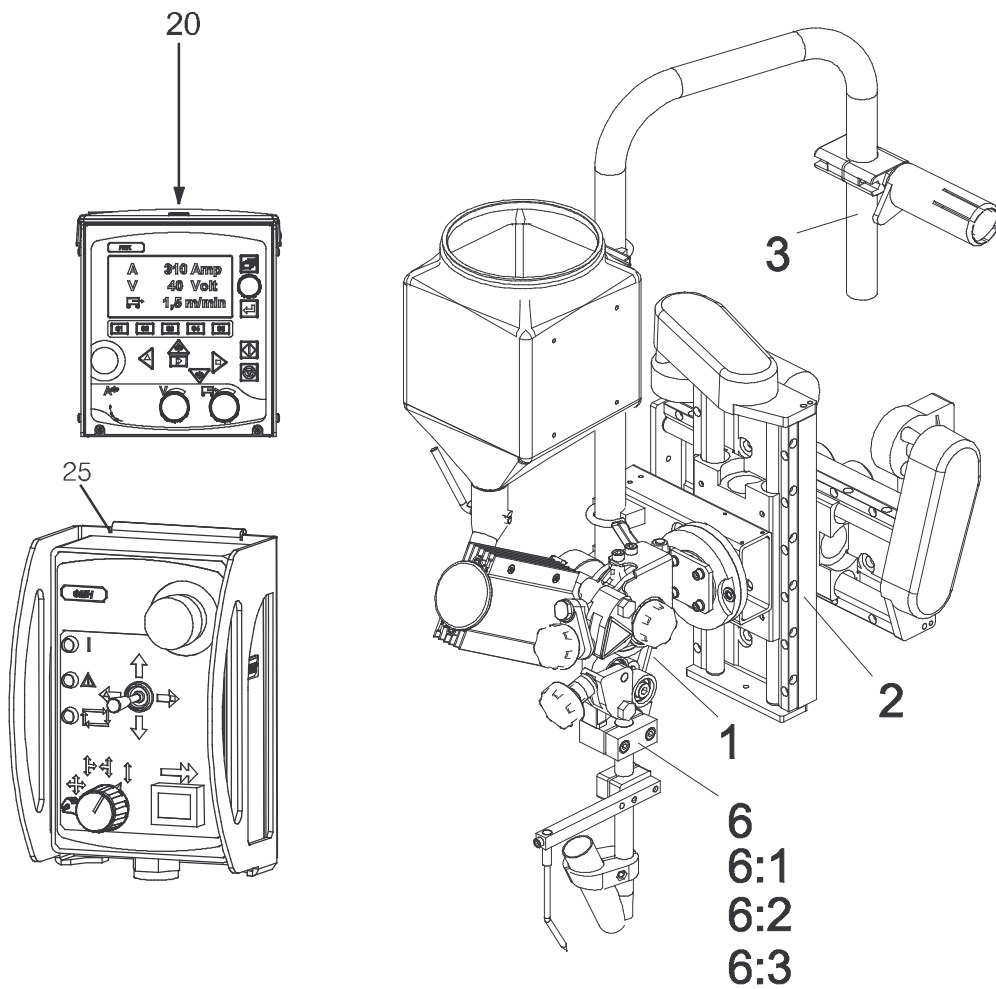
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 900	Welding head	A2SF J1, SAW
1	1	0449 150 900	Wire feed unit complete	
2	1	0449 152 880	Slide travel kit, manual	90 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable unit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



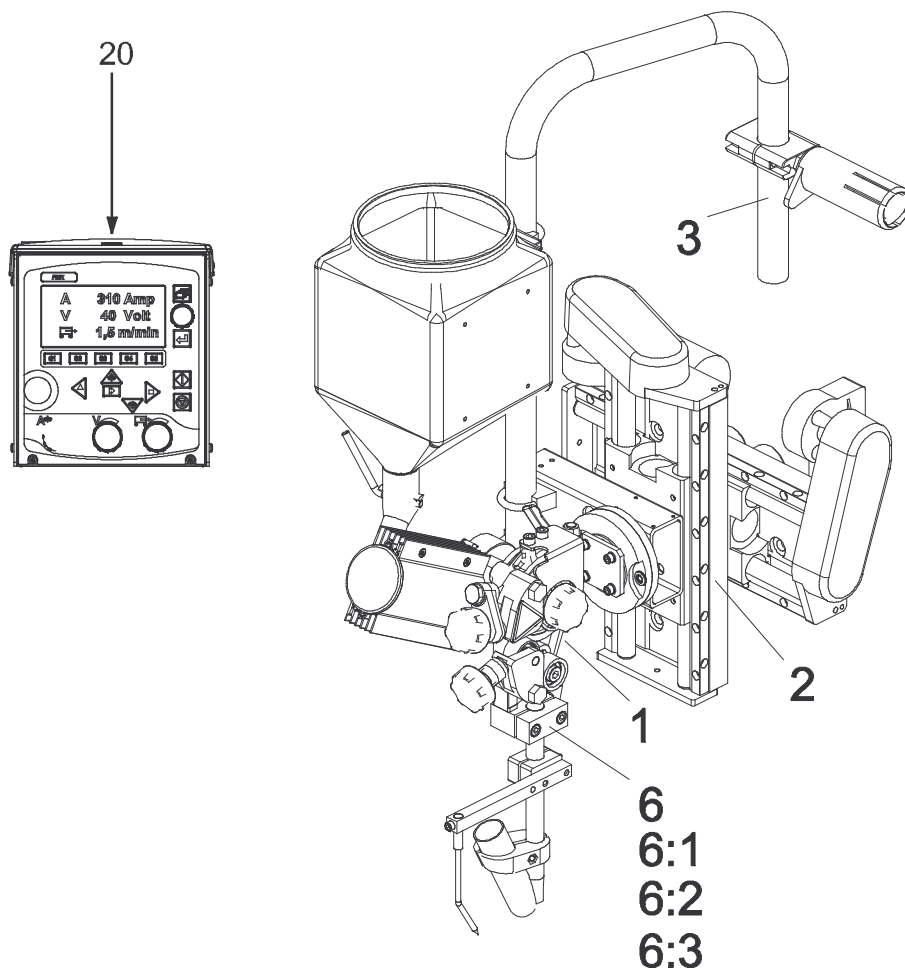
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 901	Welding head	A2SF J1, SAW
1	1	0449 150 900	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable unit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable unit	



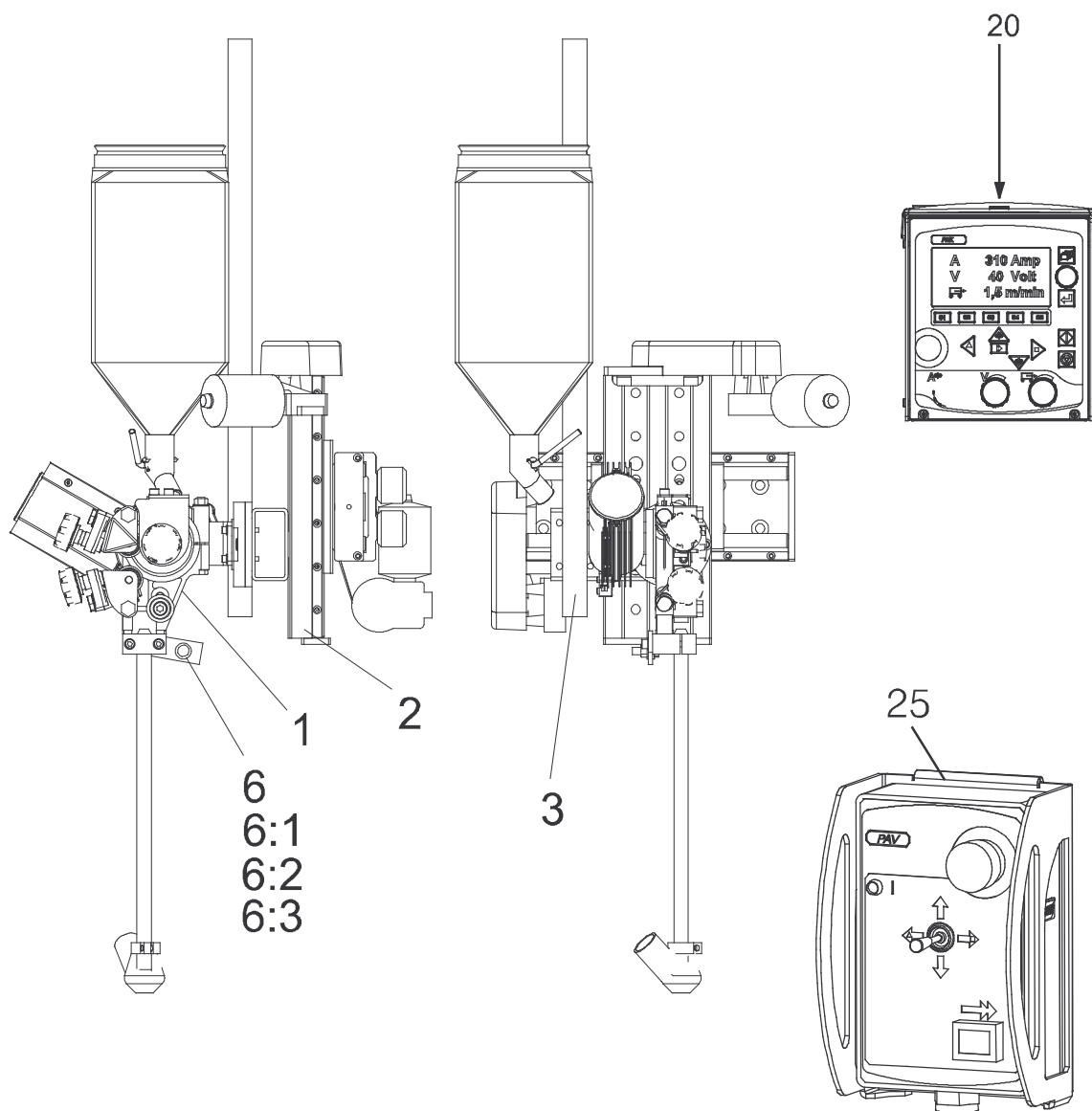
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 902	Welding head	A2SF J1, SAW
1	1	0449 150 900	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable unit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461 215 880	Cable unit	



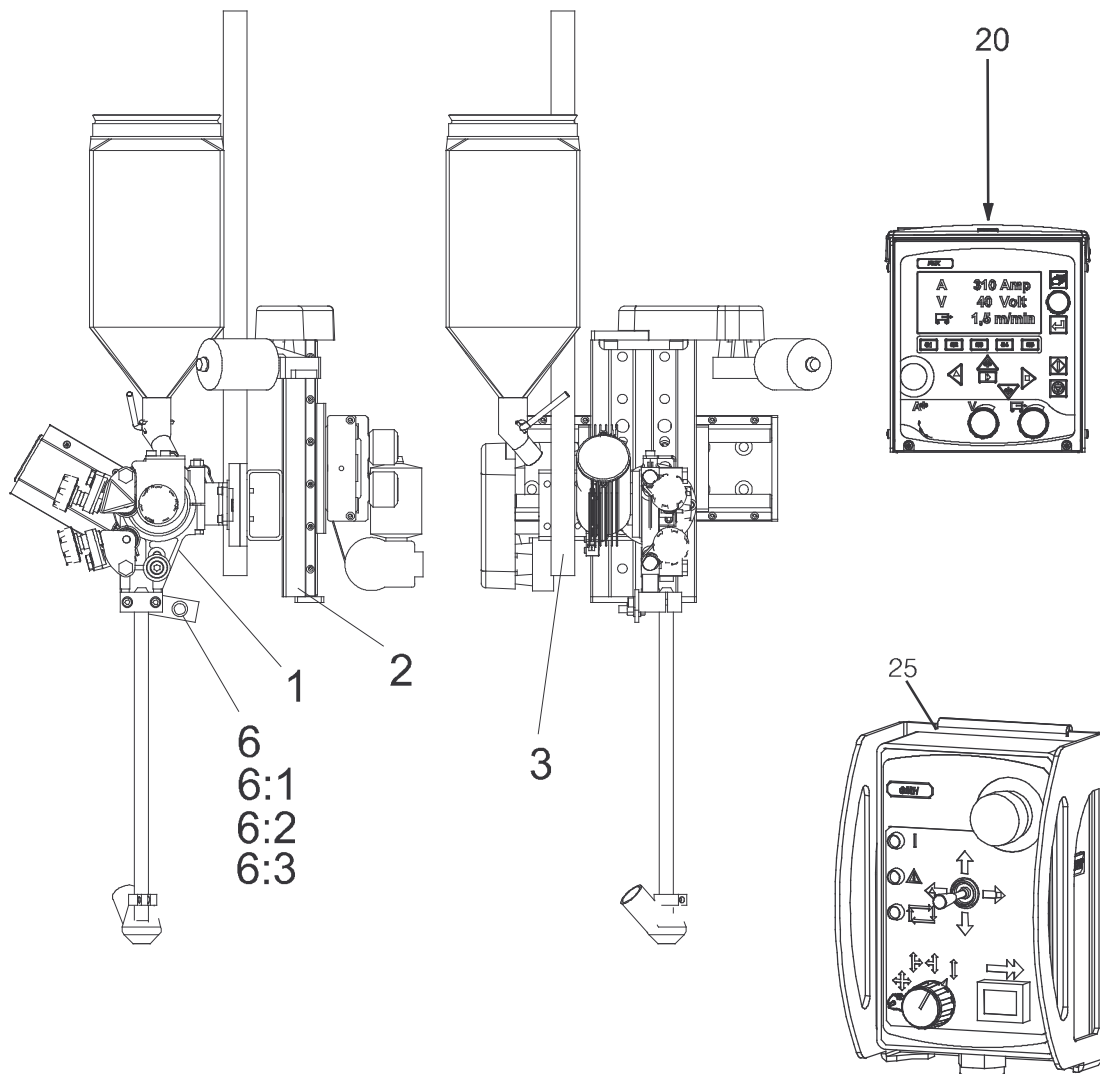
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 903	Welding head	A2SF J1, SAW
1	1	0449 150 900	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable unit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



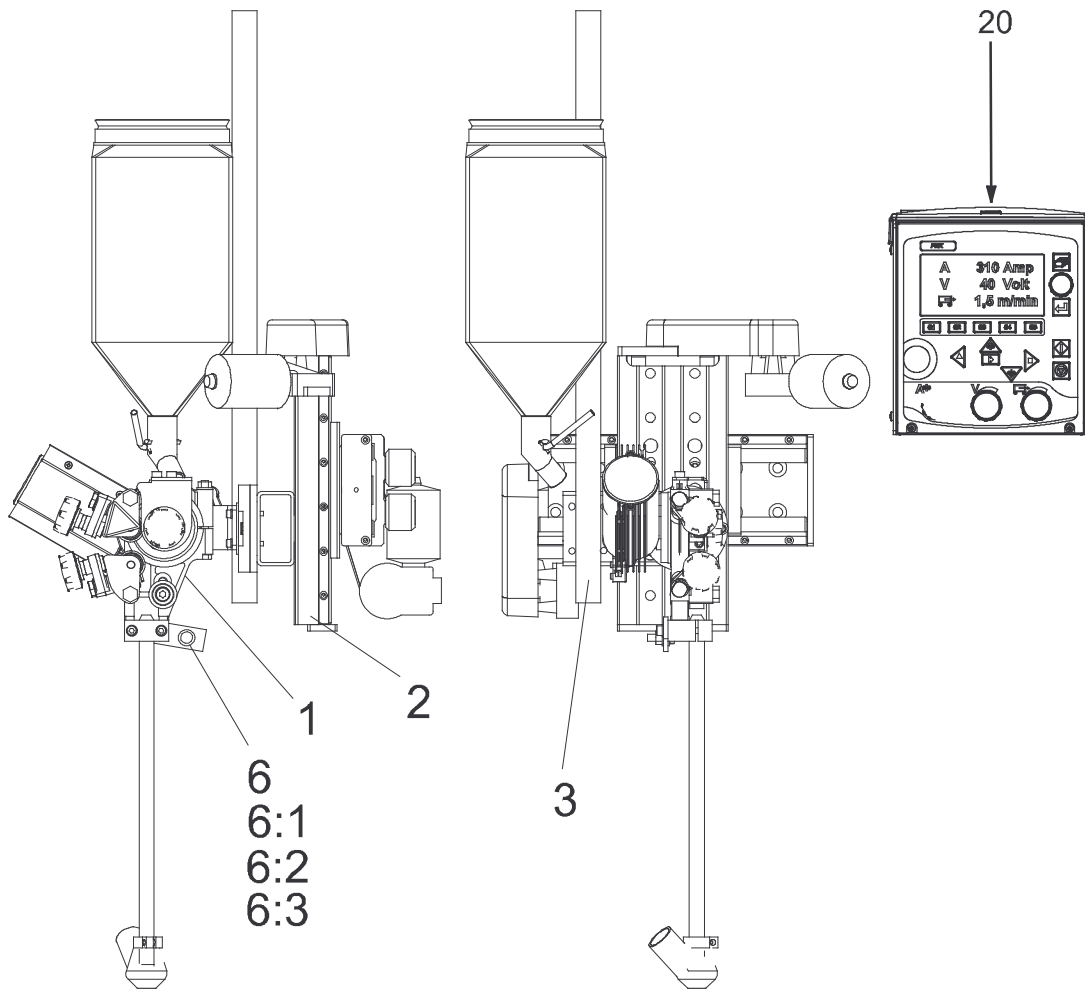
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 904	Welding head	A2SF J1, SAW
1	1	0449 150 910	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable unit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 50 4880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable unit	



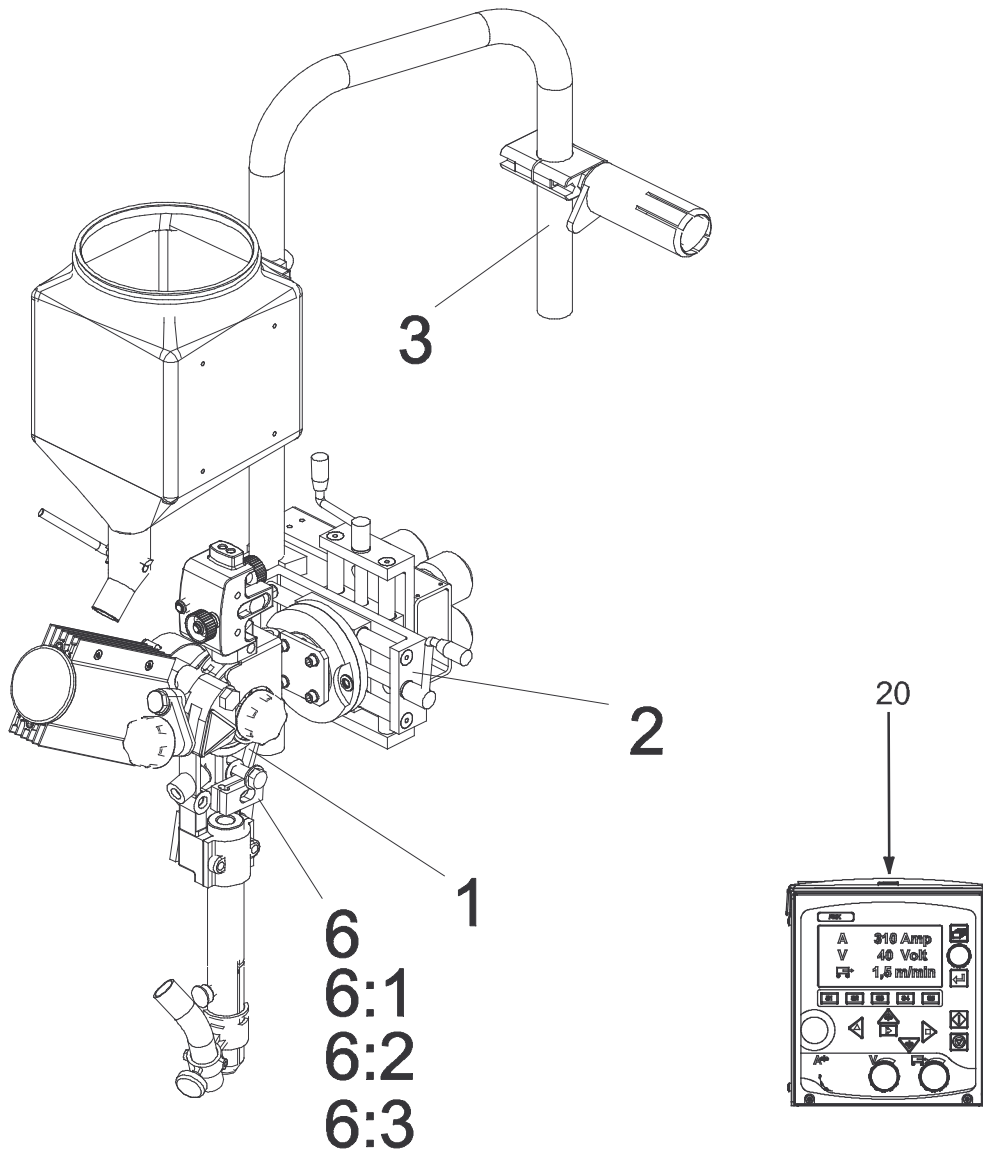
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 905	Welding head	A2SF J1 SAW
1	1	0449 150 910	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable unit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking system	A6 GMH, see separate manual
26	1	0461 215 880	Cable unit	



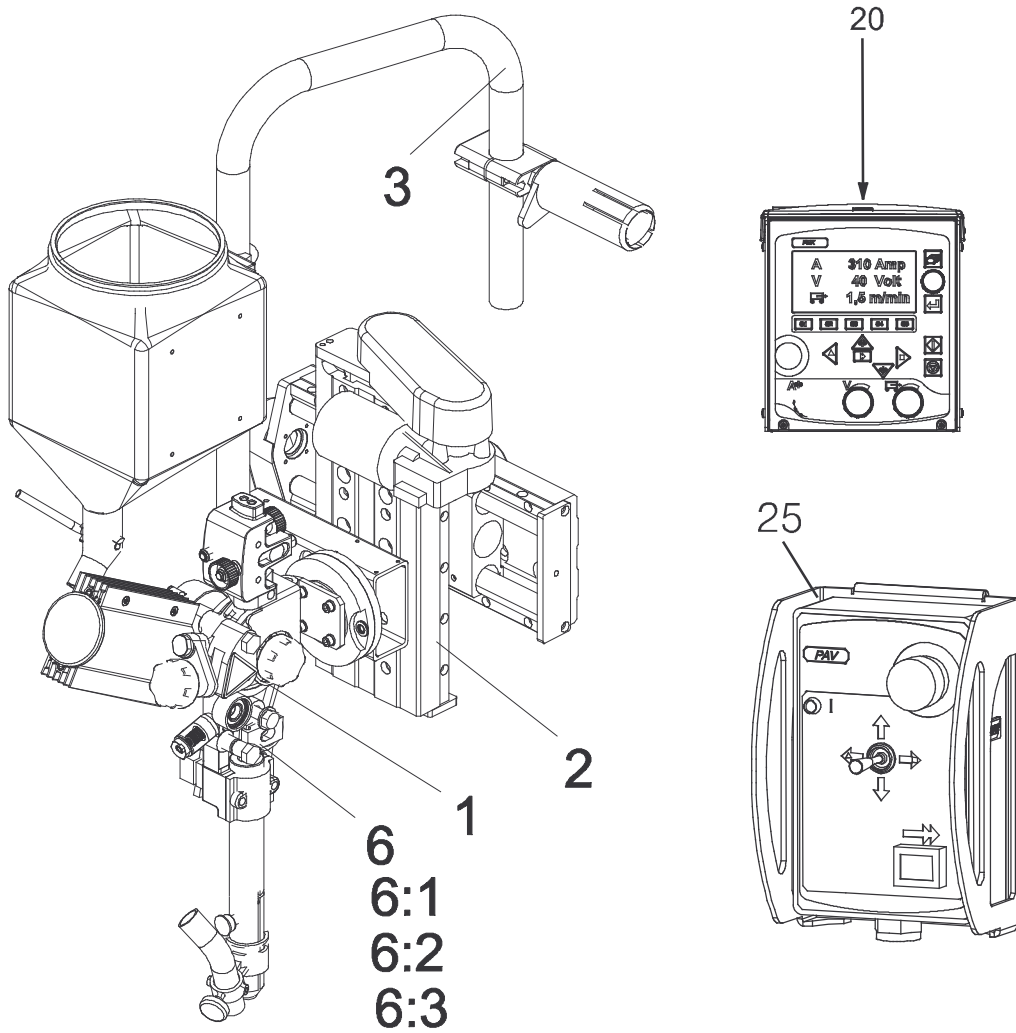
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 170 906	Welding head	A2SF J1 SAW
1	1	0449 150 910	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable unit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



