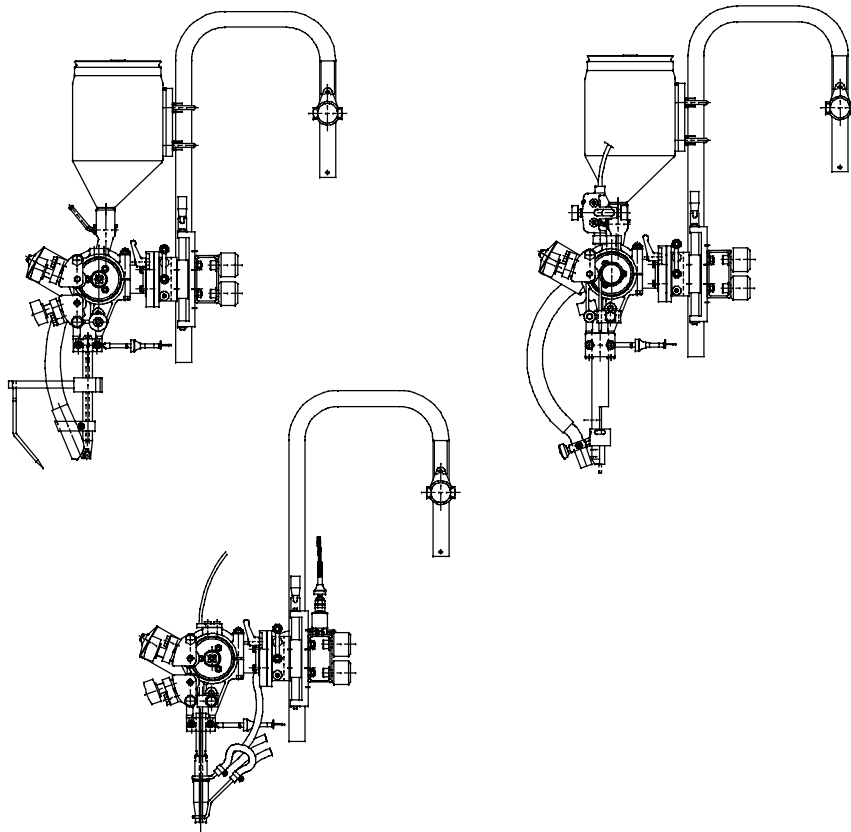


# ***A2 Welding heads with Welding Control Unit PEI A2 SF / A2 SF (Twin) / A2 SG***



**Instruction manual**

## DECLARATION OF CONFORMITY

Esab Welding Equipment AB, S-695 81 Laxå, Sweden, gives its unreserved guarantee that welding head A2 SF / A2 SG / A2 SG 4WD from serial number 136 complies with standard EN 60292 and EN 60204, in accordance with the requirements of directive (89/392/EEC) and addendum (93/68/EEC).

---

Laxå 2001-11-01



Göran Palmqvist  
Design Manager, Automation & Engineering  
Esab Welding Equipment AB  
695 81 LAXÅ  
SWEDEN

Tel: + 46 584 81000

Fax: + 46 584 411721

<b>1 SAFETY</b> .....	<b>4</b>
<b>2 INTRODUCTION</b> .....	<b>6</b>
2.1 General .....	6
2.2 Welding Method .....	6
2.3 Definitions .....	6
2.4 Technical Data .....	7
2.5 Main components A2 SF (SAW) .....	8
2.6 Main components A2 SF (SAW, Twin) .....	8
2.7 Main Components A2 SG (MIG/MAG) .....	9
2.8 Description of Main Components .....	10
<b>3 INSTALLATION</b> .....	<b>11</b>
3.1 General .....	11
3.2 Mounting .....	11
3.3 Adjusting the brake hub .....	12
3.4 Connections .....	13
<b>4 OPERATION</b> .....	<b>15</b>
4.1 General .....	15
4.2 Loading the welding wire (A2 SF, A2 SG) .....	16
4.3 Changing the feed roller (A2 SF, A2 SG) .....	18
4.4 Contact equipment for Submerged arc welding .....	19
4.5 Contact equipment for MIG/MAG welding .....	20
4.6 Refilling with flux powder (Submerged arc welding) .....	21
4.7 Conversion of A2 SF (Submerged arc welding) to MIG/MAG welding .....	21
4.8 Conversion of A2 SF (Submerged arc welding) to Twin-arc .....	21
<b>5 MAINTENANCE</b> .....	<b>22</b>
5.1 General .....	22
5.2 Daily .....	22
5.3 Regularly .....	22
<b>6 FAULT TRACING</b> .....	<b>23</b>
6.1 General .....	23
6.2 Possible faults .....	23
<b>7 ACCESSORIES</b> .....	<b>24</b>
<b>8 ORDERING OF SPARE PARTS</b> .....	<b>24</b>
<b>DIMENSION DRAWING</b> .....	<b>25</b>
<b>SPARE PARTS LIST</b> .....	<b>29</b>

---

# 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.
  - 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.



# 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 A2 Welding Control Unit (**PEI**) and ESAB's welding power source **LAF**.

### 2.2 Welding Method

#### 2.2.1 Submerged Arc Welding (SAW)

For submerged arc welding the **A2 SF** 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 the **A2 SG** welding head is 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

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

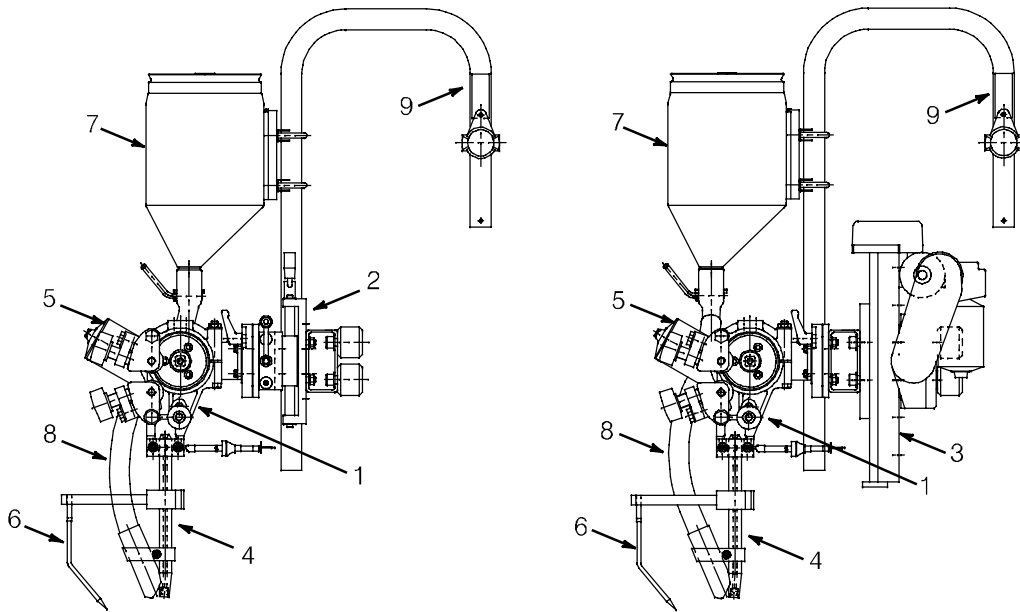
## 2.4 Technical Data

### 2.4.1 Welding head A2 SF and A2 SG

	A2 SF (SAW)	A2 SG (MIG/MAG)
<b>Rated load 100%</b>	800A AC/DC	600A AC/DC
<b>Wire dimensions:</b>		
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
twin wire	2x1.2–2.0 mm	–
<b>Wire feed speed</b>	0.2–9.0 m/min	0.2–16 m/min
<b>Brake drum braking torque</b>	1.5 Nm	1.5 Nm
<b>Max weight, wire</b>	2x30 kg	2x30 kg
<b>Flux hopper capacity</b> (Not to be filled with preheated flux)		
Capacity:	6 l	–
Max. temperature plastic flux hopper:	80° C	–
<b>Weight (flux and wire excluded)</b>		
with hand-operated linear slides	23 kg	23 kg
with motor-driven linear slides	45 kg	44 kg
<b>Sideways tilt, max.</b>	25°	25°
<b>Setting length of the slide*</b>		
hand-operated	90 mm	90 mm
motor-driven	180 mm	180 mm

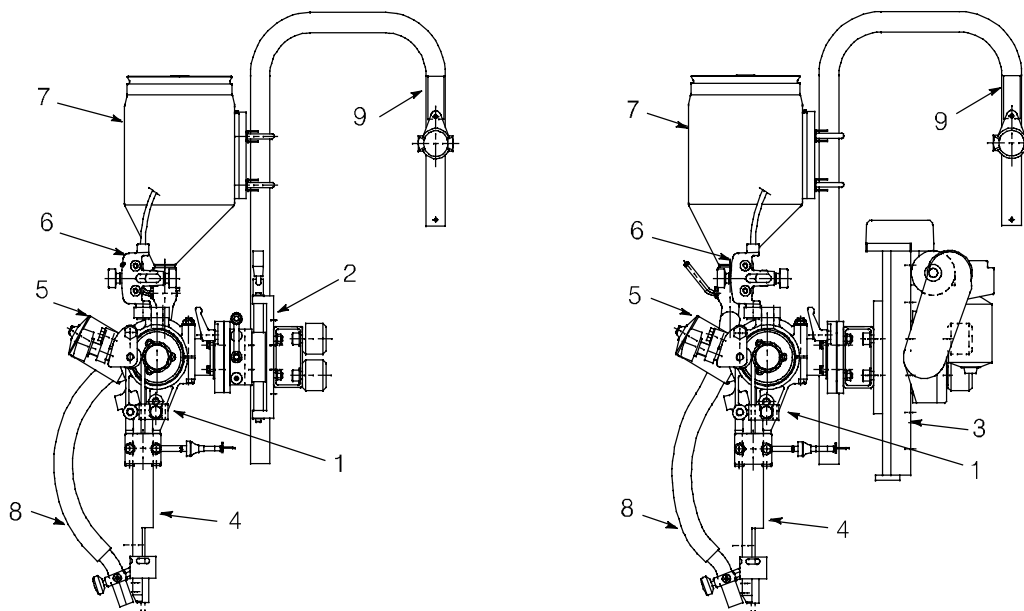
\*) NB. Available in other lengths on request.

## 2.5 Main components A2 SF (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 A2 SF (SAW, Twin)

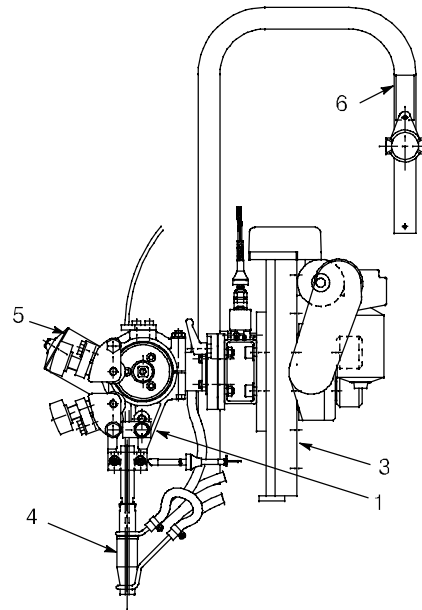
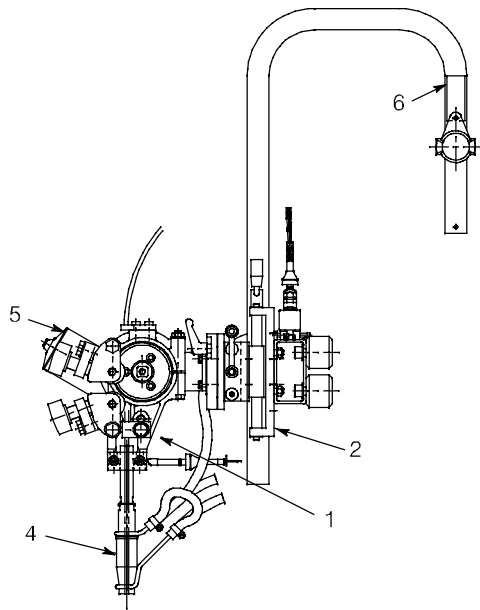


- |                         |                        |                          |
|-------------------------|------------------------|--------------------------|
| 1. Wire feed unit       | 4. Connector (Twin)    | 7. Flux hopper           |
| 2. Slide kit, manual    | 5. Wire feed motor     | 8. Flux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

See on page 10 for a description of the main components.



## 2.7 Main Components A2 SG (MIG/MAG)



- |                         |                          |
|-------------------------|--------------------------|
| 1. Wire feed unit       | 4. Connector (MIG/MAG)   |
| 2. Slide kit, manual    | 5. Wire feed motor       |
| 3. Slide kit, motorized | 6. Carrier for wire drum |

See on page 10 for a description of the main components.

## **2.8 Description of Main Components**

### **2.8.1 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.

### **2.8.2 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.

### **2.8.3 Contact Tube / Connector**

Transfers welding current to the wire during welding.

### **2.8.4 Wire Feed Motor**

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

### **2.8.5 Guide Pin**

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

### **2.8.6 Fine-wire straightener**

The unit is used for the straightening of fine wire.

### **2.8.7 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 21.


### **2.8.8 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.*

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

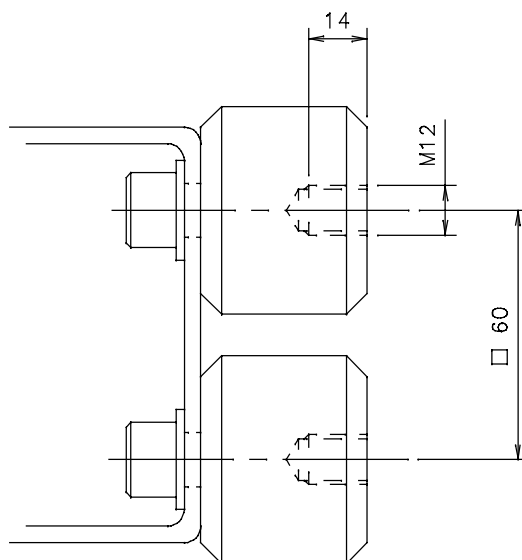
### 3.2 Mounting

#### 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.

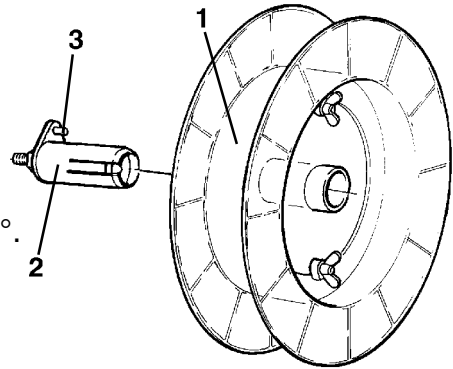
This safety sign is placed on the cover of the vertical slide.



### 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

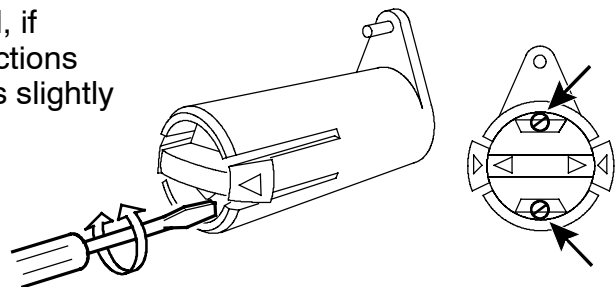
To prevent the reel sliding off the hub:

- 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.

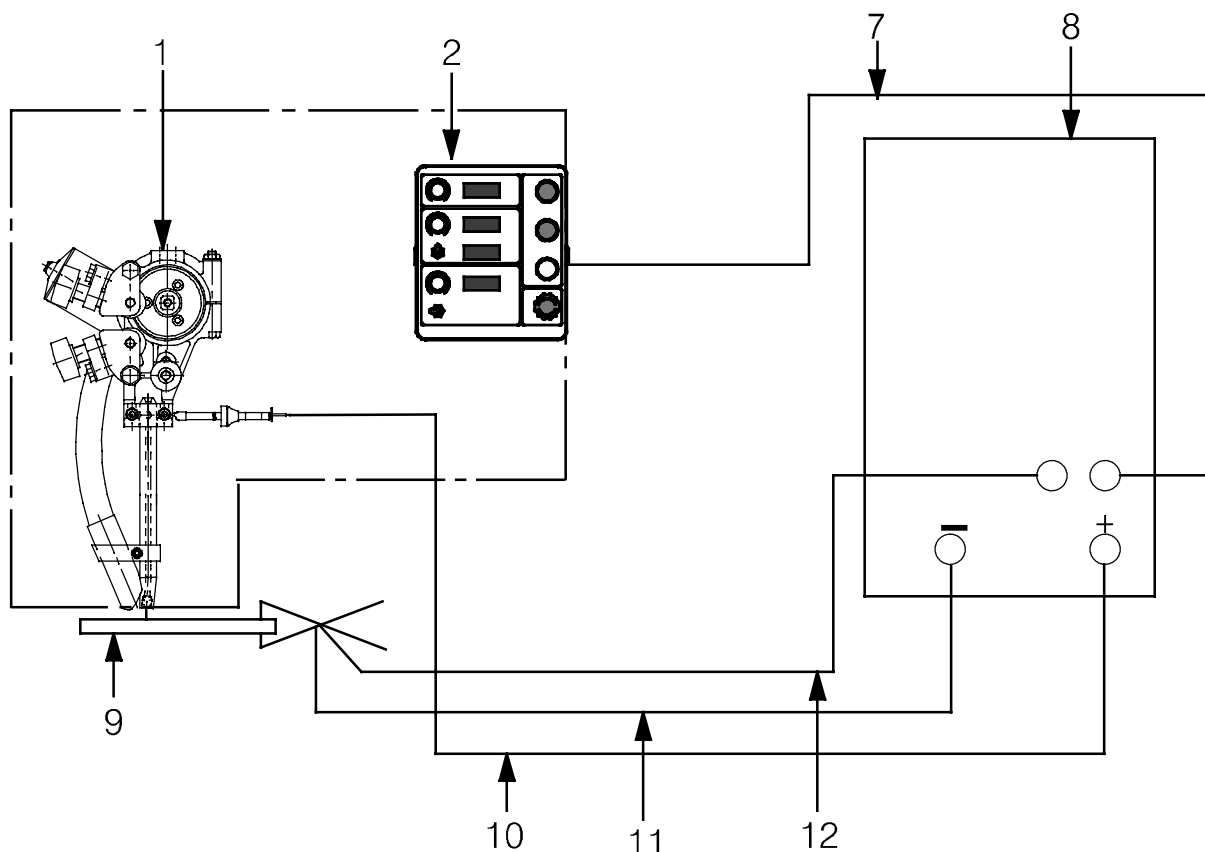
### 3.4 Connections

#### 3.4.1 General

- The A2 Welding Control Unit (**PEI**) is to be connected by a qualified person.
- For the connection of **A6 GMH**, see instruction manual 0460 671 xxx.
- For the connection of **A6 PAV**, see instruction manual 0460 670 xxx.

