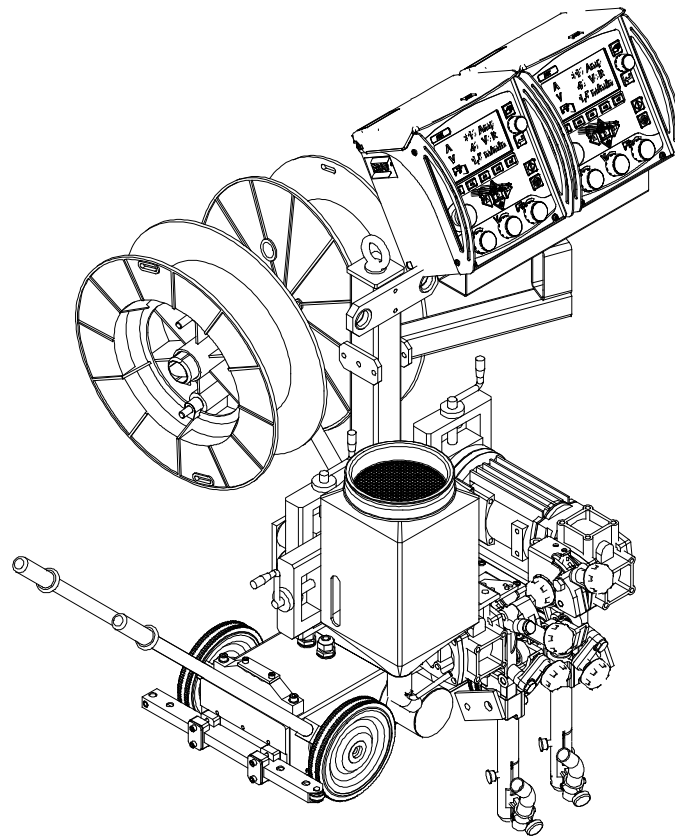


A6 Mastertrac Tandem

A6TF F2



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

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
 - the working area/working range is free from objects.
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.
 - When replacing the wire drum, exercise the greatest caution as the end of the wire could cause personal injury.

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.

Mind the following:

- That the freewheel clutch of the gear shall be in locked position.
- That, if the operator leaves the machine, it **shall** be parked with blocks in front of the wheels, in order to prevent the machine from moving unintentionally.
- Make sure that the automatic welding machine is not unstable before start.
- That the placement of the welding head and the wire reel influence the centre of gravity of the machine.
Too high a centre of gravity means an unstable welding machine.
- That the consumption of wire and flux results in displacement of the weight distribution during the welding.



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

The **A6TF F2 automatic welding machine**, with two welding heads, is mounted on a self-propelled trolley and is designed for submerged-arc welding of butt welds.

All other uses are prohibited

The position of welding head can be set horizontally and vertically with the linear slides. Angular movement is adjusted with the angular slide.

The automatic welding machine is intended for use in combination with the **PEK** and ESAB's welding power sources **LAF** or **TAF**.

2.2 Welding method

2.2.1 Submerged-arc welding

The weld bead is protected by a cover of flux during the welding.

- **Submerged-arc Heavy duty**

Submerged-arc heavy duty, with a \varnothing 35 mm connector, which permits a load of up to 1500 A.

This version can be equipped with feed rollers for single wire welding . 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.

- **Tandem welding (submerged-arc)**

For tandem welding, a welding head of type **A6SF** is always used, which must be connected to 2 welding power sources and 2 control boxes of type **PEK**.

The tandem welding head includes 2 single welding heads (A6SF), each with its own contact tip. Each contact tip has a maximum rated load of 1500 A.

2.3 Horizontal Welding

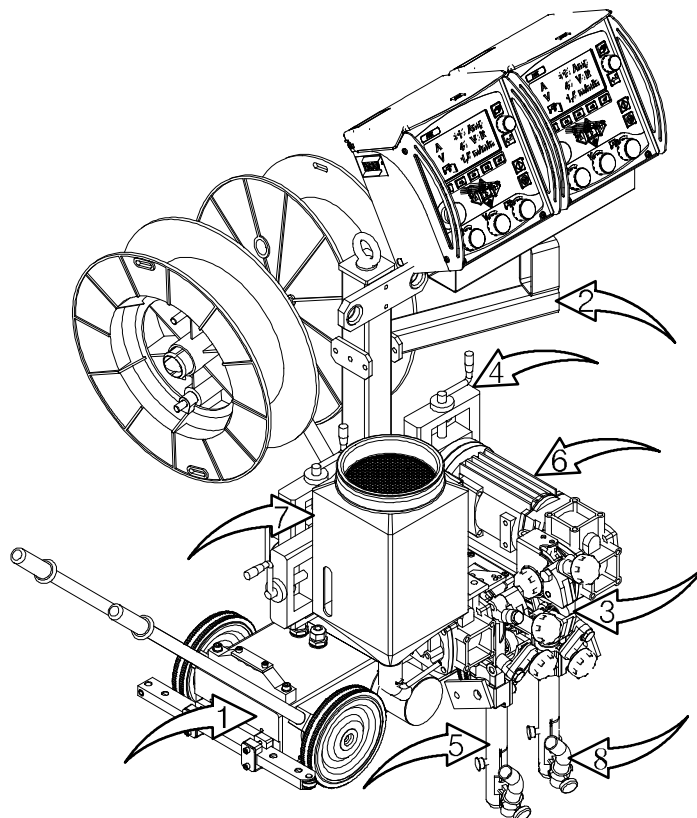
The automatic welding machine is designed for horizontal welding.

A6TF F2 is not to be used for welding on inclined planes.

2.4 Technical data

	A6TF F2 (SAW)
Supply voltage	42 V AC
Rated load 100 %	1500 A
Electrode dimensions:	
solid single wire	3,0-6,0 mm
flux-cored wire	3,0-4,0 mm
Electrode feed rate, max.	4 m/min
Brake drum braking torque	1,5 Nm
Speed of travel	0,1-2,0 m/min
Electrode weight, max.	2 x 30 kg
Flux hopper capacity (Must not be filled with preheated flux)	10 l
Weight (excluding electrode and flux)	158 kg
Continuous A weighted sound pressure	68 dB
Enclosure class	IP10
EMC classification	Class A

2.5 Main components A6TF F2 (SAW)



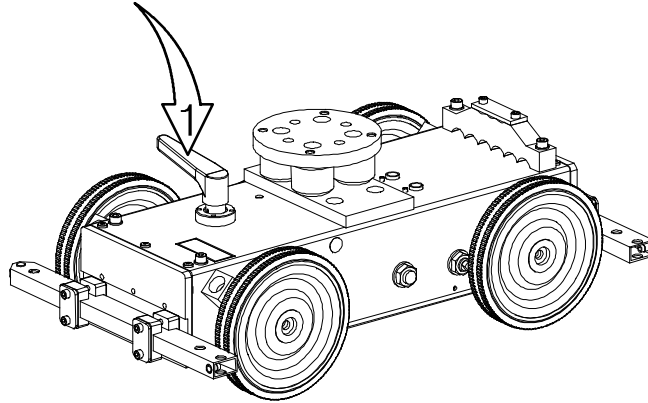
- | | | |
|-------------------|-----------------------------|----------------|
| 1. Carriage | 4. Slide, manual | 7. Flux hopper |
| 2. Carrier | 5. Connector | 8. Flux nozzle |
| 3. Wire feed unit | 6. Motor with gear (A6 VEC) | |

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

2.6 Description of Main Components

2.6.1 Carriage

The carriage is provided with 4-wheel drive. The carriage can be secured by way of the locking lever (1).



2.6.2 Carrier

The control boxes, among other things, are to be fitted on the carrier.

2.6.3 Wire Feed Unit

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

2.6.4 Manual 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.

2.6.5 Connector

Transfers welding current to the wire during welding.

2.6.6 Motor with gear (A6 VEC)

The motor is used for feeding the welding wire.

For more information regarding the **A6 VEC** see instruction manual 0443 393 xxx.

2.6.7 Flux Hopper / Flux Tube / Flux nozzle

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


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 16.

3 INSTALLATION

3.1 General

The installation must be executed by a professional.



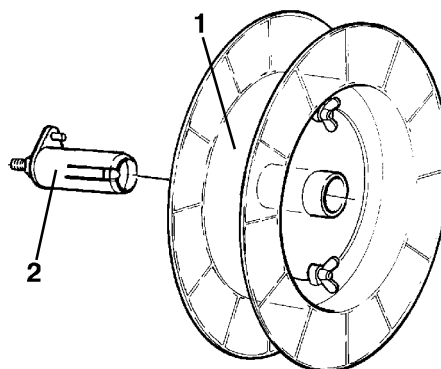
WARNING


Rotating parts can cause injury, take great care.

3.2 Mounting

3.2.1 Wire drum (Accessories)

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






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.

