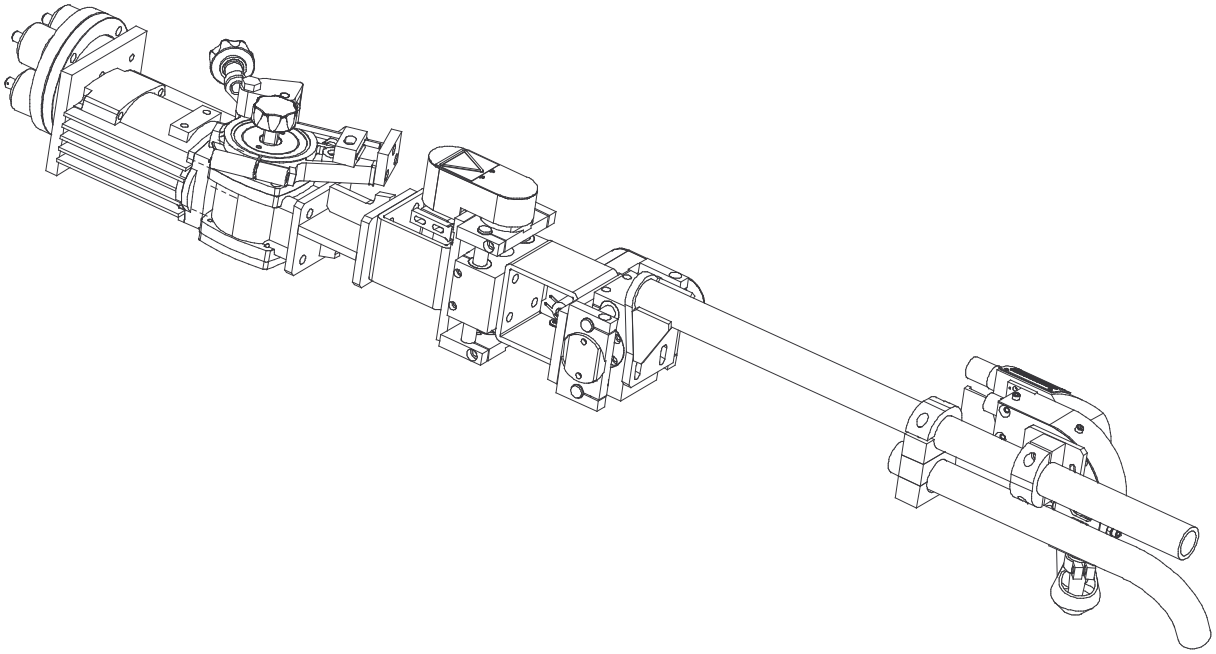
A6S Compact 300



Instruction manual

0449 458 001 10-03-11

Valid for serial no. 440-xxx-xxxx

ENGLISH 4

DECLARATION OF CONFORMITY

according to the Machinery Directive 2006/42/EC, according to the EMC Directive 2004/108/EC

FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

enligt Maskindirektivet 2006/42/EG, enligt EMC-Direktivet 2004/108/EG

Type of equipment Materialslag
Welding Head

Brand name or trade mark Fabrikatnamn eller varumärke
ESAB

Type designation etc. Typbeteckning etc.
A6S Compact 300, from Serial number 440 (2004 week 40)
A6S Compact 300 may be used with Control Box PEH as well as with Control Box PEK

Manufacturer or his authorised representative established within the EEA
Name, address, telephone No, telefax No: Tillverkarens namn, adress, telefon, telefax:

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

The following harmonised standard in force within the EEA has been used in the design:
Följande harmoniserande standarder har använts i konstruktionen:

EN 60204-1, Safety of machinery – Electrical equipment of machines – Party 1: General requirements
EN 1050, Safety of machinery – Principles for risk assessment
EN 12100-2, Safety of machinery – Part 2: Technical principles
EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

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.
Genom att underteckna detta dokument försäkrar undertecknad såsom tillverkare, eller tillverkarens representant inom EES, att angiven materiel uppfyller säkerhetskraven angivna ovan.

Date / Datum	Signature / Underskrift	Position / Befattning
Laxå 2009-03-08	Kent Eimbrodt Clarification	Global Director Equipment and Automation

1 SAFETY 5
2 INTRODUCTION 8
2.1 General 8
2.2 Technical Data 8
2.3 Main components 9
3 INSTALLATION 10
3.1 General 10
3.2 Mounting 10
3.3 Adjusting the brake hub 11
3.4 Connections 12
4 OPERATION 13
4.1 General 13
4.2 Loading the welding wire 14
4.3 Changing the feed roller 15
4.4 Filling with flux 15
5 MAINTENANCE 16
5.1 General 16
5.2 Daily 16
5.3 Regularly 16
6 FAULT TRACING 17
6.1 General 17
6.2 Possible faults 17
8 ORDERING OF SPARE PARTS 18
DIMENSION DRAWING 19
WEAR COMPONENTS 20
SPARE PARTS LIST 21

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 extinquishing equipment must be clearly marked and close at hand.
   - Lubrication and maintenance must **not** be carried out on the equipment during operation.

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 ***A6S Compact 300*** welding head is designed for submerged arc welding (SAW) of butt and fillet joints.

It's intended for use in combination with ***PEH/ PEK*** and ESAB's welding power sources ***LAF*** or ***TAF***.

It can be mounted on a beam-travelling carriage or on a welding column and boom unit.

The welding head can be used inside pipes having a minimum diameter of 300 mm for longitudinal welding and 500 mm for circumreferential welding.

2.2 Technical Data

	A6S Compact 300
Permissible load 100%:	800 A
Wire dimensions:	
Steel Stainless	3-4 mm 3.2 mm
Travel speed	0.1-1.7 m/min
Supply voltage	42 V
Continuous A-weighted noise pressure	68 dB
Linear slide setting range	50 mm
Angular slide setting range	360°
Wire feed speed	
Standard High speed	0,2-4.0 m/min 0.4-8.0 m/min

2.3 Main components

1. Motor with gear (***A6 VEC***)

   See instruction manual 0443 393 xxx.
2. Wire straightener

   Used for guiding and feeding the welding wire down into the wire guider.
3. Slide
   - Vertical alignment ± 25 mm
   - Horizontal alignment ± 25 mm
4. Contact tube