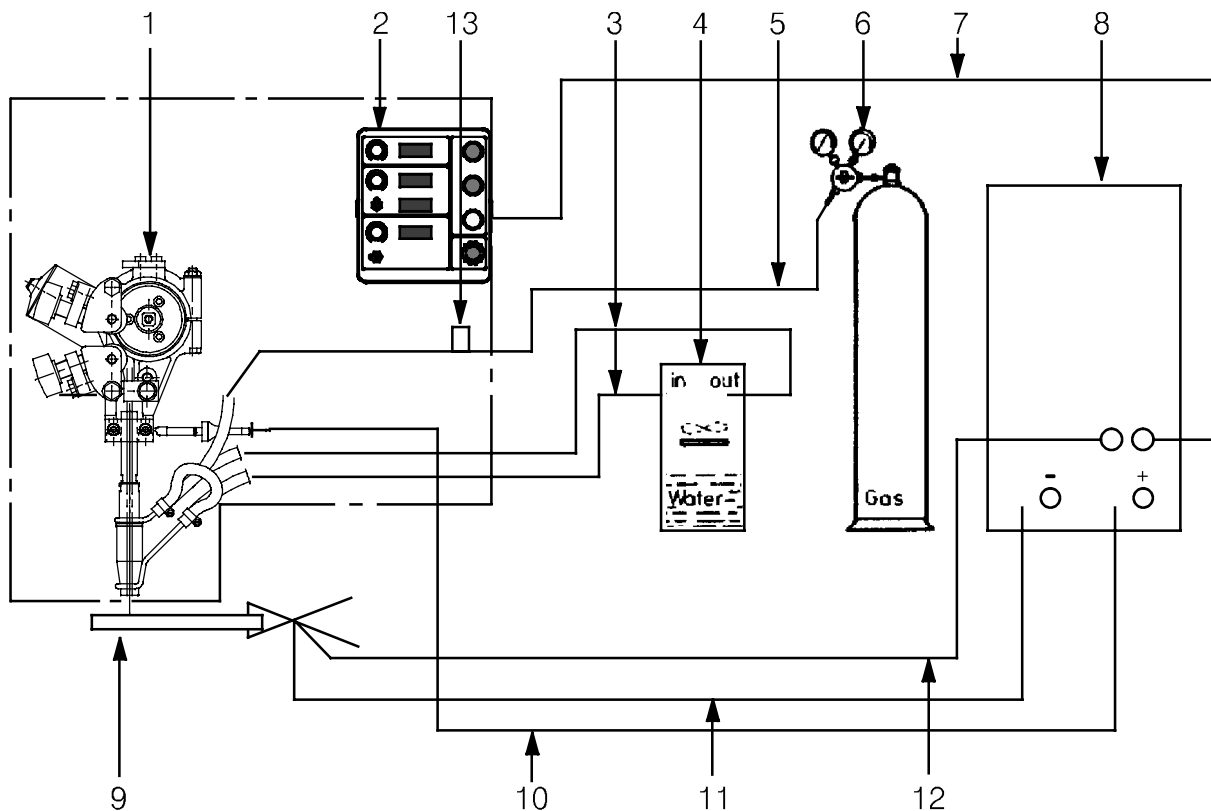
#### 3.4.2 Welding head A2 SG (Submerged arc welding, SAW)

1. Connect the control cable (**7**) between the welding power source (**8**) and the A2 Welding Control Unit (**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 A2 SG (Gas metal arc welding, MIG/MAG)

1. Connect the control cable (7) between the welding power source (8) and the A2 Welding Control Unit (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



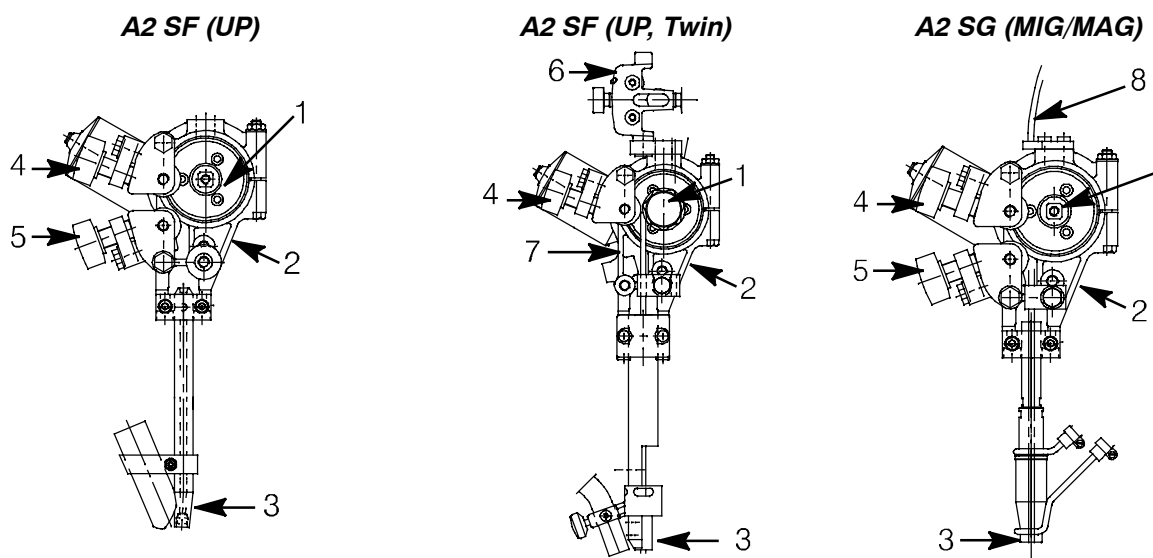
**Caution:**

*Have you read and understood the safety information ?  
You must not operate the machine before then !*

***General safety regulations for the handling of the equipment can be found on page 4. Read through before you start using the equipment!***

- Select wire type and flux powder or shielding gas so that the weld material is as close as possible to the analysis of the base metal.
- Select wire size and welding data in accordance with the values recommended by the welding materials supplier.
- Thorough preparation of the weld surfaces is necessary to achieve a good weld.  
**NOTE!** The width of the weld joint gap must be uniform.
- To minimise the risk of heat crack formation, the width of the weld must be greater than the penetration depth.
- Always carry out a test weld with the same joint type and sheet thickness as the production work piece.
- For control and adjustment of the automatic welding machine and welding power supply, see the instruction manual for the A2 Welding Control Unit (**PEI**).

## 4.2 Loading the welding wire (A2 SF, A2 SG)



1. Mount the wire drum according to the instructions on page 12.
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 A2 SF (Twin) and A2 SG:
  - 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.



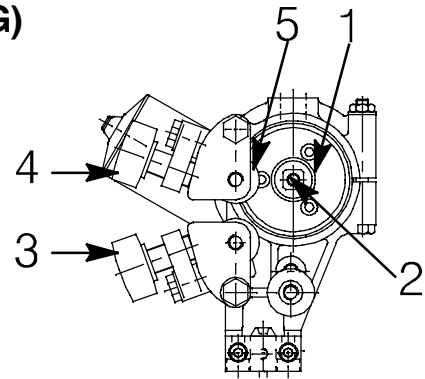


8. Feed the wire forward 30 mm with  on the control box A2 Welding Control Unit (**PEI**).
  9. Direct the wire by adjusting the knob (**5**).
- 
- **Always** use a guide tube (**7**) to ensure even feed of fine wire (1.6 – 2.5 mm).
  - For MIG/MAG welding with wire sizes < 1.6 mm, use a guide spiral, which is inserted in the guide tube (**7**).

### 4.3 Changing the feed roller (A2 SF, A2 SG)

#### 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.

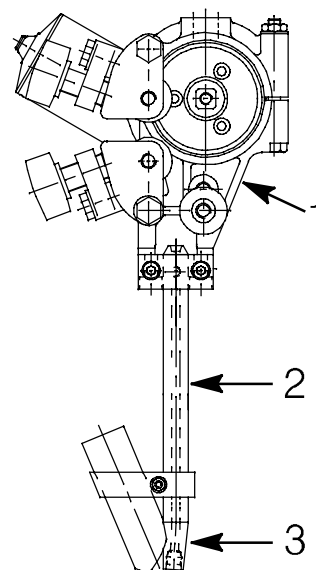
## 4.4 Contact equipment for Submerged arc welding

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

Use welding head A2 SF (UP) 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.

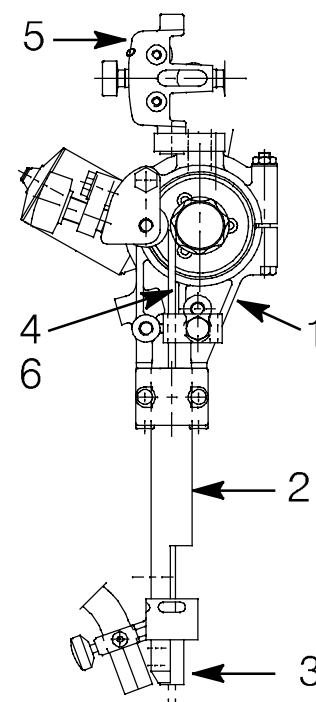


### 4.4.2 For twin wires 2 x 1.2 - 2.0 mm, Light Twin (D35)

Use welding head A2 SF (UP) 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.



### 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.

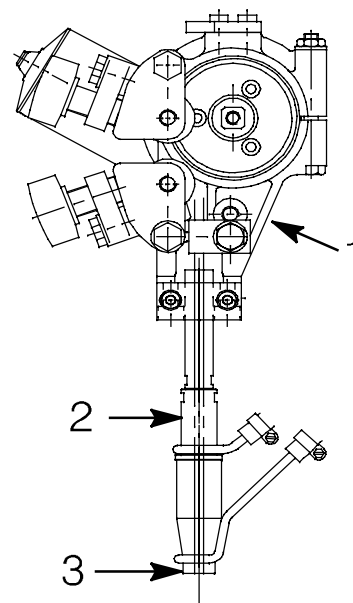
## 4.5 Contact equipment for MIG/MAG welding

### 4.5.1 For single wire 1.6 - 2.5 mm (D35)

Use welding head A2 SG (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.

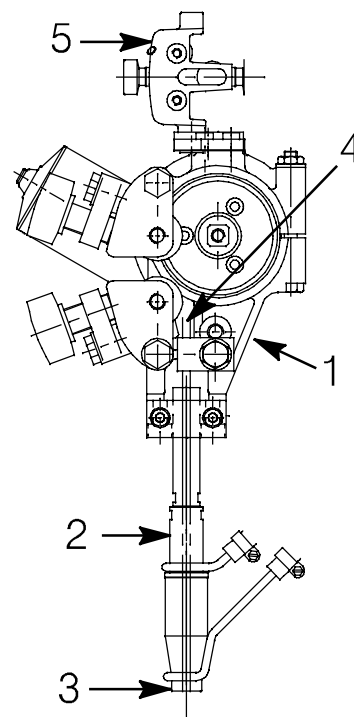


### 4.5.2 For single wire < 1.6 mm (D35)

Use welding head A2 SG (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).

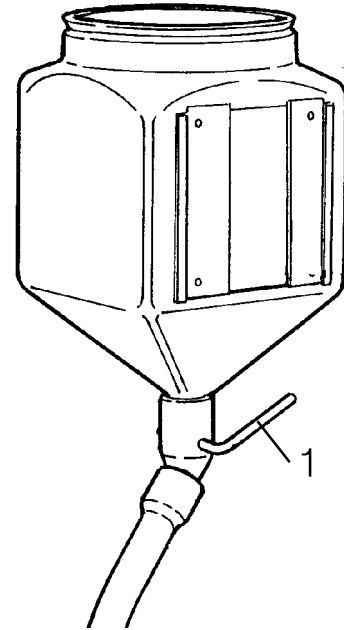
#### **4.6 Refilling with flux powder (Submerged arc welding)**

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. Where possible avoid using agglomerating flux powder outdoors and in damp environments.

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.



#### **4.7 Conversion of A2 SF (Submerged arc welding) to MIG/MAG welding**

For the conversion kit see instruction manual 0456 756 xxx.

#### **4.8 Conversion of A2 SF (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 A2 Welding Control Unit (**PEI**), see the instruction manual 0449 331 xxx.

### 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 12.

### 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 29).
- 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 A2 Welding Control Unit (*PEI*).

#### 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** Pressure on feed rollers incorrectly set.

**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**

<b>Denomination</b>	<b>Ordering no.</b>
<b>Fine-wire straightener</b>	0332 565 880
<b>Conversion kit A2 SF to MIG/MAG welding</b>	0413 526 881
<b>Conversion kit A2 SF to Twin with fine-wire straightener (LD)</b>	0413 541 882
<b>Pilot lamp (D20)</b>	0153 143 886
<b>Adapter M6/M10</b>	0147 333 001
To use preheated powder, the standard plastic flux hopper can be exchanged for one made of silumin alloy.	
<b>Flux hopper of silumin alloy, 6 l</b>	0413315 881

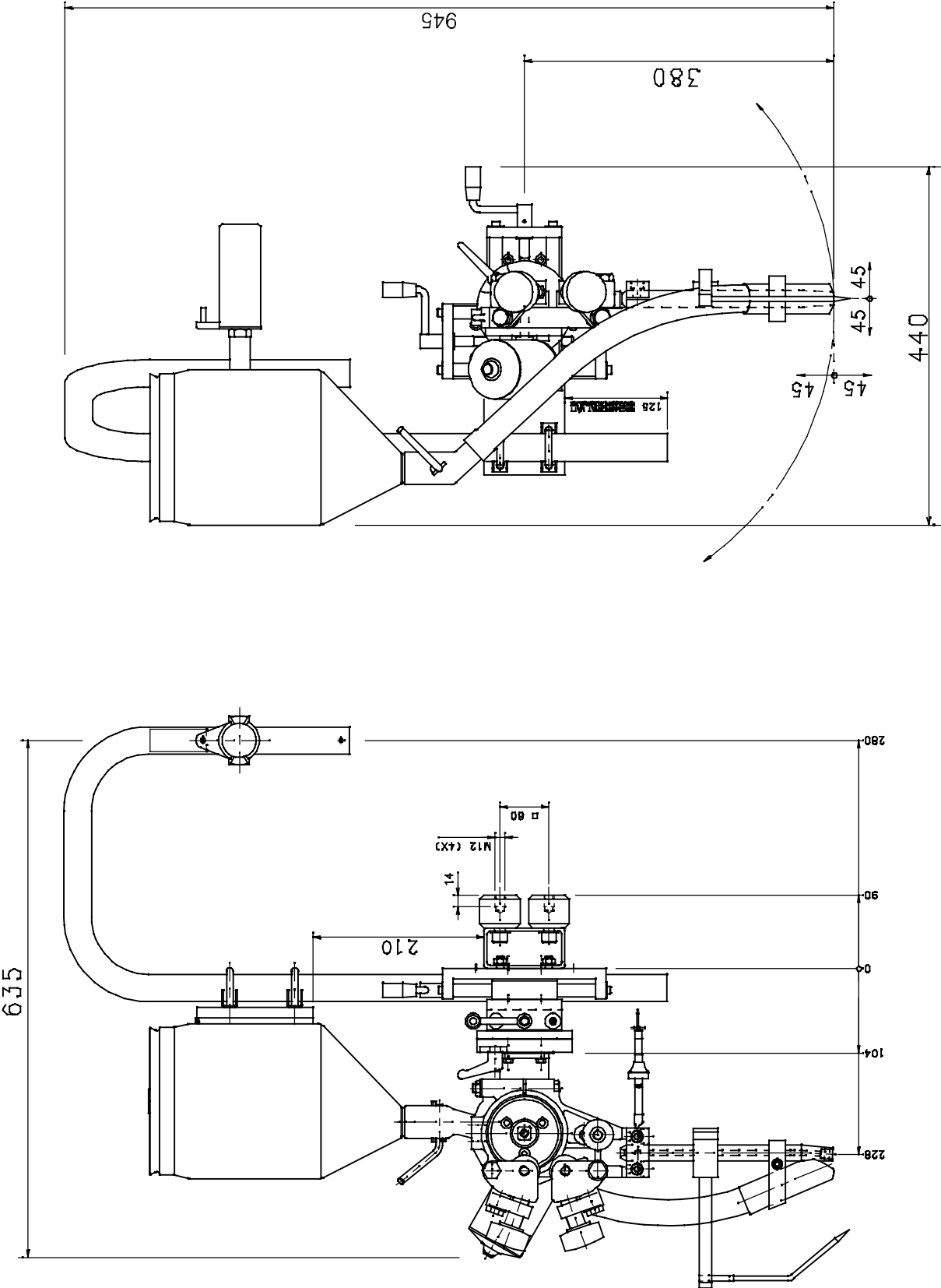
## **8 ORDERING OF SPARE PARTS**

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 29. This will simplify dispatch and ensure you get the right part.