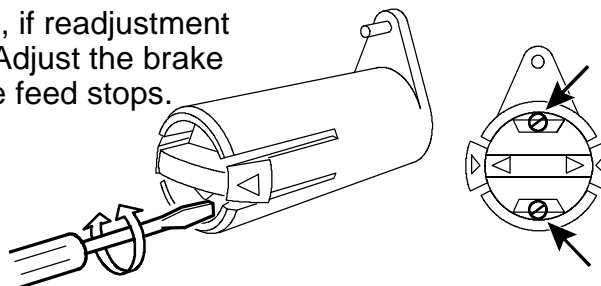


3.3 Adjusting the brake hub

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.

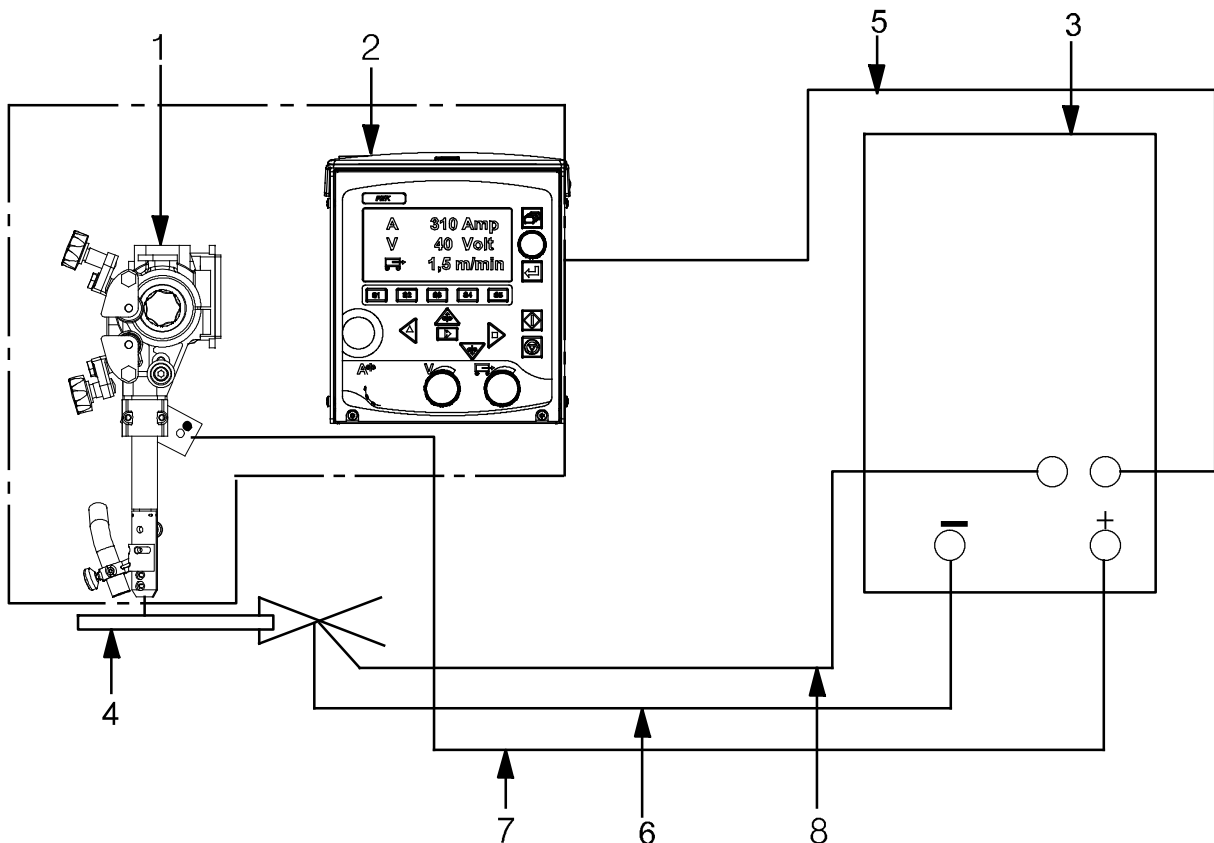
3.4 Connections

3.4.1 General

- The **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 671 001.
- For the connection of **A6 PAV**, see instruction manual 0460 670 001.

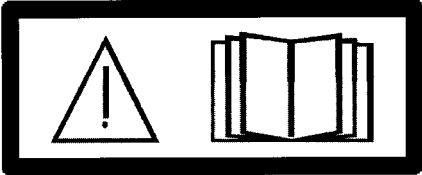
3.4.2 Automatic welding machine A6TF F2 (Submerged arc welding. SAW)

1. Connect the control cable (5) between the power source (3) and the control box PEK (2).
2. Connect the return cable (6) between the power source (3) and work piece (4).
3. Connect the welding cable (7) between the power source (3) and the automatic welding machine (1).
4. Connect the measurement cable (8) between the power source (3) and workpiece (4).



4 OPERATION

4.1 General

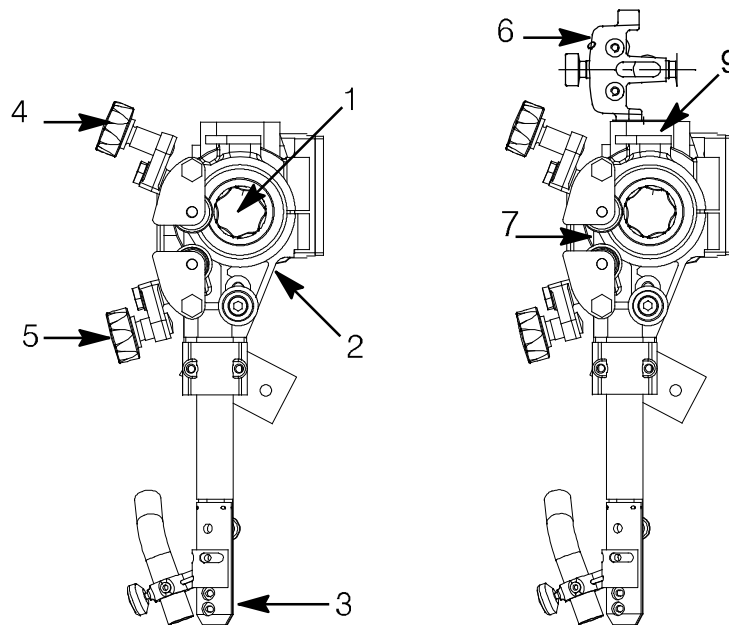
	<p>WARNING: <i>Have you read and understood the safety information ? You must not operate the machine before then !</i></p>
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General safety regulations for the handling of the equipment can be found on page 5. Read through before you start using the equipment!

Return cable

Before welding start, check that the return cable is connected. See page 12.

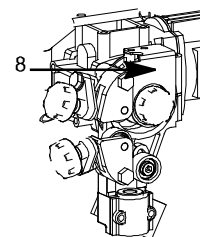
4.2 Loading the welding wire



1. Mount the wire drum according to the instructions on page 11.
 2. Check that feed roller (1) and contact jaw or contact tip (3) are of the correct dimension for the selected wire size.
 3. 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).
 4. 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.
 5. Locate the end of the wire in the feed roller (1) groove.
 6. Set the wire tension on the feed roller with the knob (4).
 - **Note!** Do not tension more than is required to achieve an even feed.
 7. Feed the wire forward 30 mm below the contact tip by pressing  on the control box **PEK**.
 8. 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).

Accessories:

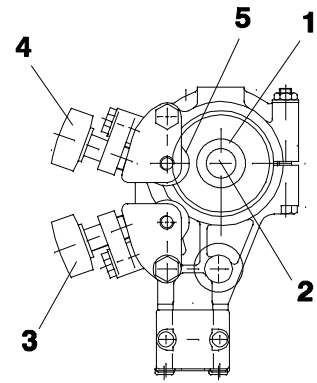
- Fine-wire straightener (6) to be fitted on top of the clamp of the wire feed unit (2).
N.B. When mounting the fine-wire straightener, remove the plate (9) if it's exists.
N.B. The protection plate (8) shall not be removed



4.3 Changing the feed roller

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.



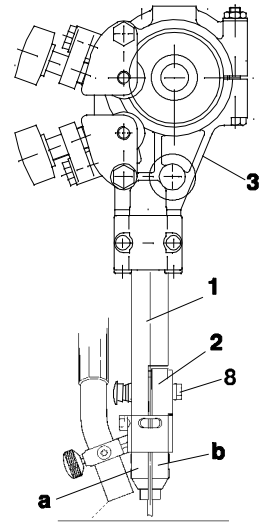
Flux-cored wire for knurled rollers (Accessories)

- 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

For single wire 3.0 - 6.0 mm. Heavy duty (D35)

- Use the straightener (3), connector (1) D35 with contact jaws (2).
- Assemble one contact jaw with the M5 bolts provided, in the fixed contact tip (a).
- Assemble the other contact jaw in the free half of the two-piece connector (b) under the bolt (8) and tighten down hard to ensure that a good contact is achieved between the contact jaws and the wire.