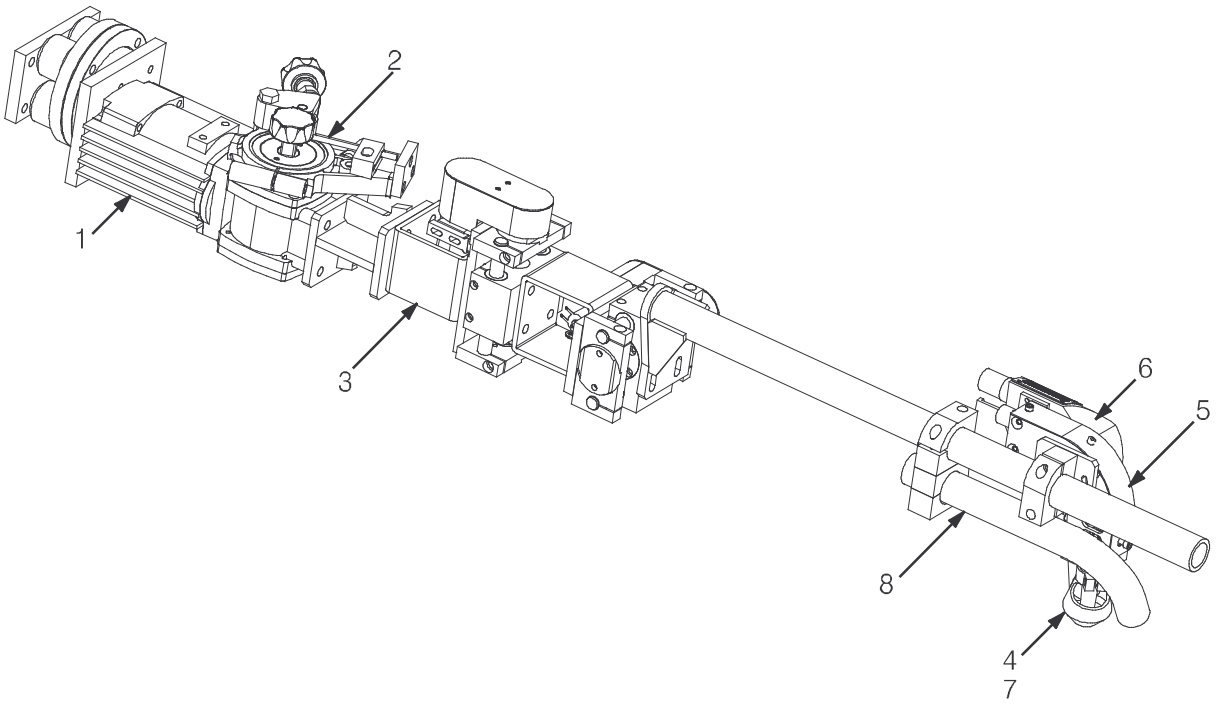
   Transfers welding current to the wire during welding.
5. Wire guider

   Used to guide the wire into the contact tube.
6. Flux hopper

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

   See “**Filling with flux** on page 15.
7. Flux nozzle
8. Flux suction pipe

   Used for recovering surplus flux.



GB

3 INSTALLATION

3.1 General

The installation must be executed by a professional.

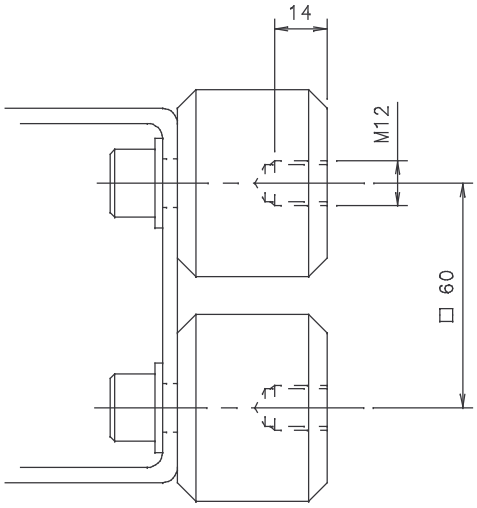
WARNING

Rotating parts can cause injury, take great care.

3.2 Mounting

The welding head should be installed using M12 bolts. It must be firmly secured to prevent it working loose.

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

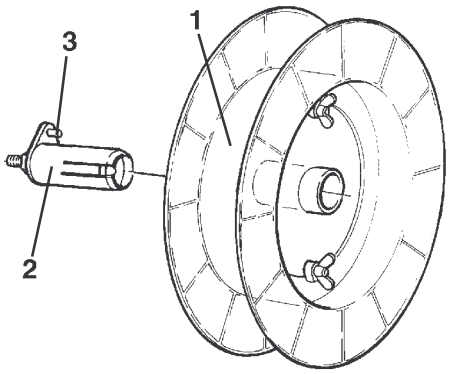


See the dimension drawing on page 19.

3.2.1 Wire reel (Accessories)

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

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



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

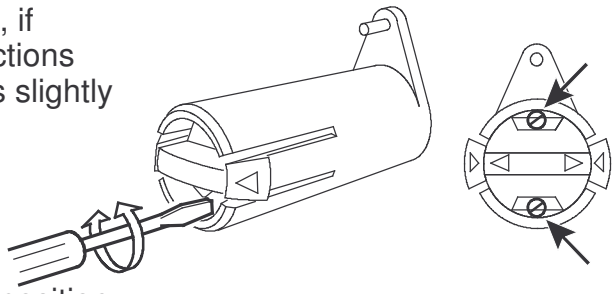
WARNING

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.