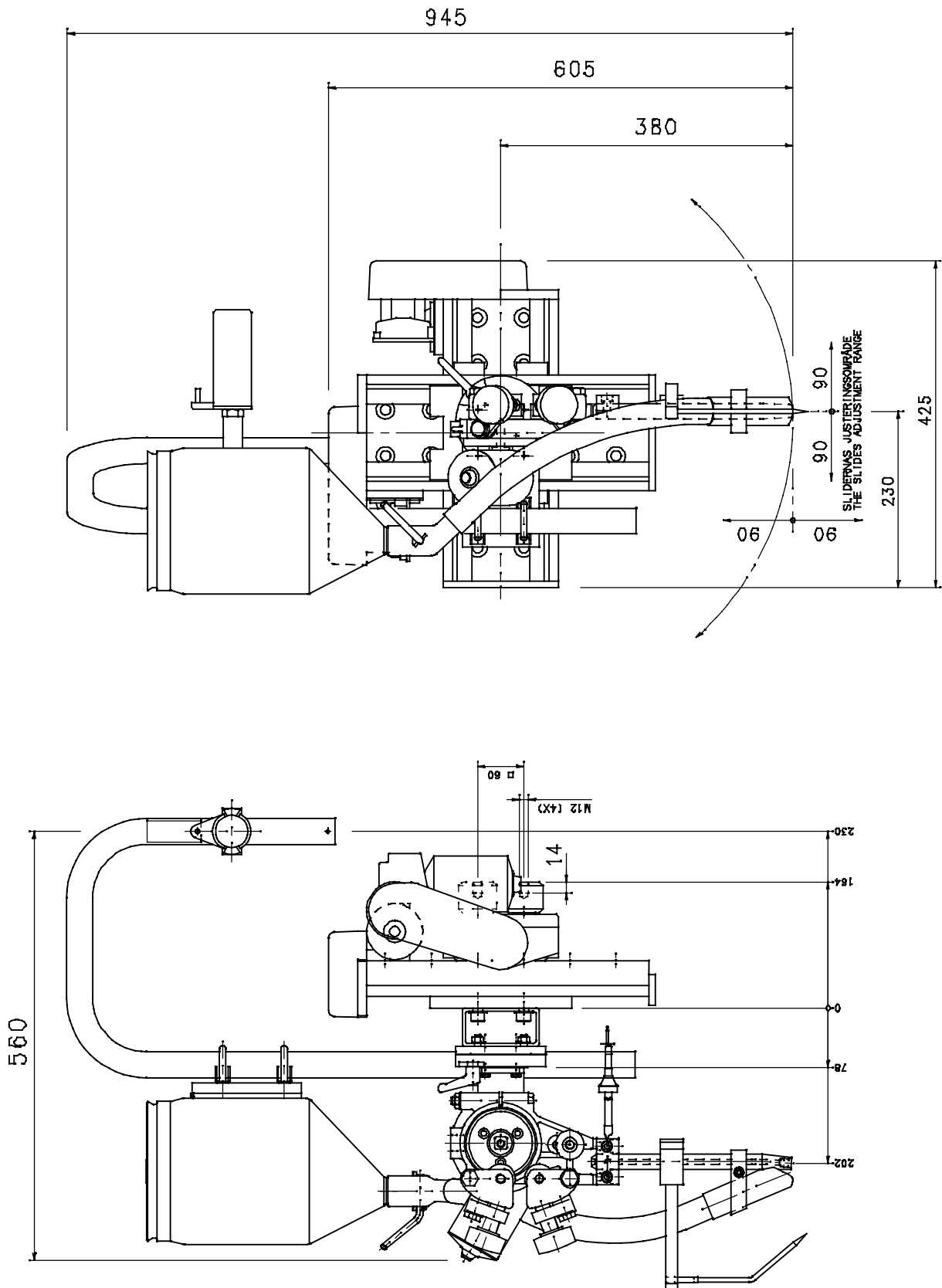


Dimension drawing

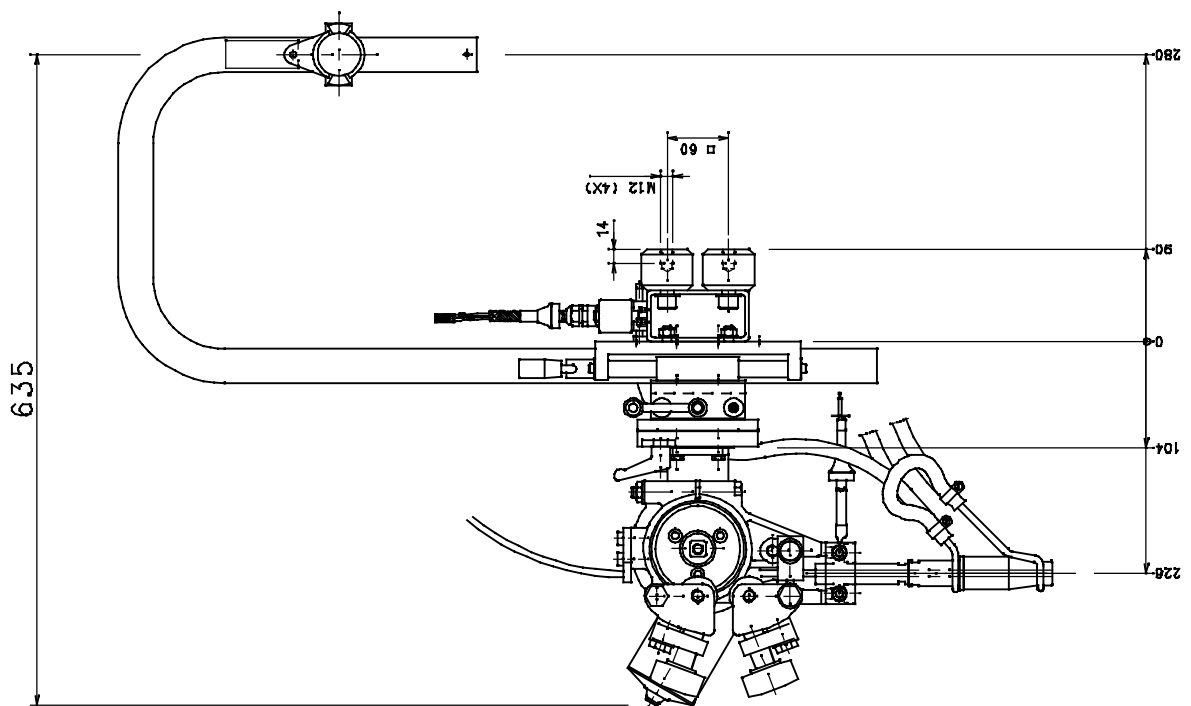
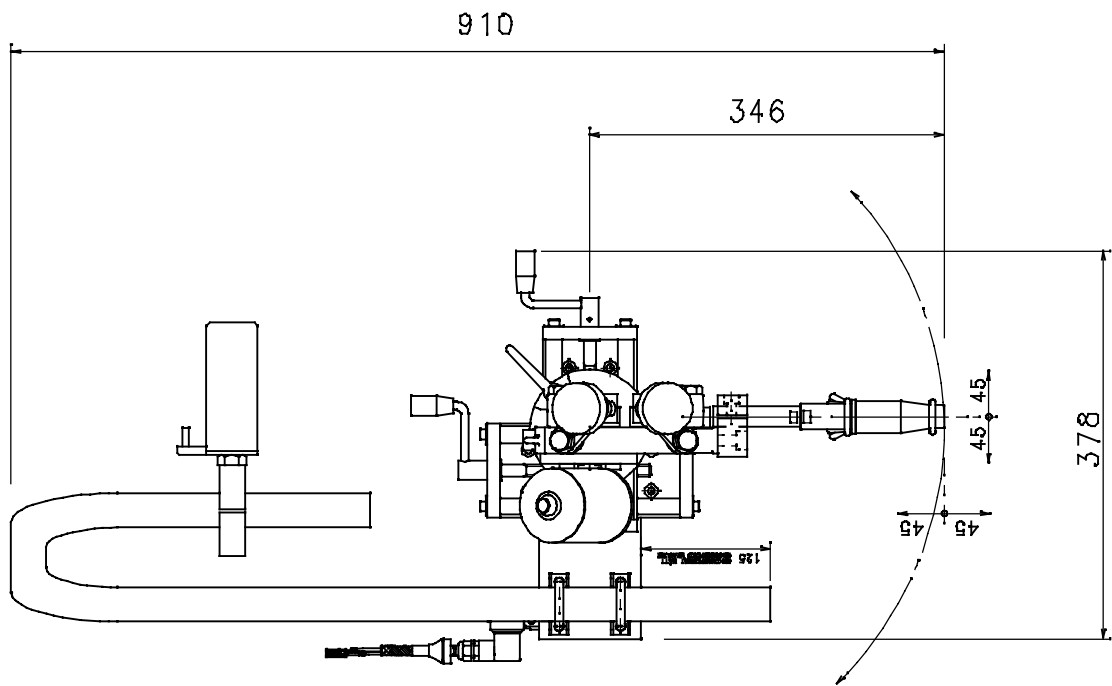
A2 SF, Manual Slide kit



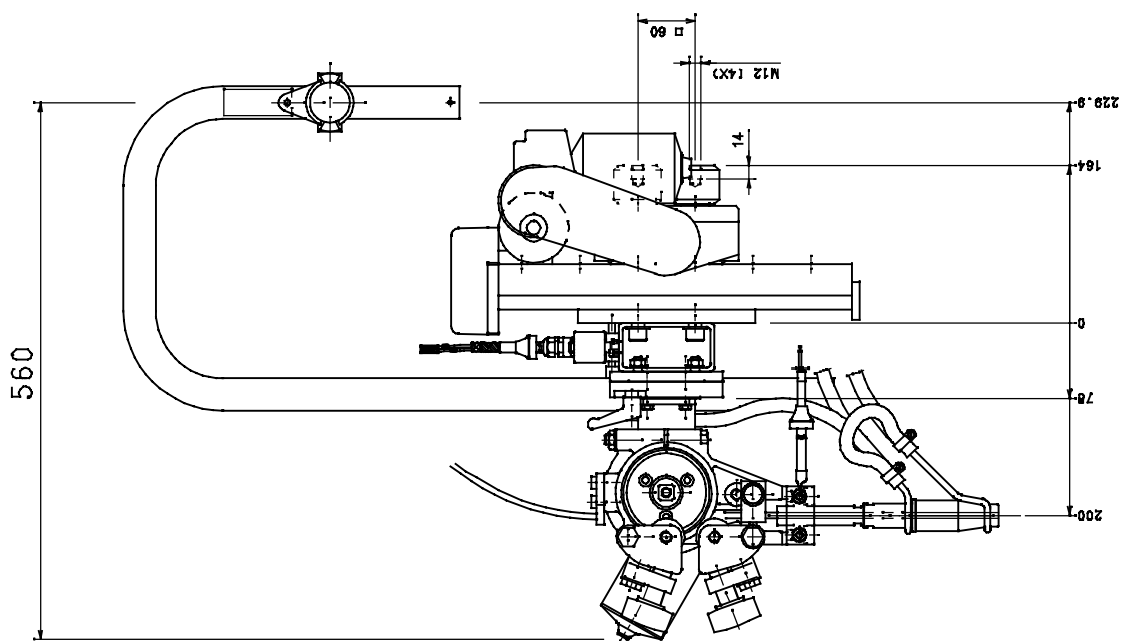
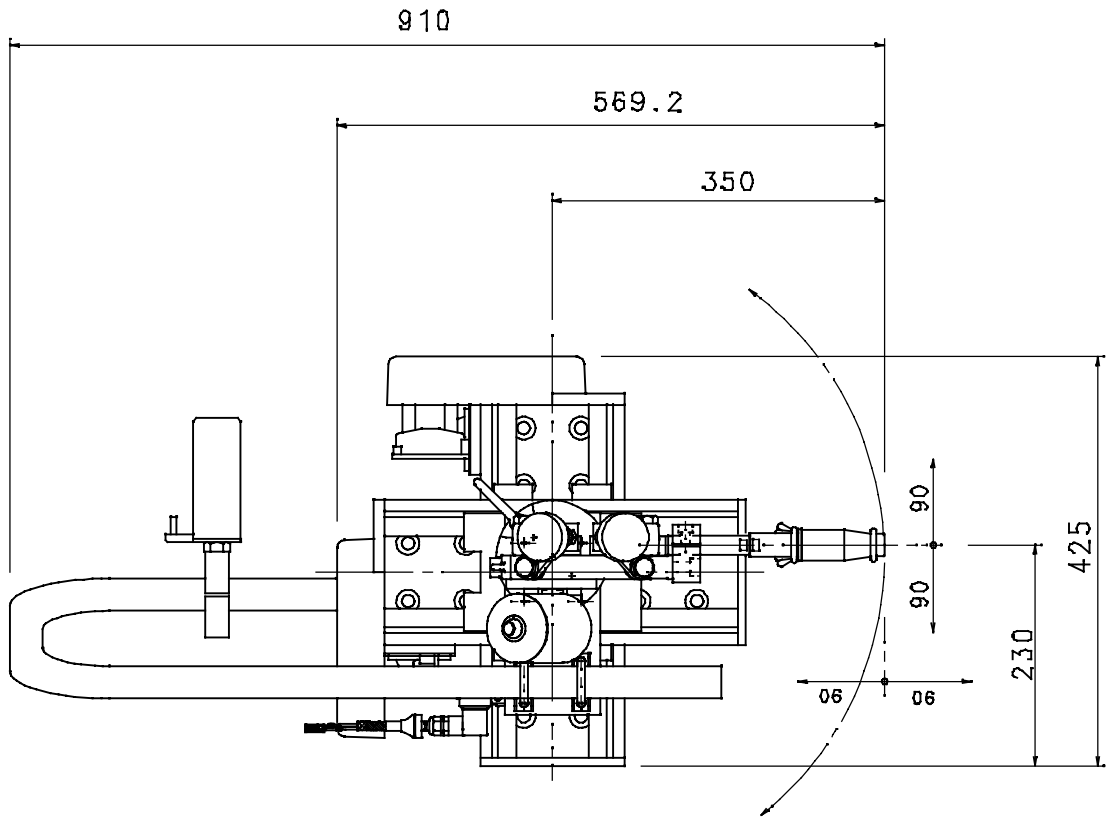
# A2 SF, Motorized Slide kit



# A2 SG, Manual Slide kit

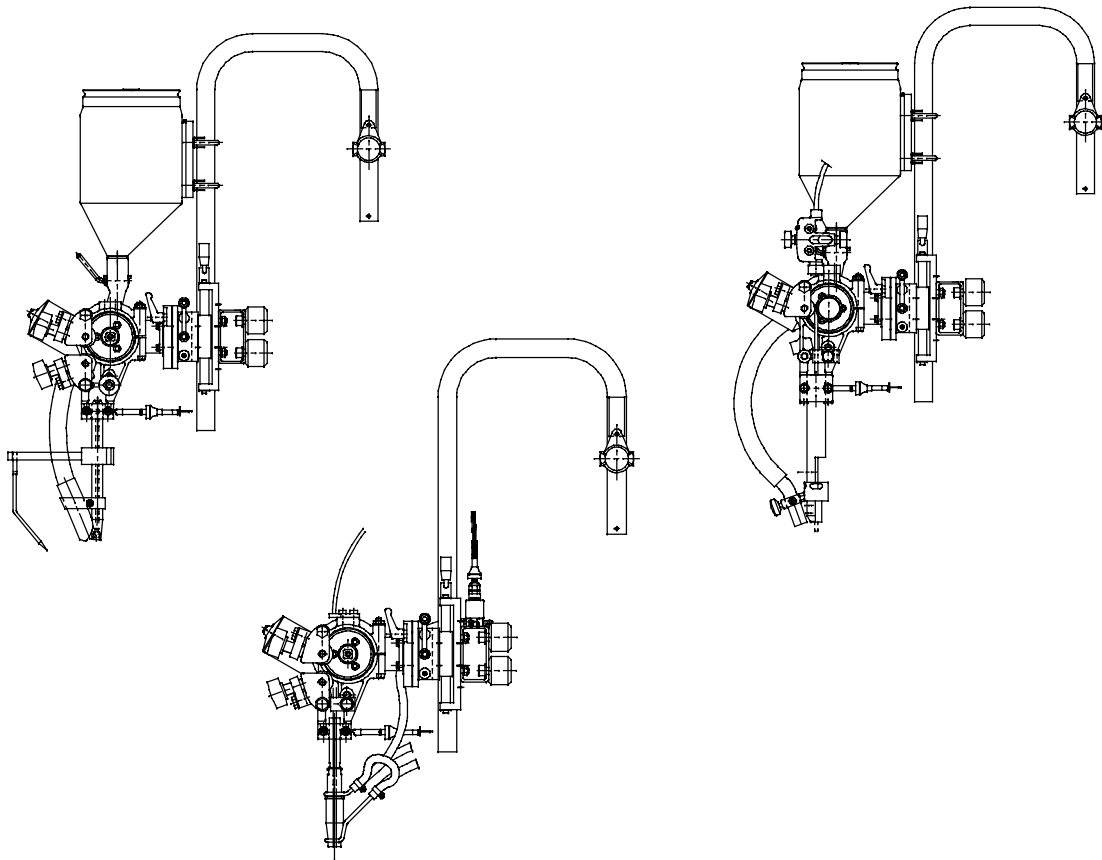


# A2 SG, Motorized Slide kit



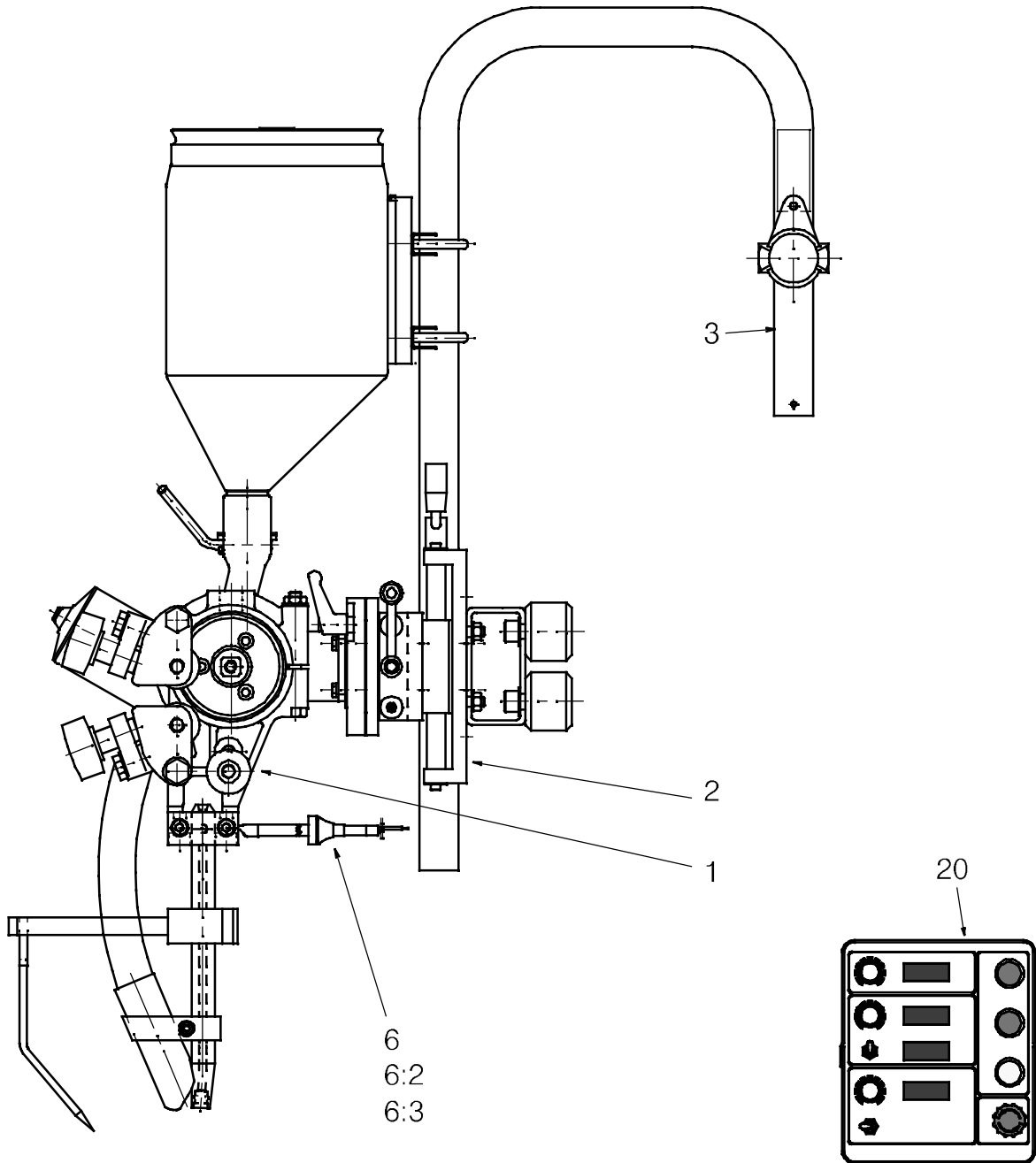
## Spare parts list

Edition 2009-03-11

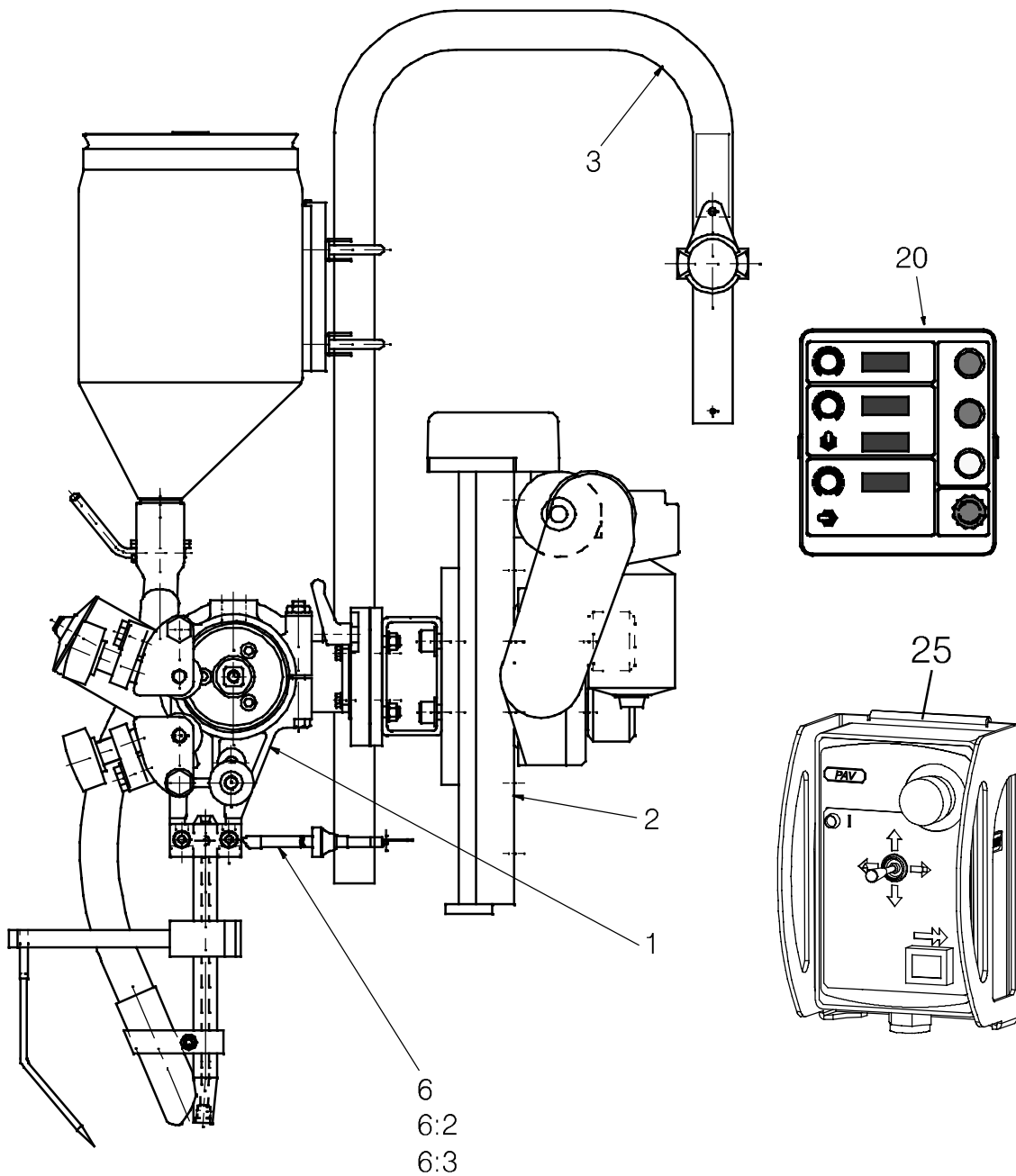


Ordering no.	Denomination	Notes
0449 370 880	Welding head	A2 SF (SAW) with PEI
0449 370 881	Welding head	A2 SF (SAW) with PEI, motorised slide and A6 PAV
0449 370 882	Welding head	A2 SF (SAW) with PEI, motorised slide and A6 GMH
0449 371 880	Welding head	A2 SF (SAW, Twin) with PEI
0449 371 881	Welding head	A2 SF (SAW, Twin) with PEI, motorised slide and A6 PAV
0449 371 882	Welding head	A2 SF (SAW, Twin) with PEI, motorised slide and A6 GMH
0449 380 880	Welding head	A2 SG (MIG/ MAG) with PEI
0449 380 881	Welding head	A2 SG (MIG/ MAG) with PEI, motorised slide and A6 PAV
0449 380 882	Welding head	A2 SG (MIG/ MAG) with PEI, motorised slide and A6 GMH