For flux-cored wire 1.6 mm - 4.0 mm (D20 and D35) (Accessories)

If contact jaws (D35) are used, the contact jaws must not be tightened down too hard in order to ensure that the flux-cored wire is not distorted.

- Ensure that good contact is achieved with the wire.

Adjustment of the wire for tandem welding

The distance between the first and second wires must not be so great that the slag has time to solidify between the wires.

- Ensure that good flux coverage is achieved between the first and second wires.

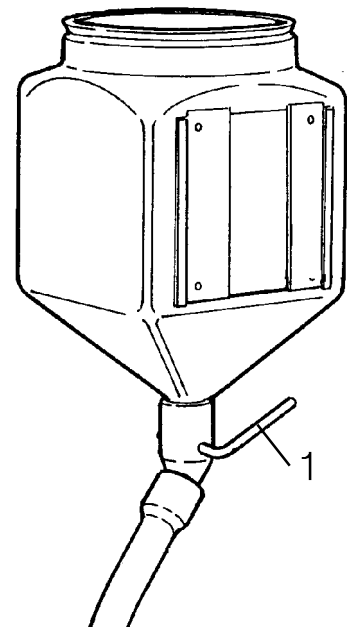
4.5 Refilling with flux powder

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 shall be dry.

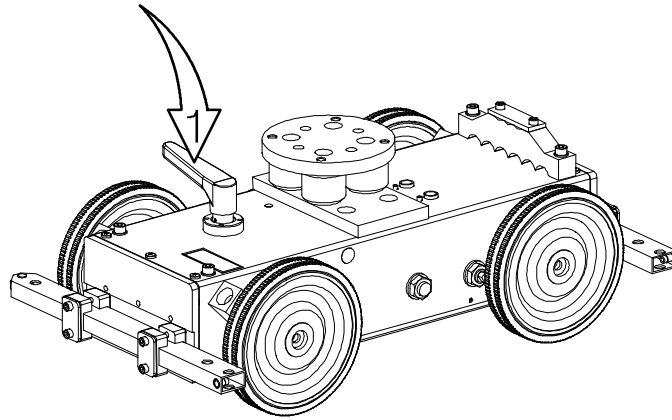
4. Position the flux tube so that it does not become kinked.
5. Adjust the height of the flux nozzle above the weld so that the correct amount of flux is delivered.

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

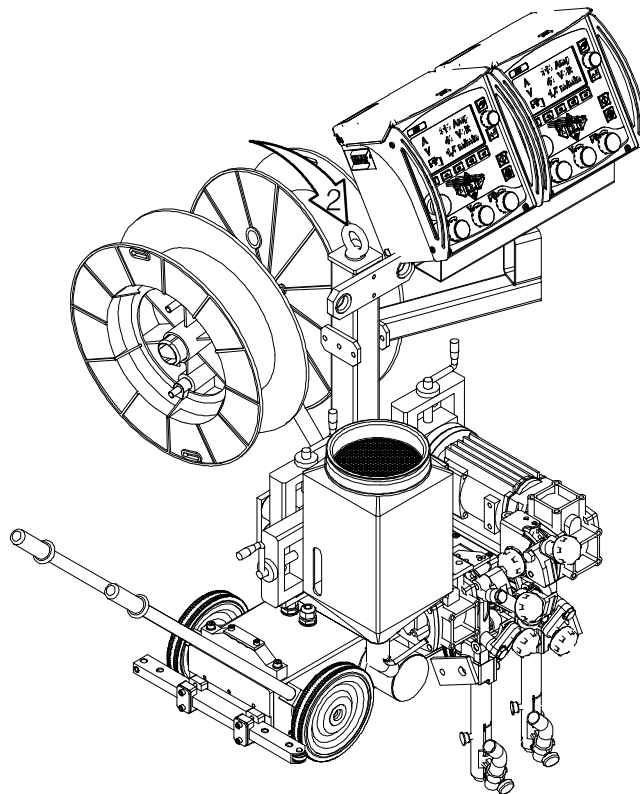


4.6 Transportation of the Automatic Welding Machine

- Disengage the wheels by turning the locking lever (1).



N.B. In case of lifting the automatic welding machine, the lifting eye (2) shall be used.



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.

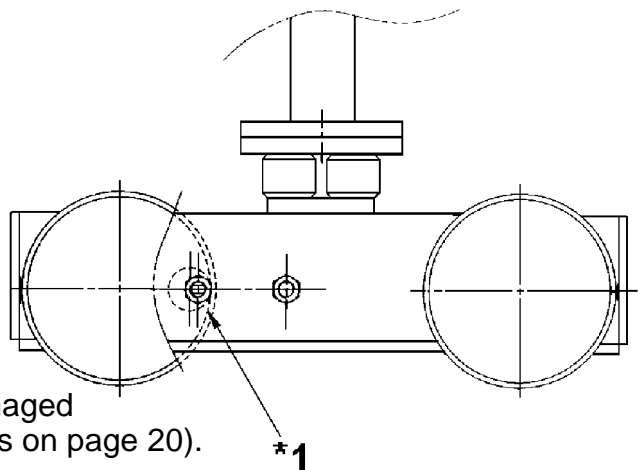
For the maintenance of the **PEK**, see the instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.

5.2 Daily

- Clean flux and dirt off moving parts of the welding machine.
- Check that the contact tip and all electrical cables are connected.
- Check that all bolted joints are tight and that guides and drive 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 11.

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 wear components on page 20).
- If the carriage travel becomes jerky, check that the chain is correctly tensioned. Tension the chain if necessary.
- To tension the chain undo the nut (*1) and turn the cam, then tighten the nut.



6 TROUBLESHOOTING

6.1 General

Equipment

- Instruction manual for control box **PEK**, ordering number 0460 948 xxx, 0460 949 xxx, 0459 839 036.
- Instruction manual for motor with gear **A6 VEC**, ordering number 0443 393 xxx.

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.

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.