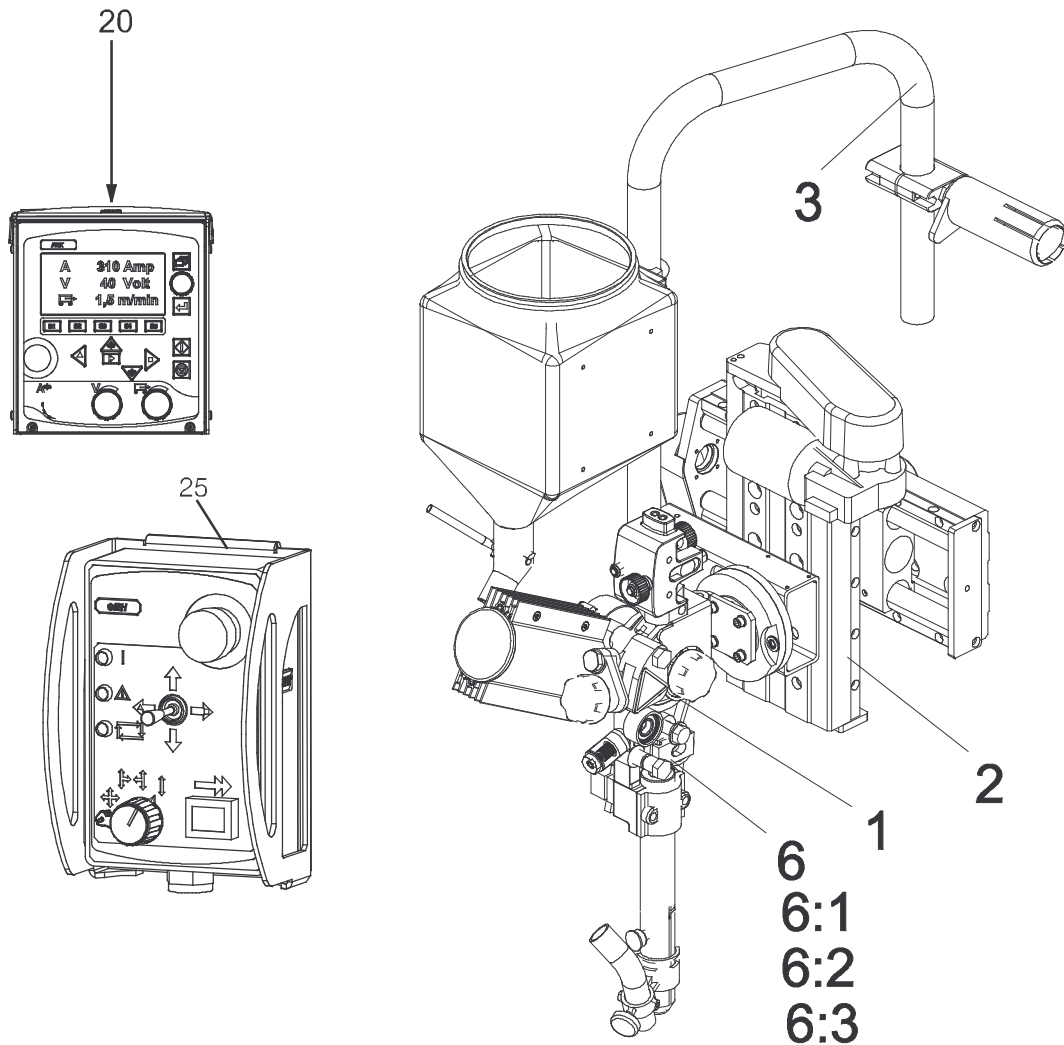
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 900	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 901	Wire feed unit complete	
2	1	0449 152 880	Slide travel kit, manual	90 mm
3	1	0449 155 905	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



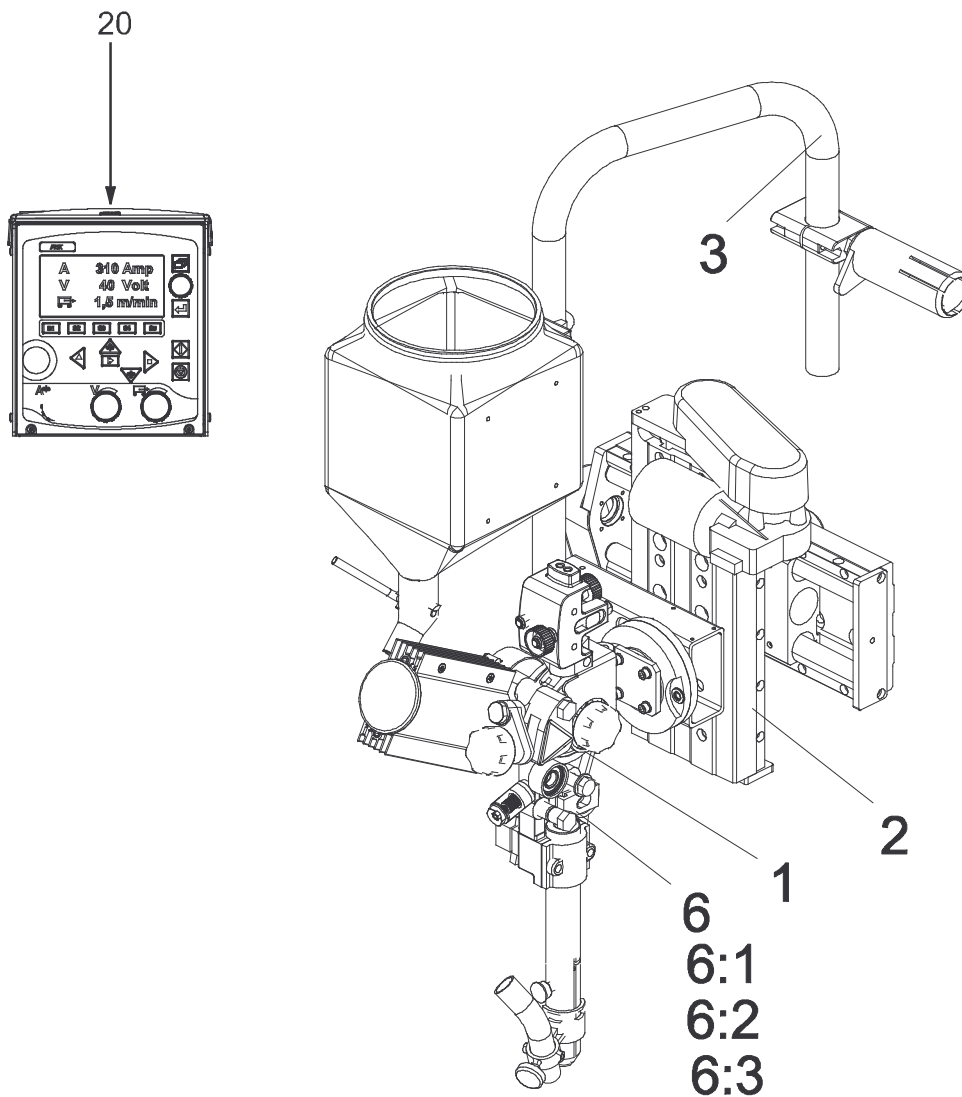
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 901	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 901	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable kit	



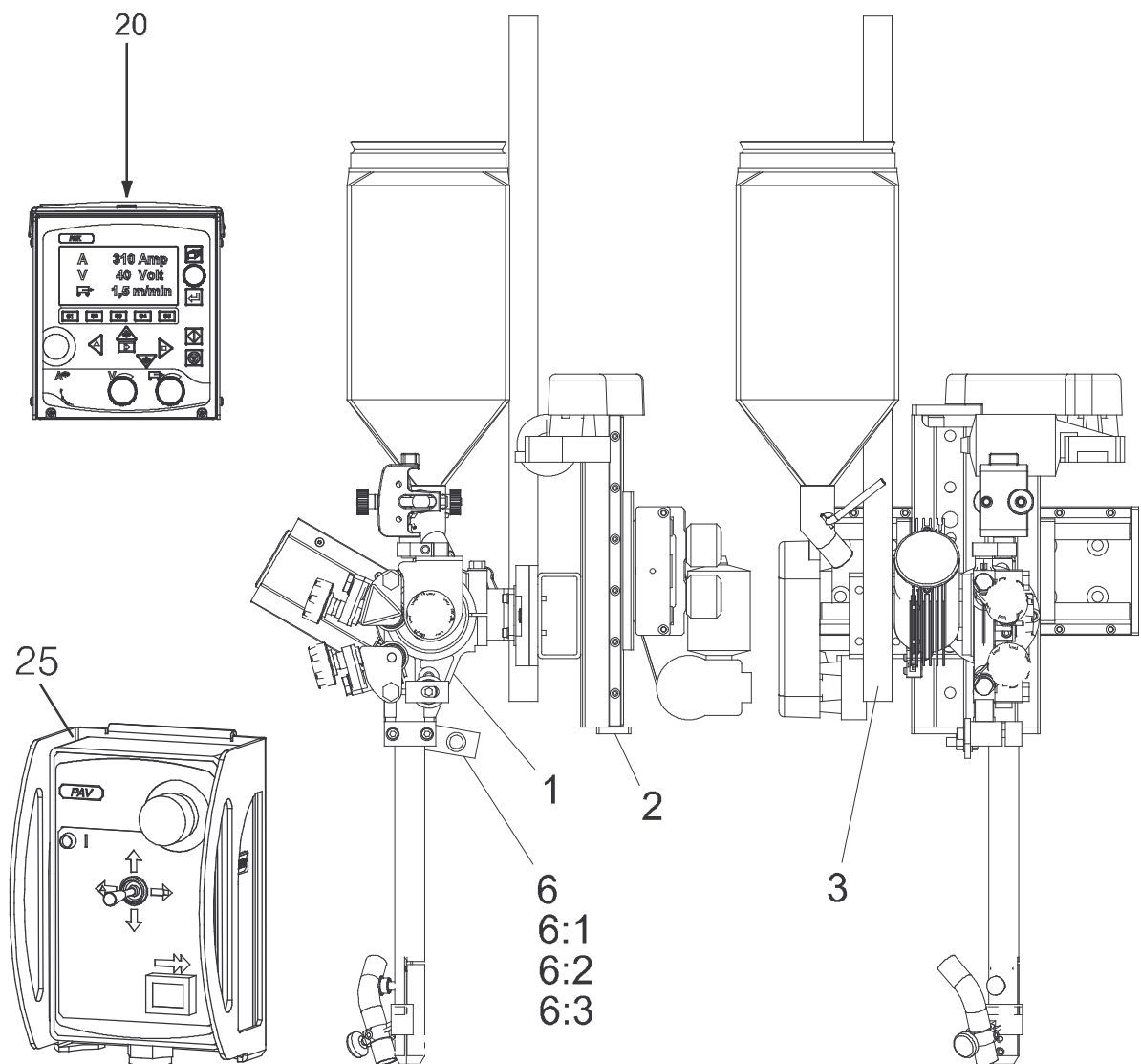
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 902	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 901	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461 215 880	Cable kit	



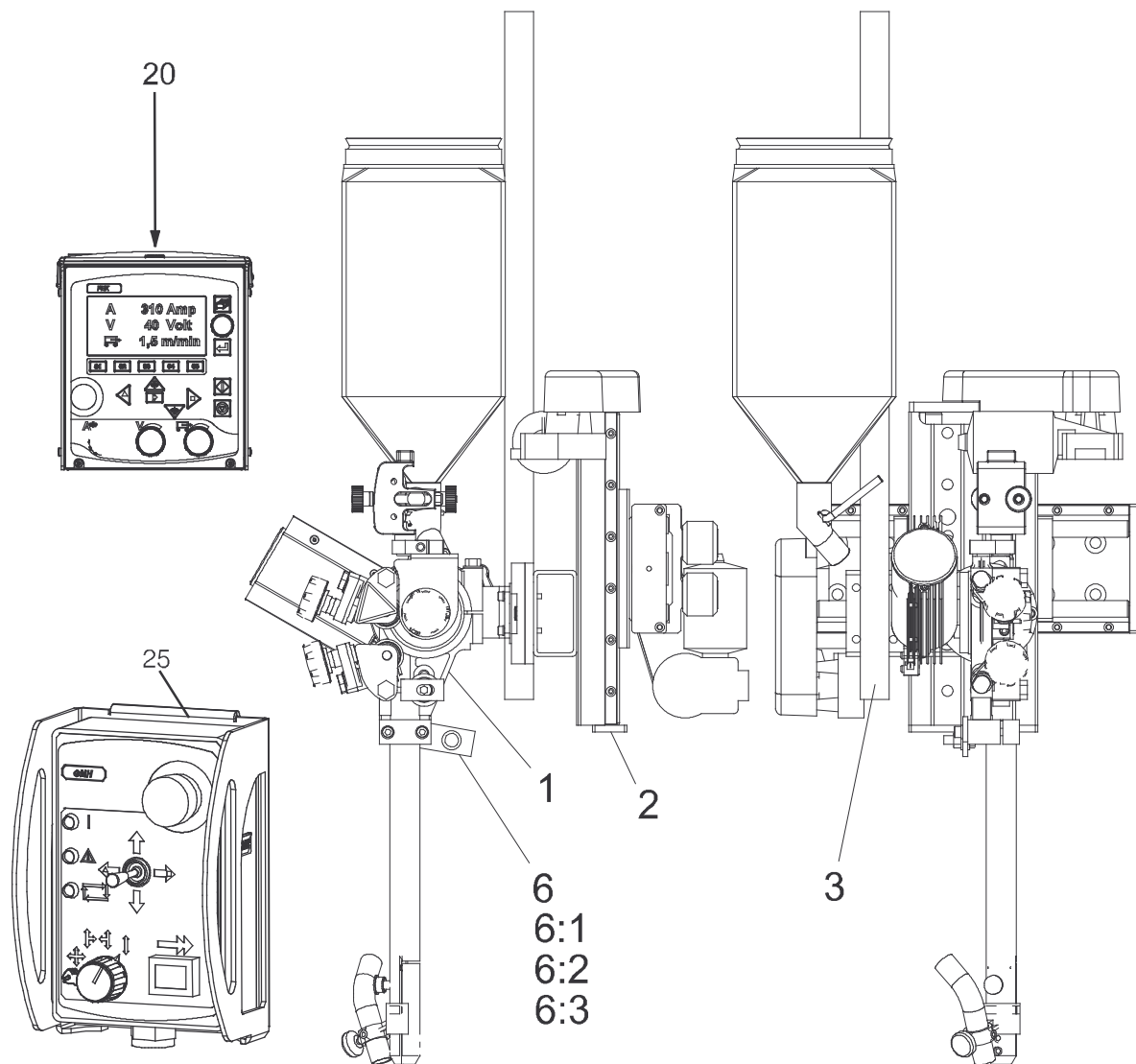
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 903	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 901	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



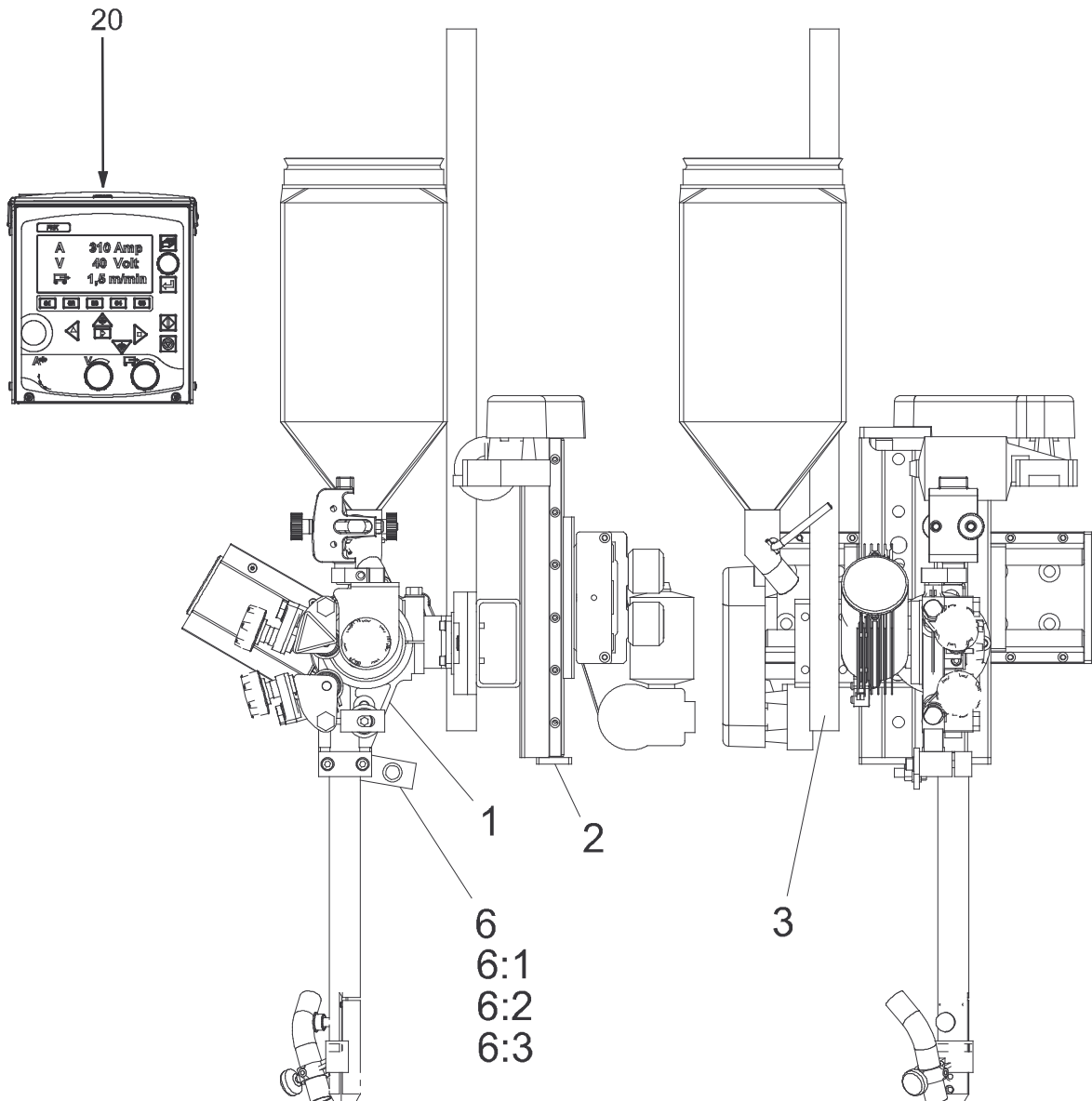
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 904	Welding head	A5SF J1 Twin, SAW
1	1	0449 150 911	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Remote control	A6 PAV, see separate manual
26	1	0461 215 880	Cable kit	



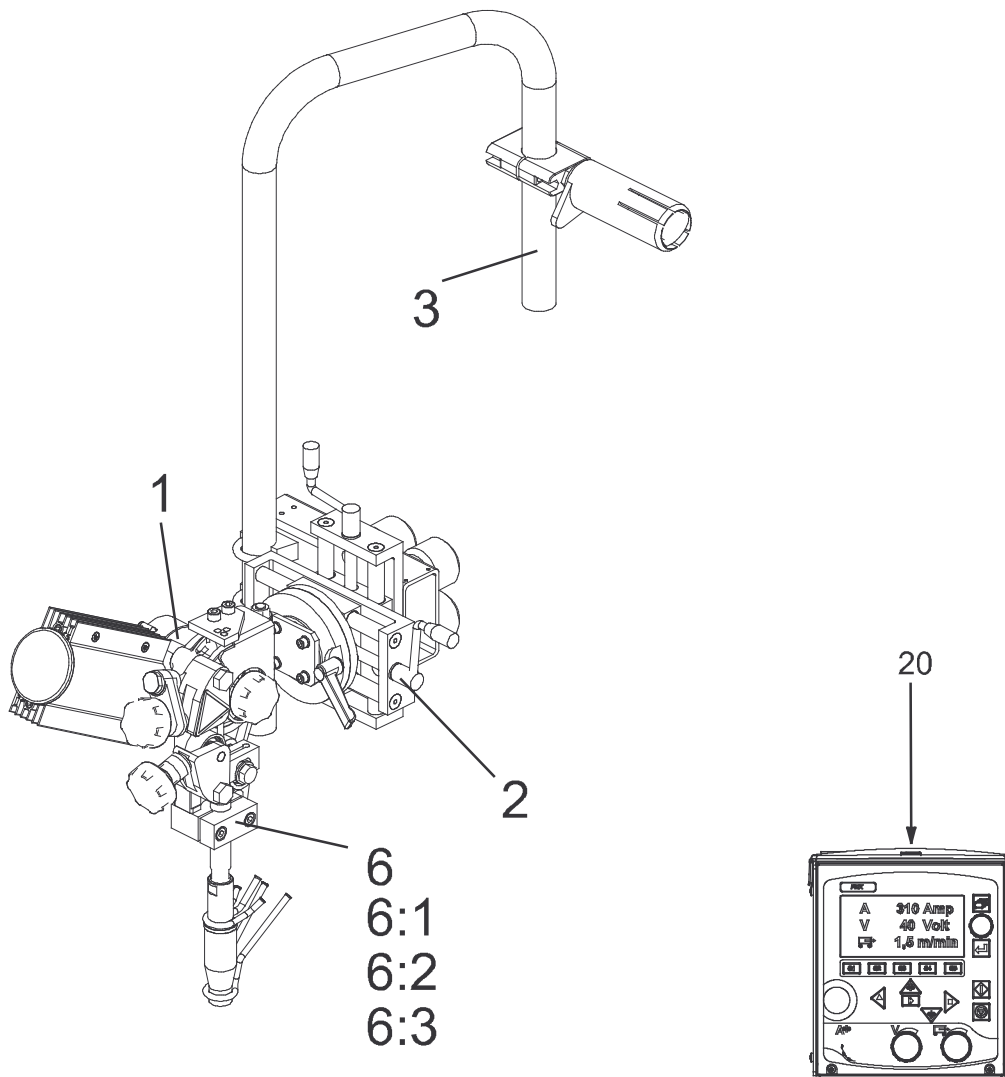
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 905	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 911	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking system	GMH, see separate manual
26	1	0461 215 880	Cable kit	



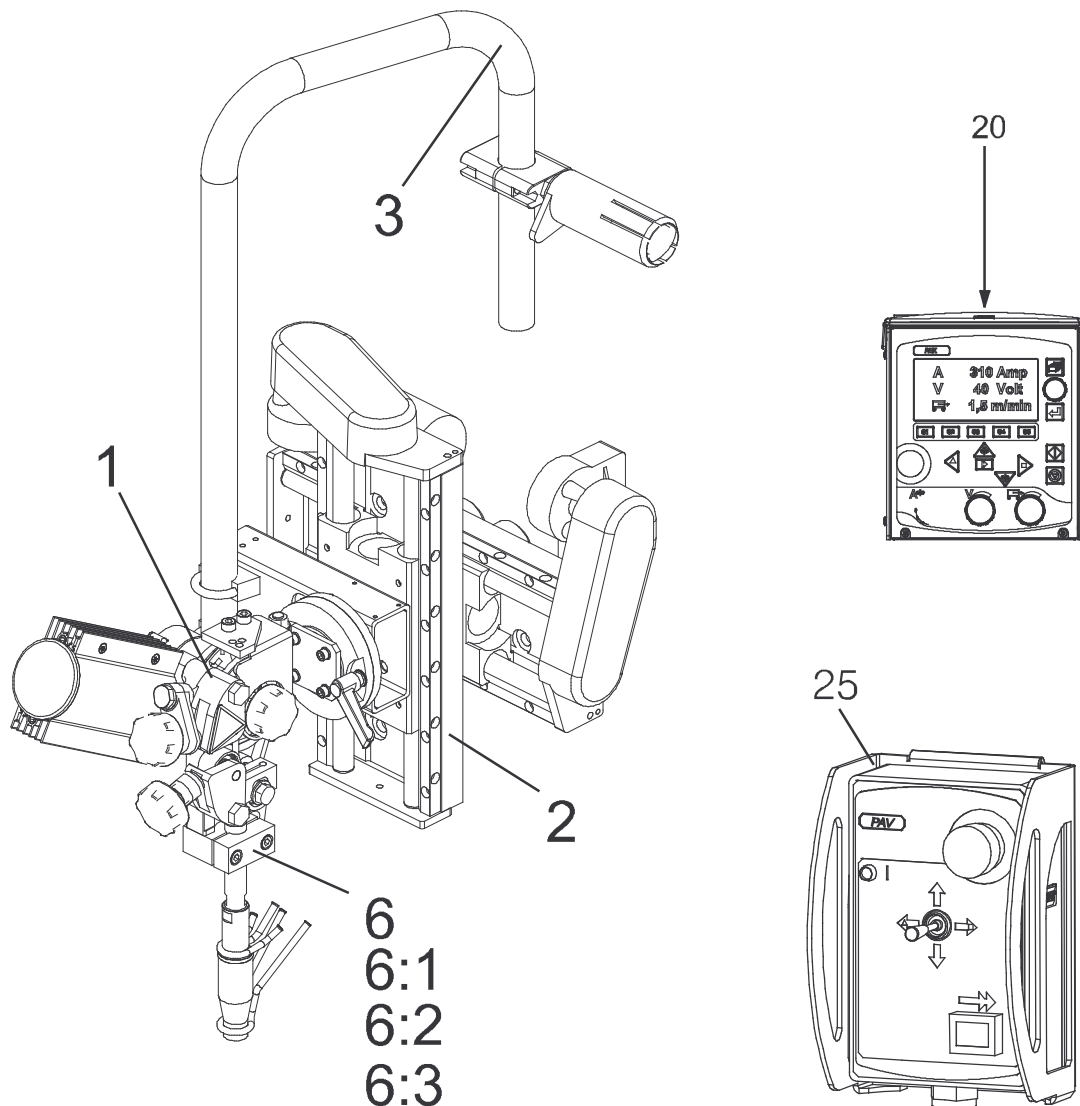
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 171 906	Welding head	A2SF J1 Twin, SAW
1	1	0449 150 911	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