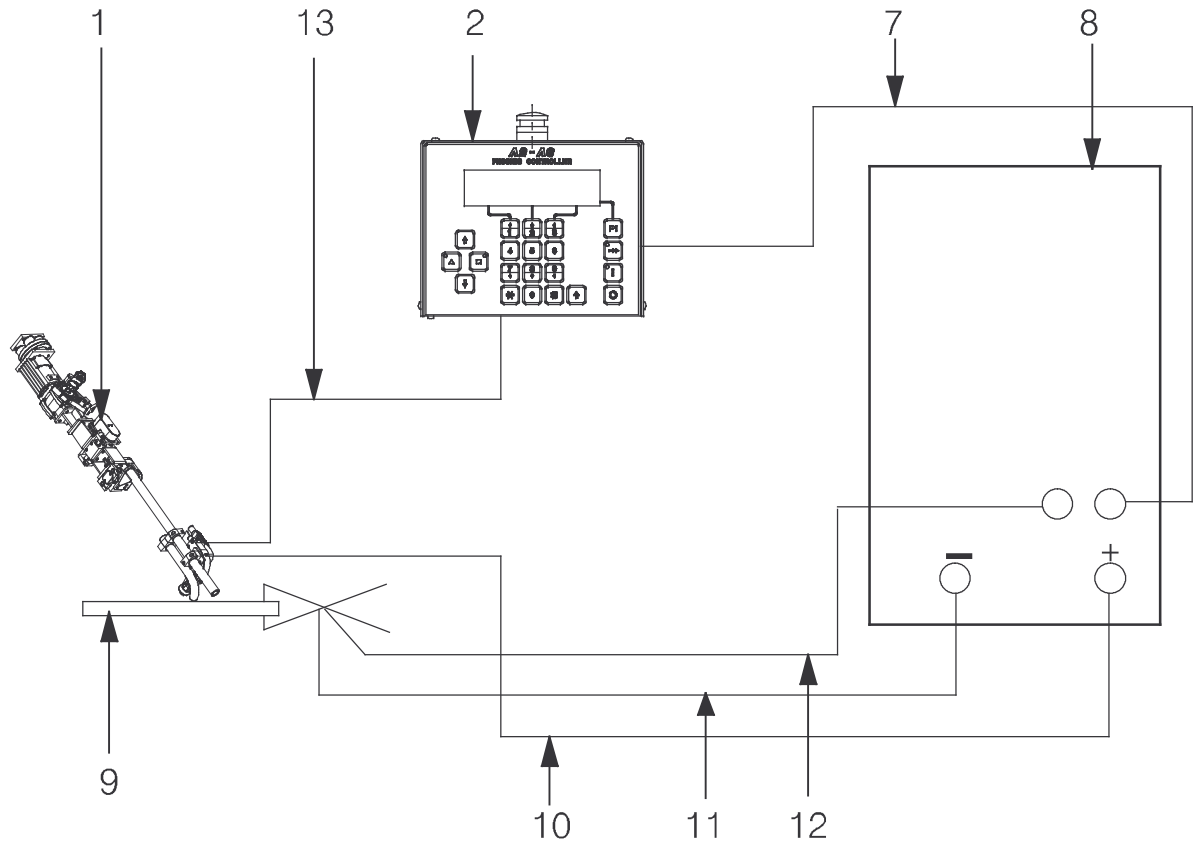
3.4 Connections

3.4.1 General

- The ***PEH/ PEK*** 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.
- For the connection of ***A6 VEC***, see instruction manual 0443 393 xxx.

3.4.2 Welding Head A6S Compact 300

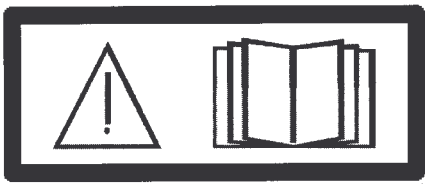
1. Connect the control cable (***7***) between the welding power source (***8***) and ***PEH/ PEK*** (***2***)
2. Connect the return cable (***11***) between the welding power source (***8***) and the work piece (***9***).
3. Connect the welding cable (***10***) between the welding power source (***8***) and the welding head (***1***).
4. Connect the measuring cable (***12***) between the welding power source (***8***) and the work piece (***9***).
5. Connect the measuring cable (***13***) between ***PEH/ PEK*** (***2***) and the welding head (***1***).



GB

4 OPERATION

4.1 General



WARNING:

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 5. Read through before you start using the equipment!

- Select wire type and flux powder 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.
  NOTE! NEVER make a trial weld on a production work piece.

Operating instructions for control box A2-A6 Process Controller (PEH)

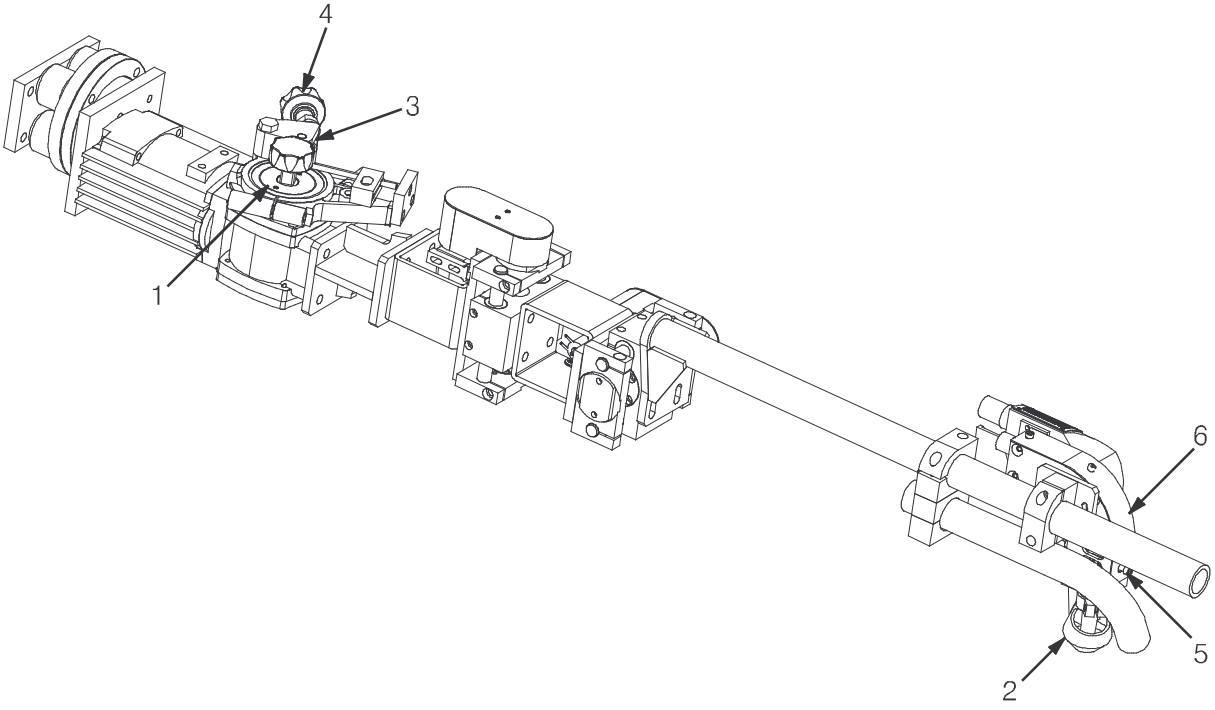
See instruction manual 0443 745 xxx.

Operating instructions for PEK

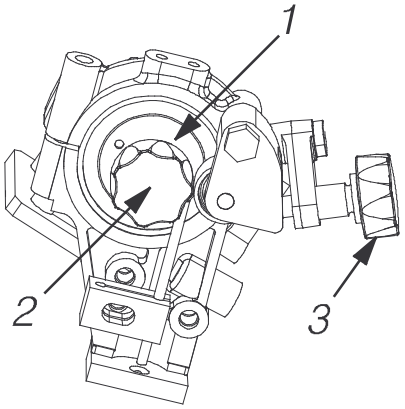
See instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.