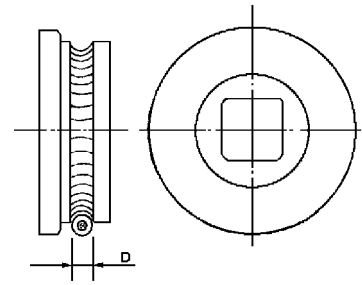
7 ORDERING OF SPARE PARTS

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

WEAR COMPONENTS

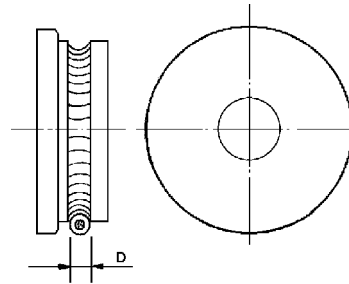
Feed rollers

SAW tubular wire	
Part no	D (mm)
0146 024 880	0,8-1,6
0146 024 881	2,0-4,0



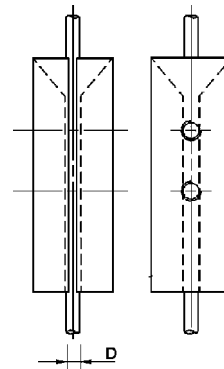
Pressure rollers

SAW tubular wire	
Part no	D (mm)
0146 025 880	0,8-1,6
0146 025 881	2,0-4,0

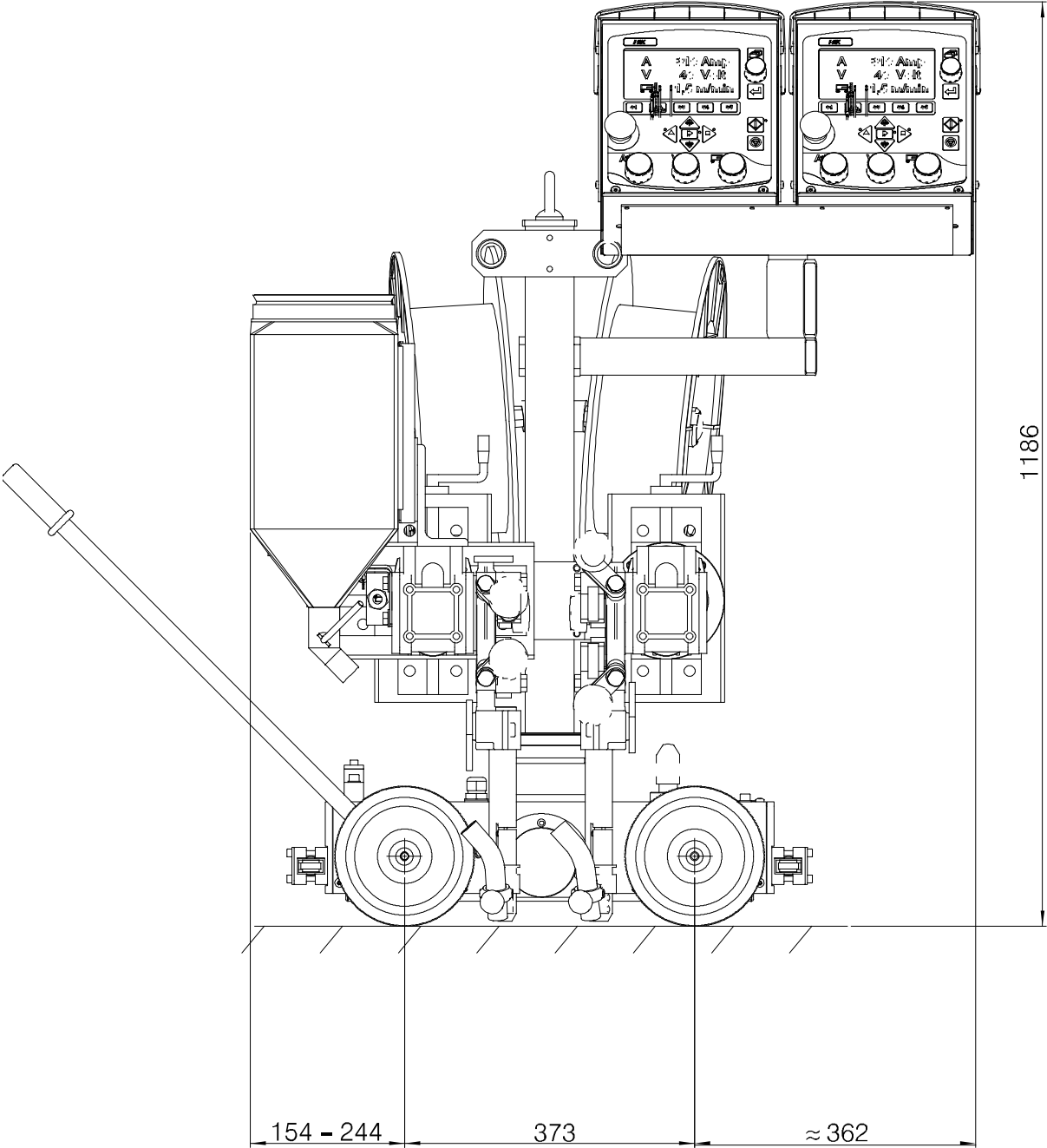


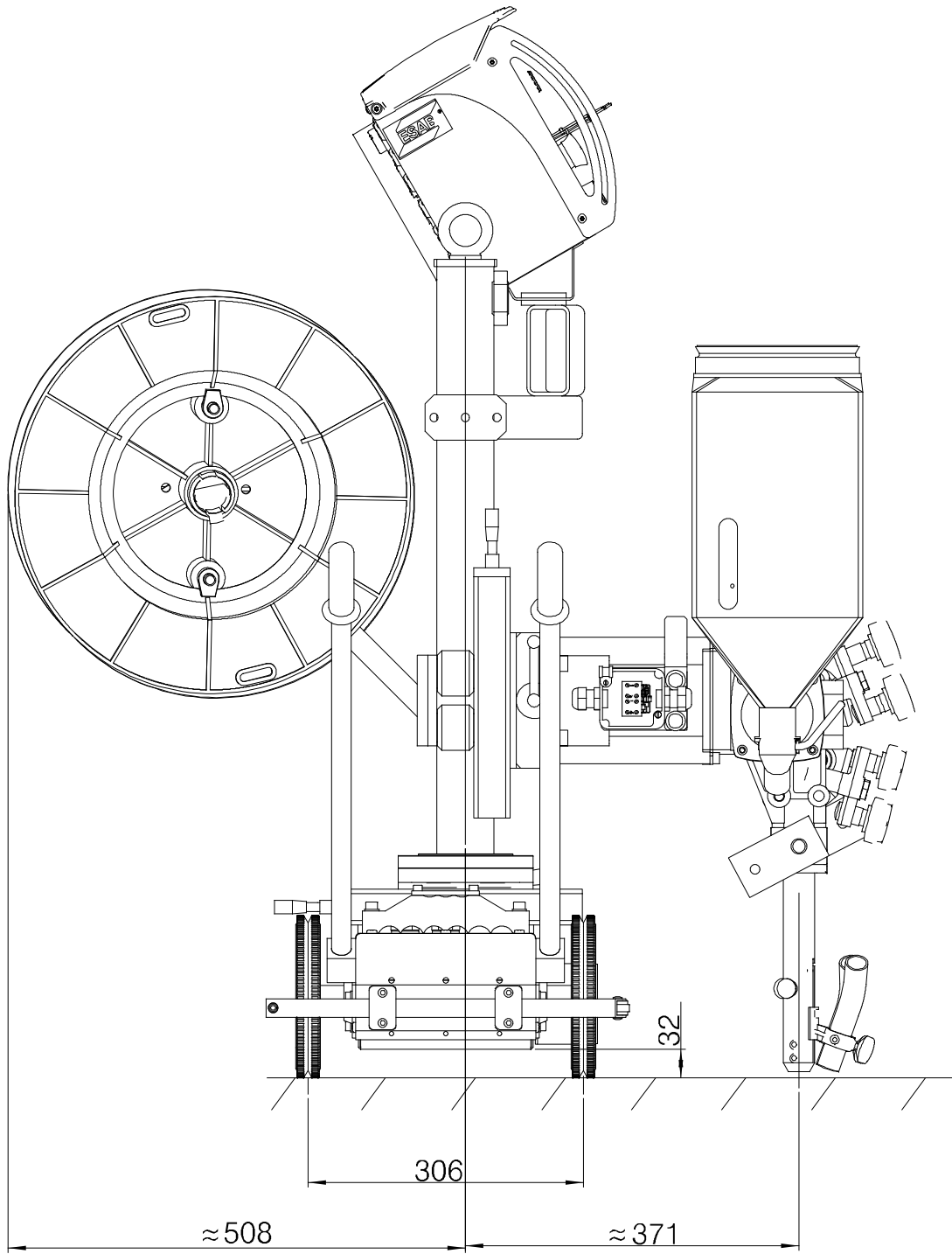
Contact jaws

SAW HD (D35)	
Part no	D (mm)
0265 900 880	3,0
0265 900 882	4,0
0265 900 883	5,0
0265 900 884	6,0