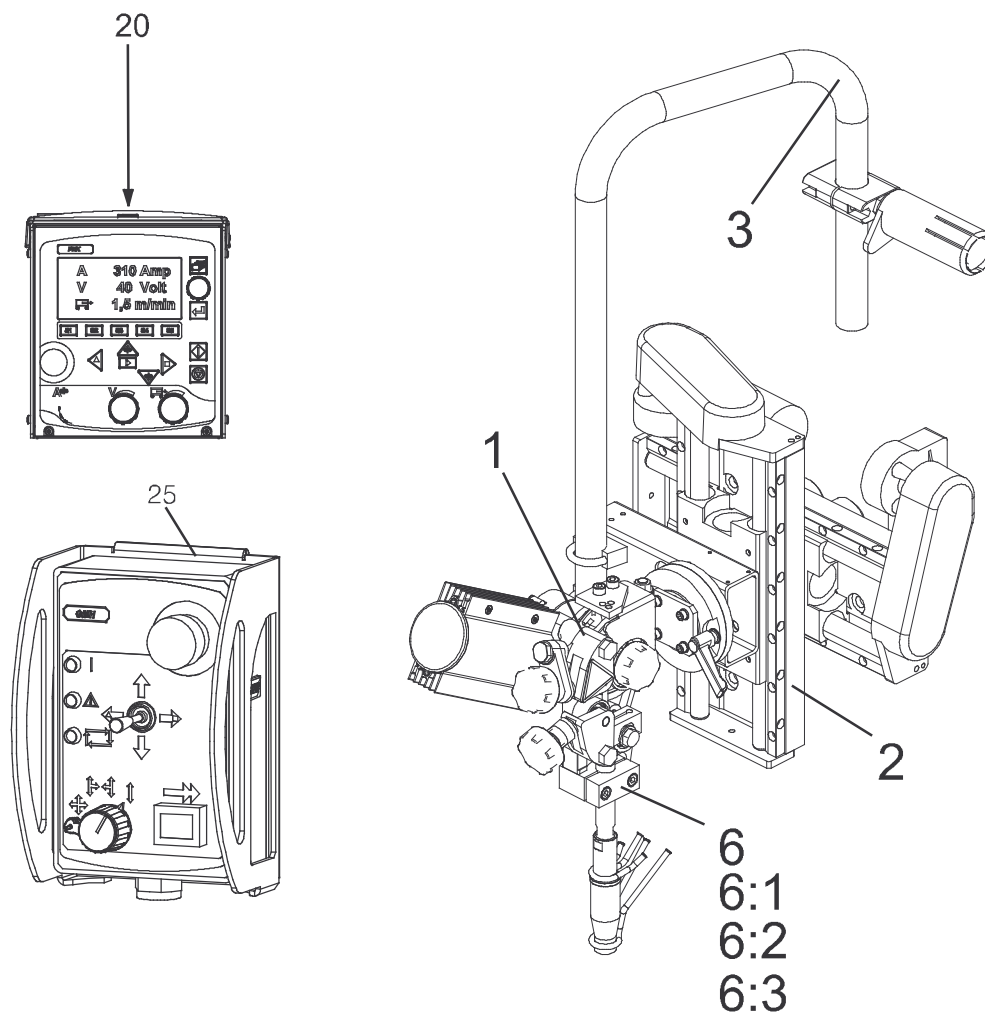
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 900	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 902	Wire feed unit complete	
2	1	0449 152 880	Slide travel kit, manual	90 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



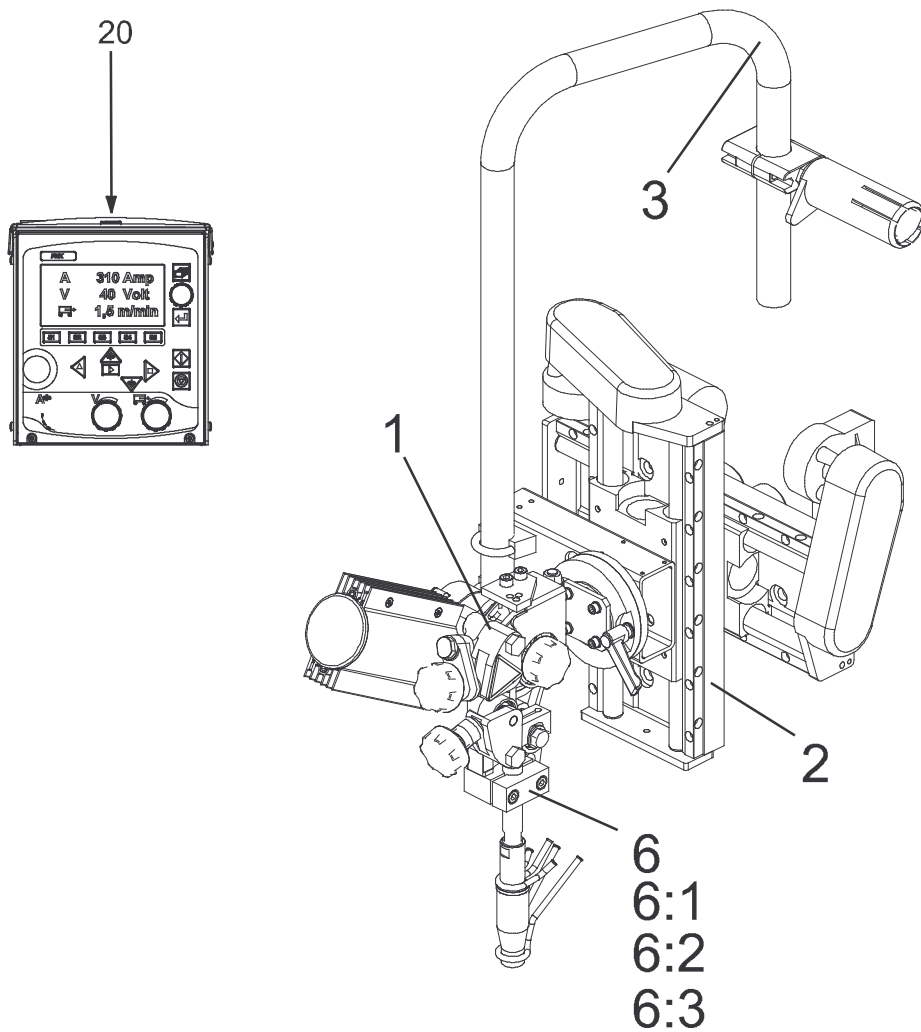
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 901	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 902	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable kit	



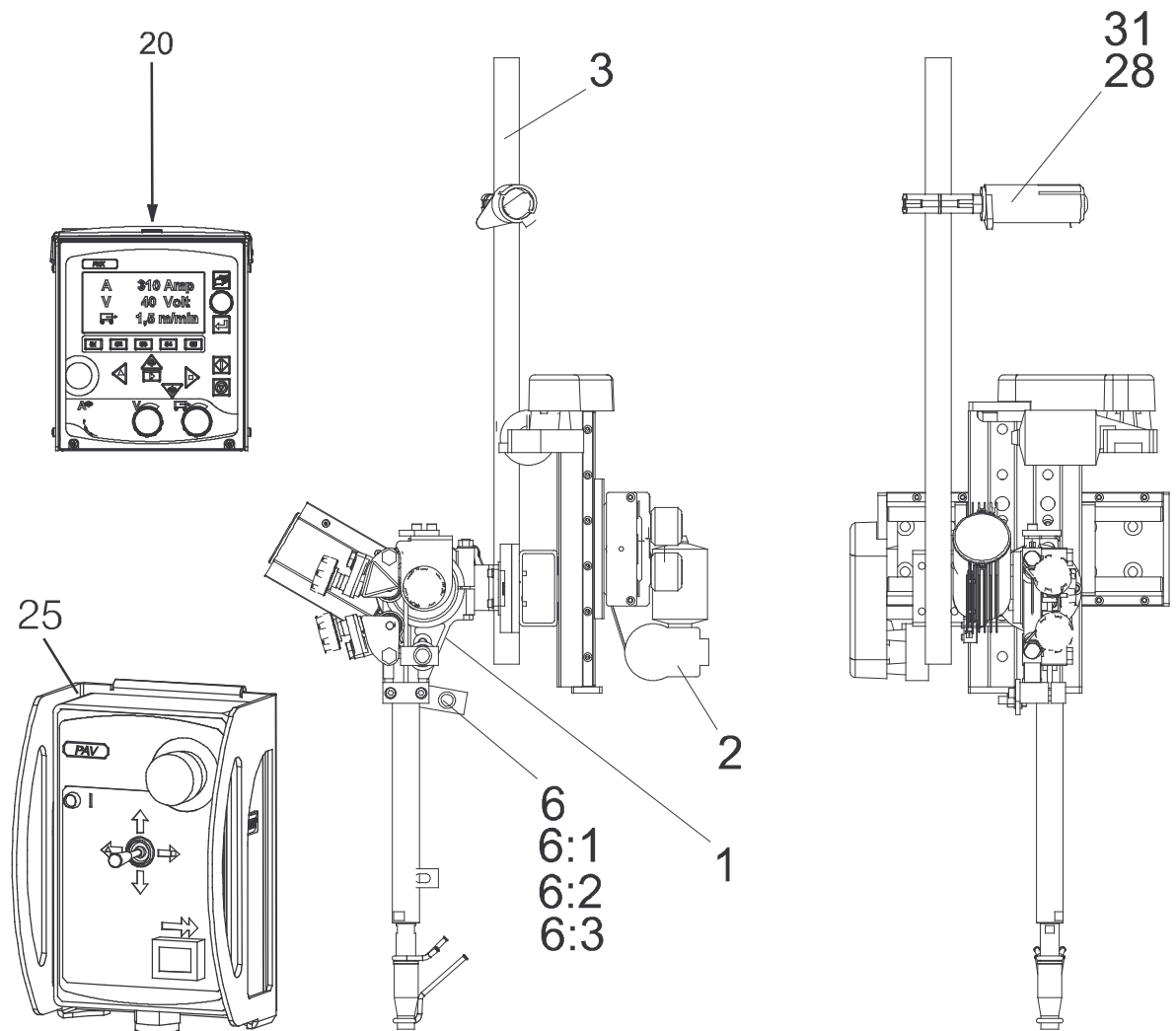
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 902	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 902	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461 215 880	Cable kit	



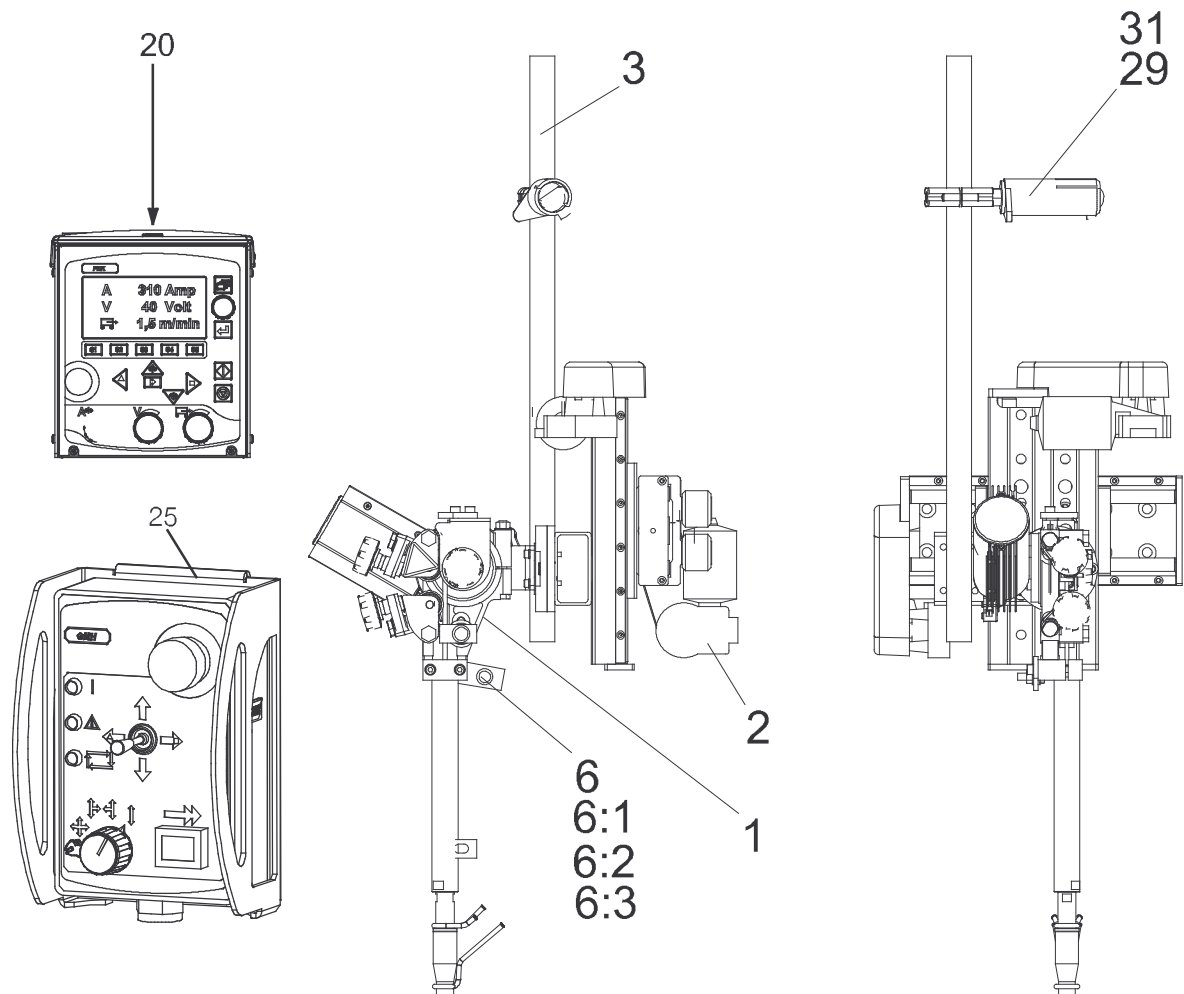
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 903	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 902	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



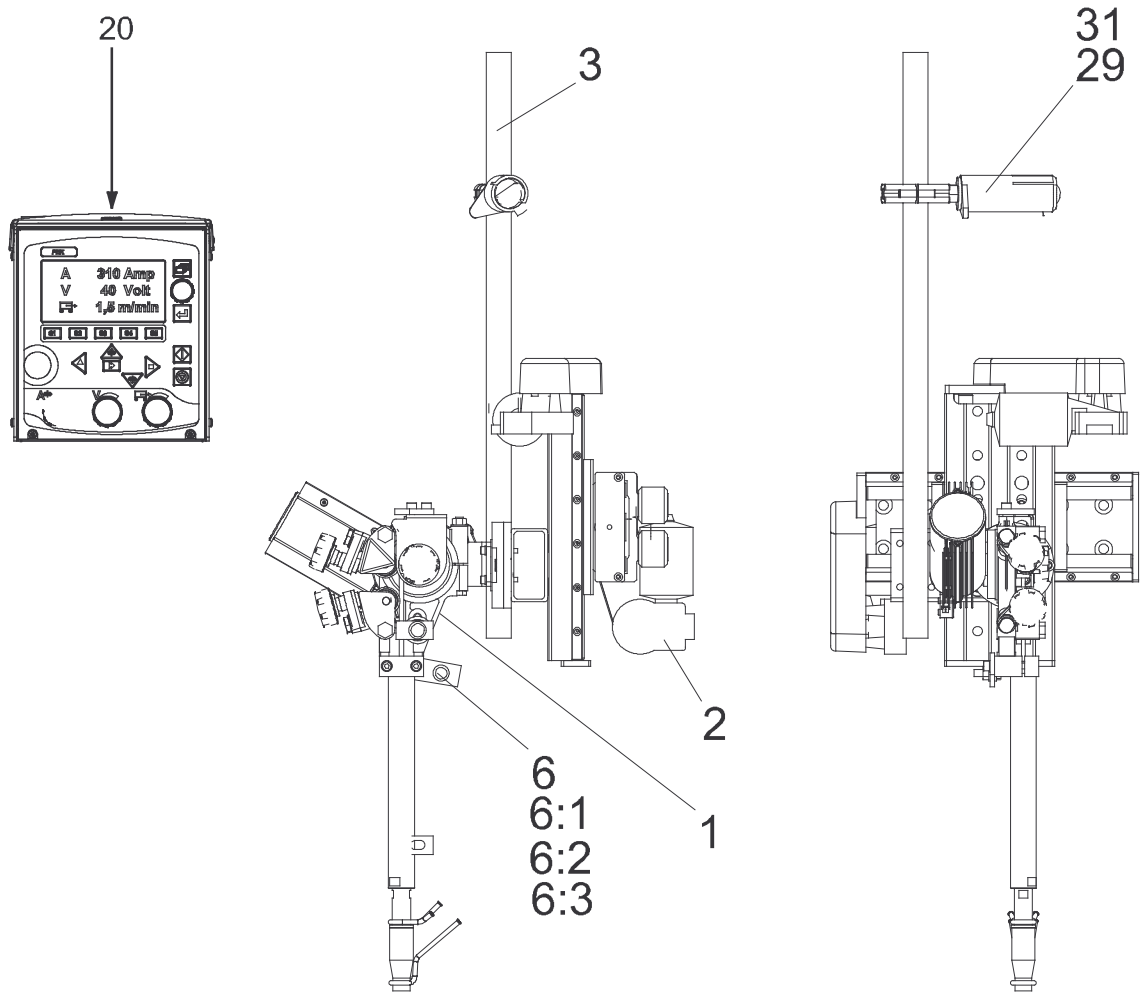
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 904	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 912	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	180mm
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	L=5m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable kit	
28	2	0154 734 001	Clamp	
31	1	0146 967 880	Brake hub	



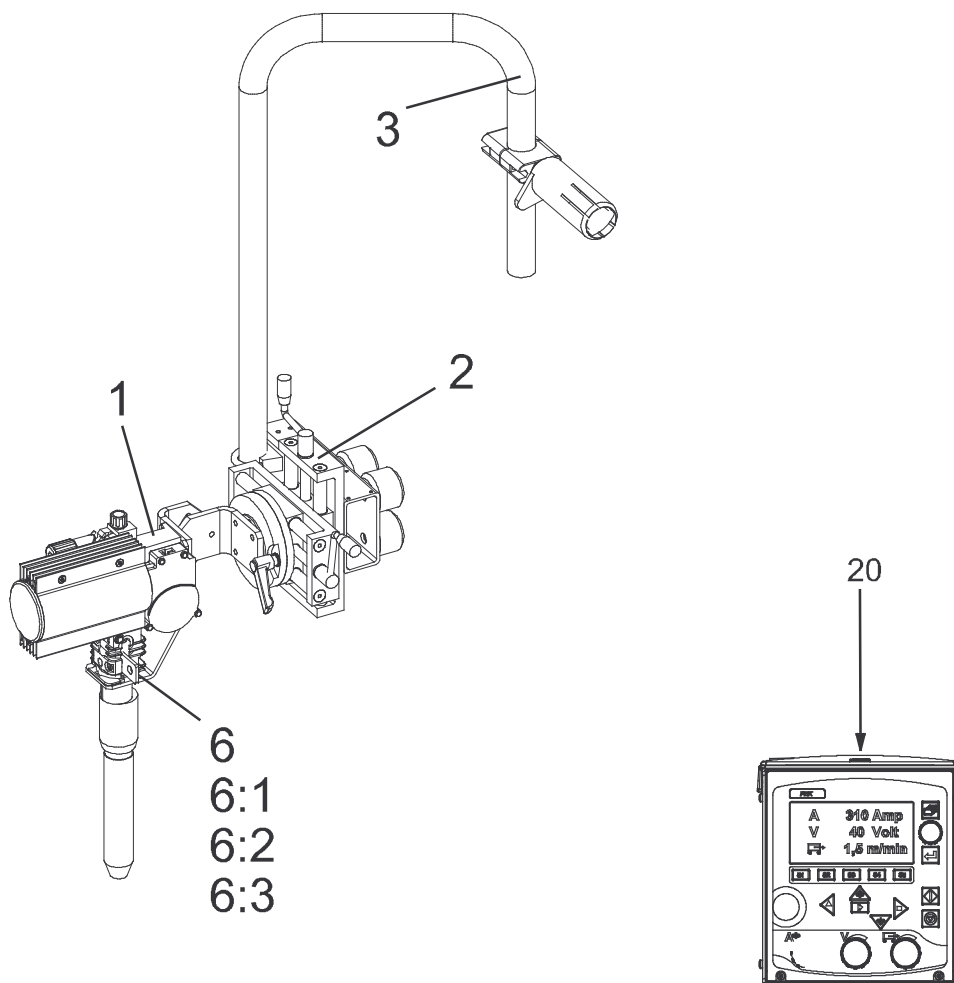
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 905	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 912	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	180mm
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	L=5m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking system	A6 GMH, see separate manual
26	1	0461 215 880	Cable kit	
29	2	0154 734 001	Clamp	
31	1	0146 967 880	Brake hub	



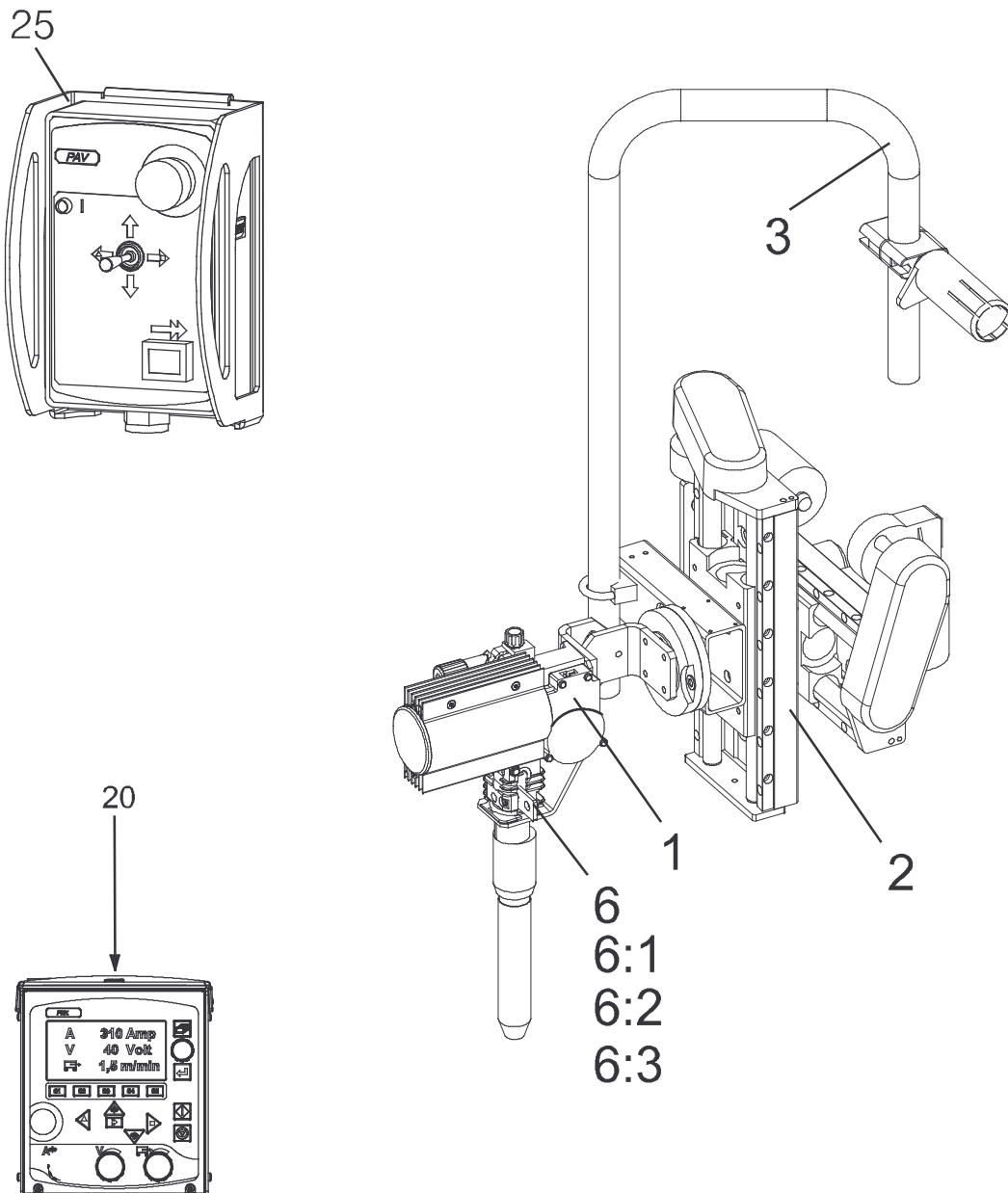
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 180 906	Welding head	A2SG J1, MIG/ MAG
1	1	0449 150 912	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	180mm
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	L=5m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
29	2	0154 734 001	Clamp	
31	1	0146 967 880	Brake hub	