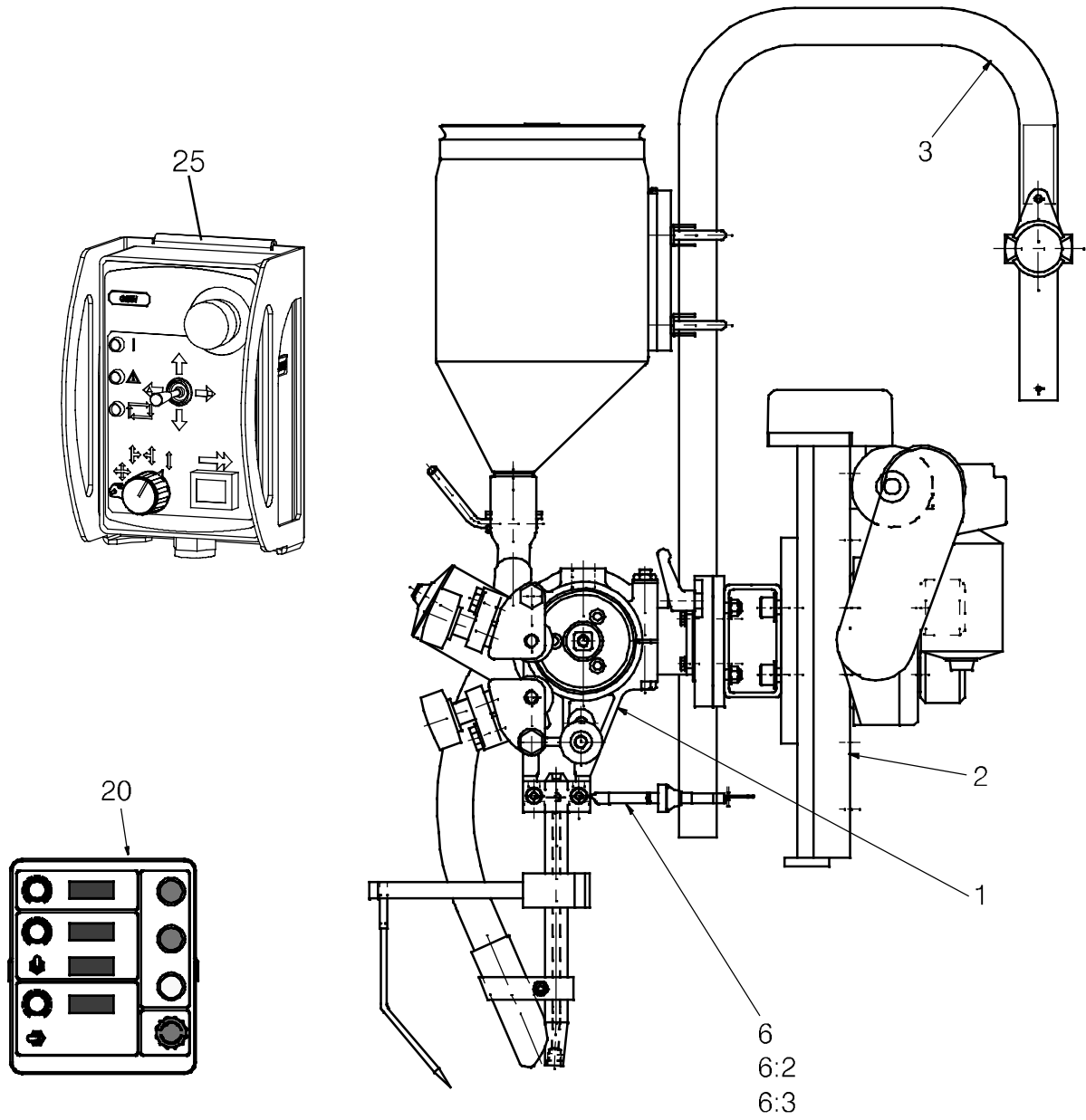
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449370880</b>	<b>Welding head</b>	<b>A2 SF (SAW) includes PEI</b>
1	1	0449150880	Wire feed unit complete	
2	1	0449152880	Slide travel kit, manual	90 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI



Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449370881</b>	<b>Welding head</b>	<b>A2 SF (SAW) includes PEI</b>
1	1	0449150880	Wire feed unit complete	
2	1	0449151880	Slide travel kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460697880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461215880	Cable kit	L = 5 m

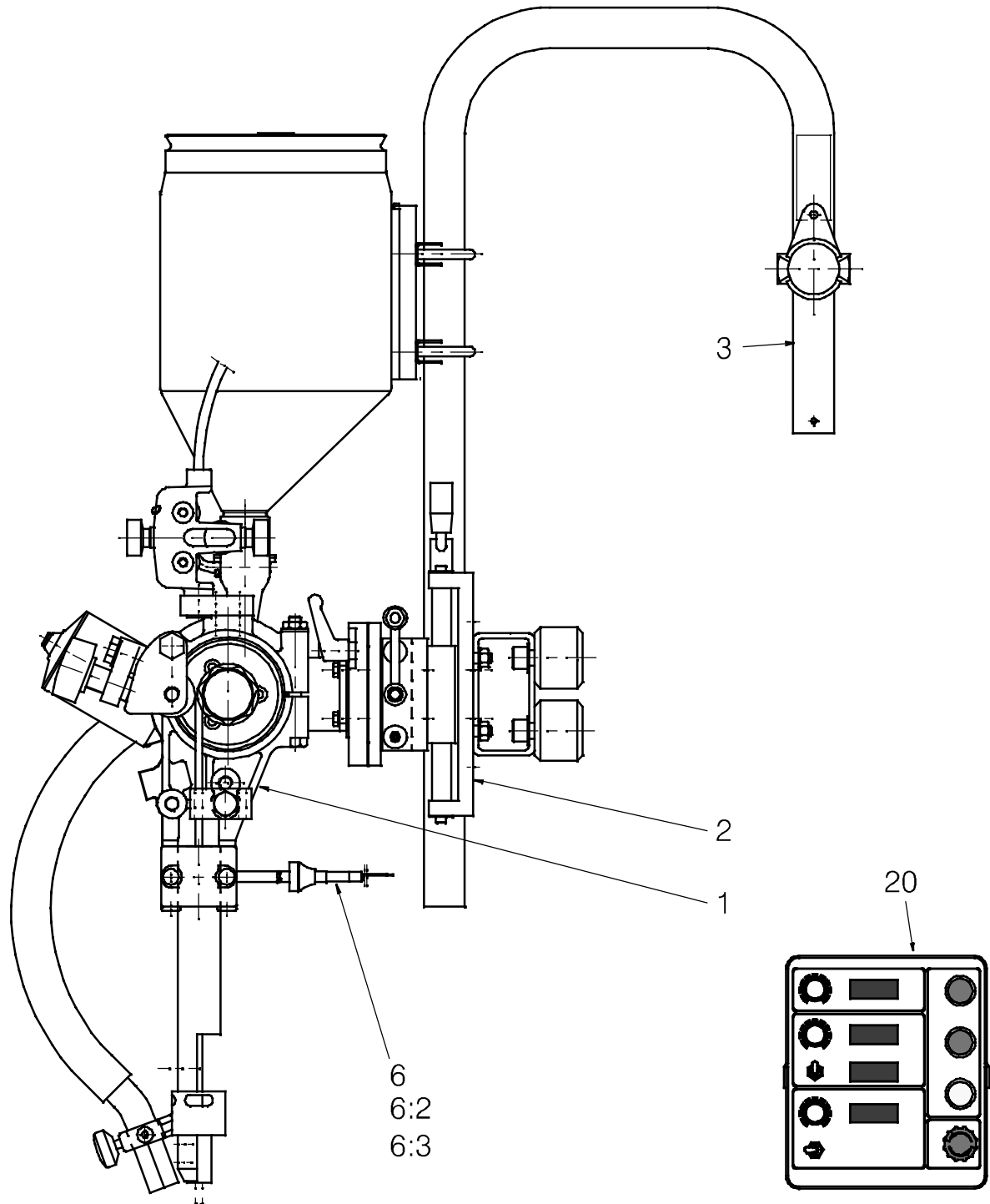


Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449370882</b>	<b>Welding head</b>	<b>A2 SF (SAW) includes PEI</b>
1	1	0449150880	Wire feed unit complete	
2	1	0449151880	Slide kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460884880	Joint tracking unit	A6 GMH, see separate manul
26	1	0461215880	Cable kit	L = 5 m

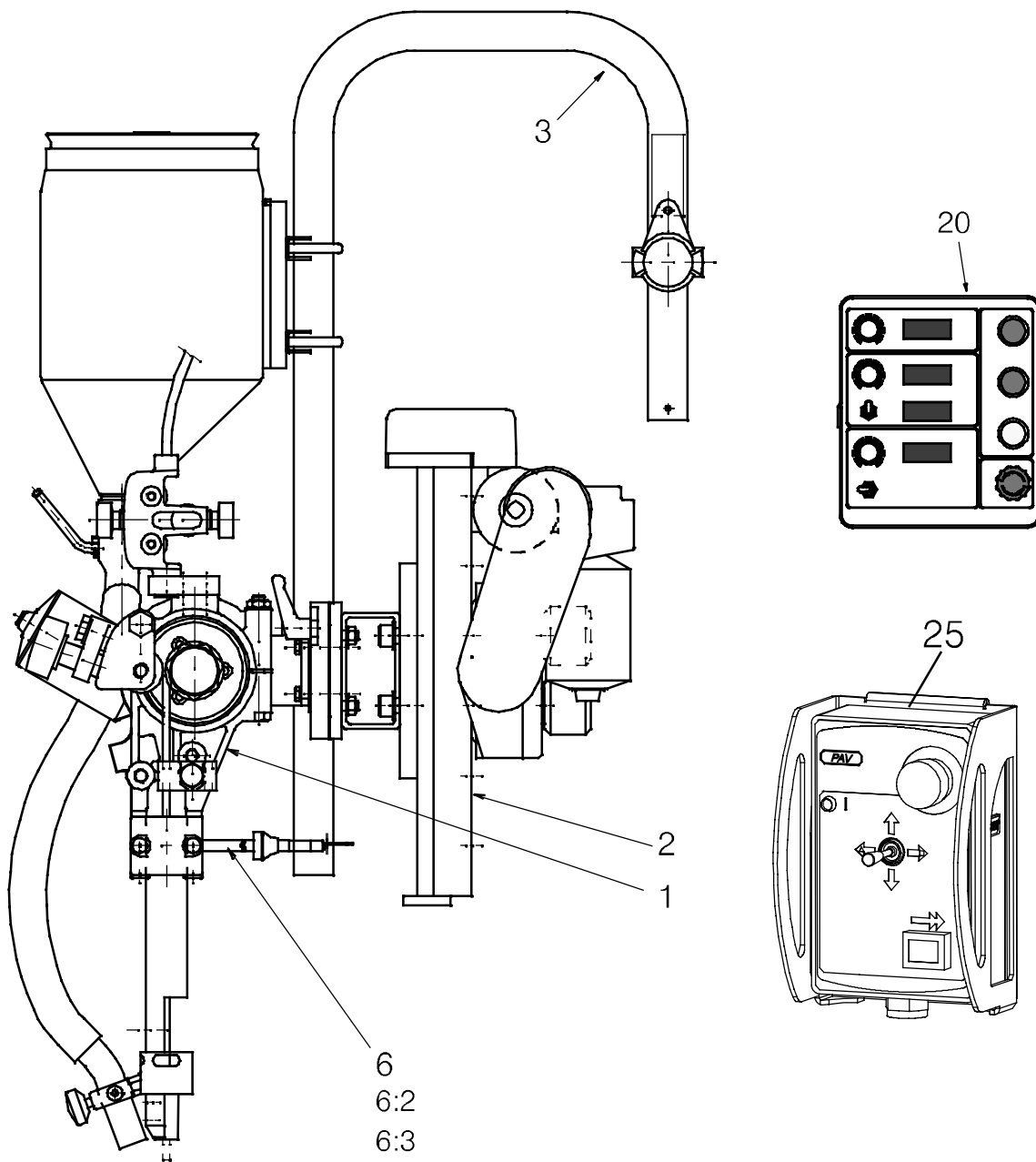




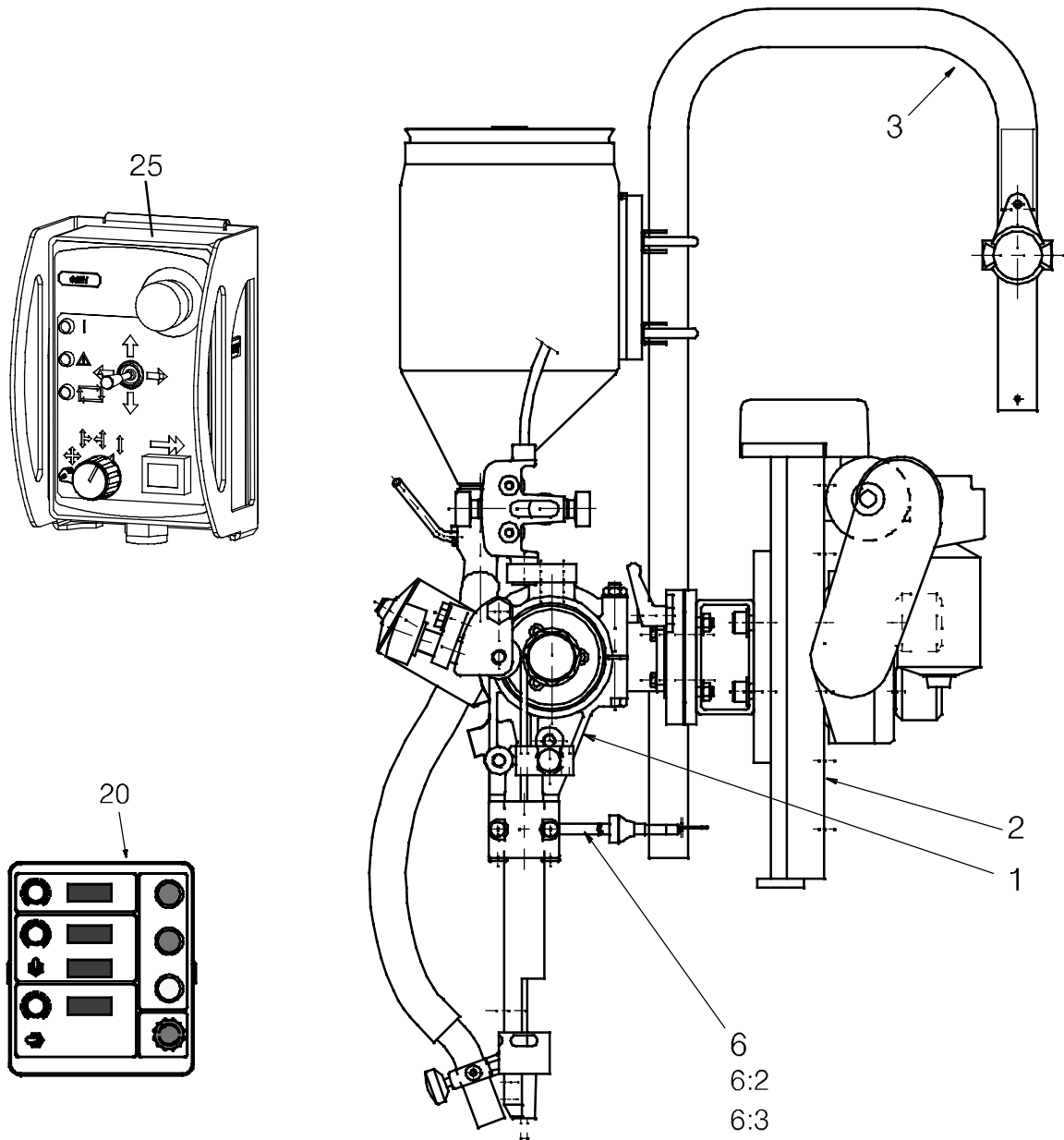
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449371880</b>	<b>Welding head</b>	<b>A2 SF (SAW, Twin) includes PEI</b>
1	1	0449150881	Wire feed unit complete	
2	1	0449152880	Slide travel kit, manual	90 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI