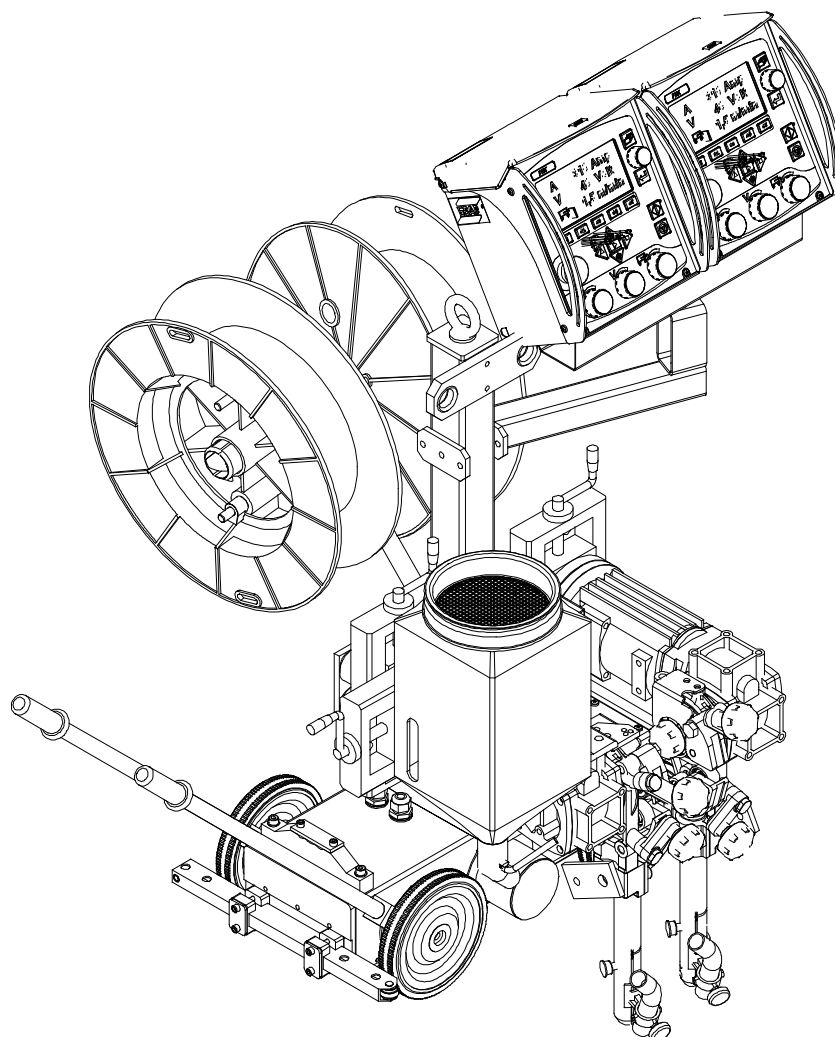
DIMENSION DRAWING





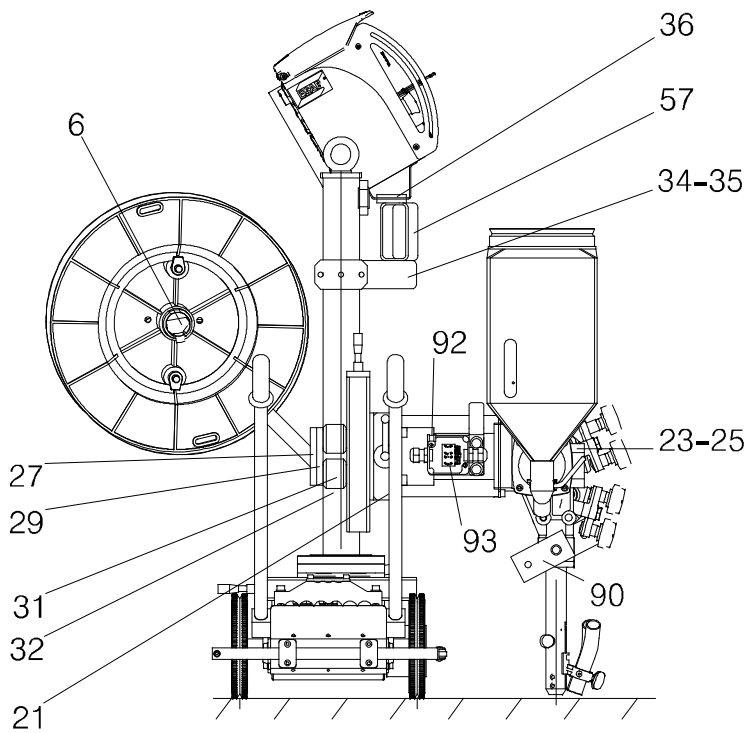
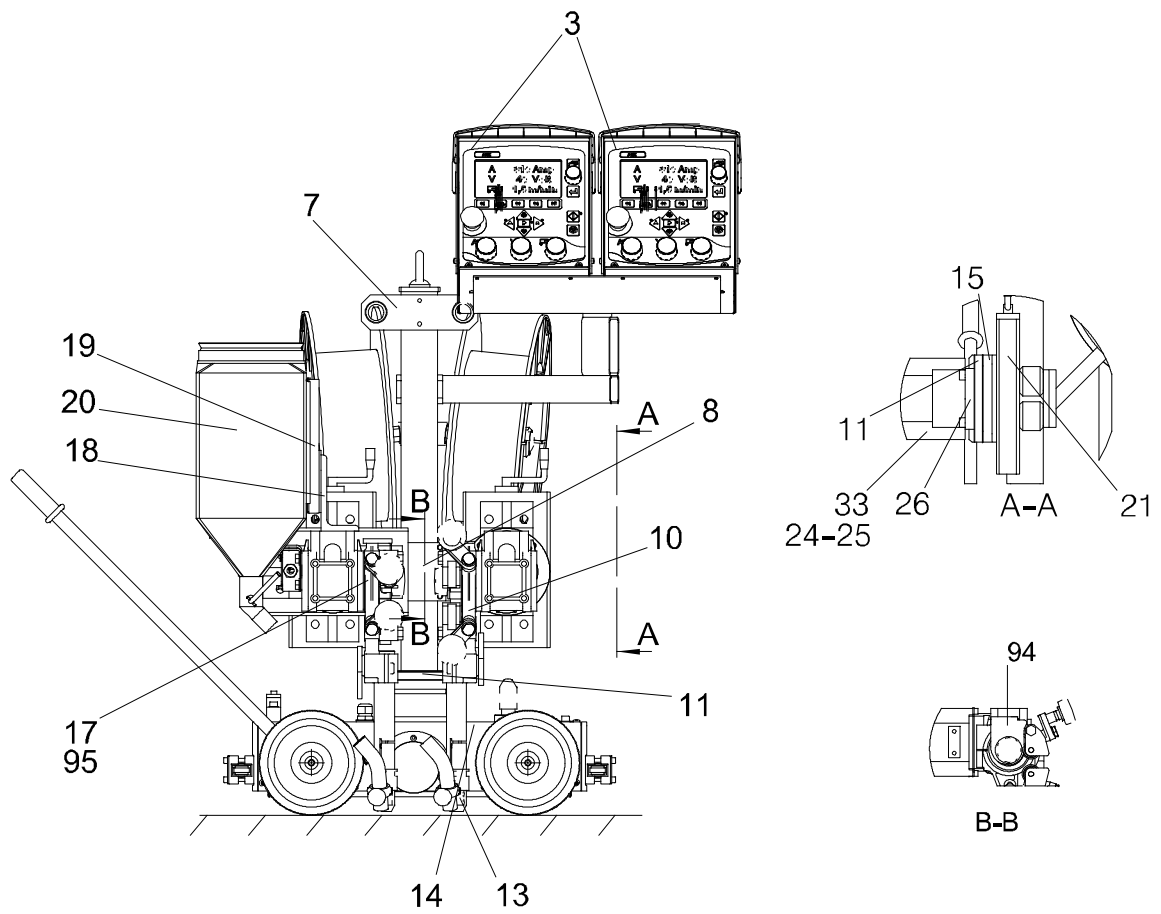
SPARE PARTS LIST