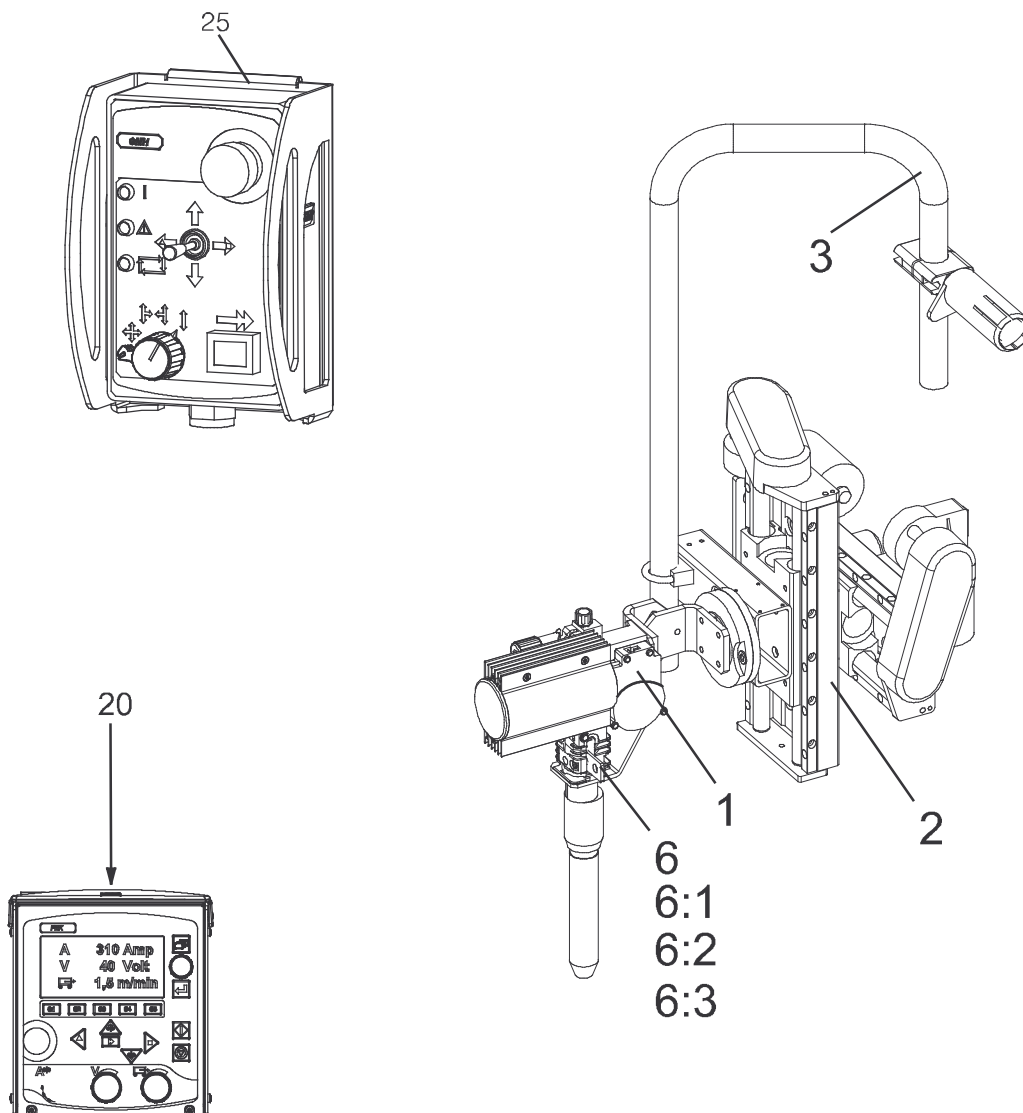
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 900	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 903	Wire feed unit complete	
2	1	0449 152 880	Slide travel kit, manual	90 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



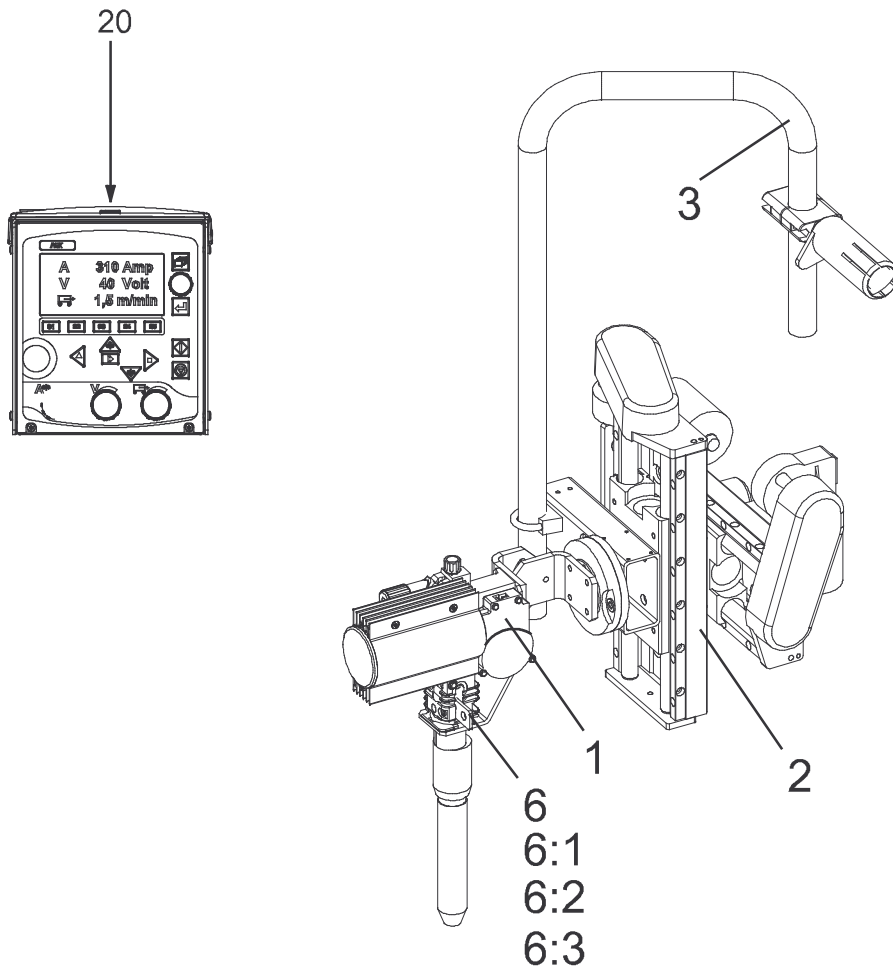
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 901	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 903	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461 215 880	Cable kit	



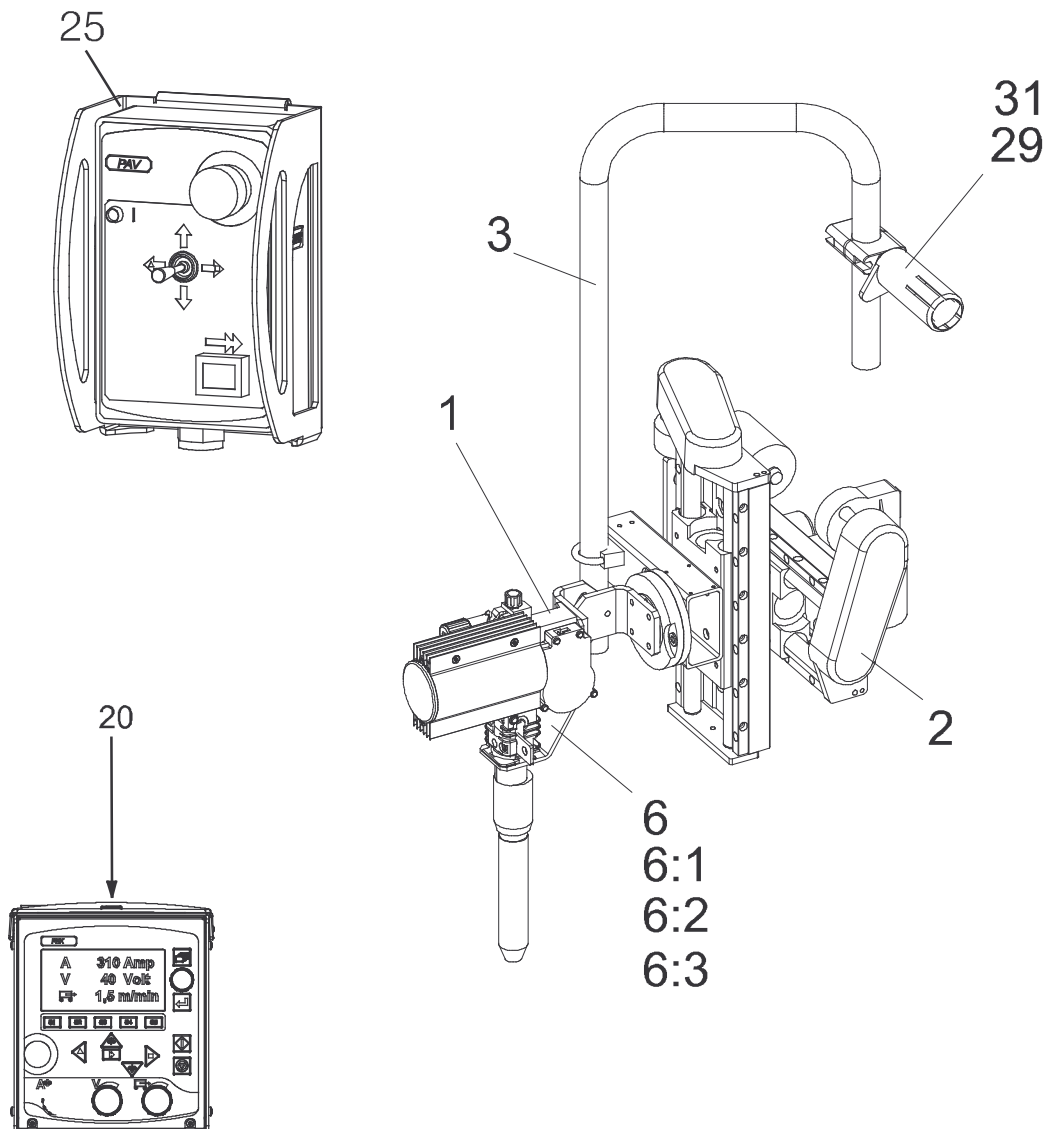
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 902	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 903	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461 215 880	Cable kit	



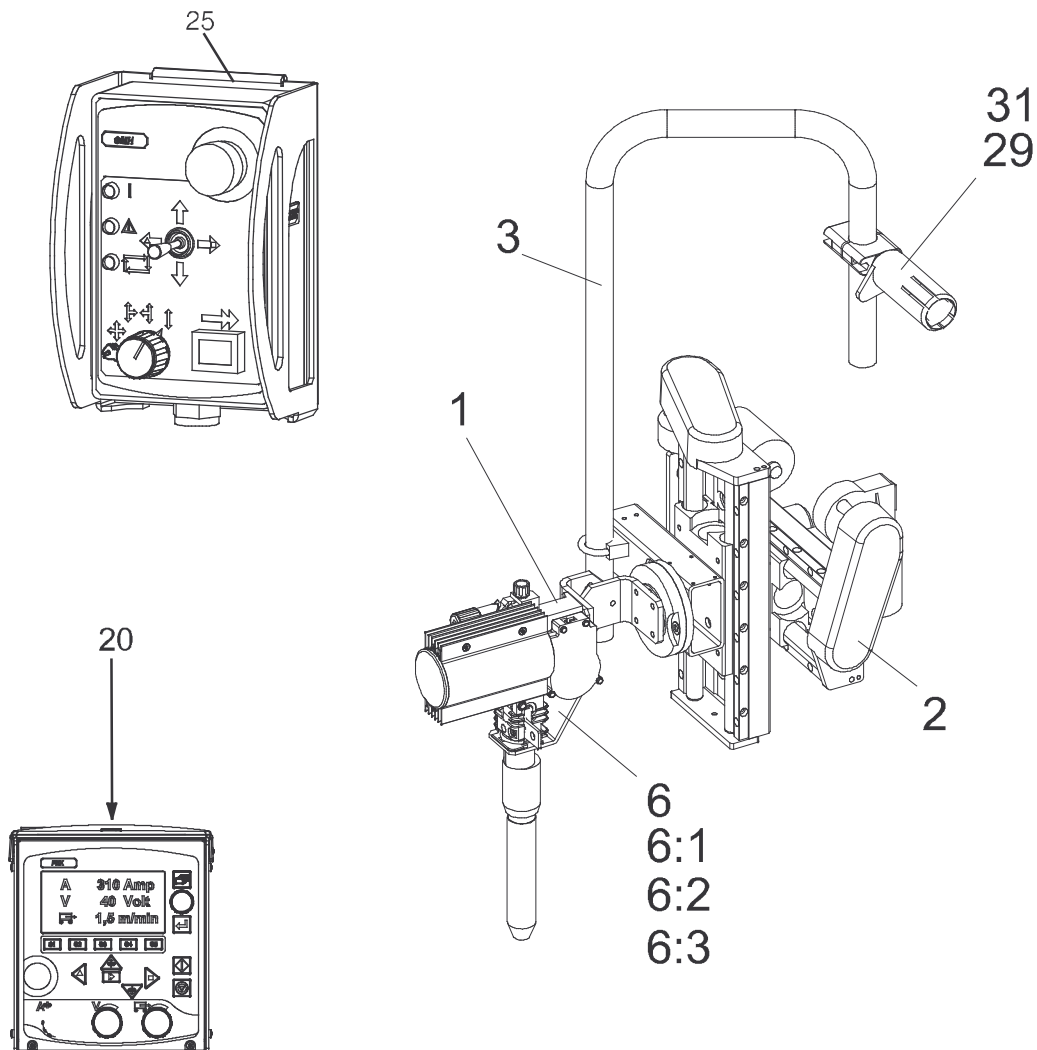
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 903	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 903	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK



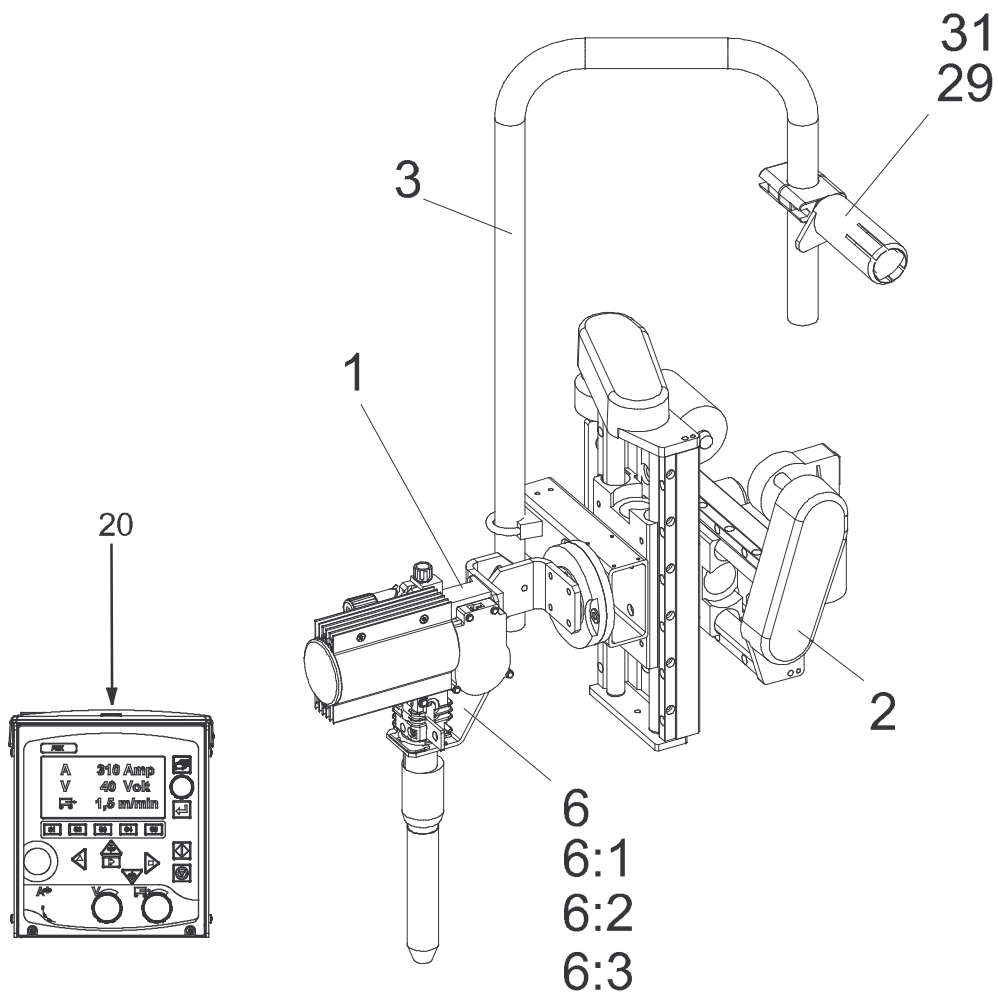
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 905	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 913	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	L=5m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 697 880	Joint tracking unit	PAV, see separate manual
26	1	0461 215 880	Cable kit	
29	2	0154 734 001	Clamp	a6
31	1	0146 967 880	Brake hub heavy duty (a2/a6)	



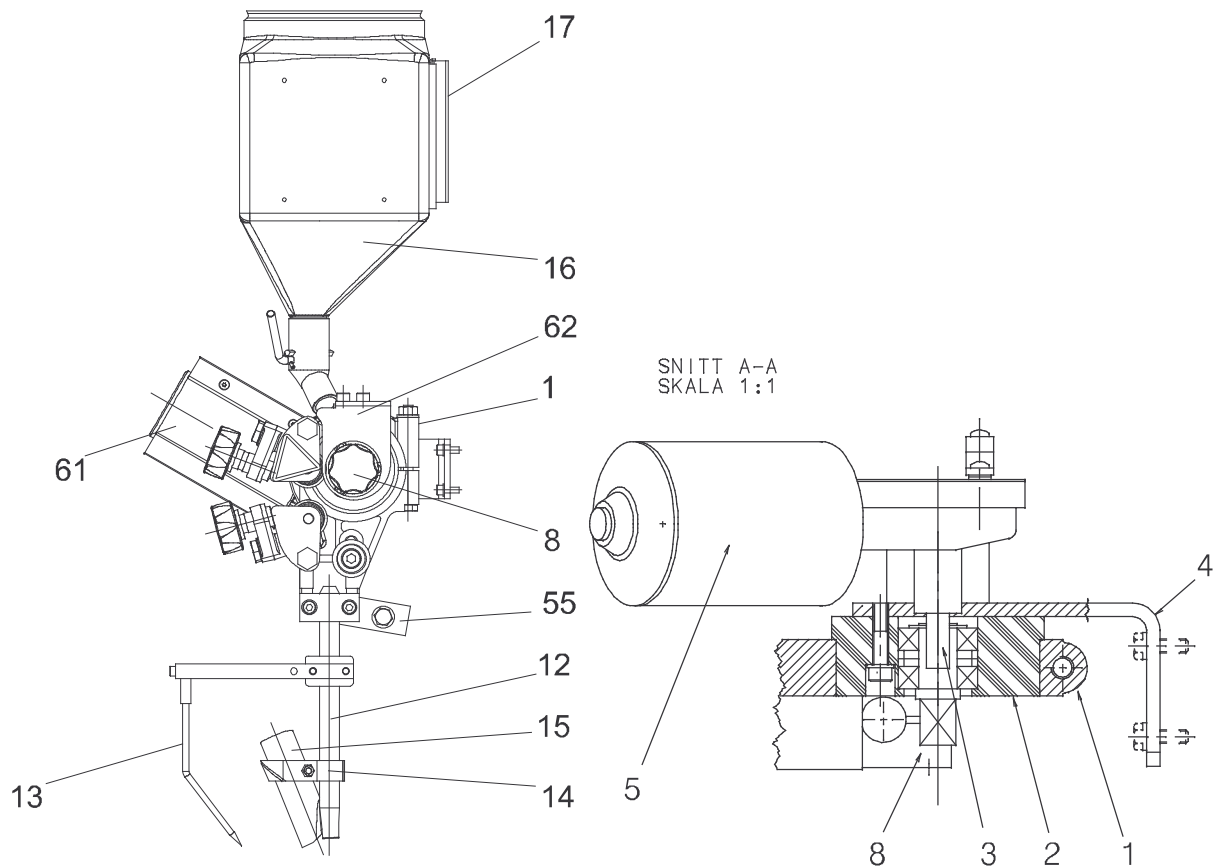
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 906	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 913	Wire feed unit complete	
2	1	0449 151 881	Slide kit, motorized	
3	1	0449 155 881	Carrier	
6	1	0449 153 905	Cable kit	L=5m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
25	1	0460 884 880	Joint tracking system	GMH, see separate manual
26	1	0461 215 880	Cable kit	
29	2	0154 734 001	Clamp	
31	1	0146 967 880	Brake hub	



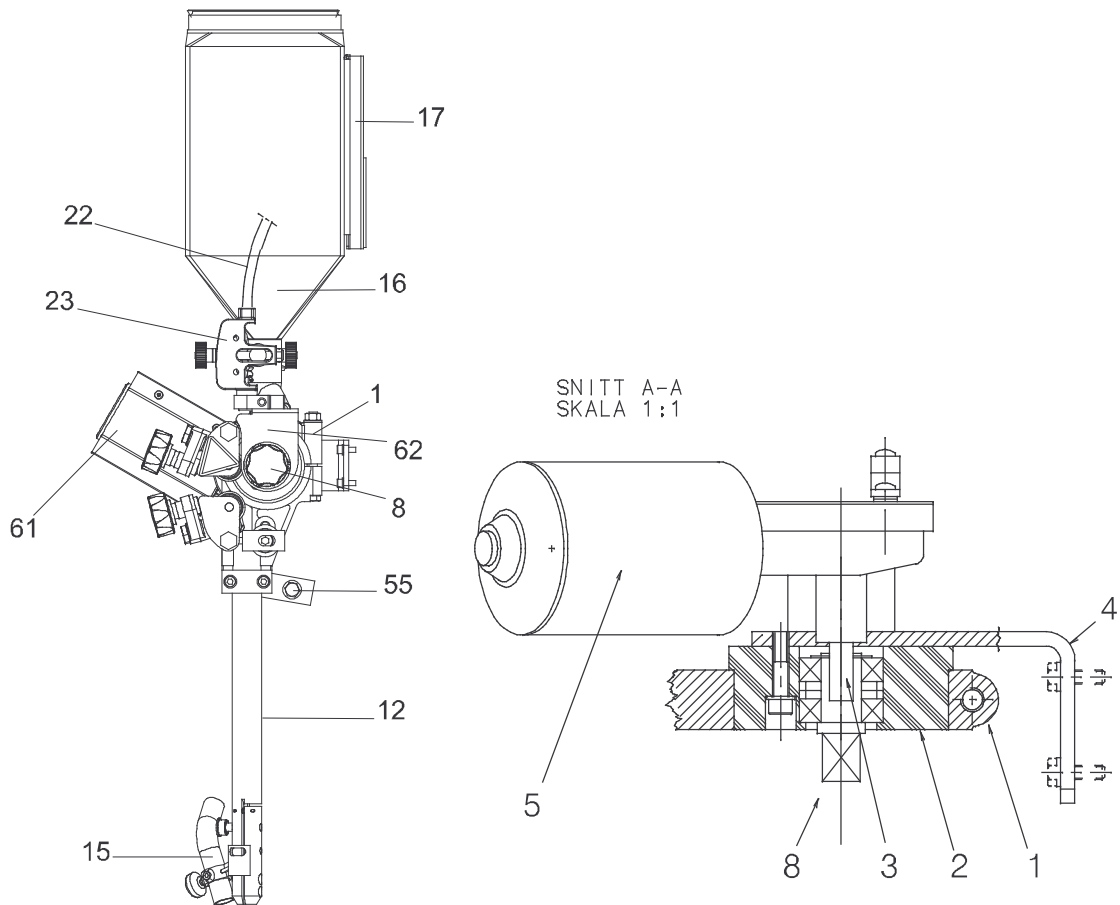
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 181 907	Welding head	A2SG J1 4WD, MIG/ MAG
1	1	0449 150 913	Wire feed unit complete	
2	1	0449 151 880	Slide kit, motorized	180 mm
3	1	0449 155 880	Carrier	
6	1	0449 153 905	Cable kit	L = 5 m
6:1	1	0460 909 885	Pulse transducer cable	5.0 m
6:2	1	0461 249 885	Motor cable	5.0 m
6:3	1	0461 239 886	Cable	5.0 m
20	1	0460 504 880	Control box	PEK
29	2	0154 734 001	Clamp	
31	1	0146 967 880	Brake hub	