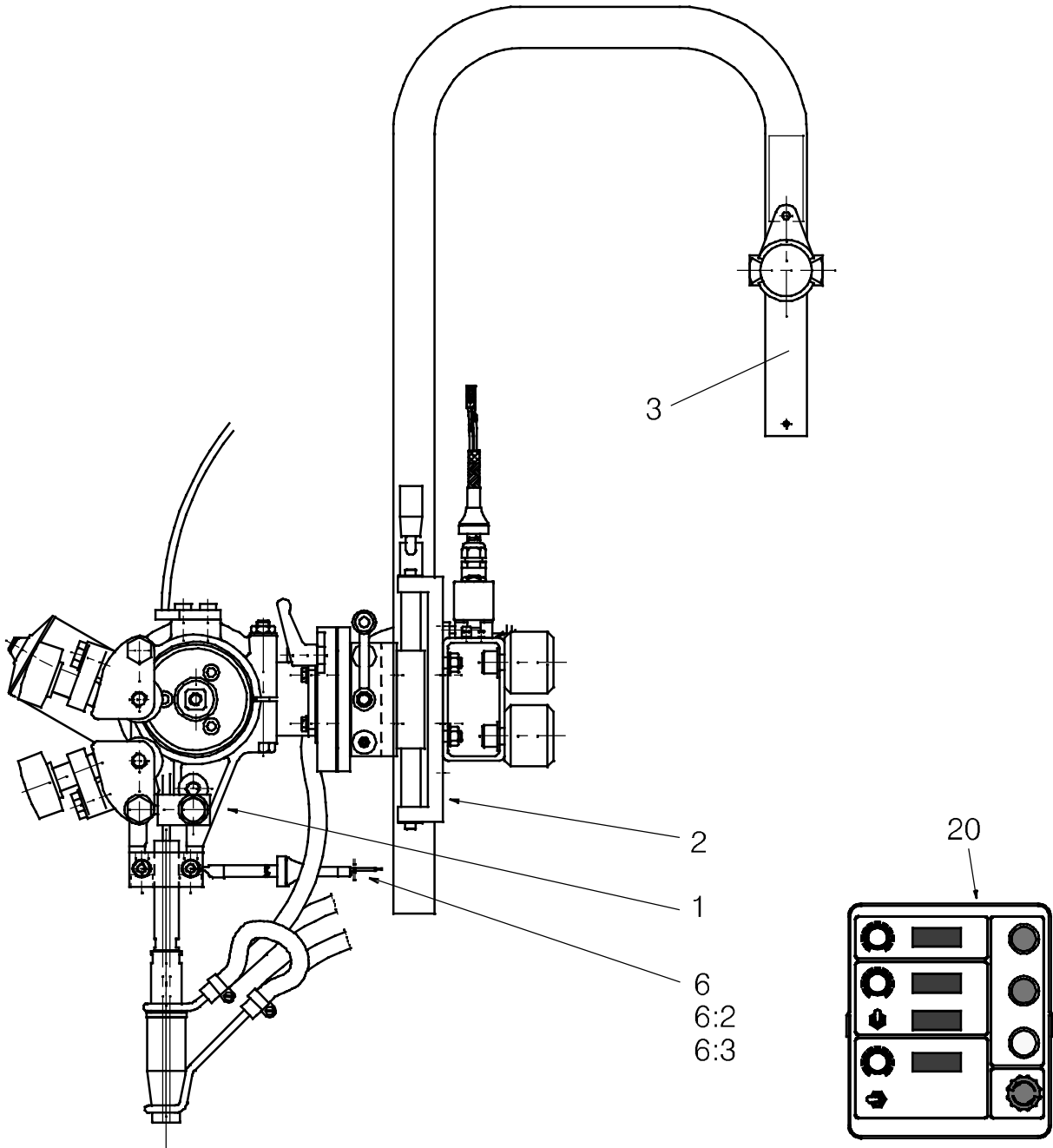
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449371881</b>	<b>Welding head</b>	<b>A2 SF (SAW, Twin) includes PEI</b>
1	1	0449150881	Wire feed unit complete	
2	1	0449151880	Slide kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460697880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461215880	Cable kit	L = 5 m



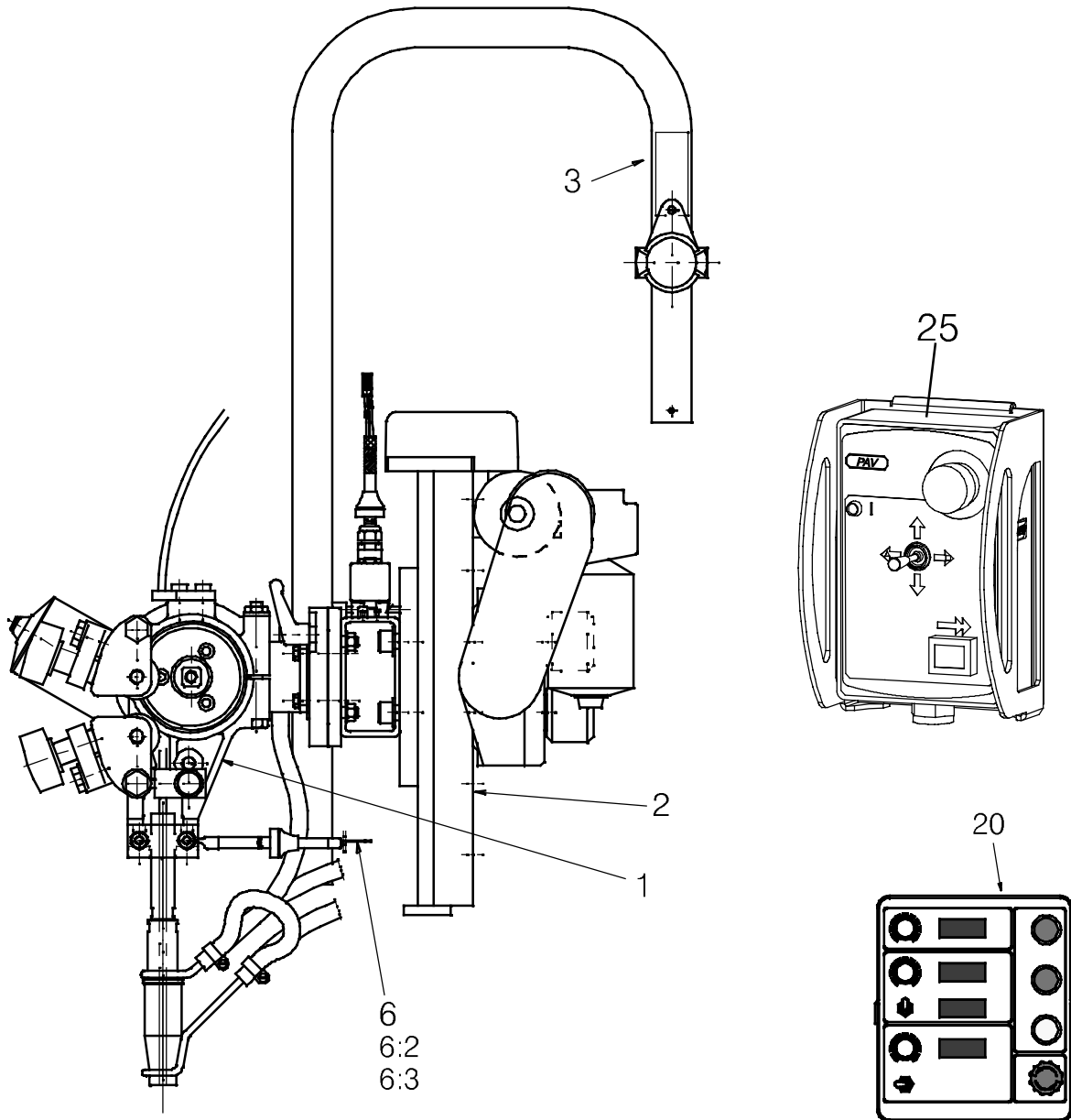
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449371882</b>	<b>Welding head</b>	<b>A2 SF (SAW, Twin) includes PEI</b>
1	1	0449150881	Wire feed unit complete	
2	1	0449151880	Slide kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460884880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461215880	Cable kit	L = 5 m



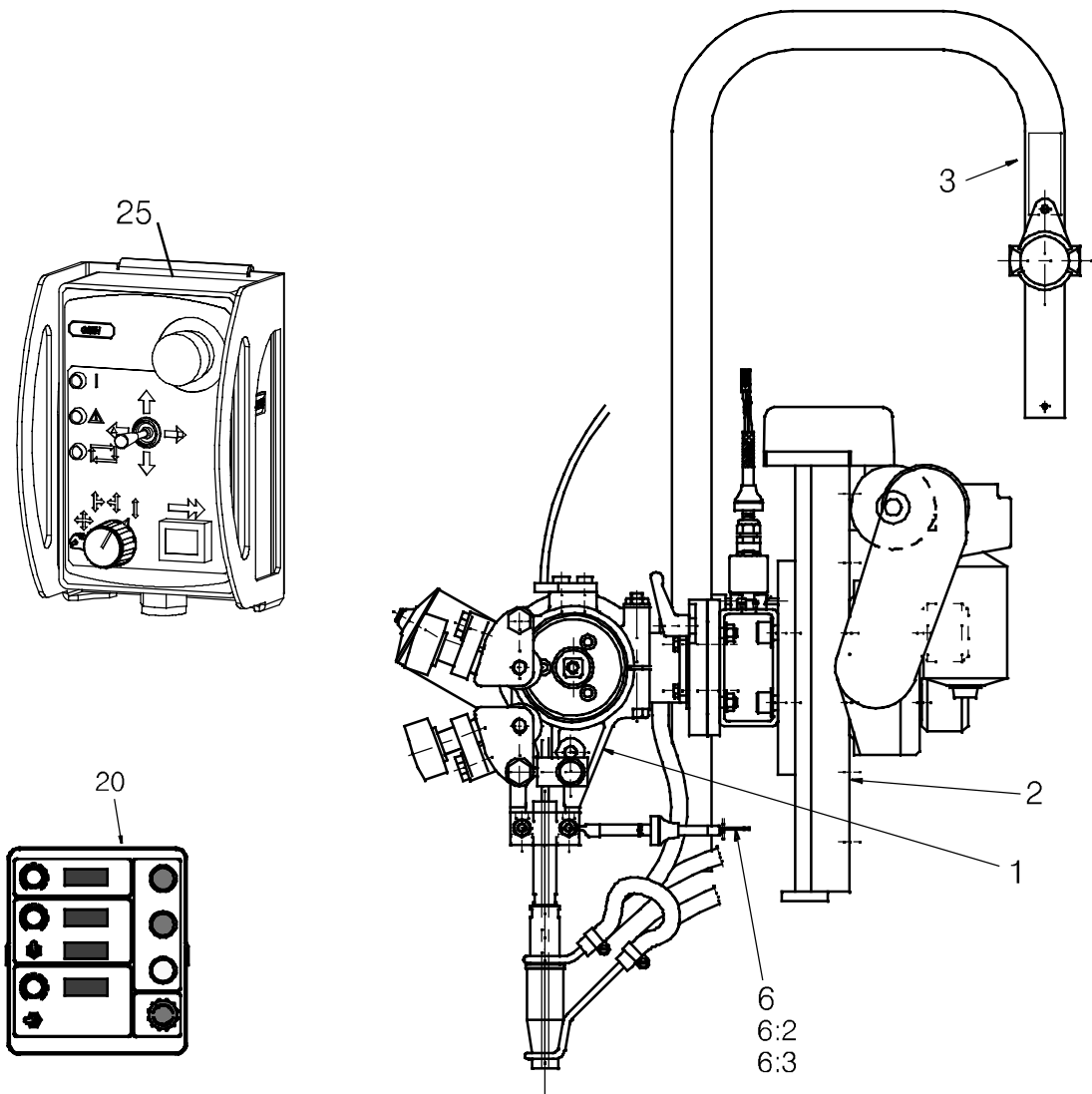
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449380880</b>	<b>Welding head</b>	<b>A2SG (MIG/MAG) includes PEI</b>
1	1	0449150882	Wire feed unit complete	
2	1	0449152880	Slide travel kit, manual	90 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI



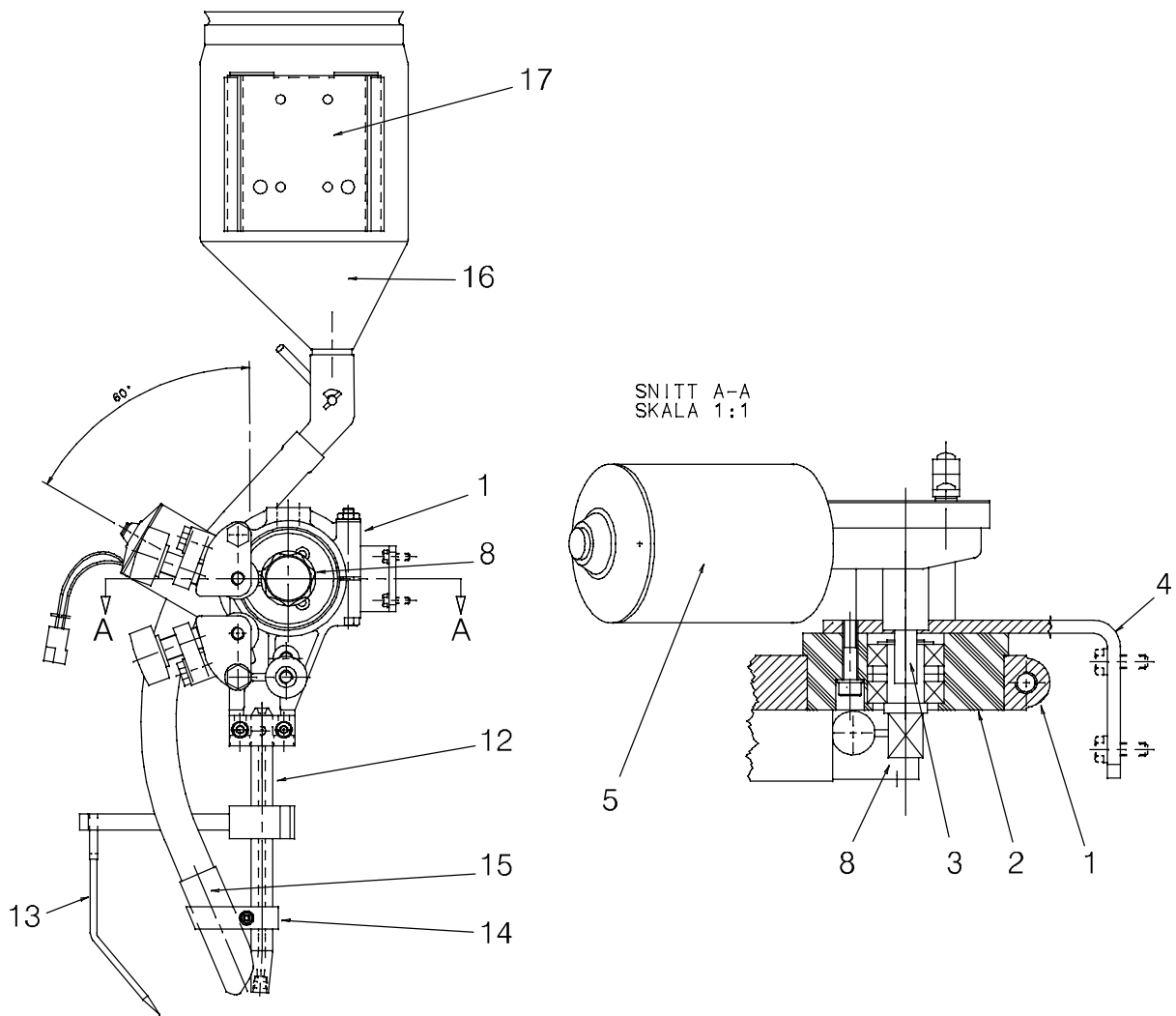
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449380881</b>	<b>Welding head</b>	<b>A2SG (MIG/MAG) includes PEI</b>
1	1	0449150882	Wire feed unit complete	
2	1	0449151880	Slide kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460697880	Joint tracking unit	A6 PAV, see separate manual
26	1	0461215880	Cable kit	L = 5 m



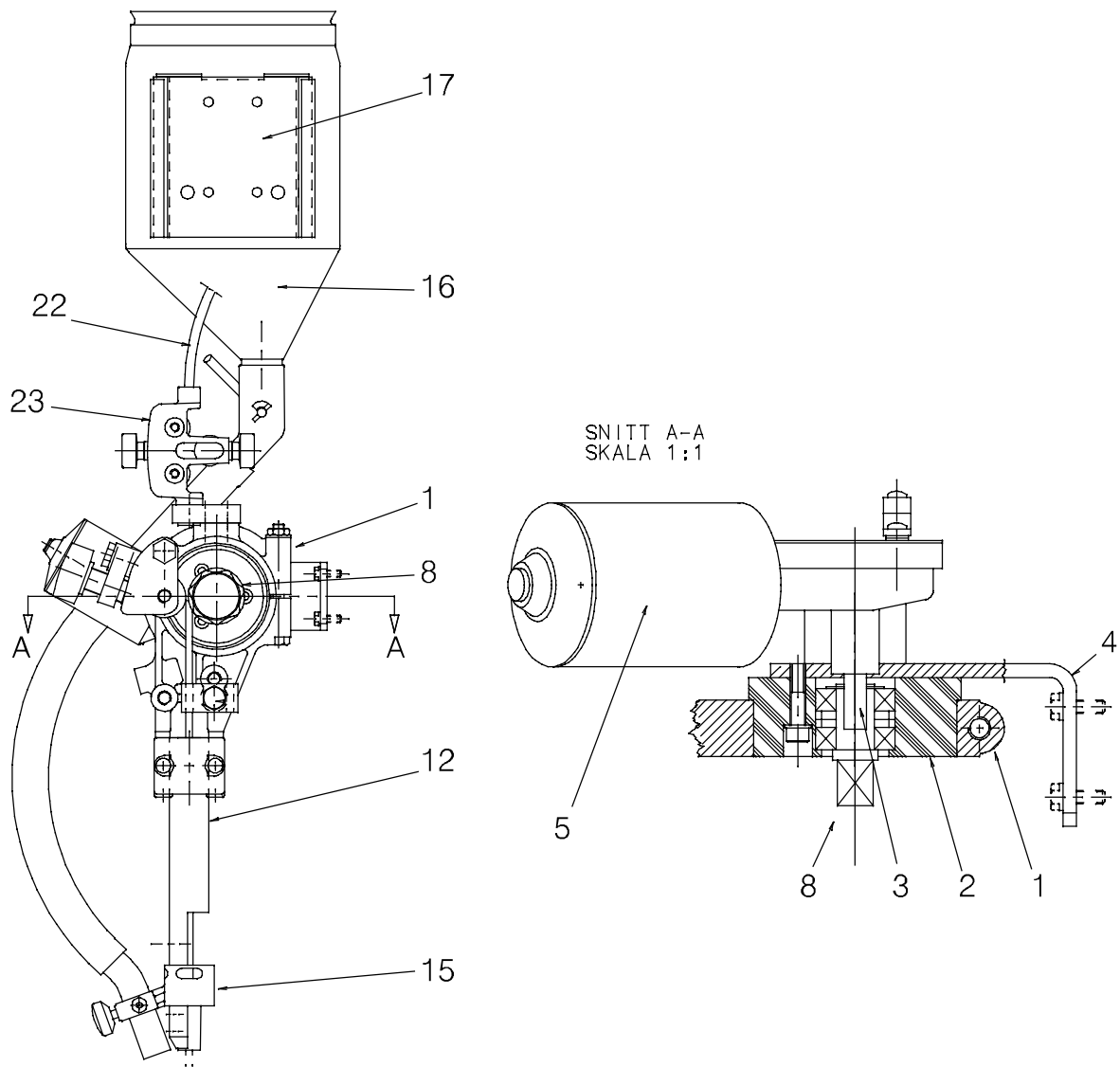
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449380882</b>	<b>Welding head</b>	<b>A2SG (MIG/MAG) includes PEI</b>
1	1	0449150882	Wire feed unit complete	
2	1	0449151880	Slide kit, motorized	180 mm
3	1	0449155880	Carrier	
6	1	0449153985	Cable kit	L = 5 m
6:2	1	0456493985	Cable	
6:3	1	0456504984	Arc welding cable	
20	1	0449330880	Control box	PEI
25	1	0460884880	Joint tracking unit	A6 GMH, see separate manual
26	1	0461215880	Cable kit	L = 5 m



Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 150 880</b>	<b>Wire feed unit complete (Right)</b>	<b>SAW</b>
1	1	0147 639 882	Wire feed unit	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0458 225 001	Motor with tacho	
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	

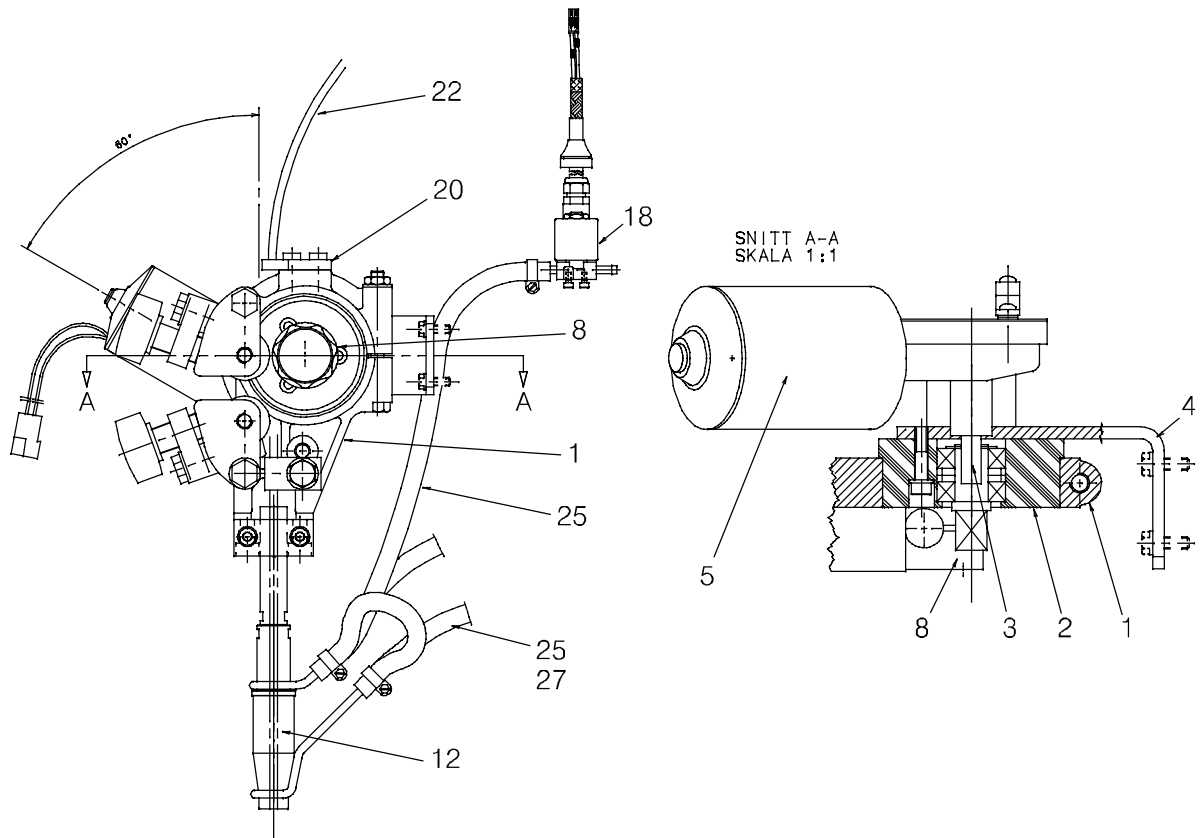


Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 150 881</b>	<b>Wire feed unit complete (Right)</b>	<b>UP, Twin</b>
1	1	0147 639 886	Wire feed unit	Twin
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0458 225 001	Motor with tacho	
8	1	0218 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	

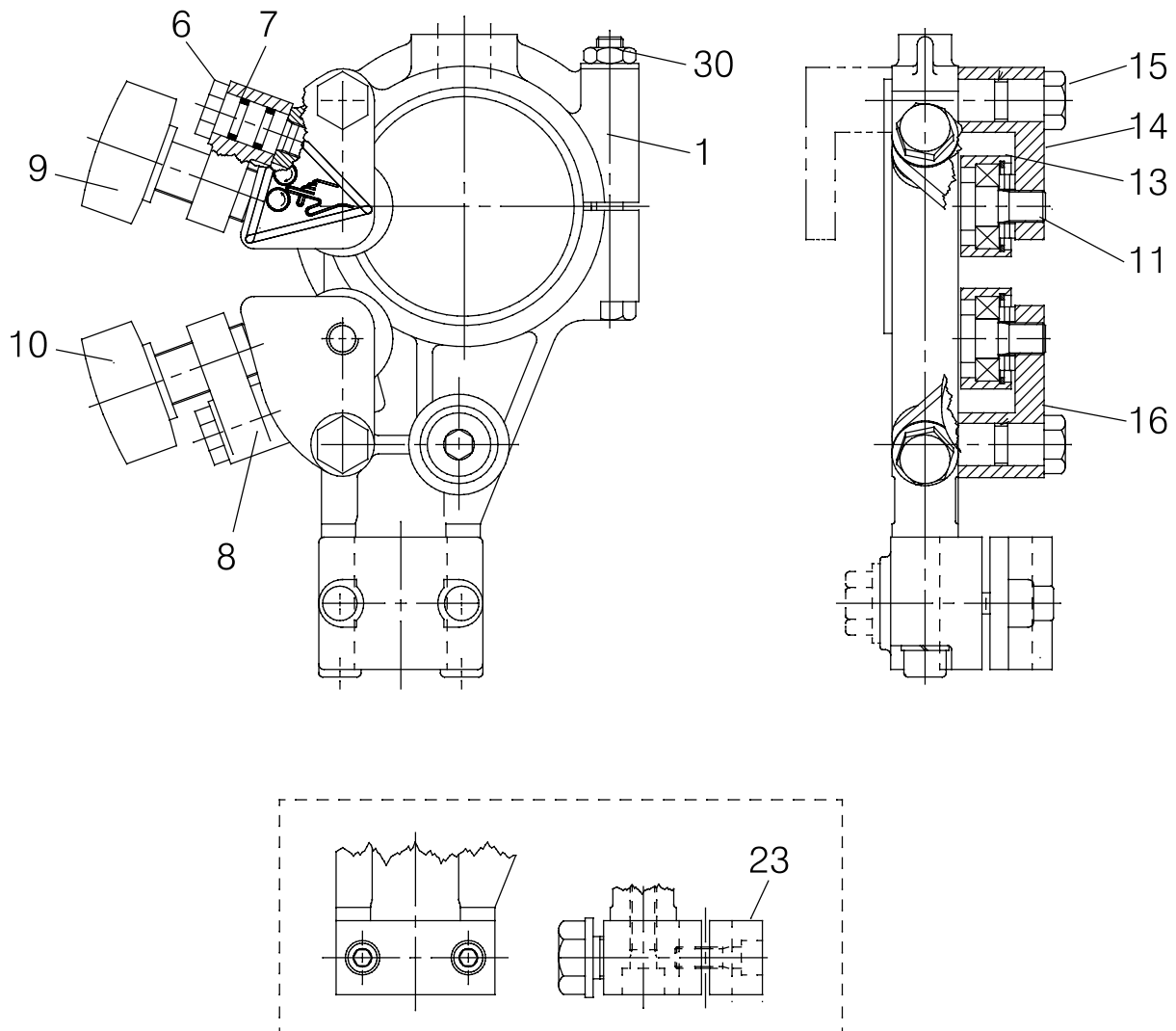




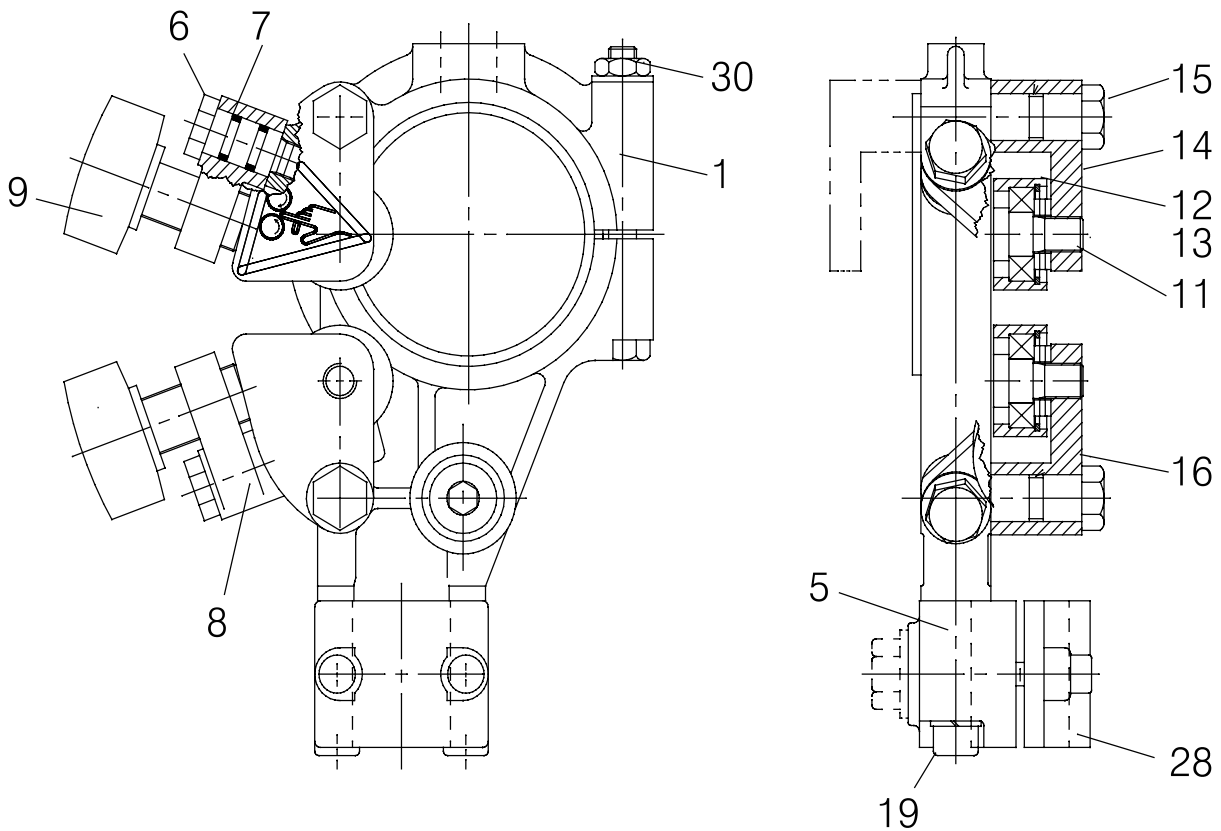
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 150 882</b>	<b>Wire feed unit complete (Right)</b>	<b>MIG/ MAG</b>
1	1	0147 639 882	Wire feed unit	
2	1	0413 072 881	Bearing housing	
3	1	0215 701 210	Wedge, flat	
4	1	0413 517 001	Bracket for motor	
5	1	0458 225 002	Motor with tacho	
8	1	0218 810 183	Insulated Hand wheel	
12	1	0030 465 389	Contact device	
18	1	0456 494 884	Solenoid valve and cable	
20	1	0155 300 001	Plate	
22		0156 800 002	Wire liner	
25		0333 754 001	Hose	D 14/ 6.3
27	2	0147 336 880	Hose coupling	



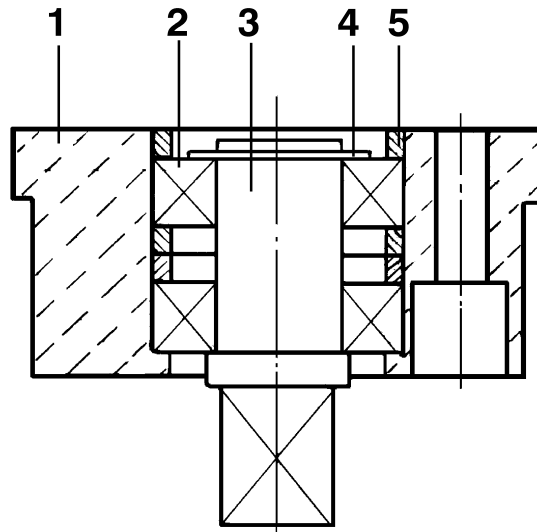
Item	Qty	Orderingno.	Denomination	Remarks	
		<b>0147 639 882</b>	<b>Wire feed unit (right mounted)</b>		
1	1	0156 449 001	Clamp	D11.3x2.4	
6	2	0212 900 001	Spacer screw		
7	4	0215 201 209	O-ring		
8	2	0218 400 801	Pressure roller arm		
9	1	0218 810 181	Handwheel		
10	1	0218 810 182	Handwheel		
11	3	0332 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		
23	1	0334 571 880	Contact clamp		
30	1	0212 601 110	Nut		M10



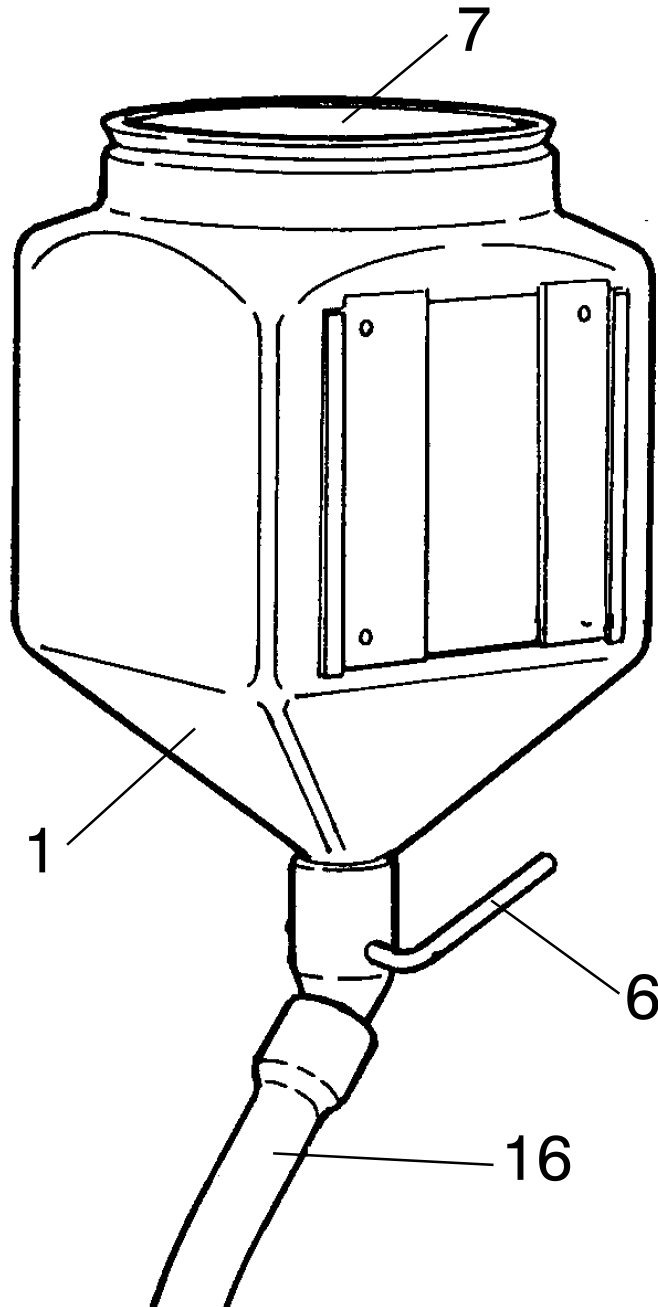
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0147 639 886</b>	<b>Wire feed unit (right mounted)</b>	
1	1	0156 449 001	Clamp	
5	1	0156 530 001	Clamp half	
6	1	0212 900 001	Spacer screw	
7	2	0215 201 209	O-ring	D11.3x2.4
8	1	0218 400 801	Pressure roller arm	
9	1	0218 810 181	Handwheel	
11	1	0332 408 001	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



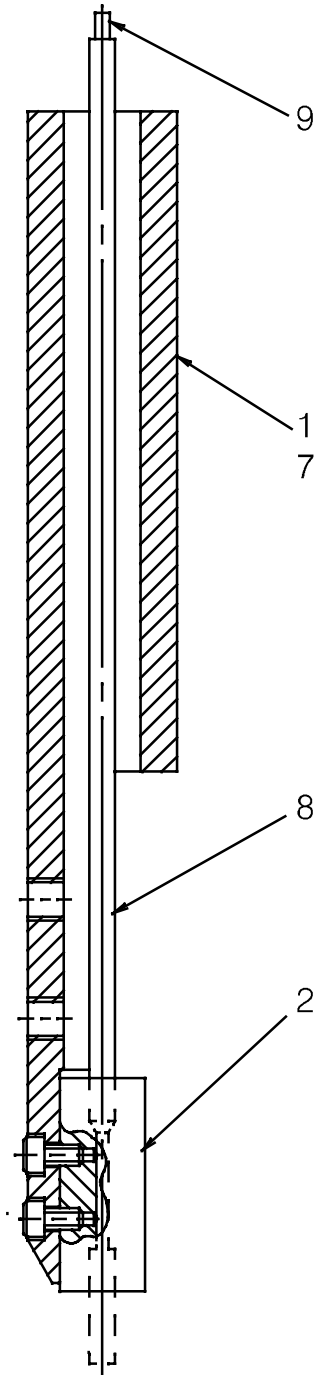
Item	Qty	Orderingno.	Denomination	Notes
		<b>0413 072 881</b>	<b>Bearing housing with stub shaft</b>	
1	1	0413 073 002	Searing housing	
2	2	0190 726 003	Ball bearing	
3	1	0334 575 001	Stub shaft	
4	1	0215 701 014	Retaining ring	D17
5	3	0334 576 001	Spacer	



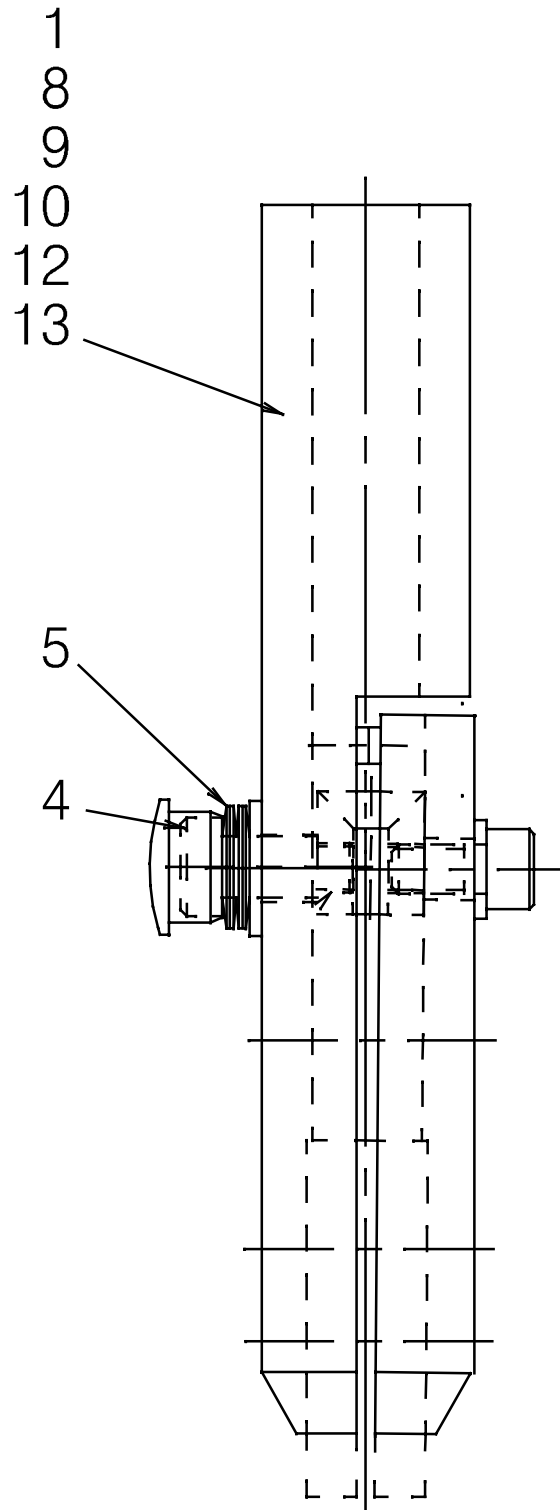
Item	Qty	Orderingno.	Denomination	Remarks
		<b>0332 994 883</b>	<b>Flux hopper complete</b>	
1	1	0332 837 001	Hopper for flux	
6	1	0153 347 881	Flux valve	
7	1	00203 017 80	Flux strainer	
16	1	0443 383 002	Flux hose	L= 500