Edition 2009-10-05

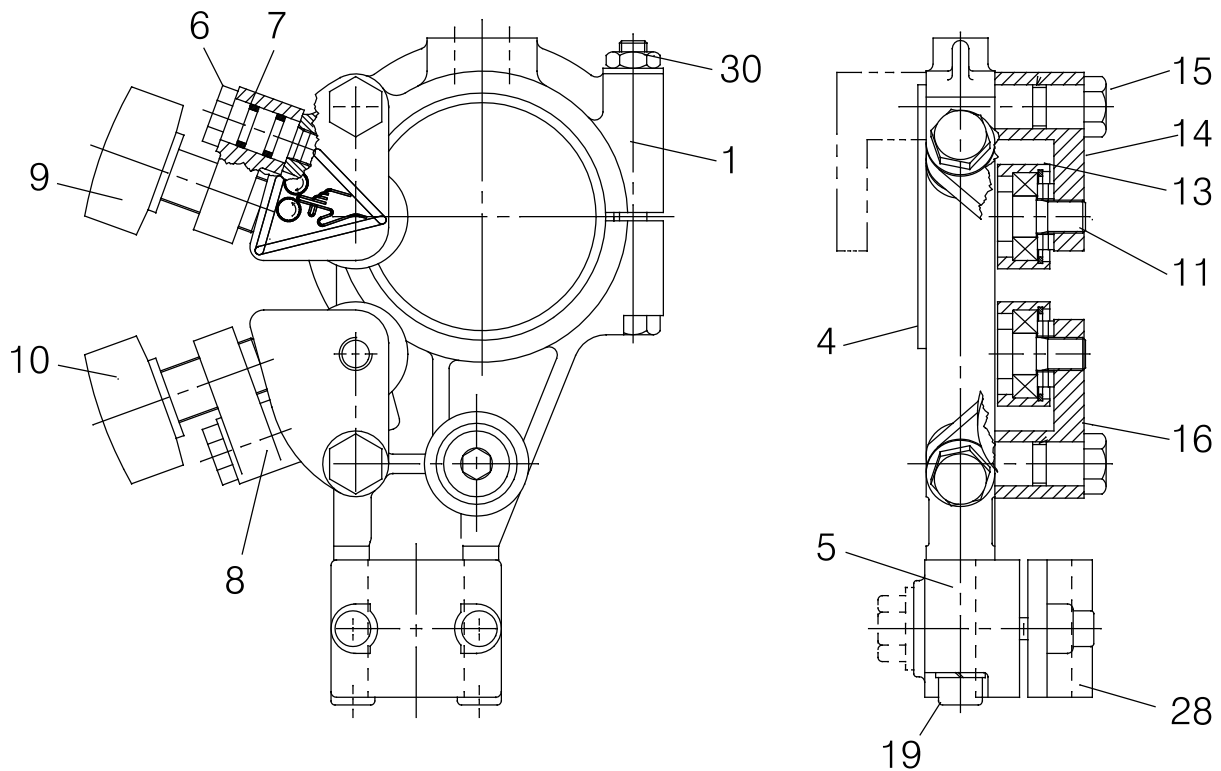


Ordering no.	Denomination	Notes
0461 232 882	A6TF F2 Mastertrac Tandem	A6TF F2

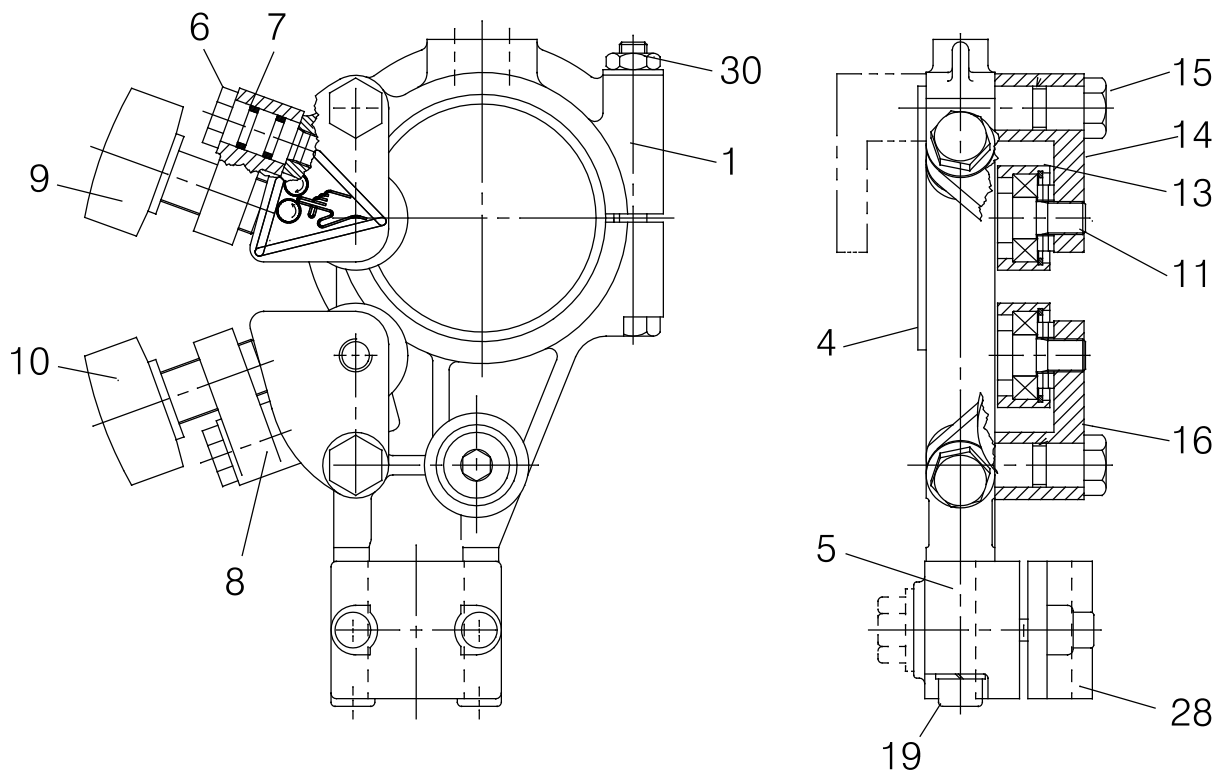
Item no.	Qty	Ordering no.	Denomination	Notes
		0461232882	Automatic welding machine	A6TF F2 Mastertrac Tandem
3	2	0460504880	Control box	PEK, see separate manual
6	2	0146967880	Brake hub	
7	1	0334457880	Wire guide	
8	1	0334184001	Plate	
10	1	0147639881	Wire straightener (left mounted)	D35
11	2	0334170001	Clamping ring	
13	2	0417959880	Contact jaw tube	L=220
14	1	0449490881	Carriage	
15	1	0334171001	Plate	
17	1	0147639880	Wire straightener (right mounted)	D35
18	1	0334294001	Bracket	
19	1	0148487880	Bracket for fluxhopper	
20	1	0147649881	Flux hopper	10 l
21	4	0154465880	Manual Slide	L=90
23	1	0145063906	Motor with gear	A6 VEC (156:1), see separate manual
24	2	0460907891	Motor cable	1.6 m
25	2	0218810183	Insulated hand wheel	
26	1	0334172001	Gear bracket	
27	1	0334180880	Reel holder	
29	1	0334177001	Plate	
31	8	0278300180	Insulator	2000 V
32	1	0334168881	Column	
33	1	0145063896	Motor with gear	A6 VEC (156:1), see separate manual
34	1	0334297881	Box holder	
35	1	0334179001	Plate	
36	1	0334185887	Box girder beam complete	
40	1	0153491001	Branching tube	
42		0443383001	Flux hose	D32/25
43	1	0153299880	Flux nozzle	
57	1	0334709001	Spacer	
80	2	0457713001	Bar	
90	2	0461239881	Cable (arc-voltage)	1,7m
92	1	0417699002	Clamp	
93	1	0449498880	Junction box complete	
94	1	0449528002	Protection cover, left	
95	1	0449528001	Protection cover, right	



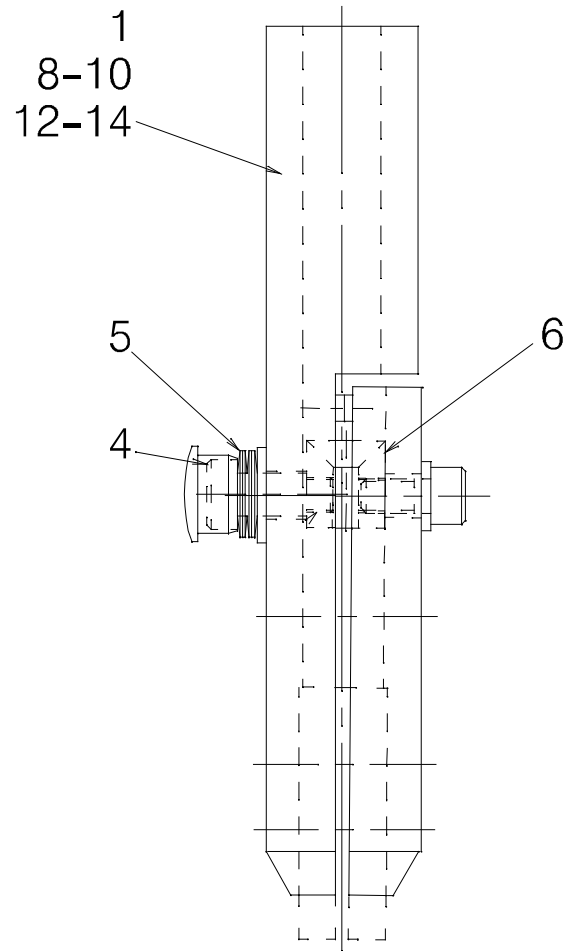
Item no.	Qty	Ordering no.	Denomination	Notes
		0147639880	Straightener (right mounted)	
1	1	0156449001	Clamp	
4	1	0215503601	Insulating sleeve	
5	1	0156530001	Clamp half	D35
6	2	0212900001	Spacer screw	
7	4	0215201209	Sealing, O-ring	D11.3x2.4
8	2	0218400801	Pressure roller arm	
9	1	0218810181	Handwheel, insulated	
10	1	0218810182	Handwheel, insulated	
11	3	0332408001	Stub shaft	
13	3	0153148880	Pressure roller	
14	1	0415498001	Pressure roller, upper	
15	2	0212902601	Spacer screw	
16	1	0415499001	Pressure roller, lower	
19	2	0219501013	Spring washer	D18.1/10.2
28	1	0156531001	Clamp half	D35
30	1	0212 601110	Nut	M10