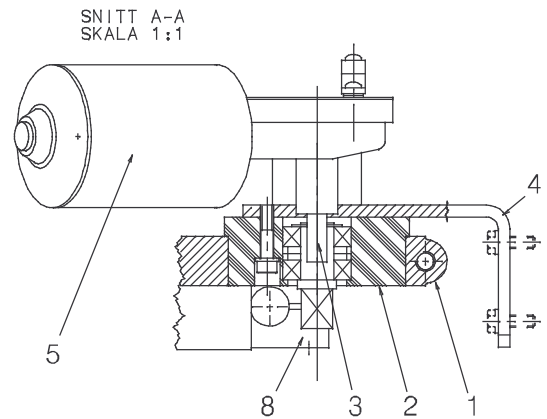
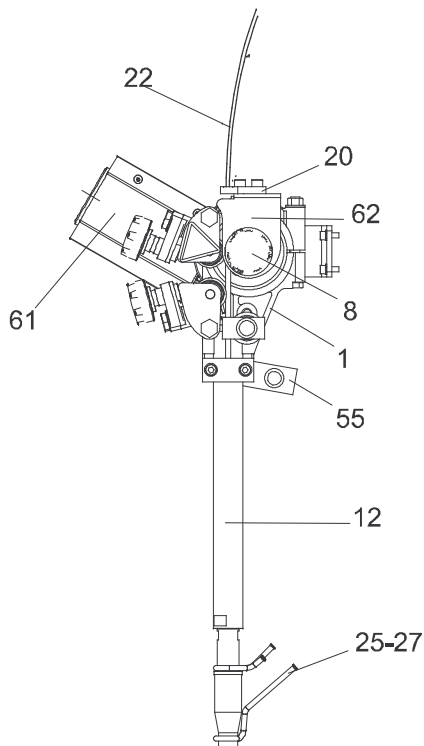
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 900	Wire feed unit complete (Right)	SAW
1	1	0147 639 882	Wire straightener (Right)	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0812 312 001	Motor with pulse transducer	
8	1	0218 810 183	Insulated Hand wheel	
12	1	0413 510 001	Contact tube	D20, L = 260 mm
13	1	0416 984 880	Guide pin complete	
14	1	0333 094 880	Clamp for Flux tube	
15	1	0332 948 001	Flux tube	
16	1	0332 994 883	Flux container	
17	1	0413 318 001	Holder	
55	1	0449 475 001	Bar	
61	1	0462 132 880	Protecting cover	
62	1	0449 528 001	Protection plate	



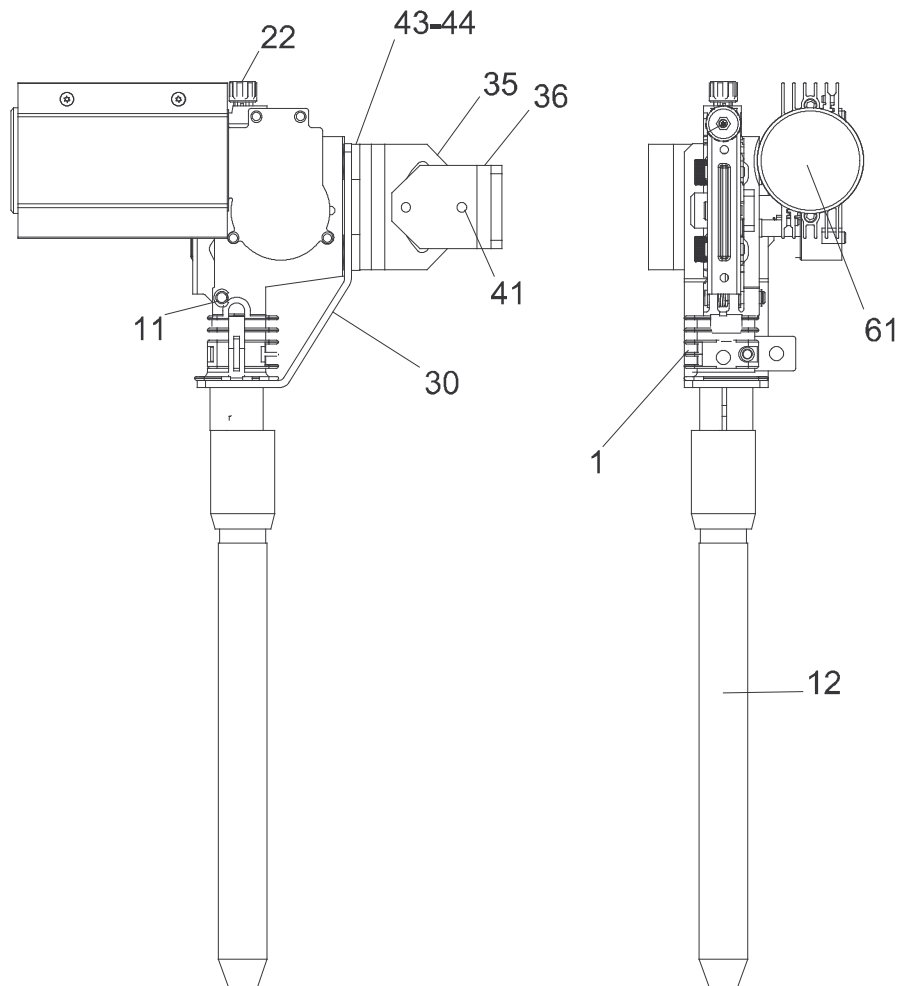
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 901	Wire feed unit complete (Right)	SAW, Twin
1	1	0147 639 886	Wire straightener (Right)	Twin
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0812 312 001	Motor with pulse transducer	
8	1	0218 810 183	Insulated Hand wheel	
12	1	0333 852 881	Contact device	Twin, L = 275
15	1	0153 299 880	Flux nozzle	
16	1	0332 994 883	Flux container	
17	1	0413 318 001	Holder	
22		0156 800 002	Wire liner	
23	1	0145 787 880	Fine wire straightener	
50	1	0146 967 880	Brake hub	
51	1	0413 532 002	Attachment	
52	2	0154 734 001	Clamp	
55	1	0457 713 001	Bar	
61	1	0462 132 880	Protection cover	
62	1	0449 528 001	Protection plate	



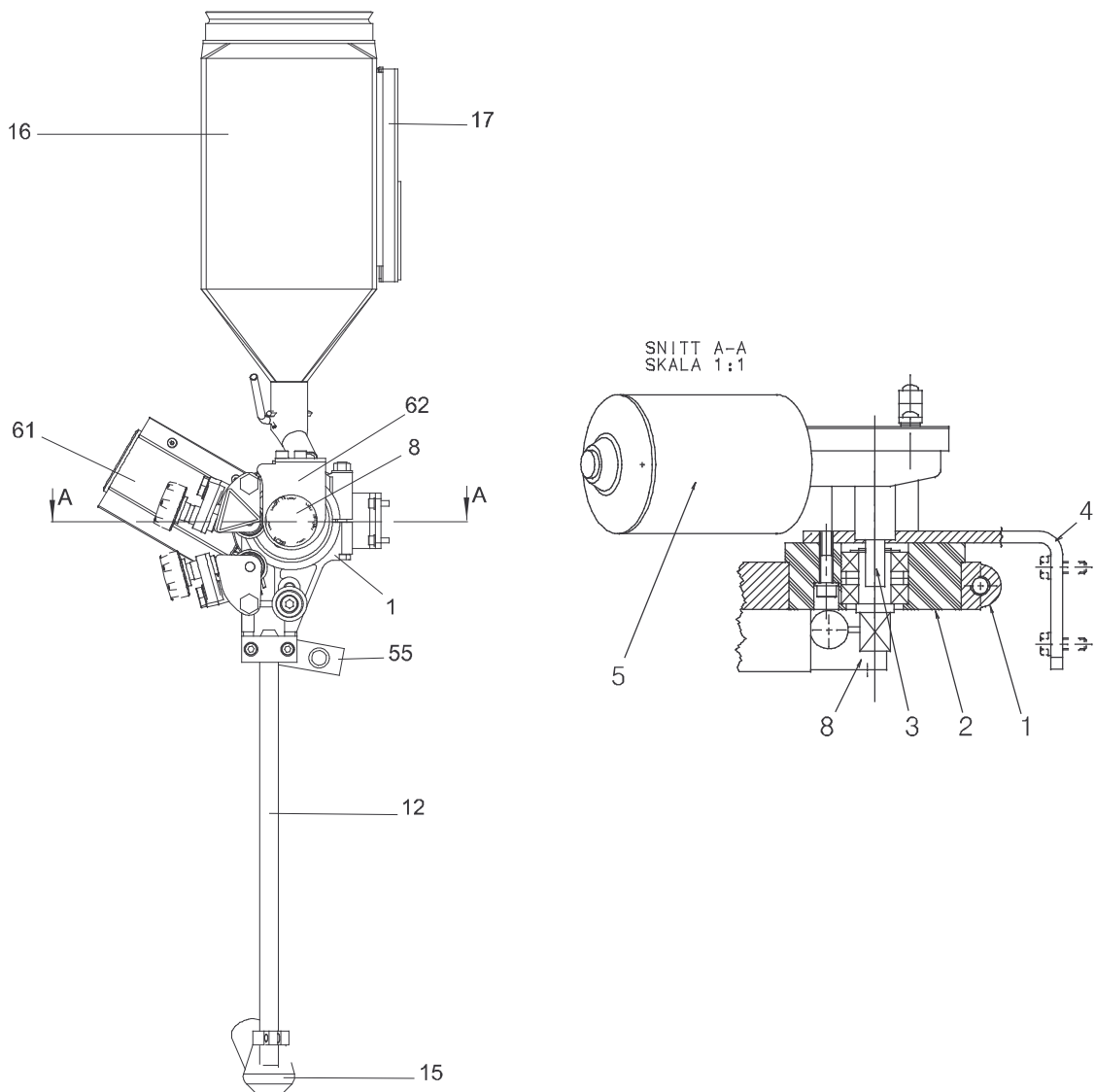
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 902	Wire feed unit complete (Right)	MIG/ MAG
1	1	0147 639 882	Wire straightener (Right)	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0812 312 002	Motor with pulse transducer	
8	1	0218 810 183	Insulated Hand wheel	
11	2	0417 699 001	Rubber clamp	
12	1	0030 465 389	Contact device	
18	1	0461 238 881	Solenoid valve and cable	
20	1	0155 300 001	Plate	
22	1	0156 800 002	Wire liner	
25	1	0333 754 001	Hose	L=2,25m, D 14/ 6.3
26	6	0193761 002	Hose clamp	
27	2	0147 336 880	Hose coupling	
55	1	0449 475 001	Bar	
61	1	0462 132 880	Protection cover	
62	1	0449 528 001	Protection plate	



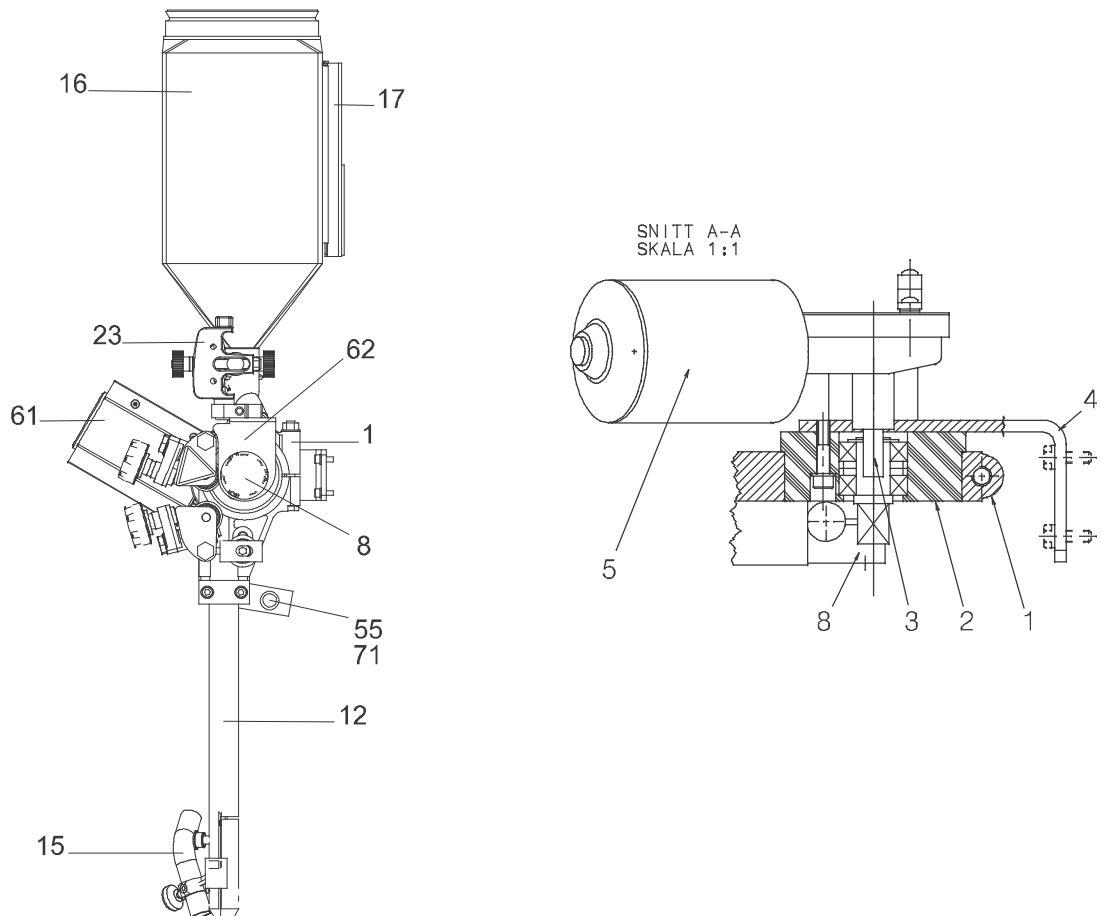
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 903	Wire feed unit complete (Right)	4WD, MIG/ MAG
1	1	0456 424 902	Feed unit	4WD
12	1	0457 460 881	Contact device	MTW 600, L=250
18	1	0461 238 881	Solenoid valve and cable	
22		0156 800 002	Wire liner	
25		0333 754 001	Hose	D 14/ 6.3
27	2	0147 336 880	Hose coupling	
30	1	0449 011 001	Support	
35	1	0449 009 002	Motorbracket	
36	1	0449 009 001	Motorbracket	
43	2	0163 139 002	Bushing	
44	2	0162 414 002	Insulating tube	
61	1	0462 132 880	Protection cover	



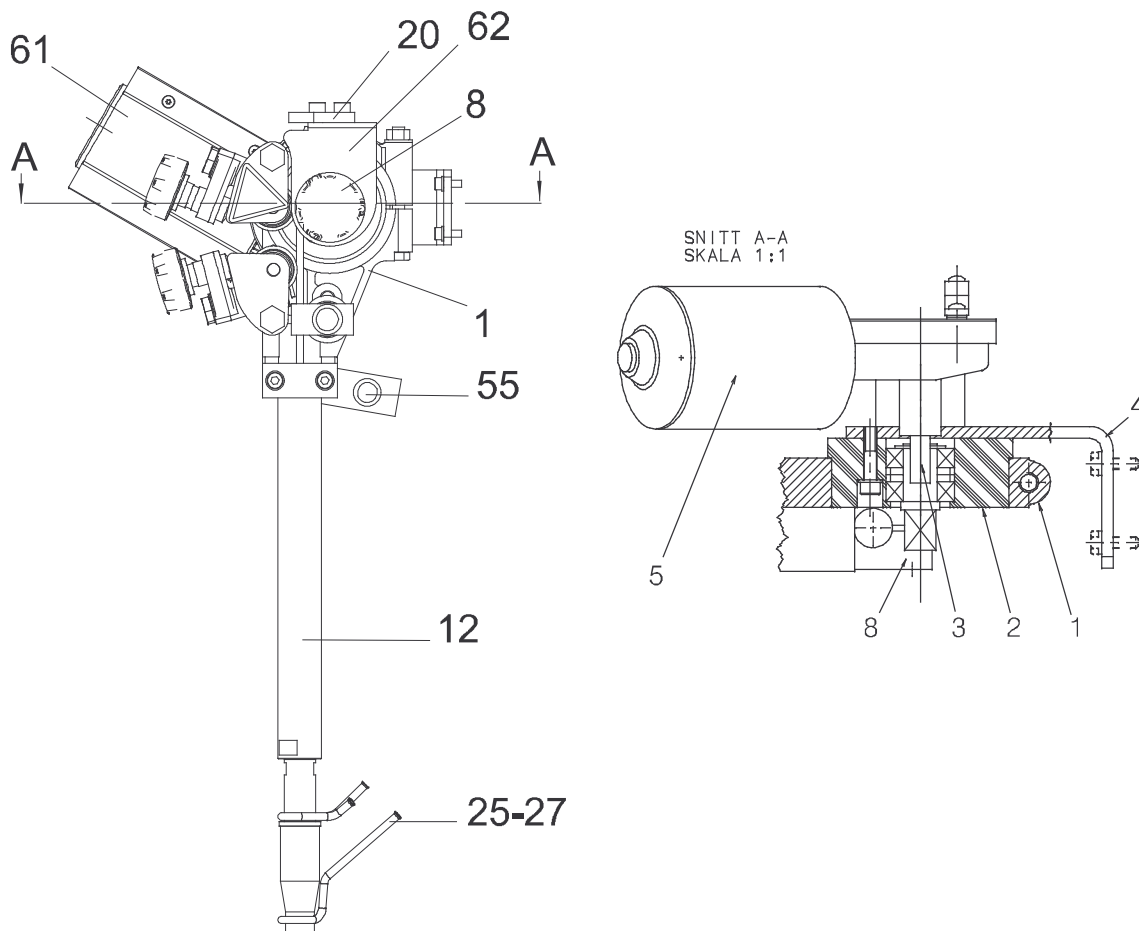
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 910	Wire feed unit complete (Right)	SAW
1	1	0147 639 882	Wire straightener (Right)	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0813 312 001	Motor with pulse transducer	
8	1	0218 810 183	Insulated hand wheel	
11	2	0417 699 001	Clamp	
12	1	0413 510 004	Contact tube	D20 L=500
15	1	0145 221 881	Flux funnel	
16	1	0147 649 882	Flux hopper	
17	1	0148 487 880	Bracket for flux hopper	
55	1	0449 475 001	Bar	
61	1	0462 132 880	Protection cover	
62	1	0449 528 001	Protection right	



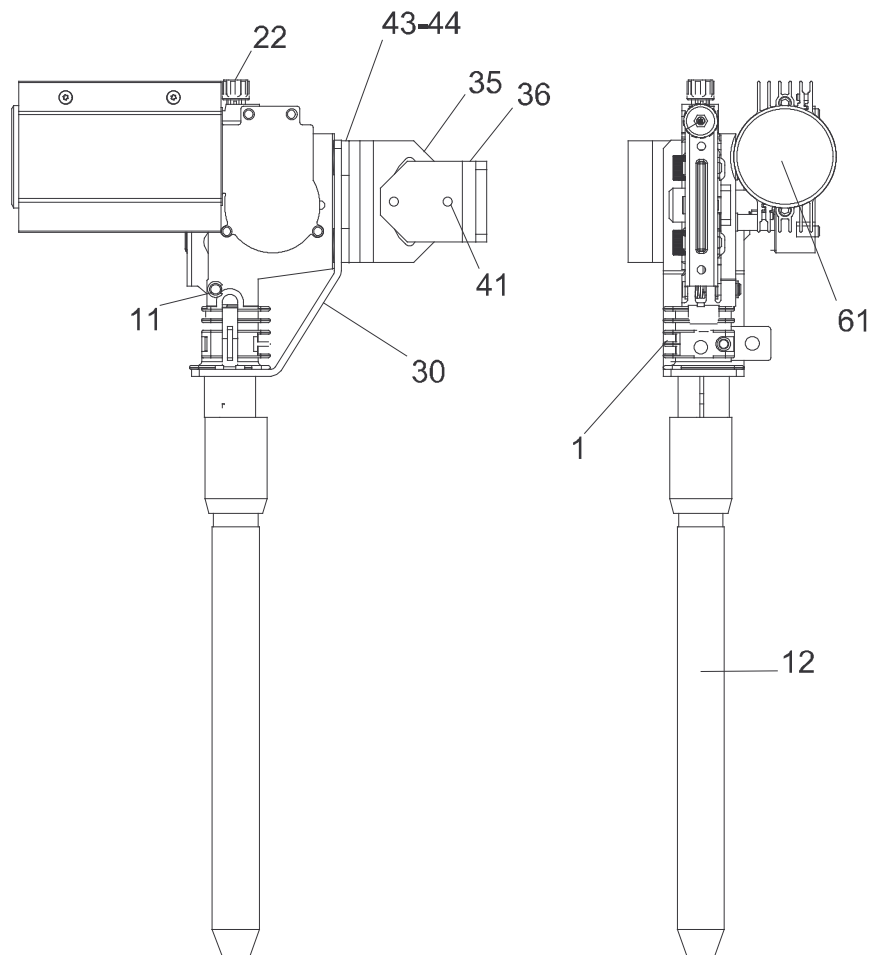
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 911	Wire feed unit complete	SAW
1	1	0147 639 886	Wire straightener (Right)	Twin
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0812 312 001	Motor with pulse transducer	
8	1	0218 810 183	Insulated hand wheel	
11	2	0417 699 001	Clamp	
12	1	0334 290 884	Contact tip	
15	1	0153 299 880	Flux nozzle	
16	1	0147 649 882	Flux hopper	
17	1	0148 487 880	Bracket for fluxhopper	
22	2	0156 800 002	If-hose	
23	1	0145 787 880	Wire straightener light twin	
50	1	0146 967 880	Brake hub heavy duty	
51	1	0413 532 002	Attachment	
52	2	0154 734 001	Clamp	
55	1	0457 713 001	Bar	
60	1	0190 790 108	Cable lug	
61	1	0462 132 880	Protection cover	
62	1	0449 528 001	Protection right	
71	1	0334 278 883	Guide tube insert, twin	