4.2 Loading the welding wire

1. Mount the wire drum according to the instructions on page 11.
2. Check that the feed roller (***1***) and nozzle (***2***) are the correct size.
   If using large wire (3-4 mm):
   - Remove the ties from the coil of wire.
   - Feed out the end of the wire.
     Note that for 4 mm wire, pliers may need to be used to pull the wire through.
   - Straighten the wire.
3. Guide the wire through the groove in the feed roller (***1***). Make sure the wire runs under the guide roller (***3***).
4. Adjust the feed roller pressure on the wire using the pressure screw (***4***).
   NB! Do not tighten more than necessary to ensure smooth feeding.
5. Feed the wire forward using the ***PEH/ PEK***.
6. At the same time adjust the screws (***5***) on the wire guide (***6***).
   When the wire guide is correctly adjusted the wire should be straight when it leaves the nozzle (***2***).
   N.B. Do not tighten the screws (***5***) more than necessesary as this will result in an uneven wire feed.

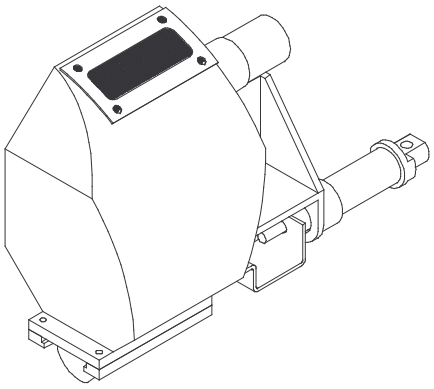


4.3 Changing the feed roller



1. Release the knob (***3***).
2. Release the hand wheel (***2***).
3. Change the feed roller (***1***).
   They are marked with their respective wire sizes.

4.4 Filling with flux



The flux container should be filled by connecting it to a pressurised flux tank (type TPC 75).

- The flow of flux into the flux container is automatically regulated at the inlet pipe. When the flux level falls below the inlet pipe new powder is supplied from the pressurised flux tank.

  NOTE! The flux powder must be dry. Where possible avoid using agglomerating flux powder outdoors and in damp environments.
- 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.

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.

- A2-A6 Process Controller (***PEH***), see instruction manual 0443 745 xxx.
- ***PEK***, see instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.
- Wire feed motor ***A6 VEC***, see instruction manual 0443 393 xxx.

5.2 Daily

- Keep moving parts of the welding machine free from dust and flux.
- Make sure all electrical cables and hoses are properly connected and undamaged.
- Make sure all bolted joints are tight.
- Check the braking torque of the brake hub. It should be sufficient to stop the wire reel rotating when wire feed stops but not so high that the feed rollers slip. The recommended braking torque for a 30 kg wire reel is 1.5 Nm.

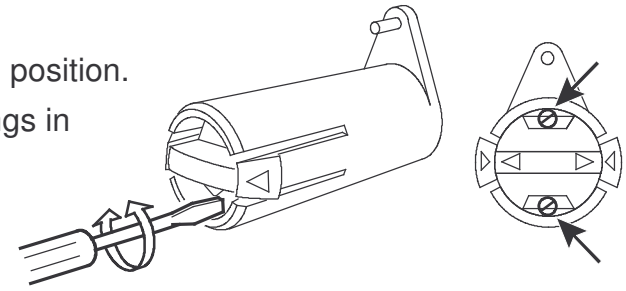
  Adjusting the braking torque:

  a. Turn the red handle to the locked position.

  b. 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.

5.3 Regularly

- Once every three months check the wire feed motor brushes, replace them when they are worn down to 6 mm.
- Check the cross-slides and lubricate if stiff.
- Check the wire guides and drive rollers on the wire feed unit. Replace any components that are worn or damaged.

6 FAULT TRACING

6.1 General

Equipment

- A2-A6 Process Controller (***PEH***), see instruction manual 0443 745 xxx.
- ***PEK***, see instruction manual 0460 948 xxx, 0460 949 xxx, 0459 839 036.
- Wire feed motor ***A6 VEC***, see instruction manual 0443 393 xxx.

Check

- that the welding power supply is connected for the correct mains voltage
- that all three phases are giving the correct voltage (phase sequence not important)
- that the welding cables and connections to them are not damaged
- that the controls are in the right positions
- that the mains supply is disconnected before starting repairs

6.2 Possible faults

1. Symptom	**Current and voltage show fluctuating values on digital display.**
Cause 1.1	Contact jaws or contact tip are worn or wrong size.
Action	Replace contact jaws or contact tip.
Cause 1.2	Pressure on feed rollers is inadequate.
Action	Increase pressure on feed rollers.
2. Symptom	**Wire feed is irregular.**
Cause 2.1	Pressure on feed rollers is incorrectly adjusted.
Action	Adjust pressure on feed rollers.
Cause 2.2	Feed rollers wrong size.
Action	Change feed rollers.
Cause 2.3	Groove in feed rollers is worn.
Action	Replace feed rollers.
3. Symptom	**Welding cables overheat.**
Cause 3.1	Poor electrical connection.
Action	Clean and tighten all electrical connections.
Cause 3.2	Welding cables too small.
Action	Increase dimension of cables or use parallel cables.

7 ACCESSORIES

TV monitoring equipment (Option 10)

The TV monitoring equipment enables the operator to supervise and adjust the welding heads position from outside, via the screen.

See separate manual.

Laser lamp (Option 20)

The laser lamp is used together with the TV monitoring equipment, when positioning the torch to the weld joint.

See separate manual.

Note the following when welding using a laser lamp

- The laser radiation can injure your eyes.
  Do not look straight at the laser diode or the laser beam when it is activated.
- Do not direct the laser beam towards another person.