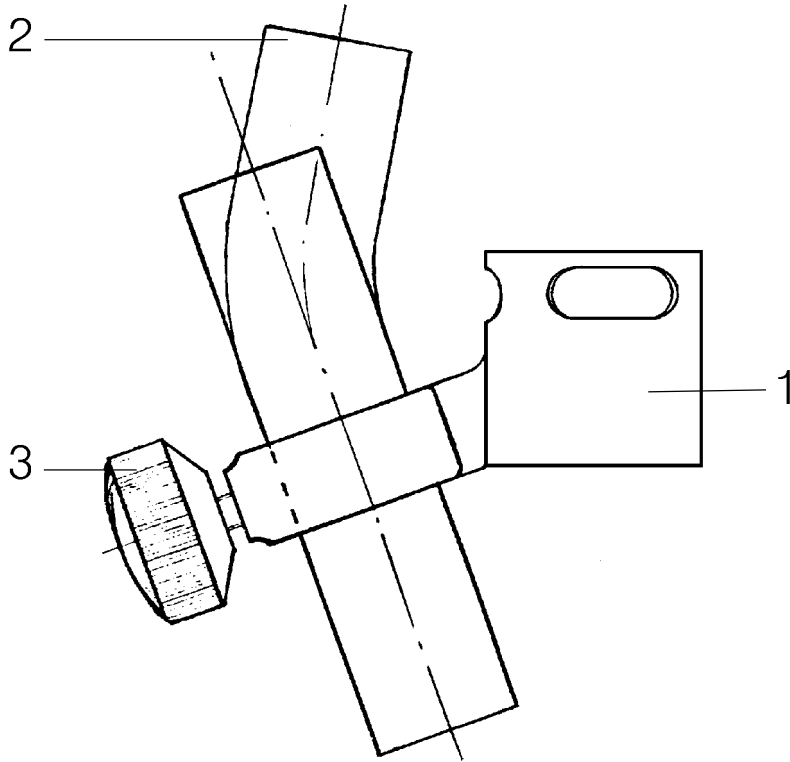
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0333 852 881</b>	<b>Connector</b>	<b>Twin L=275 A6 UP</b>
2	1	0333 772 001	Nozzle holder	
7	1	0417 959 881	Contact equipment	L=275, Heavy Duty
8	2	0415 032 001	Guide pipe	
9	2	0334 279 001	Spiral to connector	L=366



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

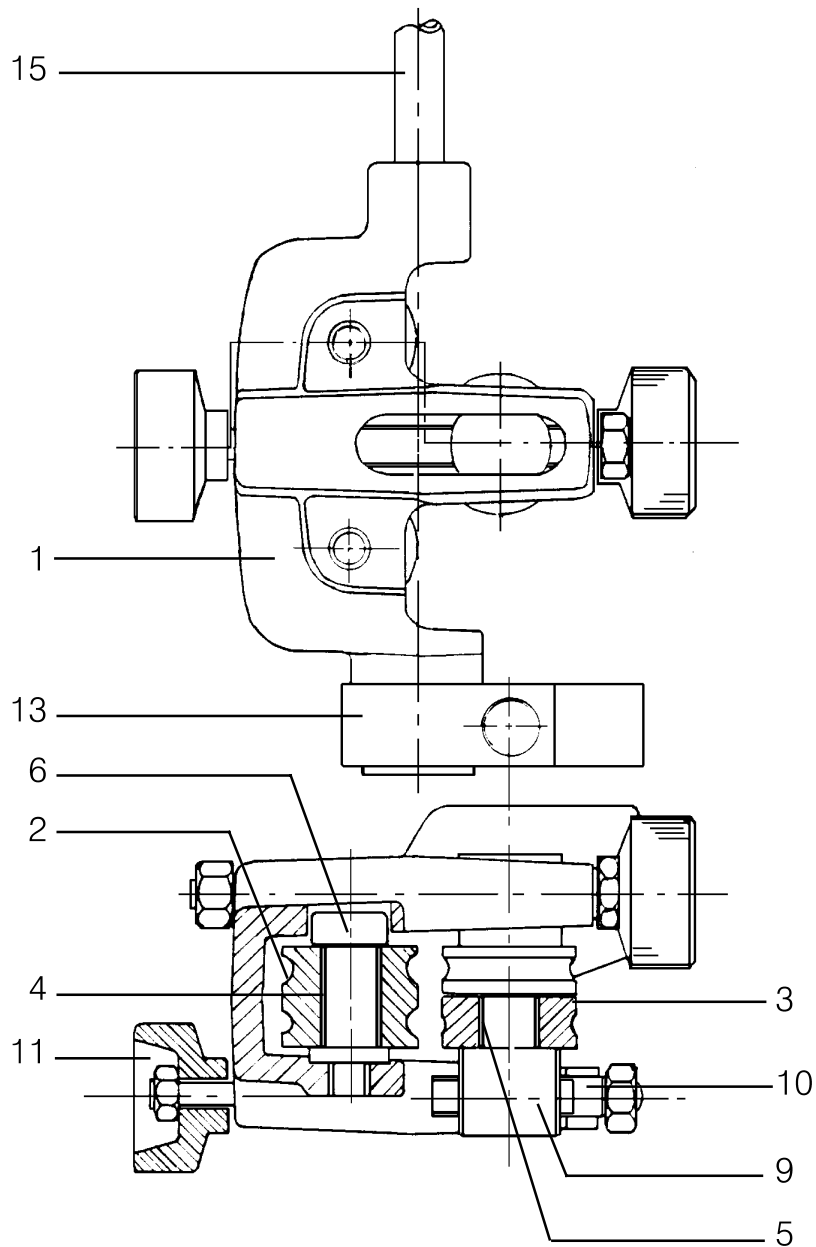


Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0153 299 880</b>	<b>Flux nozzle</b>	
1	1	0153 290 002	Pipe holder	
2	1	0153 296 001	Pipe bend	
3	1	0153 425 001	Wheel	

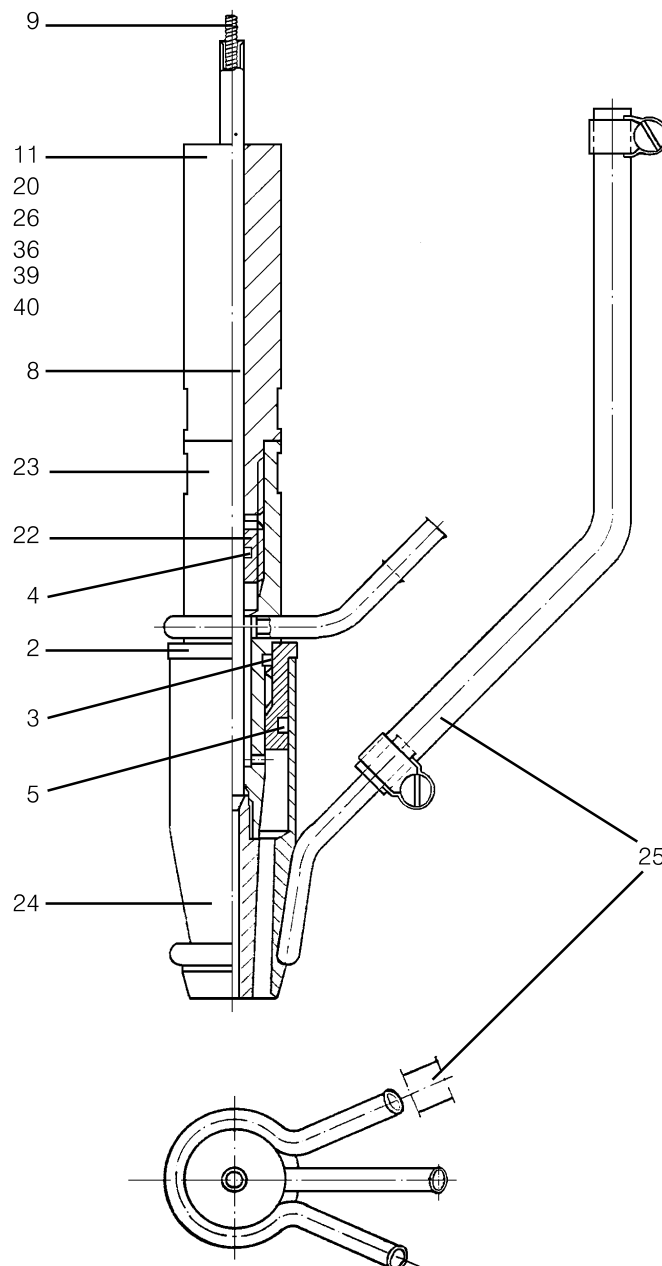




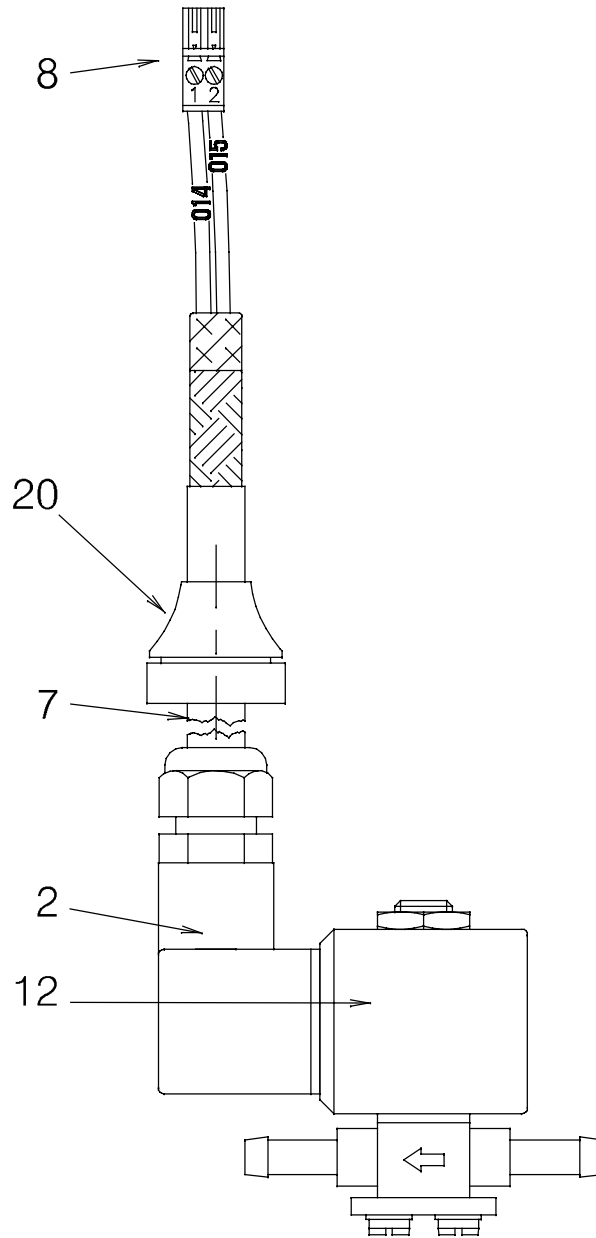
Item no.	Qty	Ordering no.	Denomination	Notes	
		<b>0145 787 880</b>	<b>Fine wire straightener for twin wire</b>		
1	1	0145 788 001	Case	D12/10	
2	2	0145 789 001	Roller		
3	2	0145 790 001	Roller		
4	2	0145 791 001	Searing bushing		
5	2	0190 240 103	Bearing bushing		
6	2	0145 792 001	Screw		
9	2	0145 793 001	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



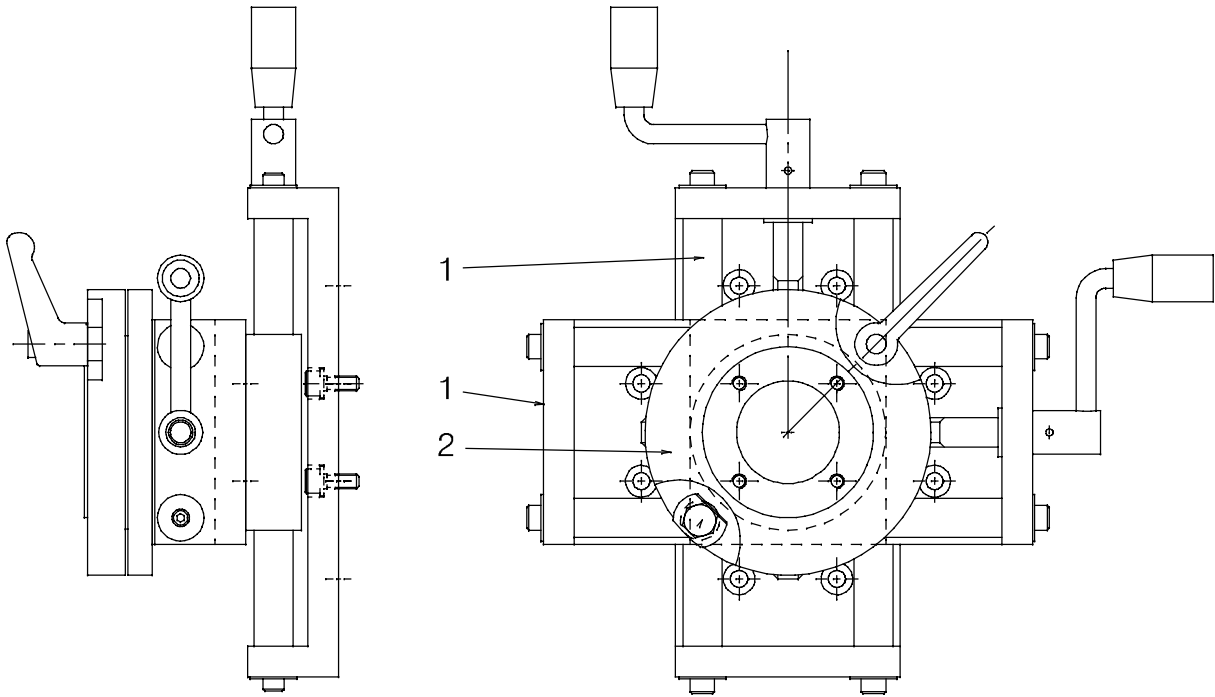
Item	Qty	Orderingno.	Denomination	Remarks
		<b>0030 465 389</b>	<b>Connector</b>	
2	1	0145 226 001	Insulating sleeve	
3	1	0190 680 313	O-ring	OR 15.3x2.4
4	1	0190 680 303	O-ring	OR 5.3x2.4
5	1	0190 680 405	O-ring	OR 22.2x3
8	1	0334 278 880	Insert tube	
9	1	0334 279 001	Spiral	
22	1	0146 099 001	Plug	
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



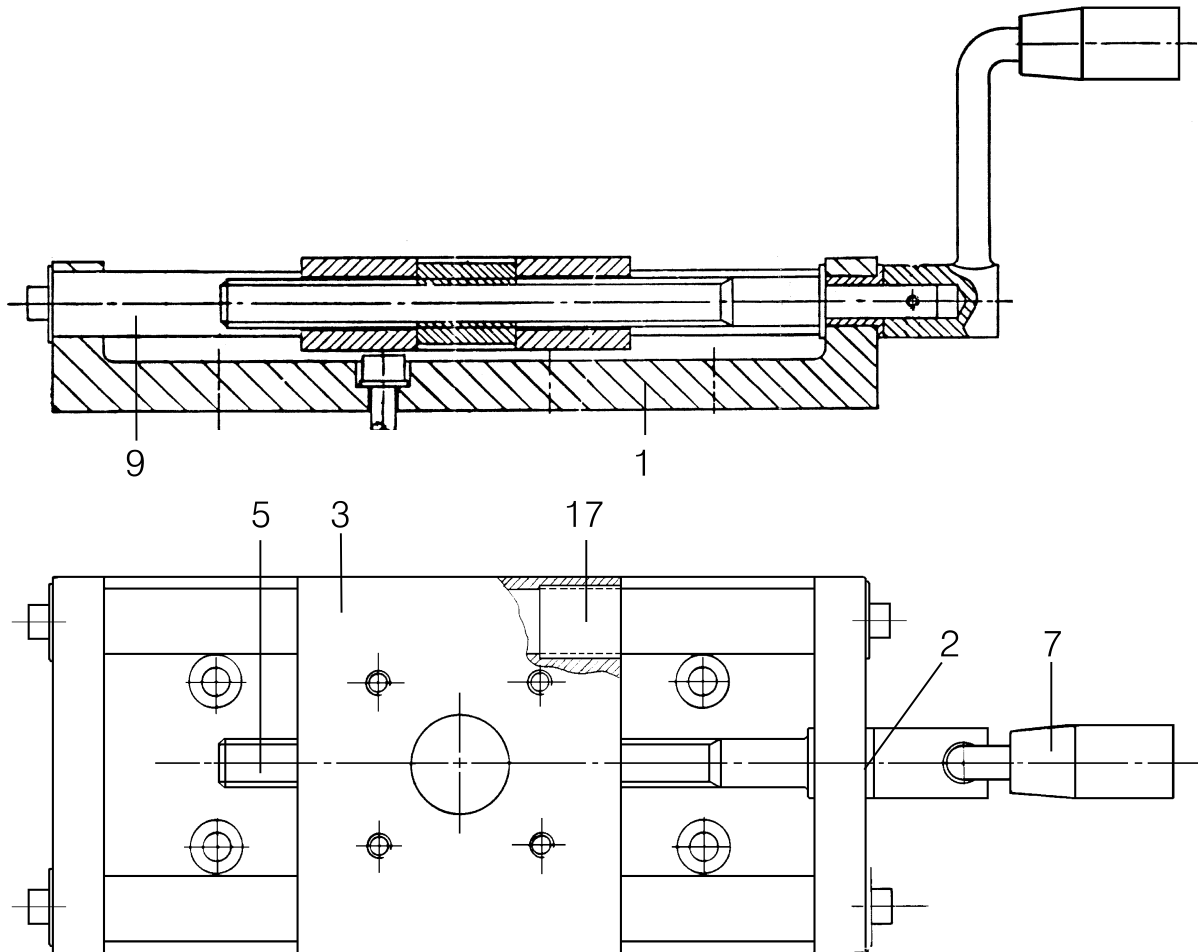
Item	Qty	Orderingno.	Denomination	Notes
		<b>0456 494 884</b>	<b>Solenoid valve with cable</b>	
2	1	0157 259 001	Contact	
7	3	0193 021 110	Cable, screened	ÖLFLEX, 2x1.5 mm <sup>2</sup>
8	1	0456 489 001	PCB Connector, plug	
12	1	0193 054 002	Solenoid valve	42 V
20	1	0192 645 002	Bushing	