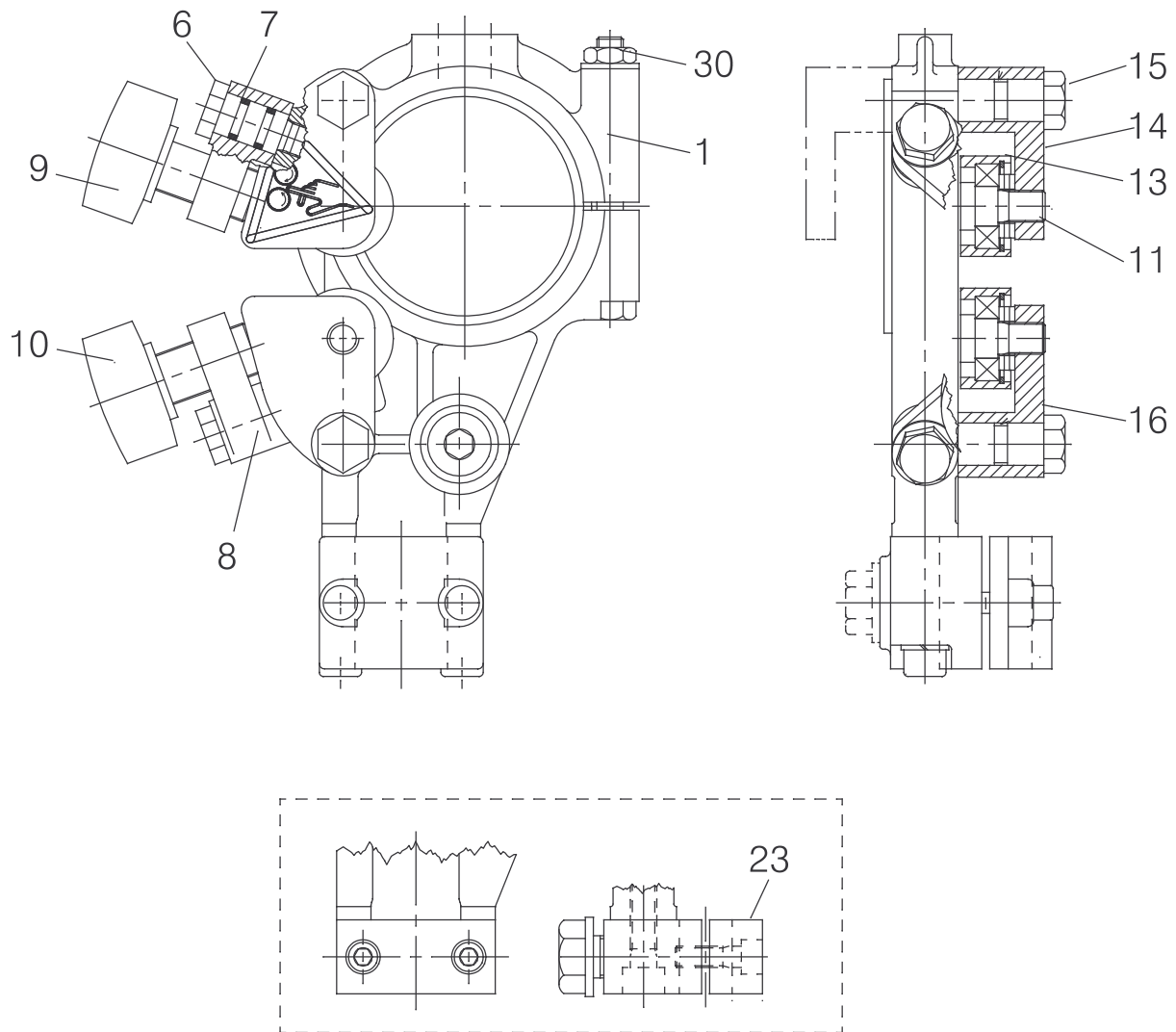
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 912	Wire feed unit complete	
1	1	0147 639 880	Wire straightener (Right)	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	3x3x16
4	1	0413 517 001	Bracket for motor	
5	1	0812 312 002	Motor with pulse transducer	
8	1	0218 810 183	Insulated hand wheel	
11	2	0417 699 001	Clamp	
12	1	0030 465 392	Contact tube	
18	1	0461 238 881	Solenoid valve + cable	L=3.0m, 42v
20	1	0155 300 001	Plate for weldaut.	
22	1	0156 800 002	Lf-hose	
25	2	0333 754 001	Hose rubber	d 14/6,3
26	6	0193 761 002	Hose clamp	d 13/7
27	2	0147 336 880	Hose connector	
55	1	0457 713 001	Bar	
61	1	0462 132 880	Protection cover	
62	1	0449 528 001	Protection right	



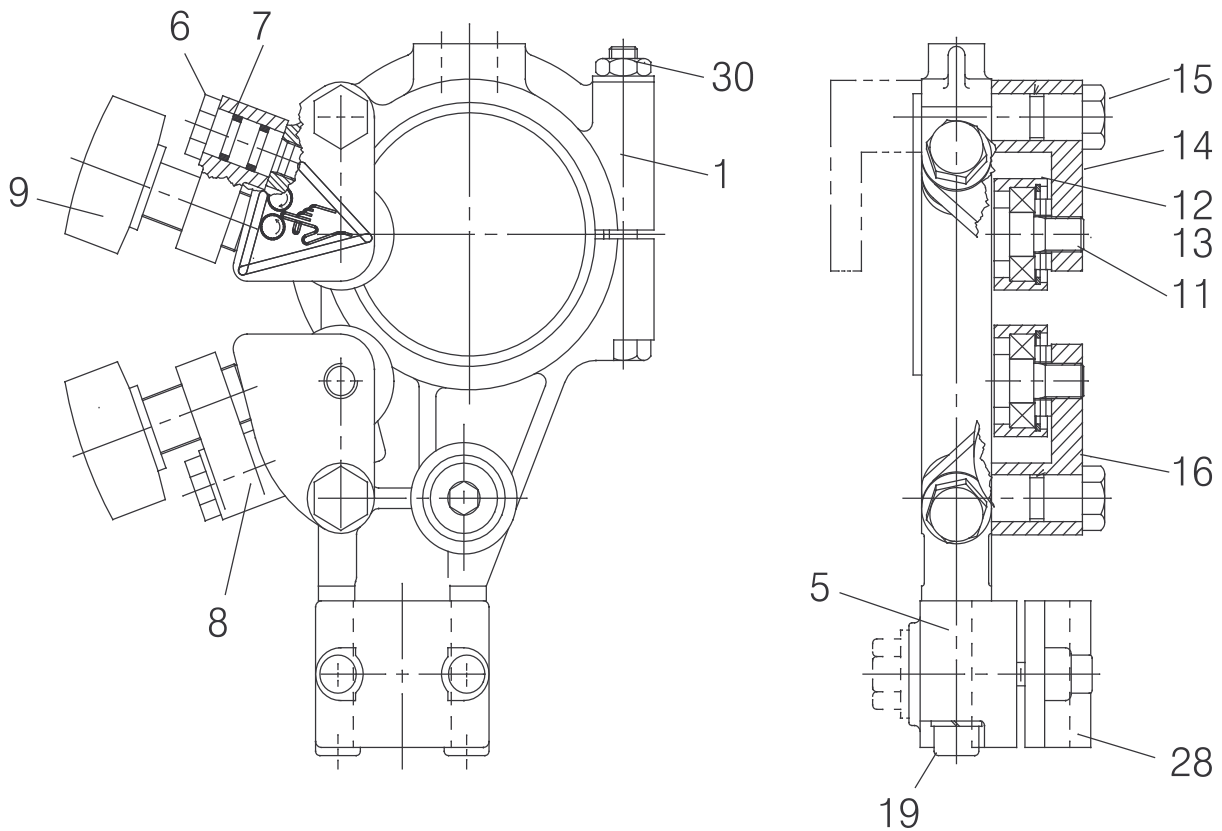
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 150 913	Wire feed unit complete	
1	1	0456 424 902	Feed unit	4WD
11	2	0417 699 001	Clamp	
12	1	0457 460 883	Torch water-cold	
18	1	0461 238 881	Solenoid valve + cable	L=3.0m, 42v
22	1	0156 800 002	Lf-hose	
25	2	0333 754 001	Hose rubber	
26	6	0193 761 002	Hose clamp	
27	2	0147 336 880	Hose connector	
30	1	0449 011 001	Support	
35	1	0449 009 002	Attachment	
36	1	0449 009 001	Attachment	
41	4	0219 504 305	Cup spring	
43	2	0163 139 002	Insulator	
44	2	0162 414 002	Insulating tube	
61	1	0462 132 880	Protection cover	



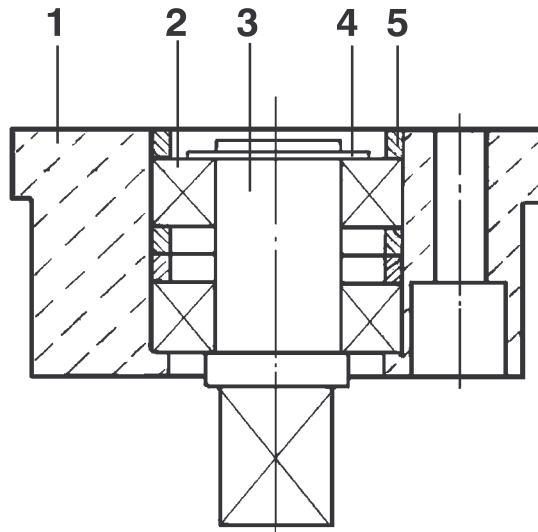
Item	Qty	Orderingno.	Denomination	Remarks
		0147 639 882	Wire straightener (right mounted)	
1	1	0156 449 001	Clamp	D11.3x2.4
6	2	0212 900 001	Spacer screw	
7	4	0215 201 209	O-ring	
8	2	0218 400 801	Pressure roller arm	
9	1	0218 810 181	Handwheel	
10	1	0218 810 182	Handwheel	
11	3	0332 408 001	Stub shaft	
13	3	0153 148 880	Roller	
14	1	0415 498 001	Thrust roller carrier	
15	2	0212 902 601	Spacer screw	
16	1	0415 499 001	Thrust roller carrier	M10
23	1	0334 571 880	Contact clamp	
30	1	0212 601 110	Nut	



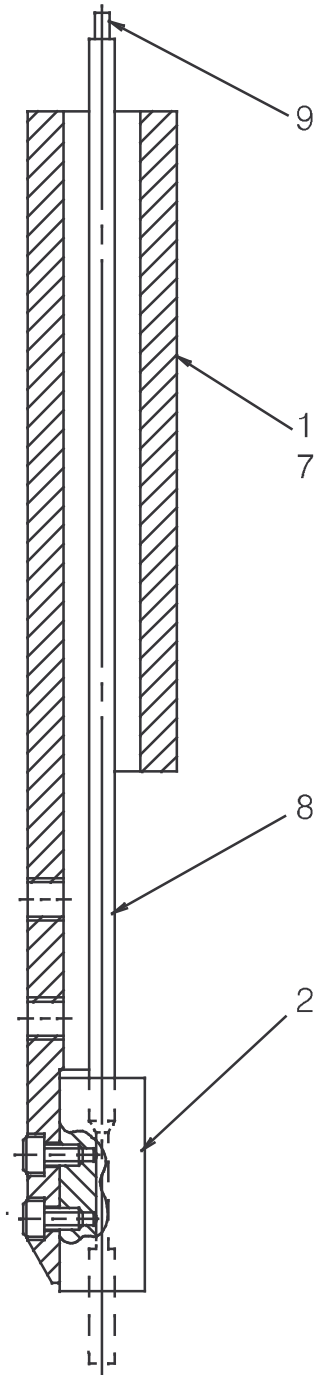
Item no.	Qty	Ordering no.	Denomination	Notes
		0147 639 886	Wire straightener (right mounted)	
1	1	0156 449 001	Clamp	
5	1	0156 530 001	Clamp half	
6	1	0212 900 001	Spacer screw	
7	2	0215 201 209	O-ring	D11.3x2.4
8	1	0218 400 801	Pressure roller arm	
9	1	0218 810 181	Handwheel	
11	1	0332 408 001	Stub shaft	
12	1	0218 524 580	Pressure roller	Twin
13	1	0153 148 880	Roller	
14	1	0415 498 001	Thrust roller carrier	
15	1	0212 902 601	Spacer screw	
19	2	0219 501 013	Spring washer	D18.1/10.2
28	1	0156 531 001	Clamp half	
30	1	0212 601 110	Nut	M10



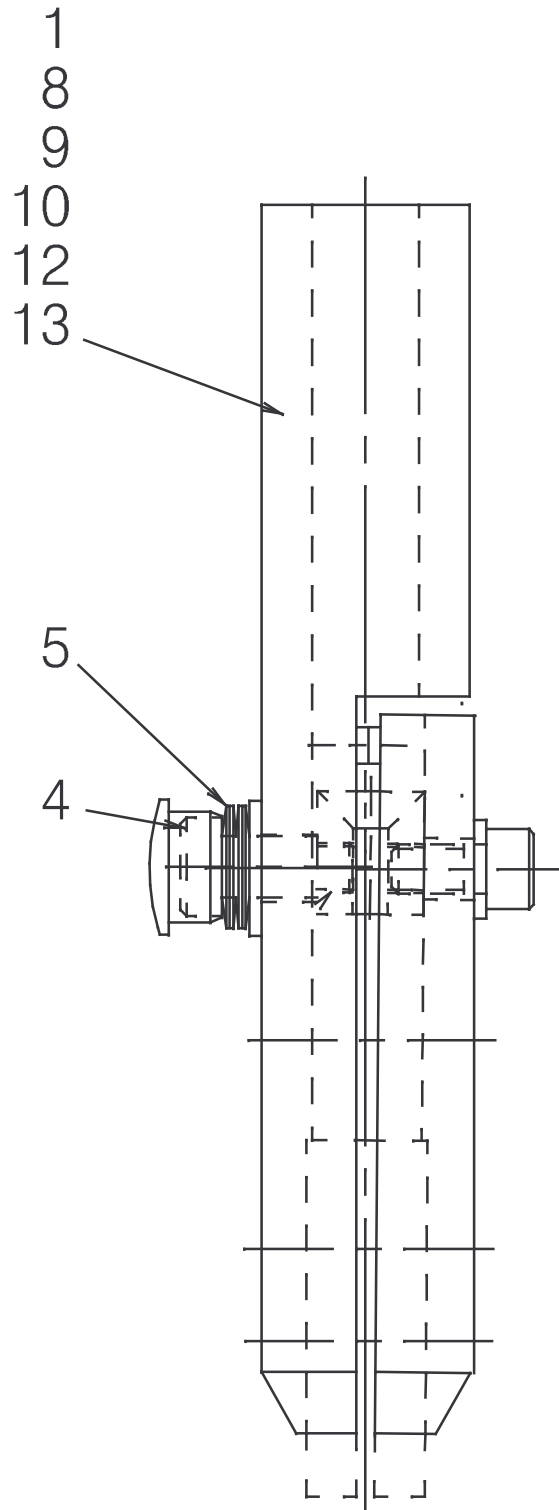
Item	Qty	Orderingno.	Denomination	Notes
		0413 072 881	Bearing housing with stub shaft	
1	1	0413 073 002	Searing housing	
2	2	0190 726 003	Ball bearing	
3	1	0334 575 001	Stub shaft	
4	1	0215 701 014	Retaining ring	D17
5	3	0334 576 001	Spacer	



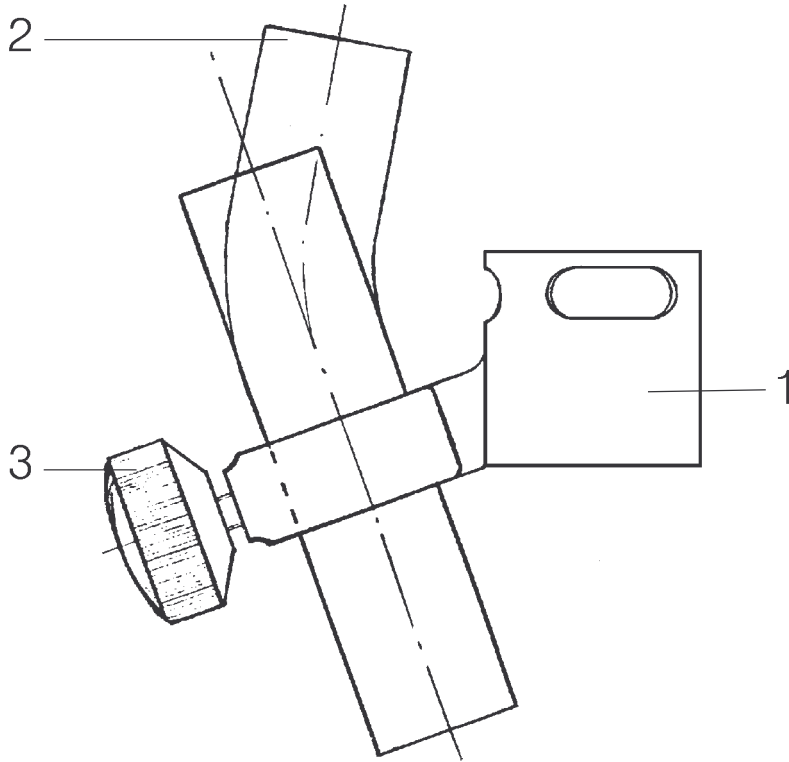
Item no.	Qty	Ordering no.	Denomination	Notes
		0333 852 881	Connector	Twin L=275 A6 UP
2	1	0333 772 001	Nozzle holder	
7	1	0417 959 881	Contact equipment	L=275, Heavy Duty
8	2	0415 032 001	Guide pipe	
9	2	0334 279 001	Spiral to connector	L=366



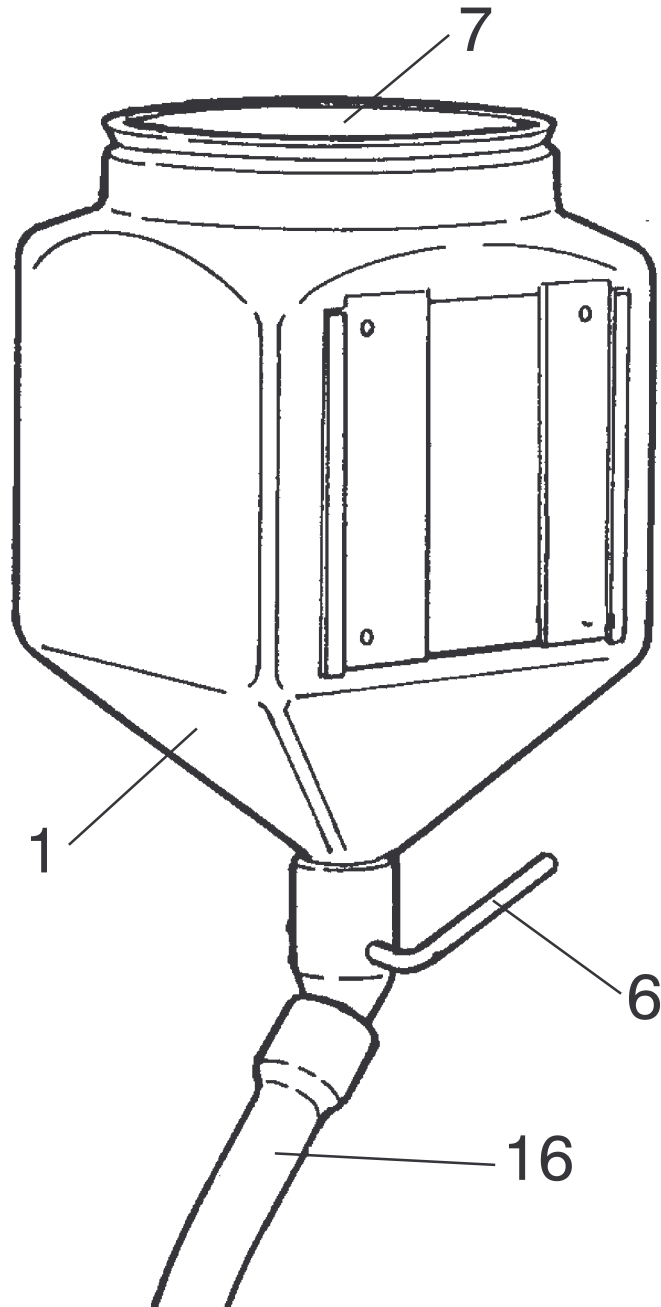
Item no.	Qty	Ordering no.	Denomination	Notes
		0417 959 881	Contact equipment	L=275mm
4	1	0443 372 001	Screw	
5	4	0219 504 307	Beleville spring	T = 1.1
8	1	0443 344 881	Pipe	L = 275



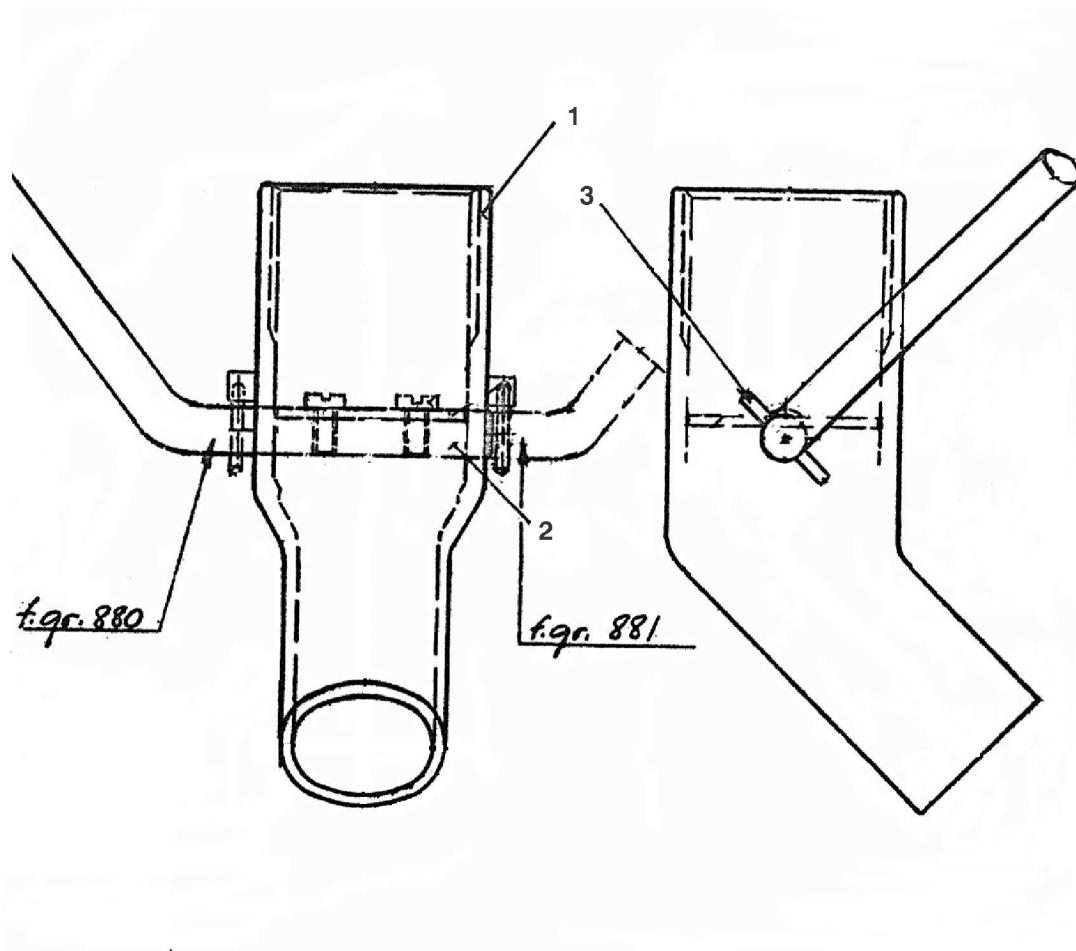
Item no.	Qty	Ordering no.	Denomination	Notes
		0153 299 880	Flux nozzle	
1	1	0153 290 002	Pipe holder	
2	1	0153 296 001	Pipe bend	
3	1	0153 425 001	Wheel	



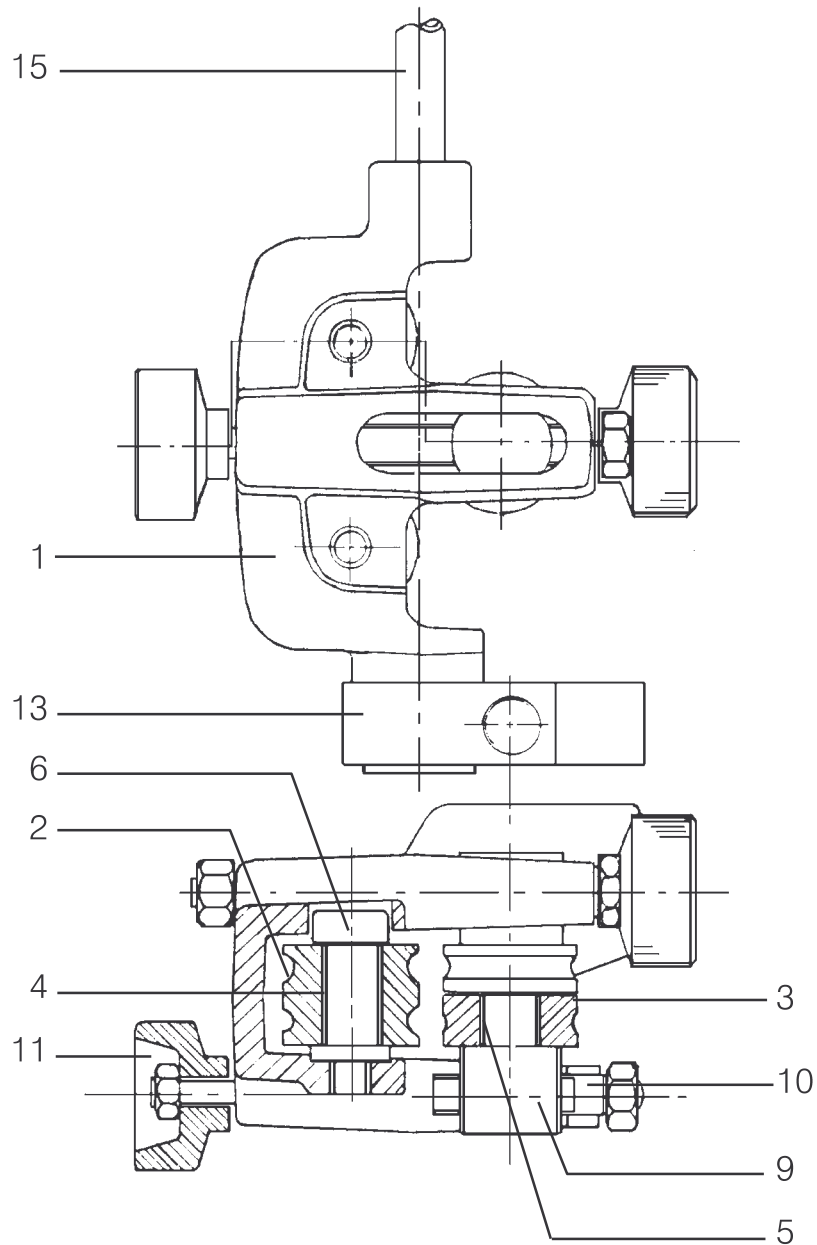
Item	Qty	Orderingno.	Denomination	Remarks
		0332 994 883	Flux hopper complete	
1	1	0332 837 001	Hopper for flux	
6	1	0153 347 881	Flux valve	
7	1	00203 017 80	Flux strainer	
16	1	0443 383 002	Flux hose	L= 500