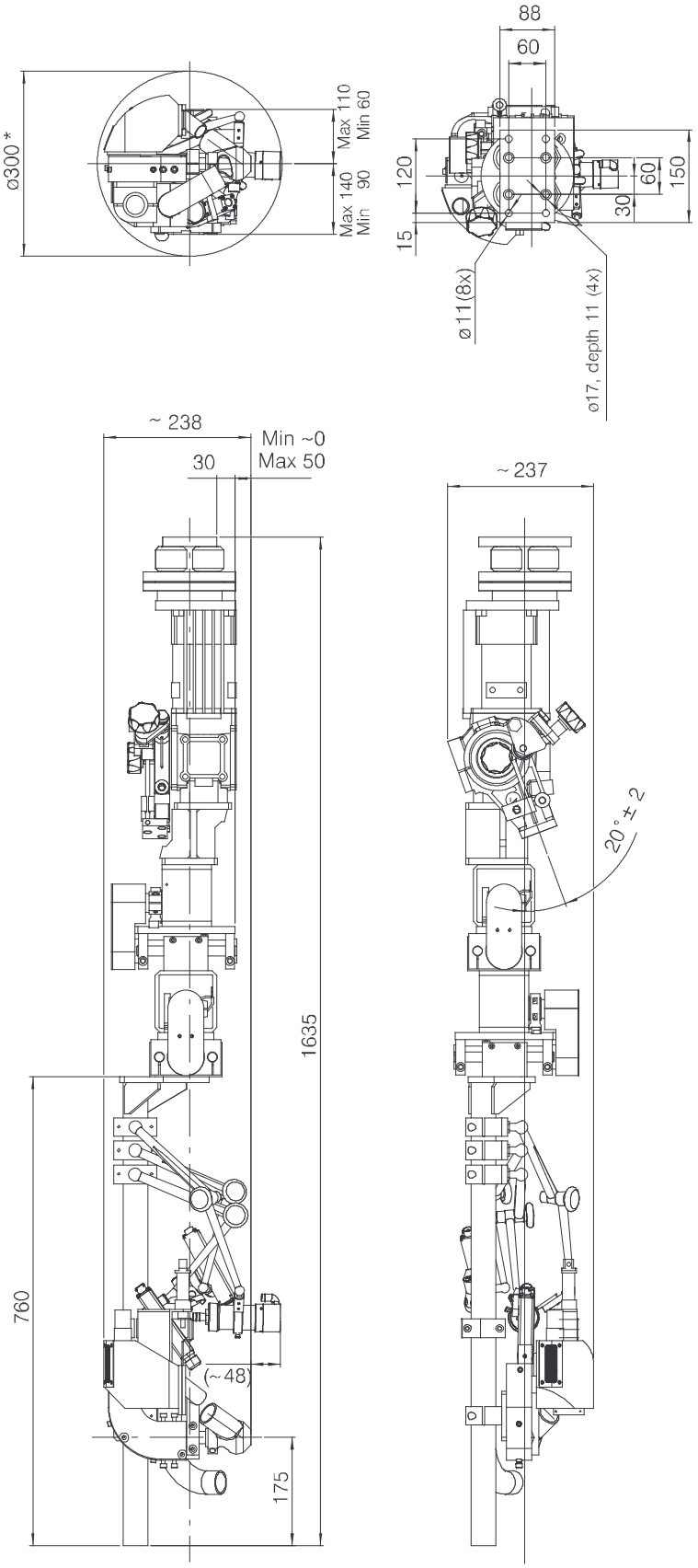
Denomination:	Ordering no.:
TV monitoring equipment (Option 10)	0811176880
Laser lamp (Option 20)	0811177880
Pneumatic flux valve (Option 40)	0813620880

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 21.
This will simplify dispatch and ensure you get the right part.

DIMENSION DRAWING

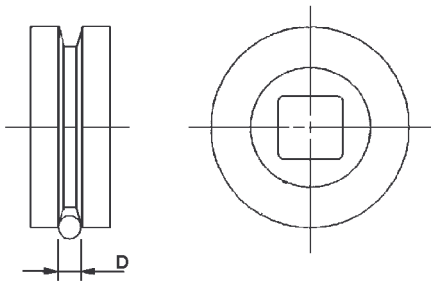
*Welding head complete with camera, laser lamp and inductive joint tracking system.
Minimum diameter for longitudinal welding 300 mm.
Minimum diameter for circumreferential welding 500mm.



ffb3dim

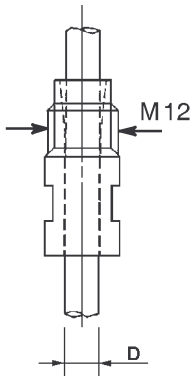
Feed rollers

SAW and MIG/MAG	
Part no	**D (mm)**
0218 510 286	4,0
0218 510 298	3,0 – 3,2

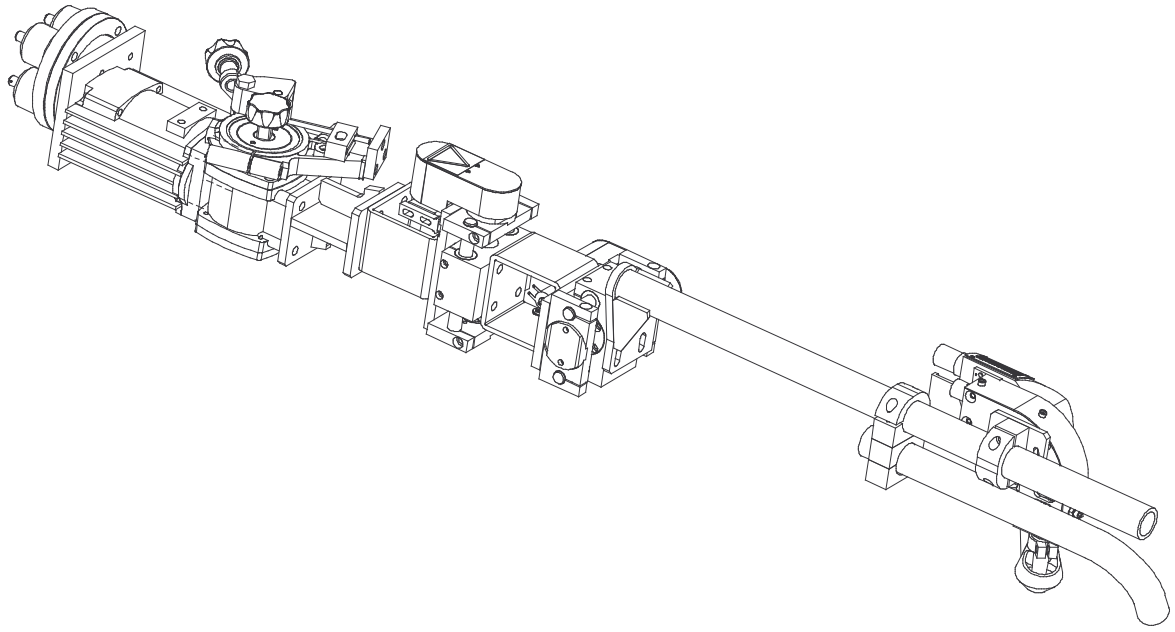


Contact tip

SAW LD (D20)	
Part no	**D (mm)**
0154 623 003	4,0
0154 623 004	3,2
0154 623 005	3,0