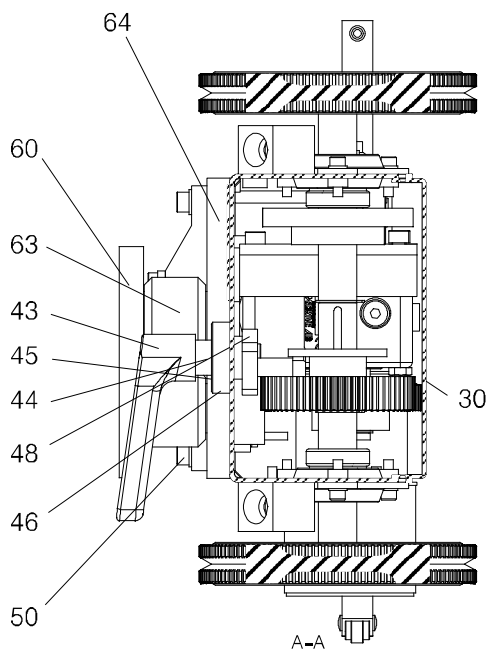
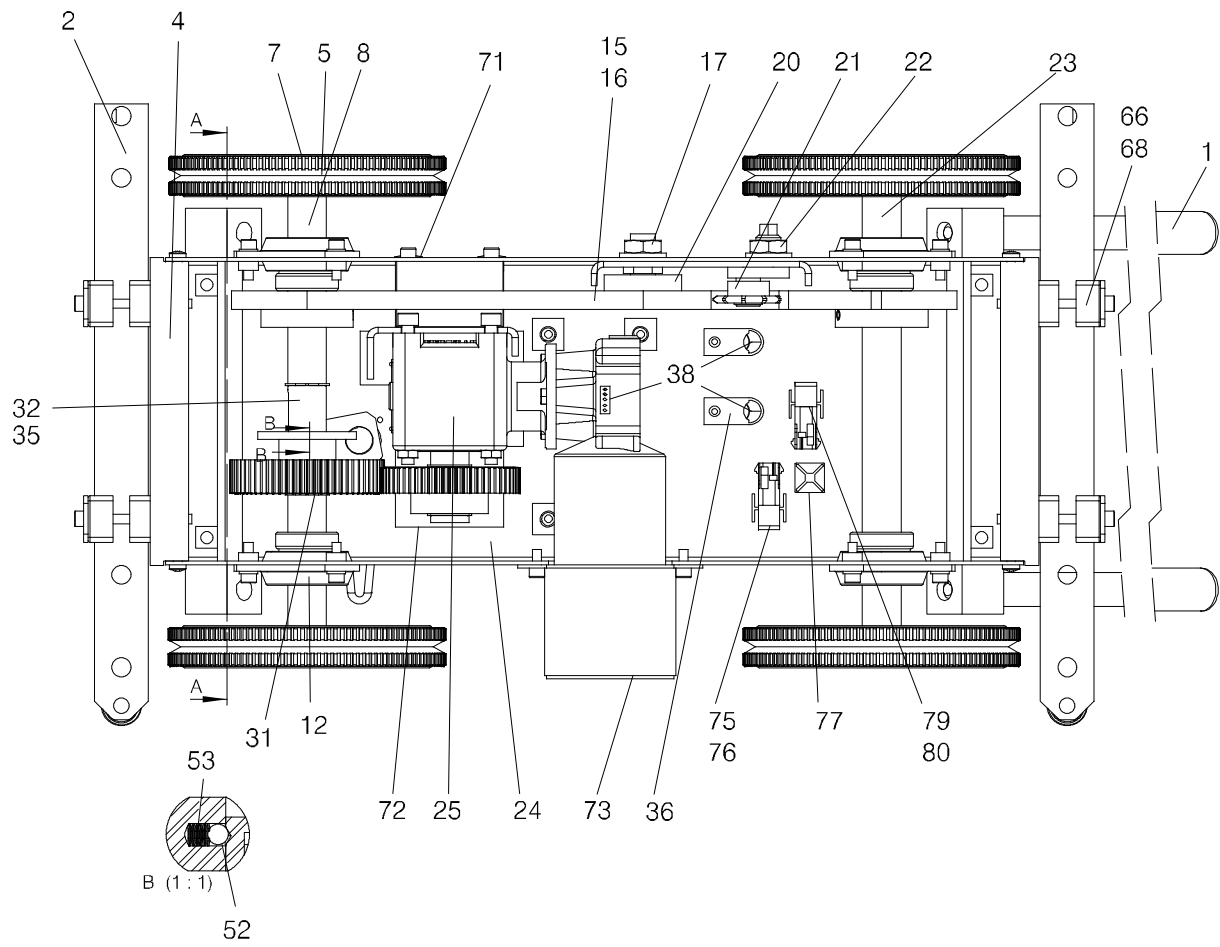
Item	Qty	Orderingno.	Denomination	Remarks
		0147639881	Straightener (left mounted)	
1	1	0156449001	Clamp	
4	1	0215503601	Insulating sleeve	
5	1	0156530001	Clamp half	D35
6	2	0212900001	Spacer screw	
7	4	0215201209	Sealing, O-ring	D11.3x2.4
8	2	0218400801	Pressure roller arm	
9	1	0218810181	Handwheel, insulated	
10	1	0218810182	Handwheel, insulated	
11	3	0332408001	Stub shaft	
13	3	0153148880	Pressure roller	
14	1	0415498001	Pressure roller, upper	
15	2	0212902601	Spacer screw	
16	1	0415499001	Pressure roller, lower	
19	2	0219501013	Spring washer	D18.1/10.2
28	1	0156531001	Clamp half	D35
30	1	0212601110	Nut	M10



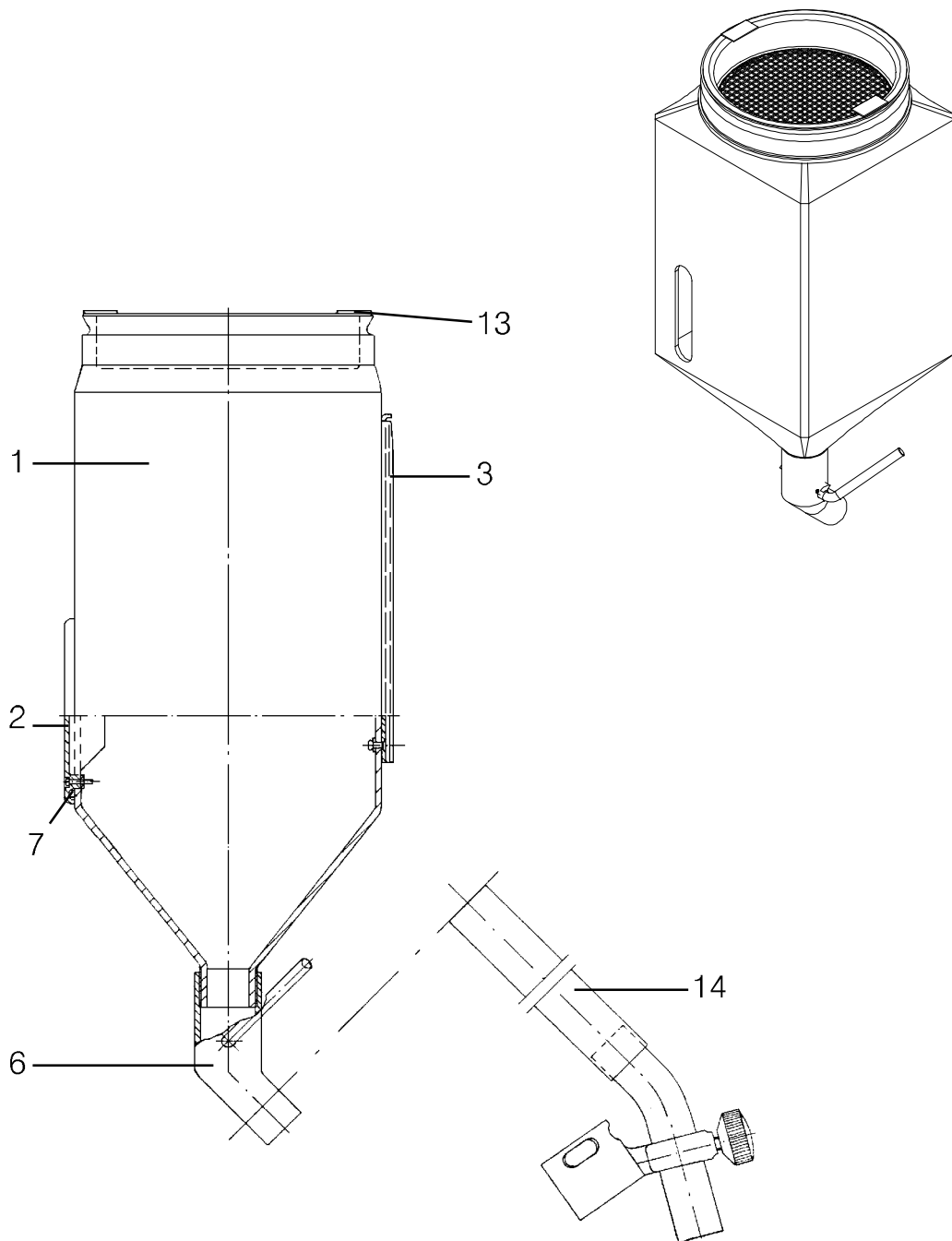
Item no.	Qty	Ordering no.	Denomination	Notes
		0417959880	Contact jaw tube	L = 220 mm
1	1	0443344880	Contact tube	L = 220 mm
4	1	0443372001	Fitting bolt	
5	4	0219504307	Cup spring	d20/10.2, T=1.1
6	1	0417979001	Ring	