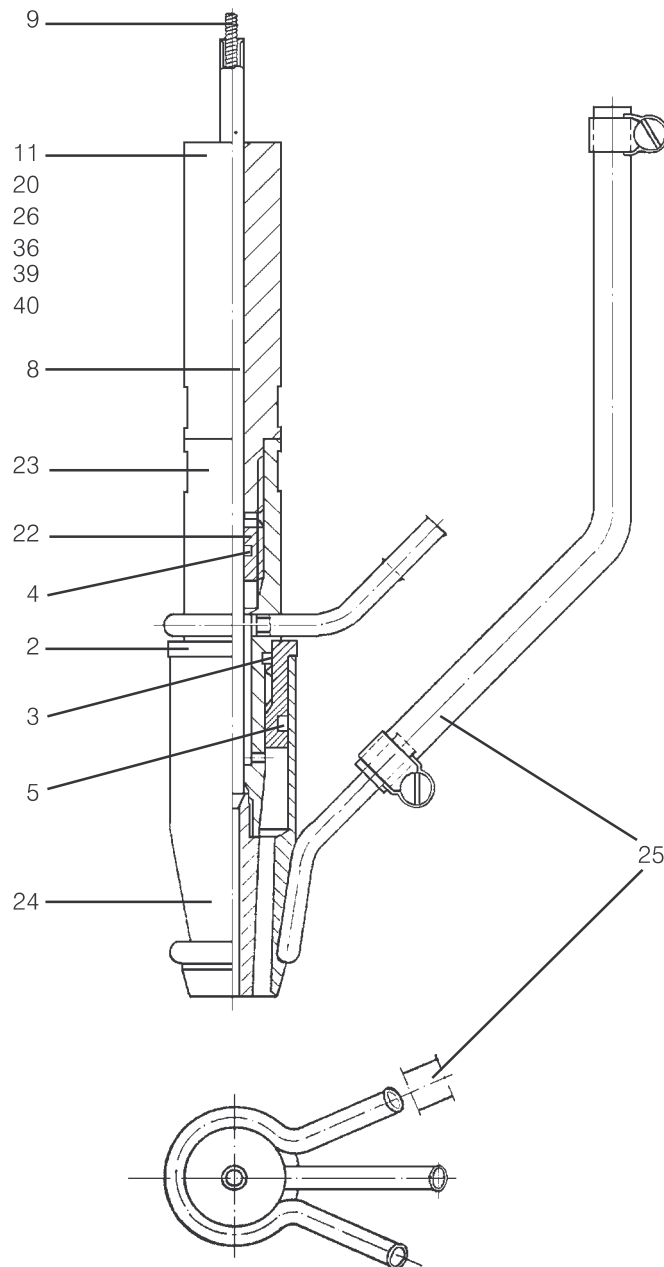
Item no.	Qty	Ordering no.	Denomination	Notes
		0153347881	Flux valve	
1	1	0153348001	Outlet	
2	1	0153349001	Shaft	
3	1	0211102938	Pin	d 3x20



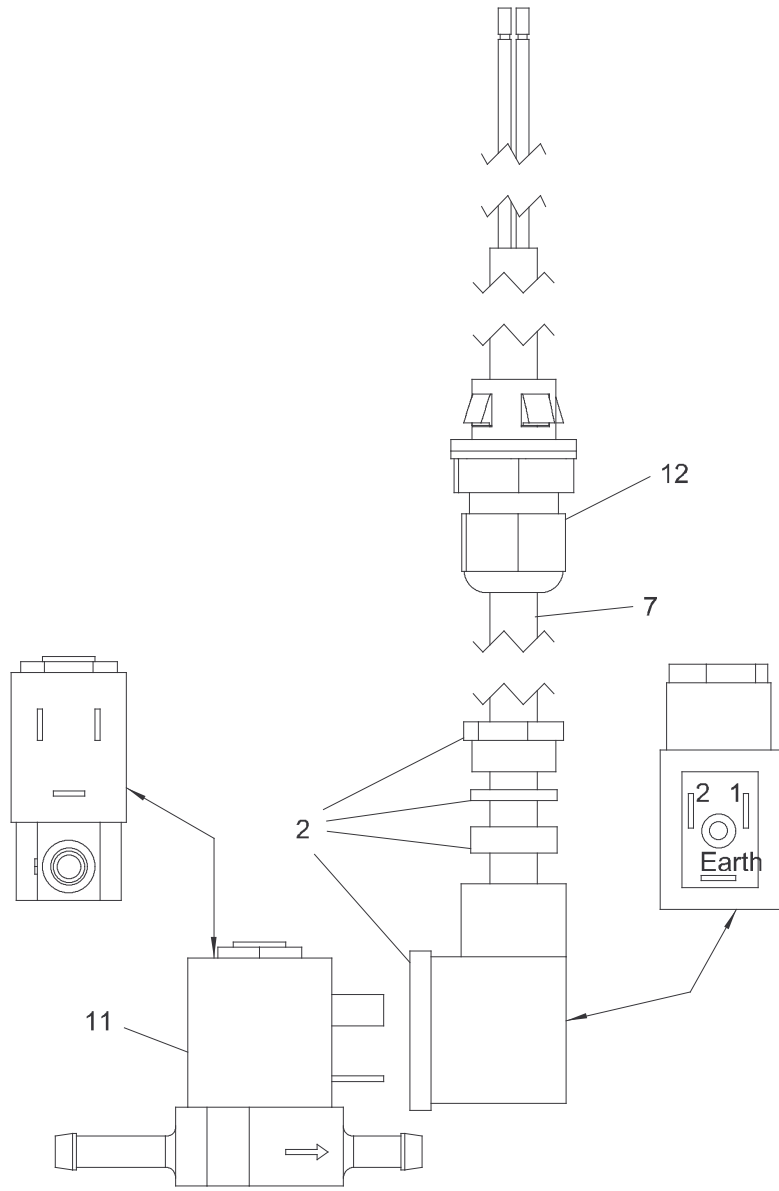
Item no.	Qty	Ordering no.	Denomination	Notes
		0145 787 880	Fine wire straightener for twin wire	
1	1	0145 788 001	Case	
2	2	0145 789 001	Roller	
3	2	0145 790 001	Roller	
4	2	0145 791 001	Searing bushing	
5	2	0190 240 103	Bearing bushing	D12/10
6	2	0145 792 001	Screw	
9	2	0145 793 001	Runner	
10	2	0145 796 002	Screw	
11	2	0145 794 001	Knob	
13	1	0145 795 001	Link	
15	1	0151 287 001	Hose	L=600



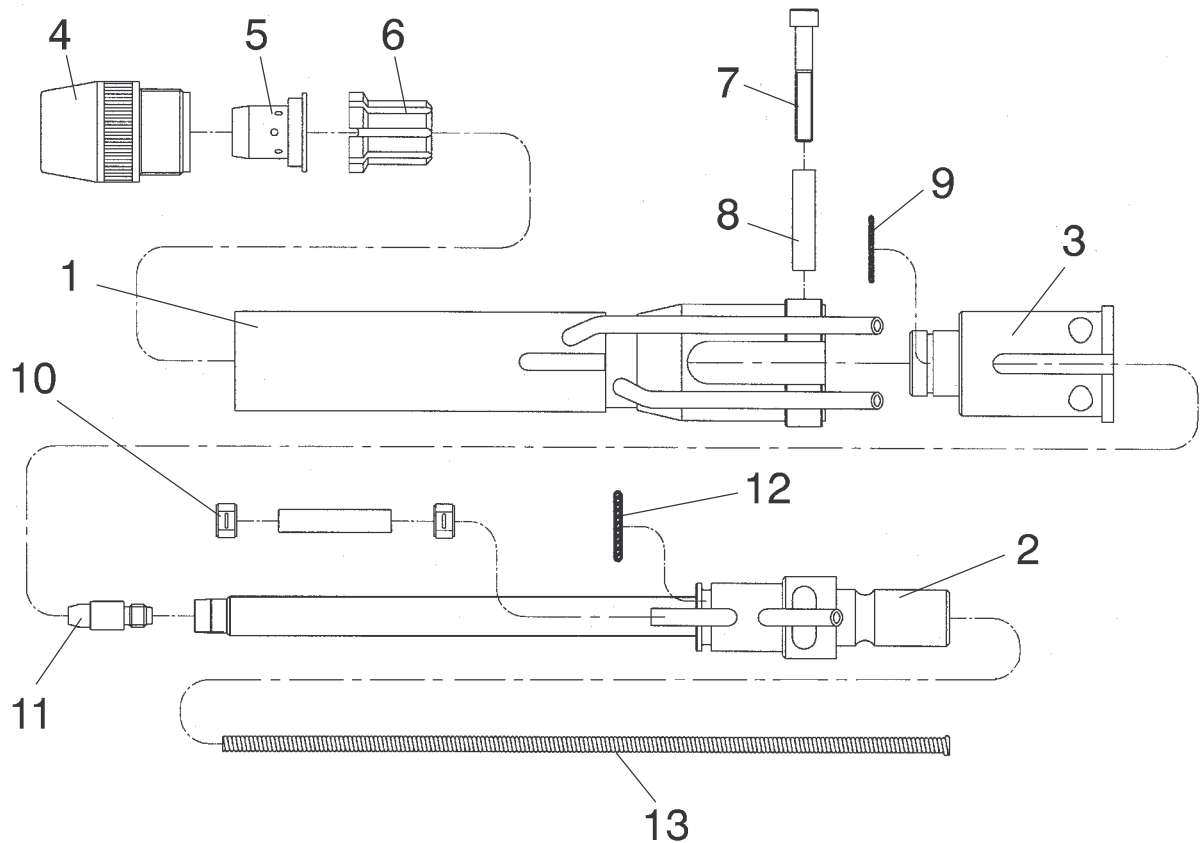
Item	Qty	Orderingno.	Denomination	Remarks
		0030 465 389	Connector	
2	1	0145 226 001	Insulating sleeve	
3	1	0190 680 313	O-ring	OR 15.3x2.4
4	1	0190 680 303	O-ring	OR 5.3x2.4
5	1	0190 680 405	O-ring	OR 22.2x3
8	1	0334 278 880	Insert tube	
9	1	0334 279 001	Spiral	
22	1	0146 099 001	Plug	
23	1	0145 534 882	Contact tube	
24	1	0145 227 882	Gas nozzle	
25	1	0144 998 882	Water hose	
39	1	0040 979 804	Extension	L = 108, D20



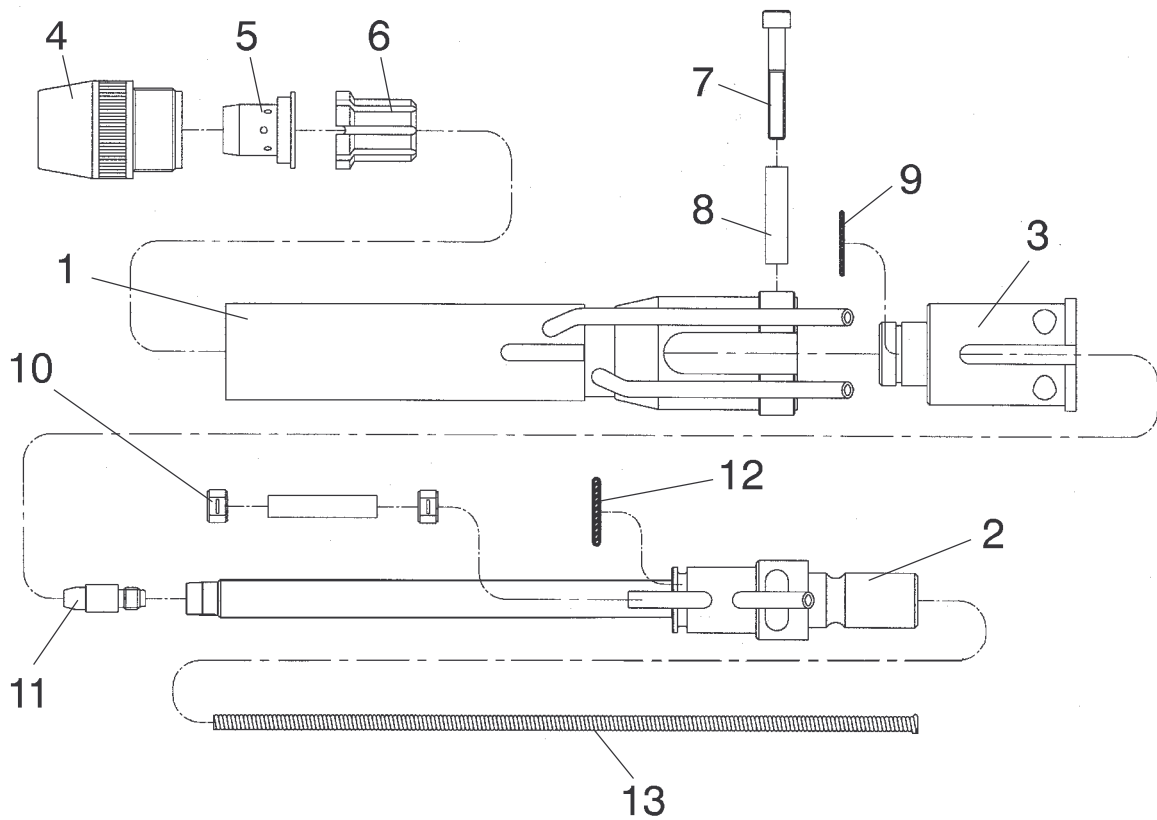
Item	Qty	Orderingno.	Denomination	Notes
		0461 238 881	Solenoid valve with cable	
2	1	0157 259 001	Contact	
3		0262 612 802	Cable	
7	3	0262 613 329	Cable	
11	1	0193 054 002	Solenoid valve	42 V
12	1	0194 269 002	Bushing	



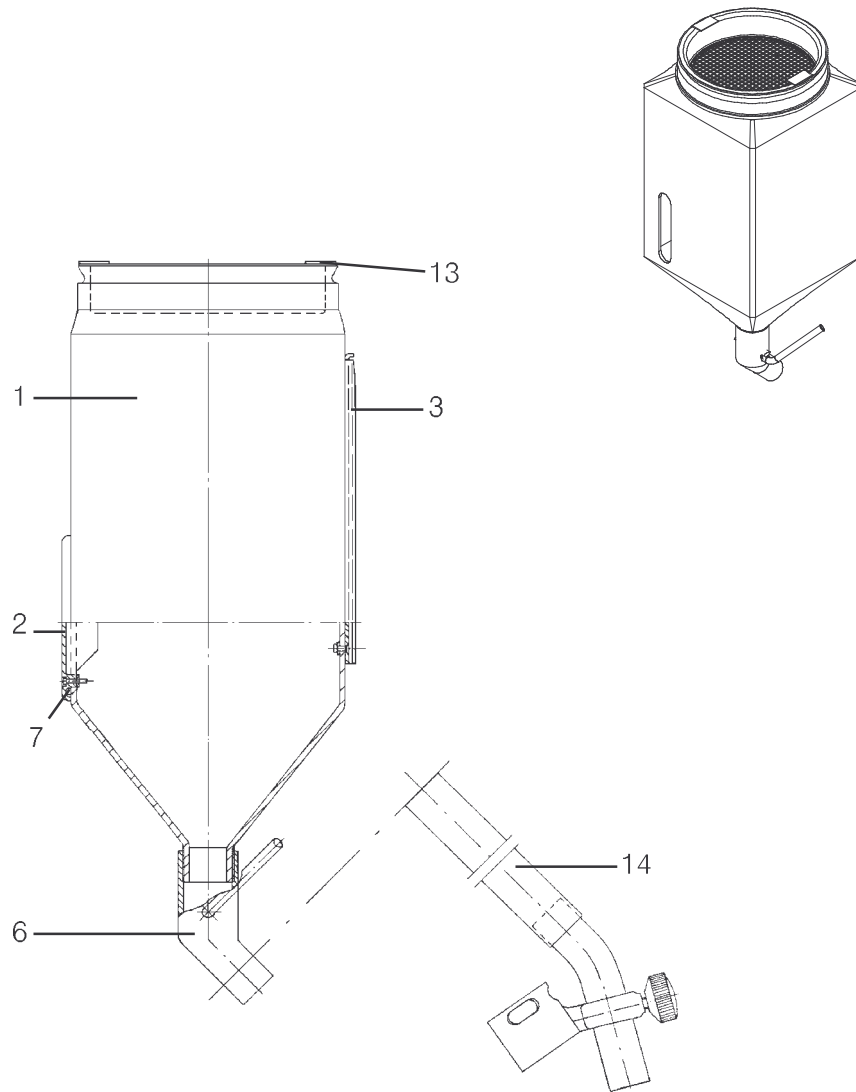
Item no.	Qty	Ordering no.	Denomination	Notes
		0457460881	Contact device	250 mm
1	1	0457457002	Cooling jacket	
2	1	0457455002	Contact tube	
3	1	0457456001	Insulation sleeve	
4	1	0457451001	Gas nozzle	
5	1	0457452001	Spatter protection	
6	1	0457453001	Centering sleeve	
7	1	0457617001	Allen screw	
8	1	0457459001	Insulation sleeve	
9	1	0457458001	O-ring	
10	1	0457616880	Water hose set	
11	1	0457625005	Contact tip	Ø1.2 (W)
	1	0457625007	Contact tip	Ø1.5 (W)
	1	0457625008	Contact tip	Ø1.6 (W)
	1	0457625009	Contact tip	Ø1.8 (W)
12		0457458002	O-ring	
13	1	0457454002	Wear insert (Steel spiral)	L = 260, wire Ø 1.0-1.6 mm (W)
	1	0457620002	Wear insert (Brass tube)	L = 258, wire Ø 2.0-2.4 mm (W)



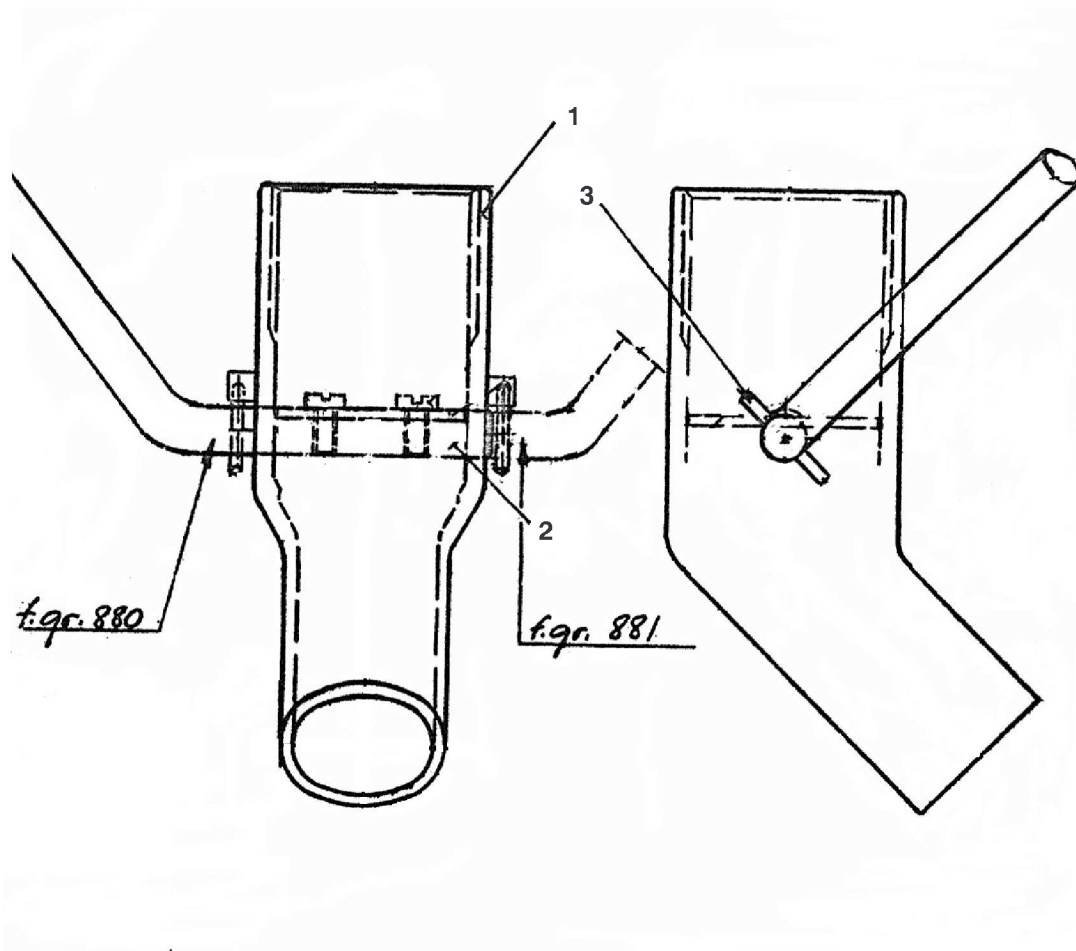
Item no.	Qty	Ordering no.	Denomination	Notes
		0457460882	Contact device	300 mm
1	1	0457457003	Cooling jacket	
2	1	0457455003	Contact tube	
3	1	0457456001	Insulation sleeve	
4	1	0457451001	Gas nozzle	
5	1	0457452001	Spatter protection	
6	1	0457453001	Centering sleeve	
7	1	0457617001	Allen screw	
8	1	0457459001	Insulation sleeve	
9	1	0457458001	O-ring	
10	1	0457616880	Water hose set	
11	1	0457625005	Contact tip	Ø1.2 (W)
	1	0457625007	Contact tip	Ø1.5 (W)
	1	0457625008	Contact tip	Ø1.6 (W)
	1	0457625009	Contact tip	Ø1.8 (W)
12		0457458002	O-ring	
13	1	0457454002	Wear insert (Steel spiral)	wire Ø 1.0-1.6 mm (W)
	1	0457619001	Wear insert (Teflon insert)	wire Ø 1.0-1.6 mm (W)
	1	0457619003	Wear insert (Teflon insert)	L=310, wire Ø 2.0-2.4 mm (W)
	1	0457620003	Wear insert (Brass tube)	L=308, wire Ø 2.0-2.4 mm (W)