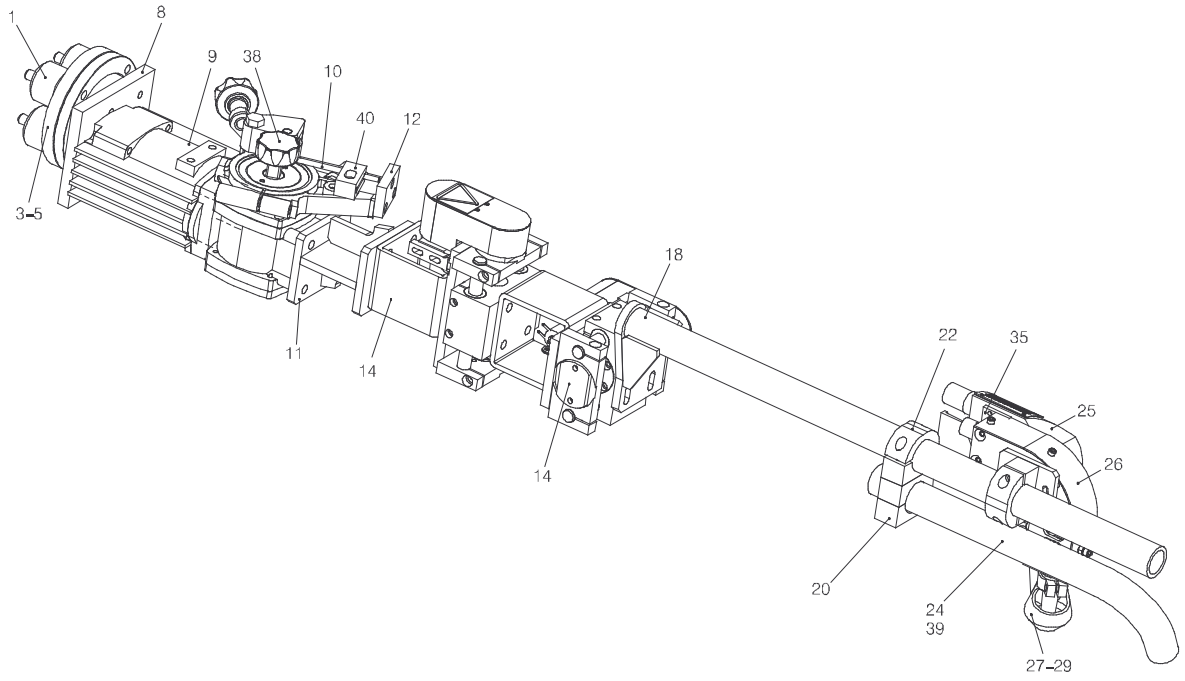


Edition 10-03-11

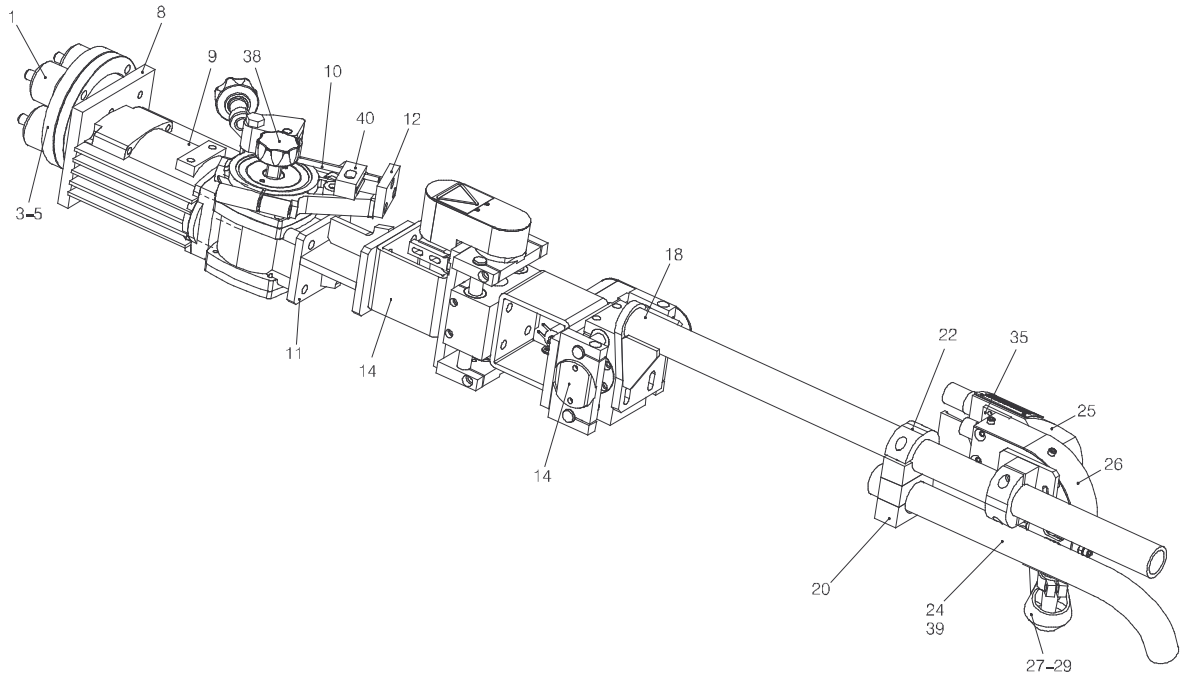


Ordering no.	Denomination	Notes
0809280880	Welding head	A6S Compact 300
0809280881	Welding head	A6S Compact 300