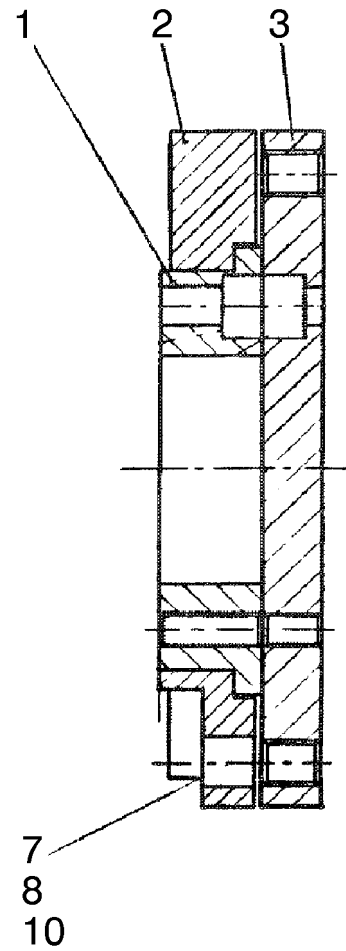
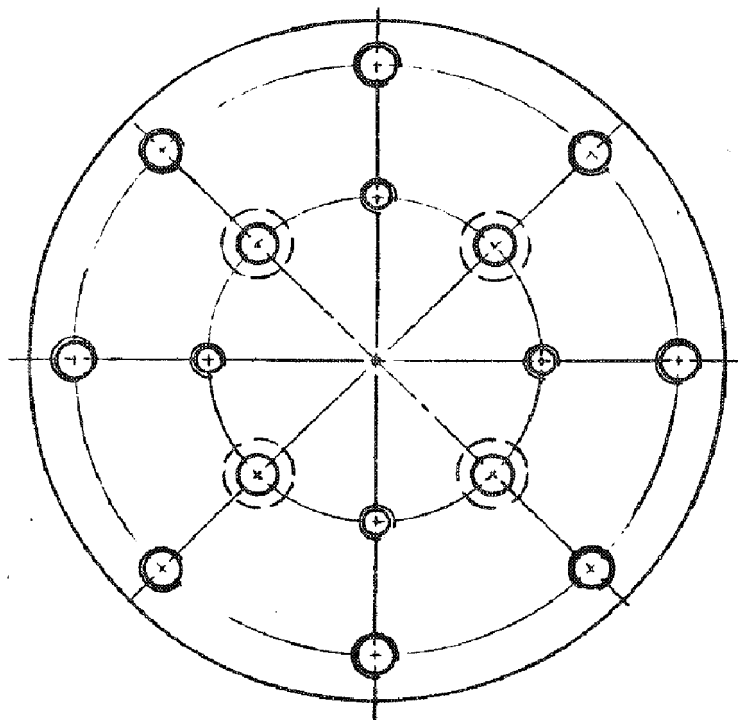
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 152 880</b>	<b>Slide travel kit</b>	<b>Manual</b>
1	2	0413 518 880	Slide	90 mm
2	1	0413 506 880	Rotary slide	



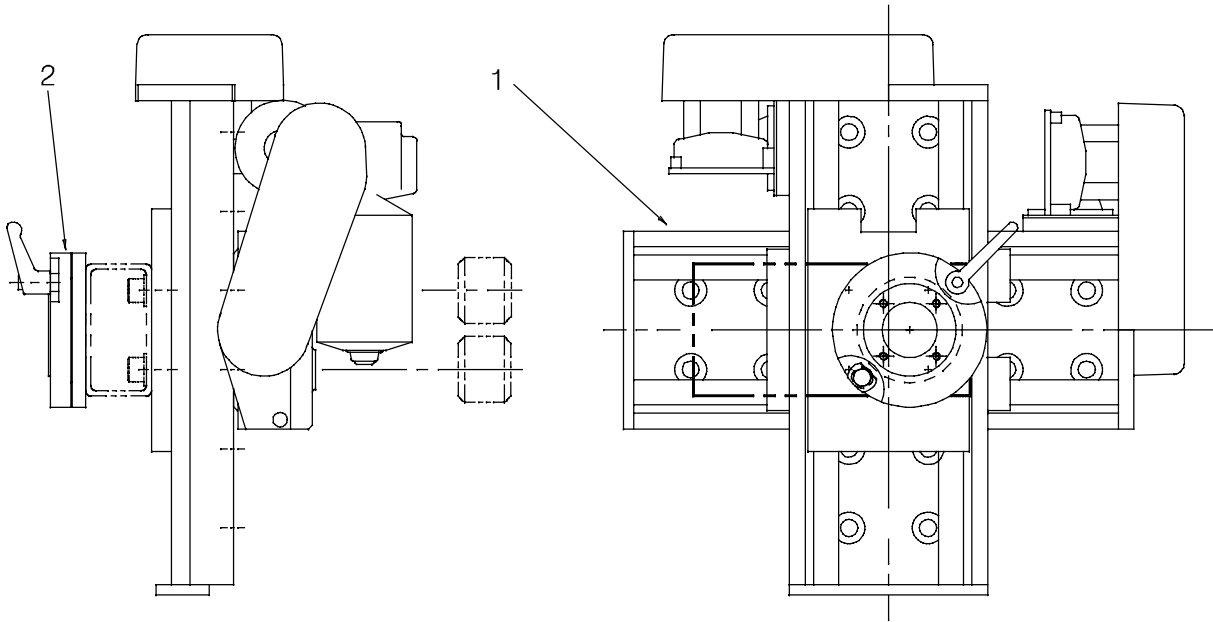
Item	Qty	Orderingno.	Denomination	Remarks
		<b>413 518-880</b>	<b>Slide</b>	
1	1	413 519-001	Slide profile	
2	1	413 524-001	Bearing bushing	
3	1	413 521-001	Runner	
5	1	413 522-001	Lead screw	
7	1	334 537-002	Crank	
9	2	413 523-001	Axis	
17	4	190 240-107	Bearing	



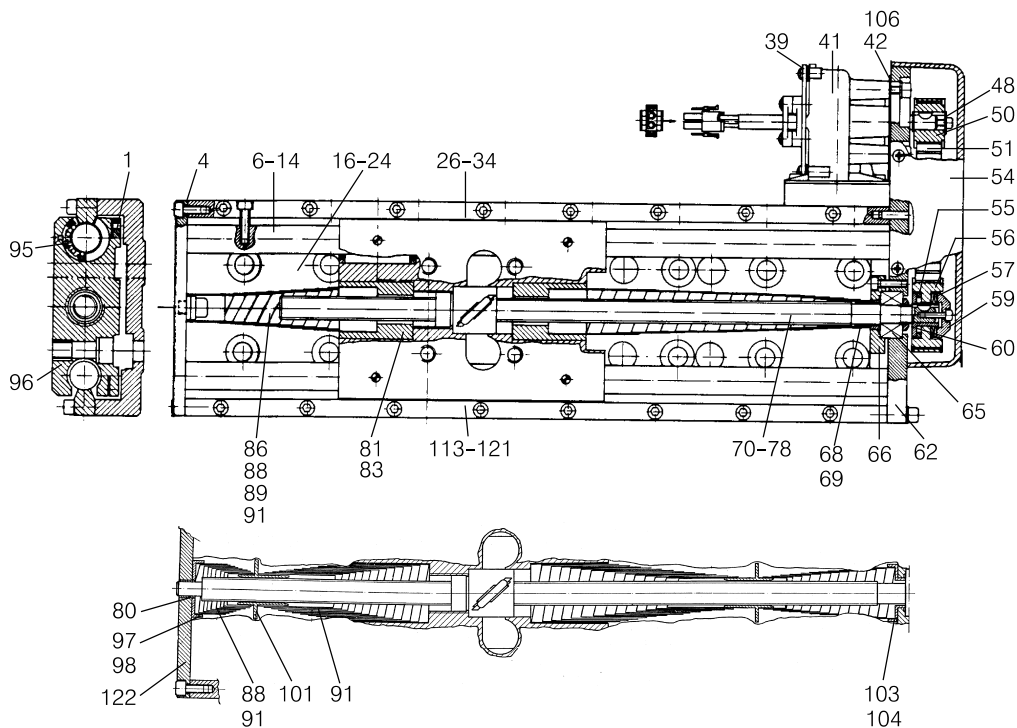
Item no.	Qty	Ordering no.	Denomination	Notes
		<b>413 506-880</b>	<b>Rotary slide</b>	
1	1	413 507-001	Flange	
2	1	413 508-001	Tensioning ring	
3	1	413 509-001	Flange	
7	2	2195 043-05	Bellville spring	
8	1	193 571-105	Locking piece	
10	1	193 570-123	Locking lever	



Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 151 880</b>	<b>Motorised Slide kit</b>	
1	2	0334 333 882	Motorised Slide	180 mm
2	1	0413 506 880	Rotary slide	

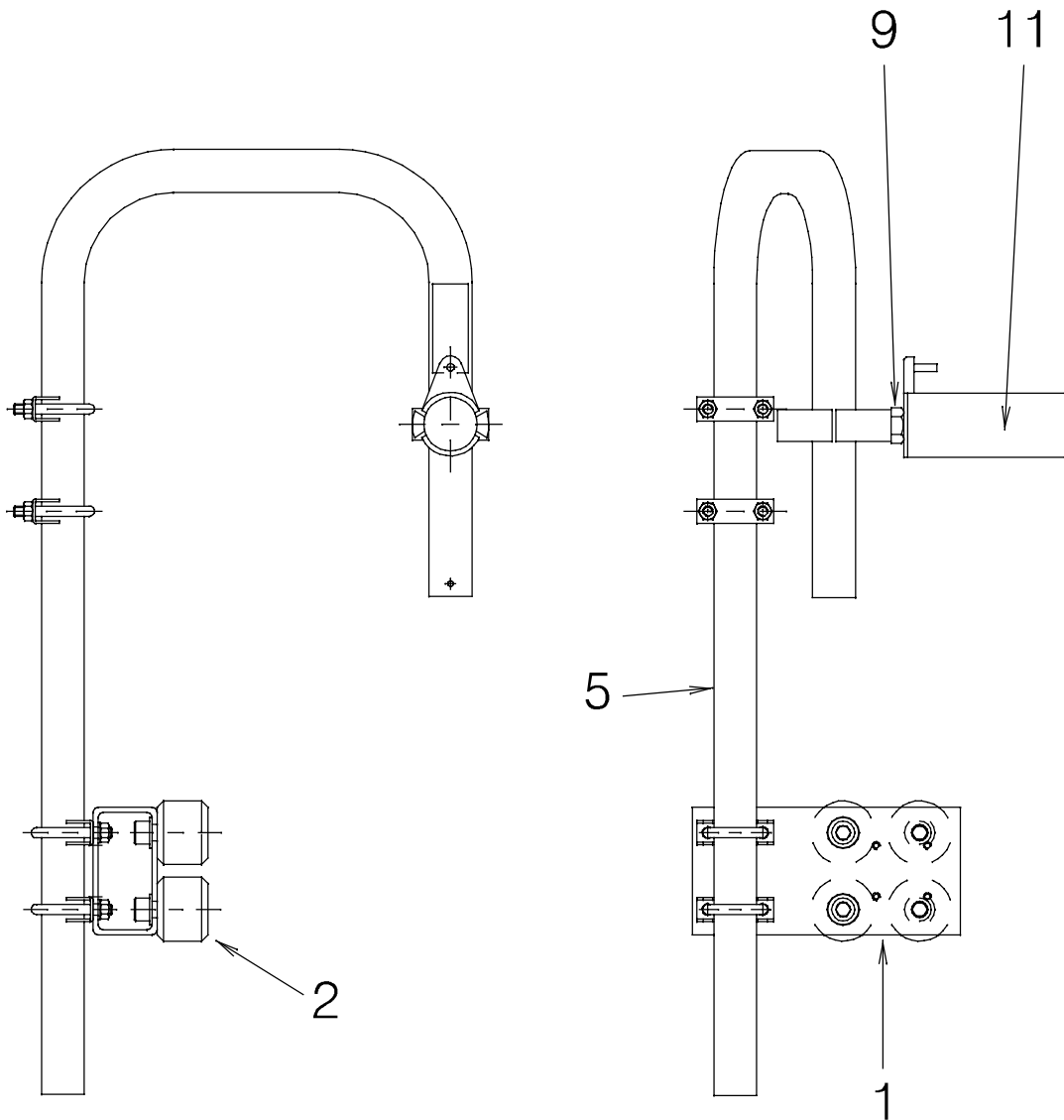


Item	Qty	Orderingno.	Denomination	Notes
		<b>0334333882</b>	<b>Slide</b>	<b>Inställningslängd = 180</b>
1	8	0190509321	Stop screw	M5x6
4	1	0334341001	End washer	L = 60-540
8	2	0334323003	Steel shaft	L = 180
18	1	0334335003	Slide frame	L = 180
28	1	0334326003	Shaft carrier	L = 180
39	1	0417699001	Clamp	
41	1	0334322001	Geared motor	<b>(W)</b> 24V, 110 rpm
42	1	0334321001	Cover plate	
48	1	0193104002	Rivet washer	D16/5x1
50	1	0334328002	Toothed pulley	(Z=19)
51	1	0334342001	Toothed belt	<b>(W)</b>
54	1	0334320001	Belt guard	
55	1	0334327001	Friction ring	<b>(W)</b>
56	1	0334328001	Toothed pulley	
57	2	0219504411	Belleville washer	D31.5/16x1.25
60	1	0334329001	Friction pin	<b>(W)</b>
62	1	0334319001	Motor mount	
65	1	0190531201	Ball bearing	SKF3201
66	1	0154457002	Ball bearing cap	
68	1	0334324001	Bellows guide, outer	L = 60-240, 420-540 + 300
72	1	0334332003	Ball screw	L = 180
83	2	0334325003	Bellows guide, inner	L = 180-240
88	2	0333441005	Spiral bellows	L = 180-240+ 732
95	4	0334337001	Ball bushing	<b>(W)</b>
96	1	0334331880	Runner	
115	1	0334326103	Shaft carrier	L = 180





Item no.	Qty	Ordering no.	Denomination	Notes
		<b>0449 155 880</b>	<b>Carrier</b>	
1	1	0413 596 001	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	



# ESAB subsidiaries and representative offices

## Europe

### AUSTRIA

ESAB Ges.m.b.H  
Vienna-Liesing  
Tel: +43 1 888 25 11  
Fax: +43 1 888 25 11 85

### BELGIUM

S.A. ESAB N.V.  
Brussels  
Tel: +32 2 745 11 00  
Fax: +32 2 745 11 28

### THE CZECH REPUBLIC

ESAB VAMBERK s.r.o.  
Vamberk  
Tel: +420 2 819 40 885  
Fax: +420 2 819 40 120

### DENMARK

Aktieselskabet ESAB  
Herlev  
Tel: +45 36 30 01 11  
Fax: +45 36 30 40 03

### FINLAND

ESAB Oy  
Helsinki  
Tel: +358 9 547 761  
Fax: +358 9 547 77 71

### FRANCE

ESAB France S.A.  
Cergy Pontoise  
Tel: +33 1 30 75 55 00  
Fax: +33 1 30 75 55 24

### GERMANY

ESAB GmbH  
Solingen  
Tel: +49 212 298 0  
Fax: +49 212 298 218

### GREAT BRITAIN

ESAB Group (UK) Ltd  
Waltham Cross  
Tel: +44 1992 76 85 15  
Fax: +44 1992 71 58 03

### ESAB Automation Ltd

Andover  
Tel: +44 1264 33 22 33  
Fax: +44 1264 33 20 74

### HUNGARY

ESAB Kft  
Budapest  
Tel: +36 1 20 44 182  
Fax: +36 1 20 44 186

### ITALY

ESAB Saldatura S.p.A.  
Mesero (Mi)  
Tel: +39 02 97 96 81  
Fax: +39 02 97 28 91 81

### THE NETHERLANDS

ESAB Nederland B.V.  
Amersfoort  
Tel: +31 33 422 35 55  
Fax: +31 33 422 35 44

## NORWAY

AS ESAB  
Larvik  
Tel: +47 33 12 10 00  
Fax: +47 33 11 52 03

## POLAND

ESAB Sp.zo.o.  
Katowice  
Tel: +48 32 351 11 00  
Fax: +48 32 351 11 20

## PORTUGAL

ESAB Lda  
Lisbon  
Tel: +351 8 310 960  
Fax: +351 1 859 1277

## SLOVAKIA

ESAB Slovakia s.r.o.  
Bratislava  
Tel: +421 7 44 88 24 26  
Fax: +421 7 44 88 87 41

## SPAIN

ESAB Ibérica S.A.  
Alcalá de Henares (MADRID)  
Tel: +34 91 878 3600  
Fax: +34 91 802 3461

## SWEDEN

ESAB Sverige AB  
Gothenburg  
Tel: +46 31 50 95 00  
Fax: +46 31 50 92 22

### ESAB international AB

Gothenburg  
Tel: +46 31 50 90 00  
Fax: +46 31 50 93 60

## SWITZERLAND

ESAB AG  
Dietikon  
Tel: +41 1 741 25 25  
Fax: +41 1 740 30 55

## North and South America

### ARGENTINA

CONARCO  
Buenos Aires  
Tel: +54 11 4 753 4039  
Fax: +54 11 4 753 6313

### BRAZIL

ESAB S.A.  
Contagem-MG  
Tel: +55 31 2191 4333  
Fax: +55 31 2191 4440

### CANADA

ESAB Group Canada Inc.  
Mississauga, Ontario  
Tel: +1 905 670 02 20  
Fax: +1 905 670 48 79

### MEXICO

ESAB Mexico S.A.  
Monterrey  
Tel: +52 8 350 5959  
Fax: +52 8 350 7554

### USA

ESAB Welding & Cutting Products  
Florence, SC  
Tel: +1 843 669 44 11  
Fax: +1 843 664 57 48

## Asia/Pacific

### CHINA

Shanghai ESAB A/P  
Shanghai  
Tel: +86 21 2326 3000  
Fax: +86 21 6566 6622

### INDIA

ESAB India Ltd  
Calcutta  
Tel: +91 33 478 45 17  
Fax: +91 33 468 18 80

### INDONESIA

P.T. ESABindo Pratama  
Jakarta  
Tel: +62 21 460 0188  
Fax: +62 21 461 2929

### JAPAN

ESAB Japan  
Tokyo  
Tel: +81 45 670 7073  
Fax: +81 45 670 7001

### MALAYSIA

ESAB (Malaysia) Snd Bhd  
USJ  
Tel: +603 8023 7835  
Fax: +603 8023 0225

### SINGAPORE

ESAB Asia/Pacific Pte Ltd  
Singapore  
Tel: +65 6861 43 22  
Fax: +65 6861 31 95

### SOUTH KOREA

ESAB SeAH Corporation  
Kyungnam  
Tel: +82 55 269 8170  
Fax: +82 55 289 8864

### UNITED ARAB EMIRATES

ESAB Middle East FZE  
Dubai  
Tel: +971 4 887 21 11  
Fax: +971 4 887 22 63

## Representative offices

### BULGARIA

ESAB Representative Office  
Sofia  
Tel/Fax: +359 2 974 42 88

### EGYPT

ESAB Egypt  
Dokki-Cairo  
Tel: +20 2 390 96 69  
Fax: +20 2 393 32 13

### ROMANIA

ESAB Representative Office  
Bucharest  
Tel/Fax: +40 1 322 36 74

### RUSSIA

LLC ESAB  
Moscow  
Tel: +7 095 543 9281  
Fax: +7 095 543 9280

### LLC ESAB

St Petersburg  
Tel: +7 812 336 7080  
Fax: +7 812 336 7060

## Distributors

*For addresses and phone numbers to our distributors in other countries, please visit our home page*

[www.esab.com](http://www.esab.com)



ESAB AB  
SE-695 81 LAXÅ  
SWEDEN  
Phone +46 584 81 000

[www.esab.com](http://www.esab.com)