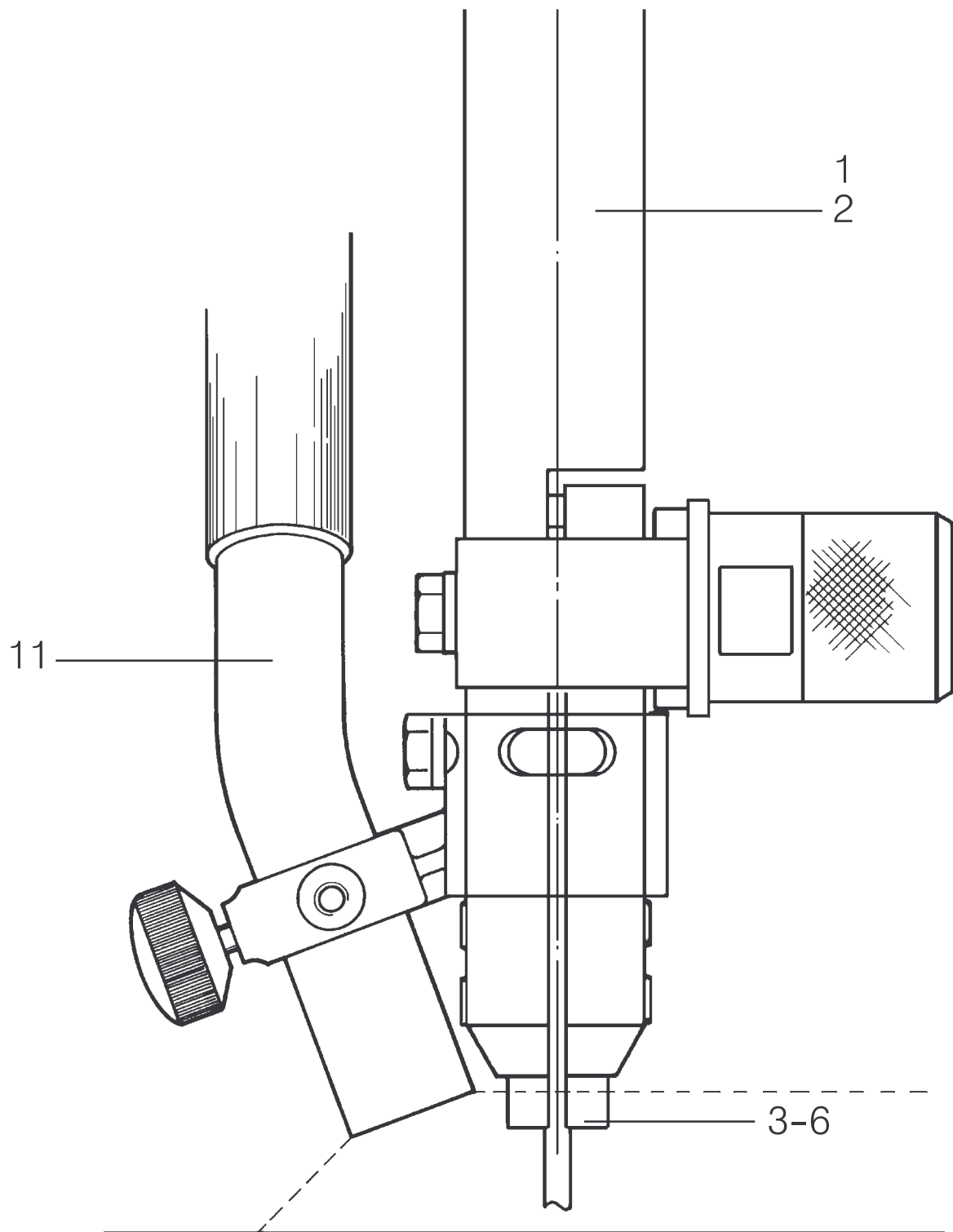
Item no.	Qty	Ordering no.	Denomination	Notes
		0147649882	Flux Hopper	10l
1	1	0154007002	Flux hopper	
3	1	0147645001	Mounting	
6	1	0153347880	Flux valve	
13	1	0020301780	Flux strainer	
14	1	0443383002	Flux hose	L=500



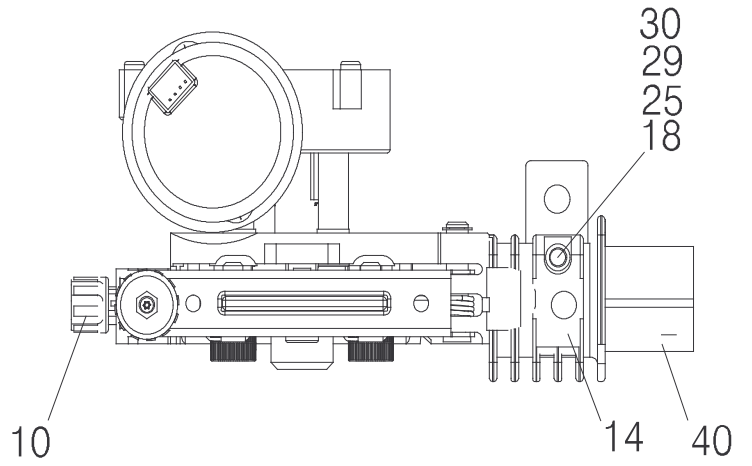
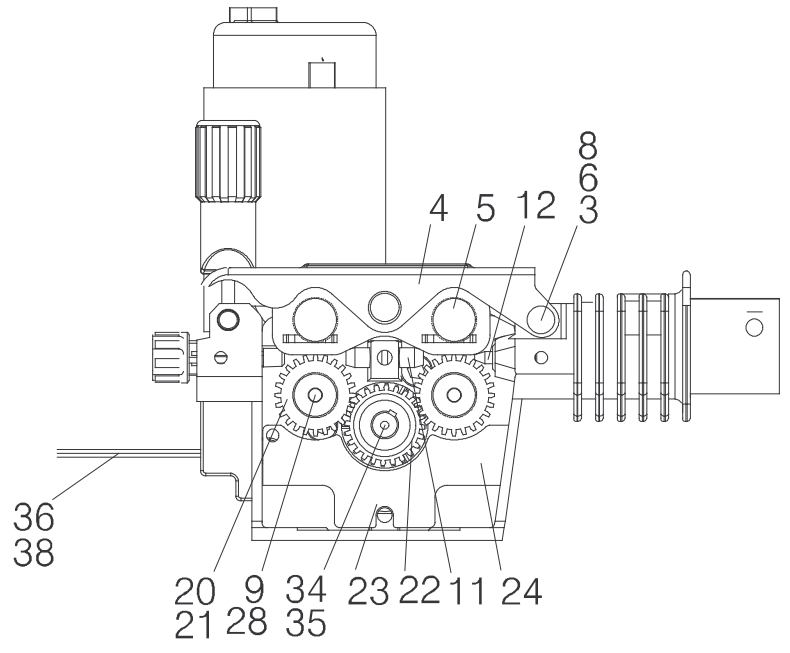
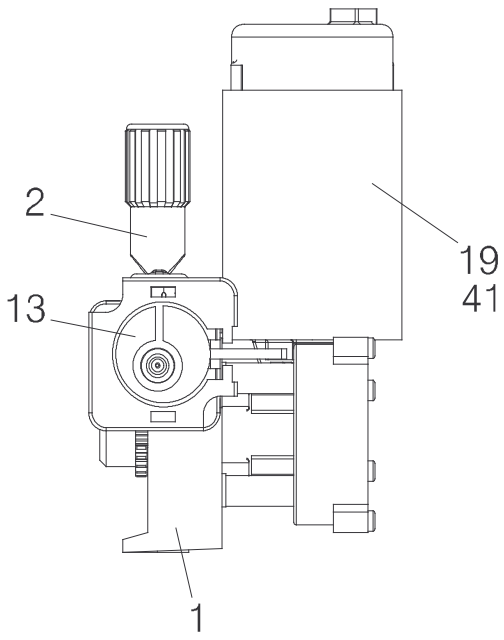
Item no.	Qty	Ordering no.	Denomination	Notes
		0153347880	Flux valve	
1	1	0153348001	Outlet	
2	1	0153349001	Shaft	
3	1	0211102938	Roll pin	d 3x20



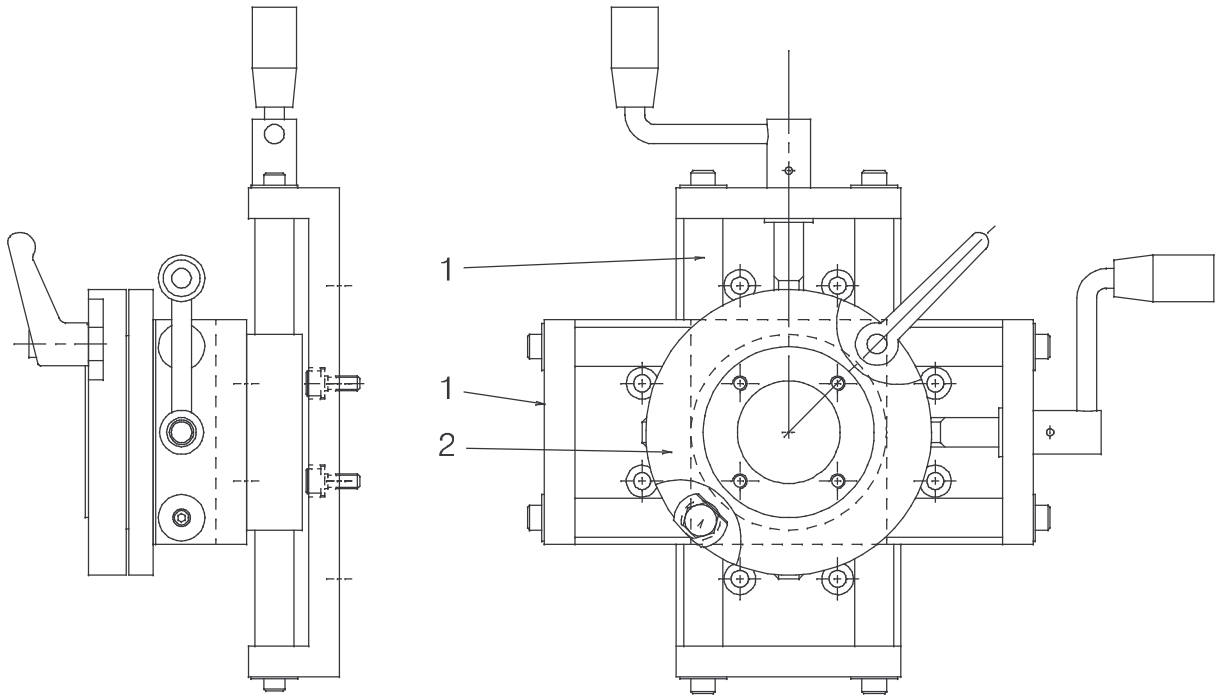
Item no.	Qty	Ordering no.	Denomination	Notes
		0334290884	Contact equipment single wire	D35
1	1	0417959882	Contact jaw tube	L=400
3	1	0265900880	Contact jaw	ø 3, L=58mm
4	1	0265900882	Contact jaw	ø 4, L=58mm
5	1	0265900883	Contact jaw	ø 5, L=58mm
6	1	0265900884	Contact jaw	ø 6
7	1	0218510298	Feed roller	ø 3
8	1	0218510286	Feed roller	ø 4
9	1	0218510287	Feed roller	ø 5
10	1	0218510288	Feed roller	ø 6
11	1	0153299880	Flux nozzle complete	



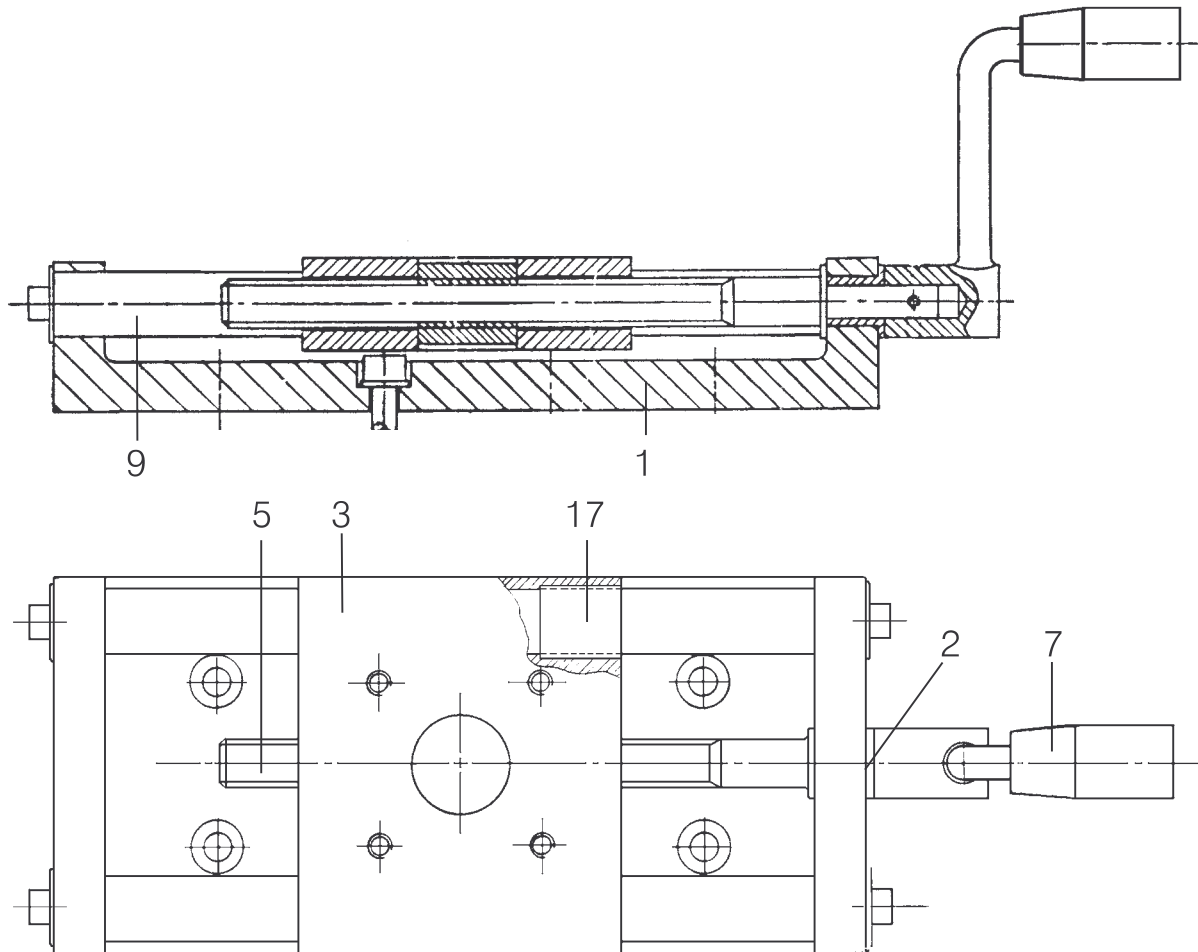
Item no.	Qty	Ordering no.	Denomination	Notes
		0456 424 902	Feed unit	EURO 4WD
1	1	0455 046 003	Gear housing	
2	1	0368 749 881	Pressure device	
3	1	0458 997 001	Shaft	
4	1	0459 001 880	Pressure arm	
5	2	0458 999 001	Shaft	
6	1	0458 993 001	Torsion spring	
8	4	0215 702 708	Locking washer	
9	2	0458 722 001	Shaft,feed roller	
10	1	0380 351 001	Wire guide nipple	
11	1	0455 072 001	Intermediate nozzle	
12	1	0469 837 880	Outlet nozzle	
13	1	0457 365 001	Current connection	
18	1	0455 048 001	Insulating tube	
19	1	0455 077 003	Drive unit	
21	4	0459 441 880	Adapter	
22	1	0459 440 001	Motor gear	
23	4		Screw	m6x16, mrt ground-cutter
24	1	0469 838 001	Cover	
25	1		Nut	m6
28	2		Locking nut	m6
29	1		Screw	m6x40 stål 8.8 f
30	1		Washer	12x6,4x1,5
34	1		Screw	m4x12
35	1	0193 104 002	Rivet washer	d16/5x1
40	1		Screw	m8x25
41	3		Screw	m6x16
44	1	0459 055 001	Pin bolt	
45	1		Screw	m3x12



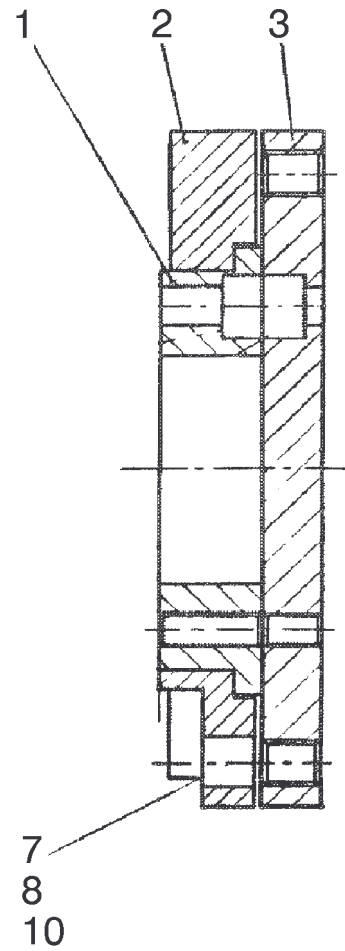
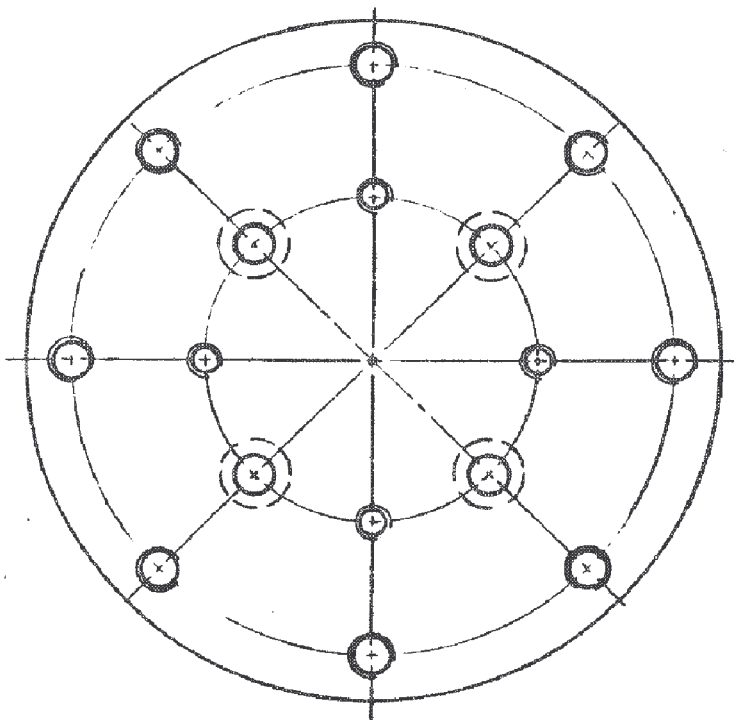
Item no.	Qty	Ordering no.	Denomination	Notes
		0449 152 880	Slide travel kit	Manual
1	2	0413 518 880	Slide	90 mm
2	1	0413 506 880	Circular slide	



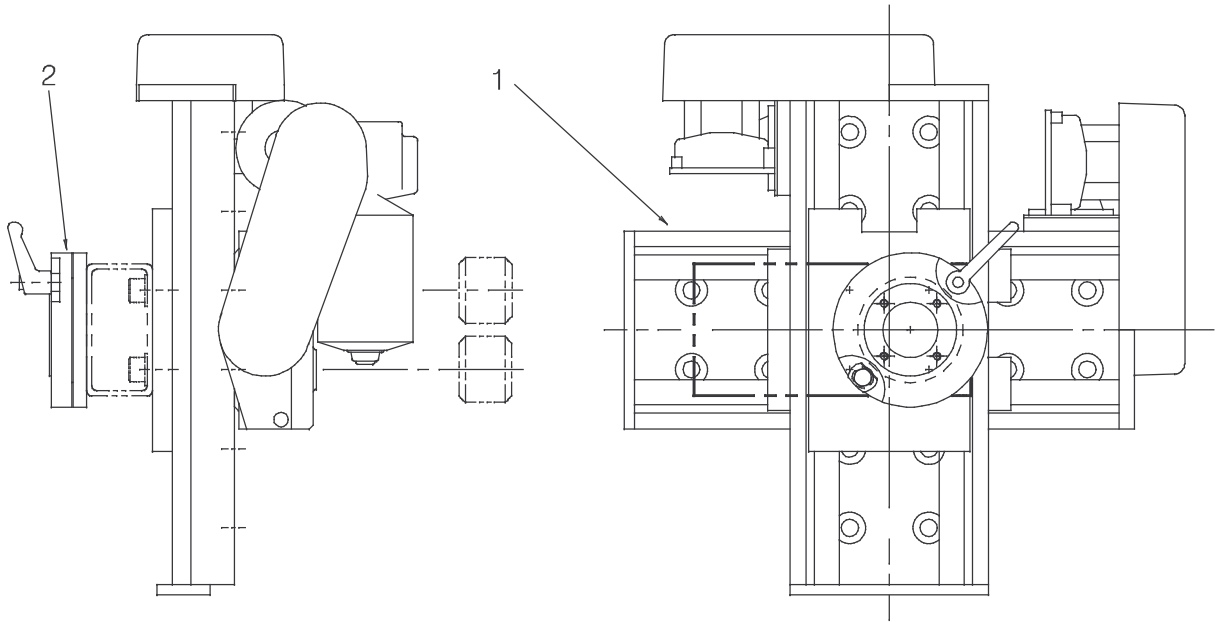
Item	Qty	Orderingno.	Denomination	Remarks
		413 518-880	Slide	
1	1	413 519-001	Slide profile	
2	1	413 524-001	Bearing bushing	
3	1	413 521-001	Runner	
5	1	413 522-001	Lead screw	
7	1	334 537-002	Crank	
9	2	413 523-001	Axis	
17	4	190 240-107	Bearing	



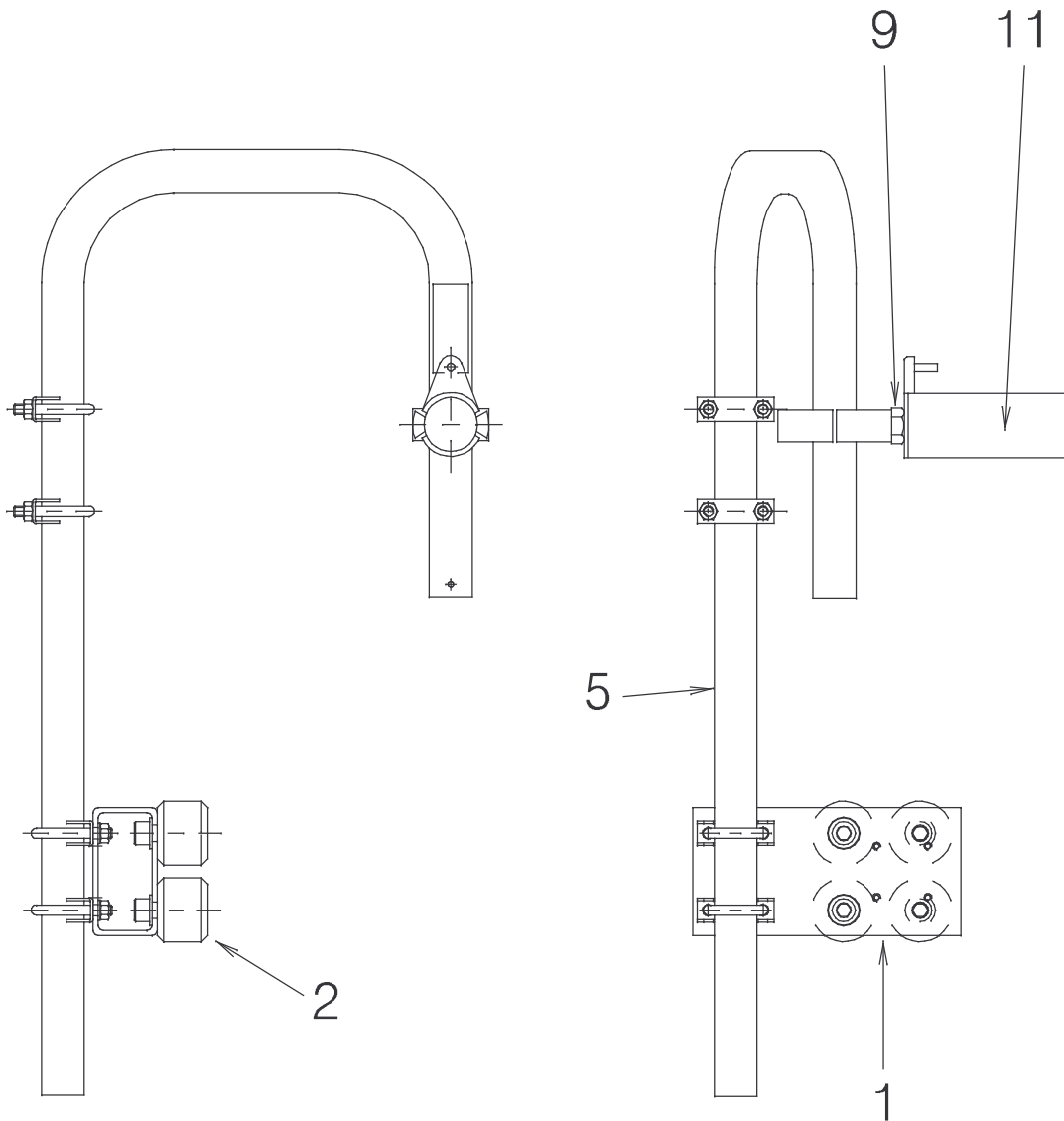
Item no.	Qty	Ordering no.	Denomination	Notes
		413 506-880	Rotary slide	
1	1	413 507-001	Flange	
2	1	413 508-001	Tensioning ring	
3	1	413 509-001	Flange	
7	2	2195 043-05	Bellville spring	
8	1	193 571-105	Locking piece	
10	1	193 570-123	Locking lever	



Item no.	Qty	Ordering no.	Denomination	Notes
		0449 151 880	Motorised Slide kit	
1	2	0334 333 882	Motorised Slide	180 mm
2	1	0413 506 880	Circular slide	



Item no.	Qty	Ordering no.	Denomination	Notes
		0449 155 880	Carrier	
1	1	0413 9G6 001	Attachment	2000 V
2	4	0278 300 180	Insulator	
5	1	0413 853 001	Mounting arm	
9	2	0154 734 001	Clamp	
11	1	0146 967 880	Brake hub	



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