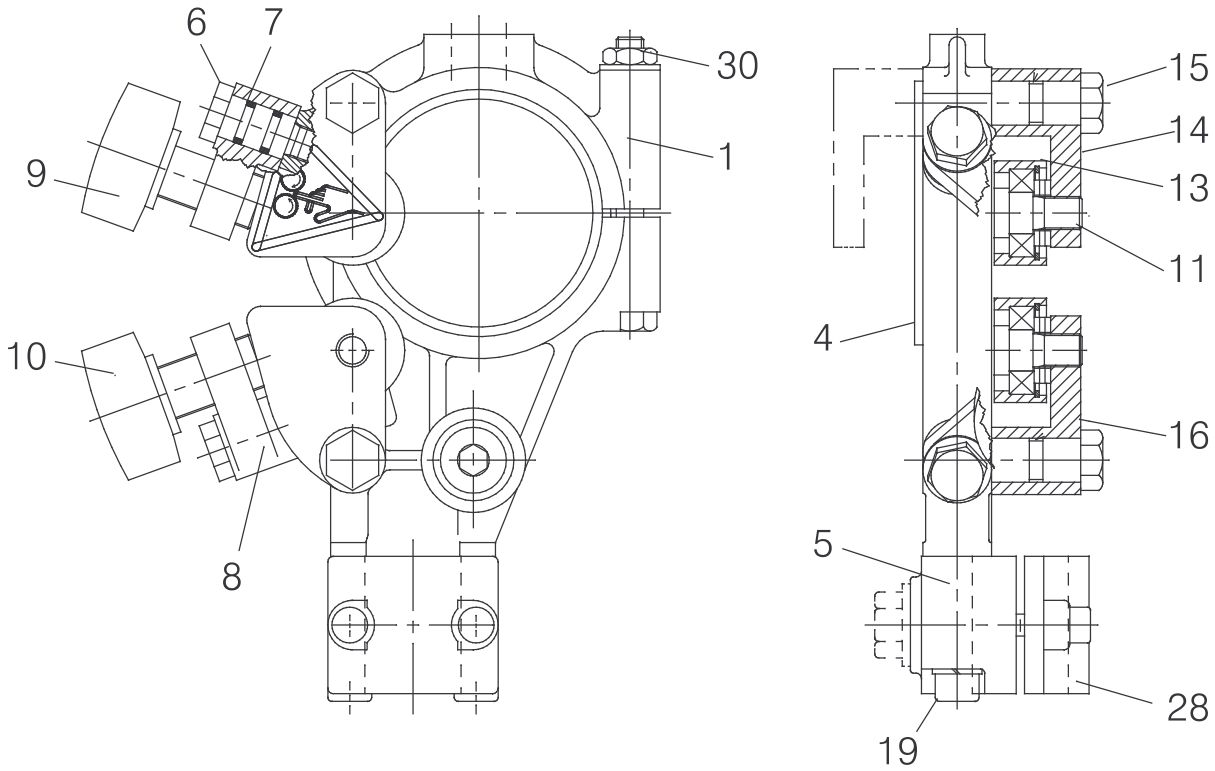
Item no.	Qty	Ordering no.	Denomination	Notes
		0809280880	**Welding head**	**A6S Compact 300**
1	4	0278300180	Insulator	2000 V
3	1	0334171001	Plate	
4	1	0334170001	Clamping ring	
5	1	0334172001	Gear bracket	
8	1	0810252001	Bracket	
9	1	0145063896	Motor with gear	A6 VEC (156:1), see separate manual
10	1	0147639881	Straightener (left mounted)	D35
11	1	0808974880	Spacer for inner head	
12	1	0415839001	Wire liner attachment	
14	2	0809273880	Slide	stroke 50 mm
18	1	0808973881	Arm for compact head	
20	1	0191499102	Clip and cover plate	
22	1	0810255003	Bracket	
24	1	0809791880	Flux suction tube	
25	1	0809333880	Flux hopper complete	
26	1	0809289880	Wire guider	90 degrees
27	1	0145221881	Flux funnel	D20
28	1	0413510005	Contact tube	d20,l=87
29		0443383001	Flux hose	d32/25
32	2	0154363001	Sleeve	
33	1	0154377001	Wire feed conduit	
34	2	0154375001	Nipple	
35	1	0809279001	Insulating plate	
38	1	0218810183	Insulated hand wheel	
39		0395986006	Hose	d56/38
40	1	0334278880	Guide tube insert	



Item no.	Qty	Ordering no.	Denomination	Notes
		0809280881	**Welding head**	**A6S Compact 300**
1	4	0278300180	Insulator	2000 V
3	1	0334171001	Plate	
4	1	0334170001	Clamping ring	
5	1	0334172001	Gear bracket	
8	1	0810252001	Bracket	
9	1	0145063897	Motor with gear	A6 VEC (74:1), see separate manual
10	1	0147639881	Straightener (left mounted)	D35
11	1	0808974880	Spacer for inner head	
12	1	0415839001	Wire liner attachment	
14	2	0809273880	Slide	stroke 50 mm
18	1	0808973881	Arm for compact head	
20	1	0191499102	Clip and cover plate	
22	1	0810255003	Bracket	
24	1	0809791880	Flux suction tube	
25	1	0809333880	Flux hopper complete	
26	1	0809289880	Wire guider	90 degrees
27	1	0145221881	Flux funnel	D20
28	1	0413510005	Contact tube	d20,l=87
29		0443383001	Flux hose	d32/25
32	2	0154363001	Sleeve	
33	1	0154377001	Wire feed conduit	
34	2	0154375001	Nipple	
35	1	0809279001	Insulating plate	
38	1	0218810183	Insulated hand wheel	
39		0395986006	Hose	d56/38
40	1	0334278880	Guide tube insert	