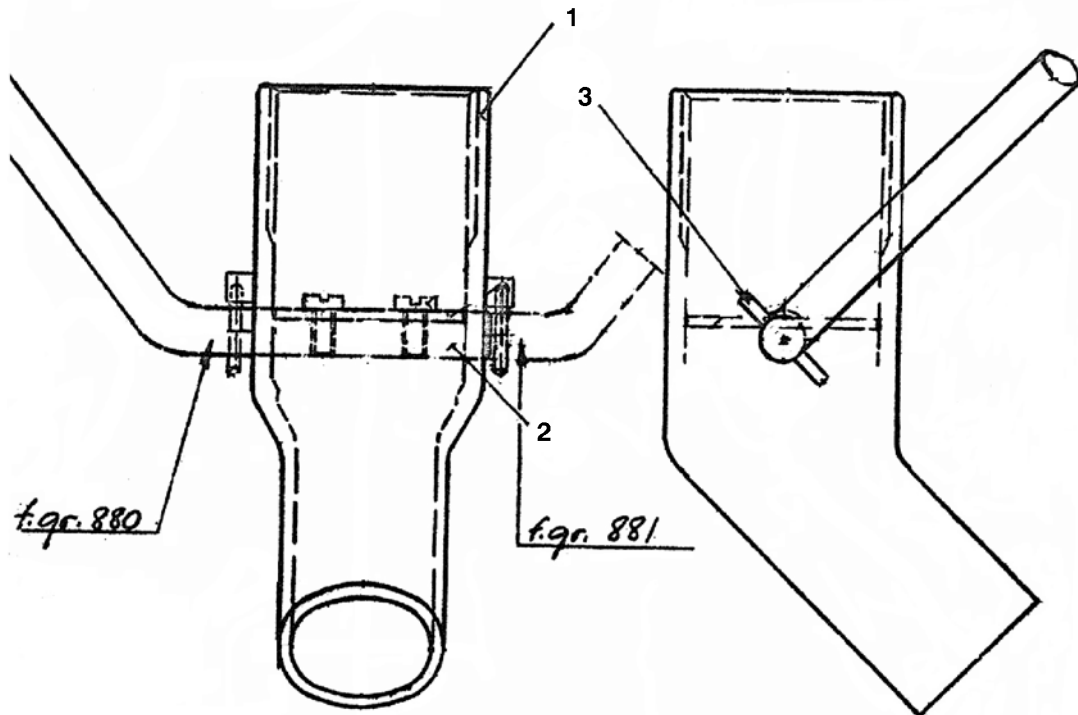
Item no.	Qty	Ordering no.	Denomination	Notes
		0449490881	Carriage	A6TFE/TGE
1	2	0334295880	Handle	
2	2	0449205880	Guide arm complete	
4	2	0334165880	Side plate	
5	4	0229202280	Wheel	
7	4	0219501013	Spring washer	D18,1/10,2
8	1	0334198880	Front shaft with sprocket	
9	1	0332947880	Bracket	
12	4	0334264001	Flange bearing unit	
15	1	0218201502	Chain	1/2"x4,88
16	1	0218201602	Chain lock simple	1/2"x4,88
17	1	0334160001	Stub shaft	
20	1	0334163880	Sprocket	
21	1	0334162880	Sprocket	
22	1	0334161001	Excenter	
23	1	0334197880	Rear shaft with chain wheel	
24	1	0449480880	Cover complete	
25	1	0449485881	Drive unit	
30	1	0334167001	Bottom plate	
31	2	0215701019	Circlip	D25x1,2
32	1	0334189001	Gear wheel	
35	1	0215701243	Wedge	5x5x65
36	1	0461242880	Pulse transducer cable	2,1m
38	1	0461241880	Motor cable	1,9m
43	1	0333630001	Locking arm adjustable	
44	1	0211102940	Roll pin	D 3x28
45	1	0215701016	Circlip	D20
46	1	0334196001	Bushing	
48	1	0334192880	Excenter	
52	1	0221307001	Steel ball	7,94 mm
53	14	0219501101	Spring plate	D8/3,2x0,3
60	1	0334171001	Plate	
63	4	0278300180	Insulator	
64	1	0334706001	Plate	
66	8	0449206001	Clamp	
68	4	0191498003	Cover plate	
71	2	0192230107	Dummy plug	D=16
72	1	0449487001	Attachment	
73	1	0461213880	Motor attachment	
75	1	0192784002	Sleeve plug	2-pol.
76	2	0192784102	Cap	
77	1	0191998103	Attachment	
79	1	0192784001	Pin plug	2-pol.
80	2	0192784101	Pin	



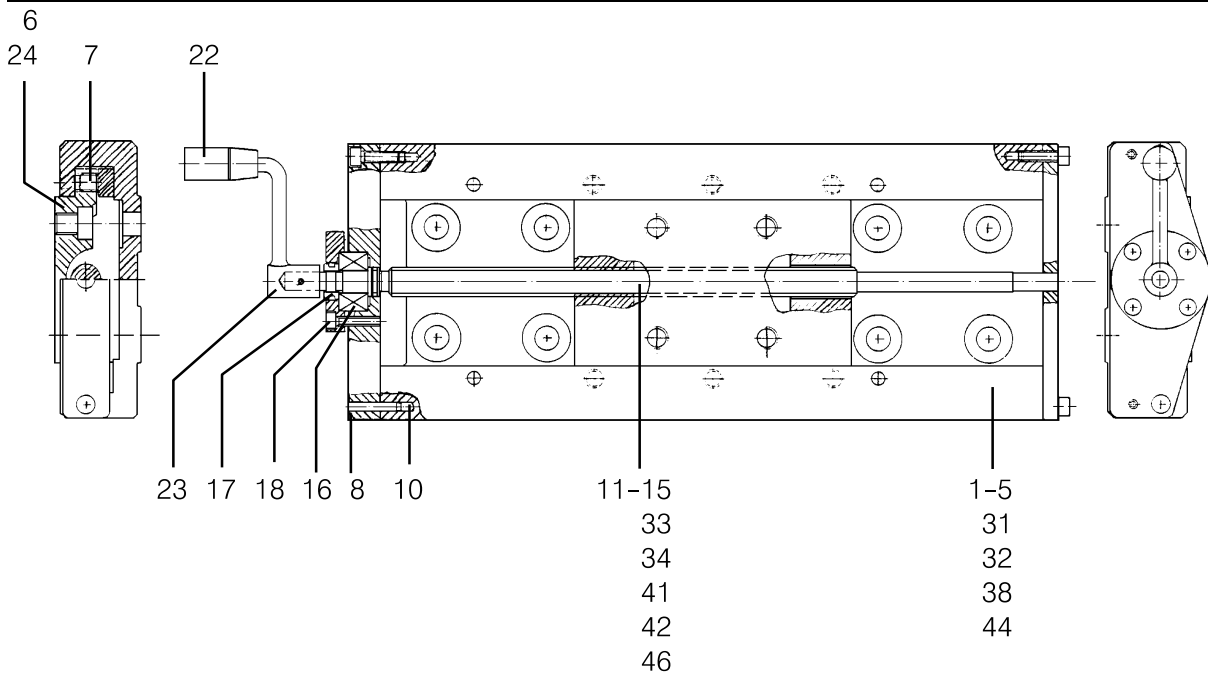
Item no.	Qty	Ordering no.	Denomination	Notes
		0147649881	Flux Hopper	10l
1	1	0154007001	Flux hopper	
2	1	0148837001	Window (a6 flux hopper)	
3	1	0147645001	Mounting	
6	1	0153347880	Flux valve	
7	1	0215201232	Sealing, O-ring	69,2x5,7
13	1	0020301780	Flux strainer	
14	1	0443383002	Flux hose	L=500



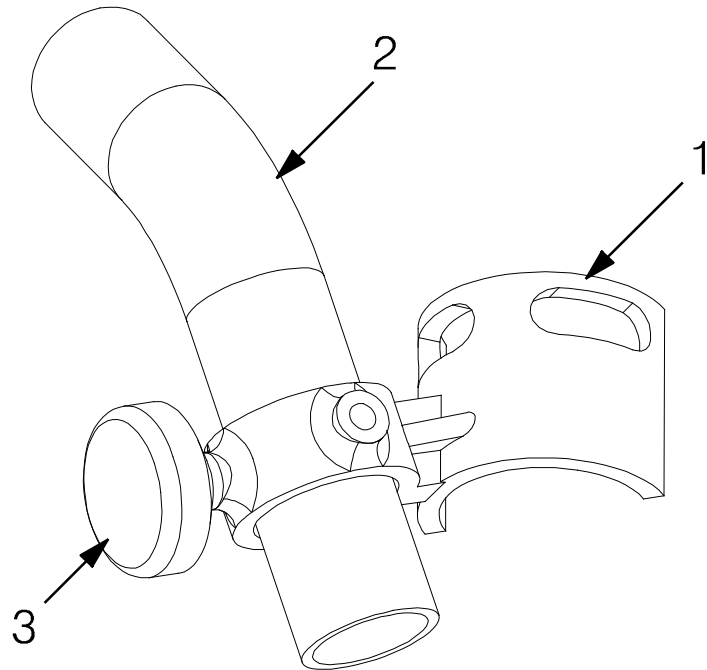
Item no.	Qty	Ordering no.	Denomination	Notes
		0153347880	Flux valve	
1	1	0153348001	Outlet	
2	1	0153349001	Shaft	
3	1	0211102938	Roll pin	d 3x20



Item	Qty	Orderingno.	Denomination	Remarks
		0154465880	Slide, manually operated	L=90
1	1	0154464001	Slide frame	
6	1	0154463880	Carriage with slide rails	
7	6	0190509485	Stop screw	M10x10
8	1	0154458001	End piece	
10	2	0211102957	Roll pin	D5x20
11	1	0154461001	Lead screw	
16	1	0190531201	Ball bearing	SKF 3201
17	1	0154456001	Lock nut	
18	1	0154457001	Ball bearing cap	
22	1	0334537001	Handle crank	
23	1	0211102938	Roll pin	D3x20



Item no.	Qty	Ordering no.	Denomination	Notes
		0153299880	Flux nozzle complete	
1	1	0153290002	Holder for flux pipe	
2	1	0153296001	Flux pipe, bent	
3	1	0153425001	Wheel	



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