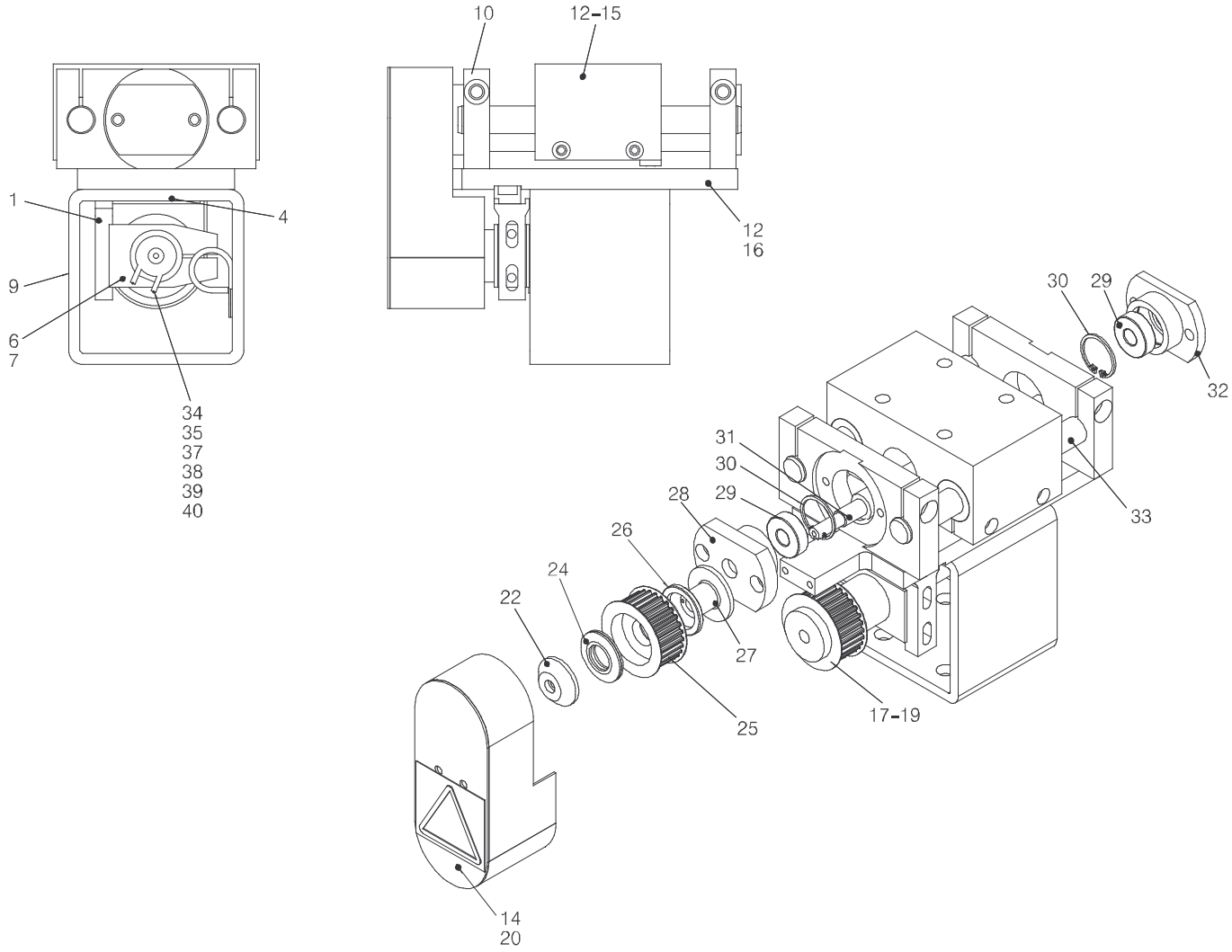


Item	Qty	Orderingno.	Denomination	Remarks
		0147 639 881	**Straightener (left mounted)**	
1	1	0156 449 001	Clamp	
4	1	0215 503 601	Insulating sleeve	
5	1	0156 530 001	Clamp half	
6	2	0212 900 001	Spacer screw	
7	4	0215 201 209	O-ring	D11.3x2.4
8	2	0218 400 801	Pressure roller arm	
9	1	0218 810 181	Handwheel	
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	
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



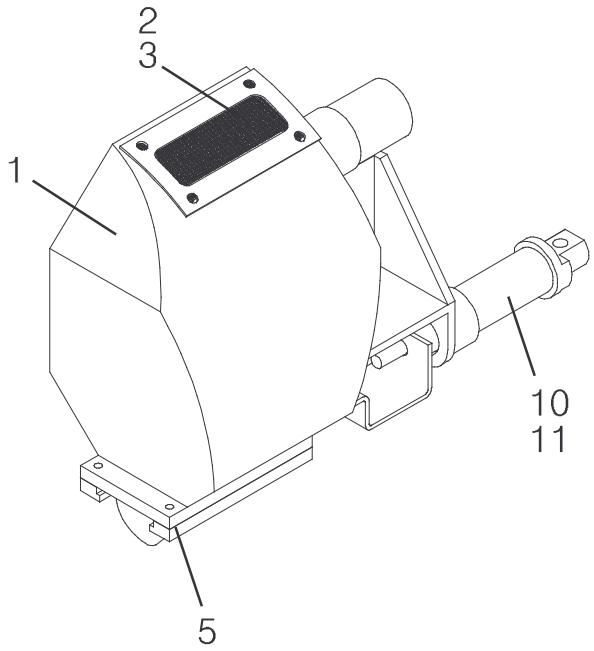
f147639s

Item no.	Qty	Ordering no.	Denomination	Notes
		0809273880	**Slide stroke 50 mm**	
1	1	0809268001	Motor bracket	
4	1	0809267001	Motor bracket	
6	1	0809266001	Motor holder	
7	1	0809275880	Motor with gear	2342-24cr 24v 8100
9	1	0809272001	Spacing tube	
10	2	0808980001	Cross member	
12	1	0808979001	Runner	
14	4	0809274001	Ball bushing	
15	1	0809271001	Ball screw drive nut	
16	1	0809265001	Base plate	
17	1	0808985001	Cog belt wheel	z=28
18	1	0212204301	Stop screw	m6x12
19	1	0334342005	Cog belt	
20	1	0809350880	Belt guard compl.	
22	1	0334330880	Compression washer compl.	
24	2	0219504411	Cup spring-valve	
25	1	0334328005	Cog belt wheel	z=28
26	1	0334327001	Friction ring	
27	1	0449077001	Friction pin	tandem mig
28	1	0808986001	Bearing housing front	
29	2	0190726000	Roller bearing	6000-2rs
30	2	0215701114	Retaining ring	d=26
31	1	0808988001	Drive shaft	
32	1	0808987001	Bearing housing rear	
33	2	0809269001	Slide axle	
34	1	0192784001	Pin plug	2-pole
35	2	0192784102	Cap	
37		0190304117	Hose	d 24x1,3
38		0190304116	Hose	d 19x1,3
39		0190304105	Hose	d 13x0.35
40		0262613401	Cable	2x1.5 mm2

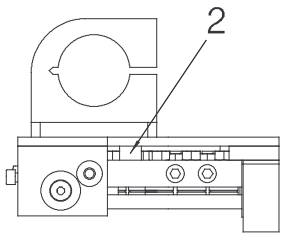

10
12–15
1
4
9
6
7
34
35
37
38
39
40
12
16
30
29
32
31
30
29
28
33
26
24
22
27
25
17–19
14
20

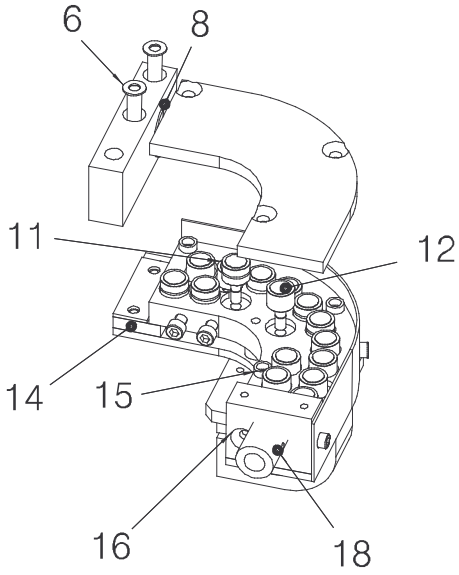
f809273s

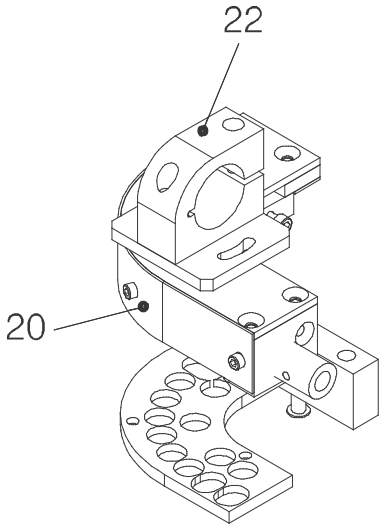
Item no.	Qty	Ordering no.	Denomination	Notes
		0809333880	**Flux hopper complete**	
1	1	0809332001	Flux hopper	
2	1	0809338001	Net filter	
3	1	0809337001	Filter holder	
5	1	0809336880	Slide flange with pipe	
10	1	0413937001	Cylinder	
11	2	0367675001	Nippel	



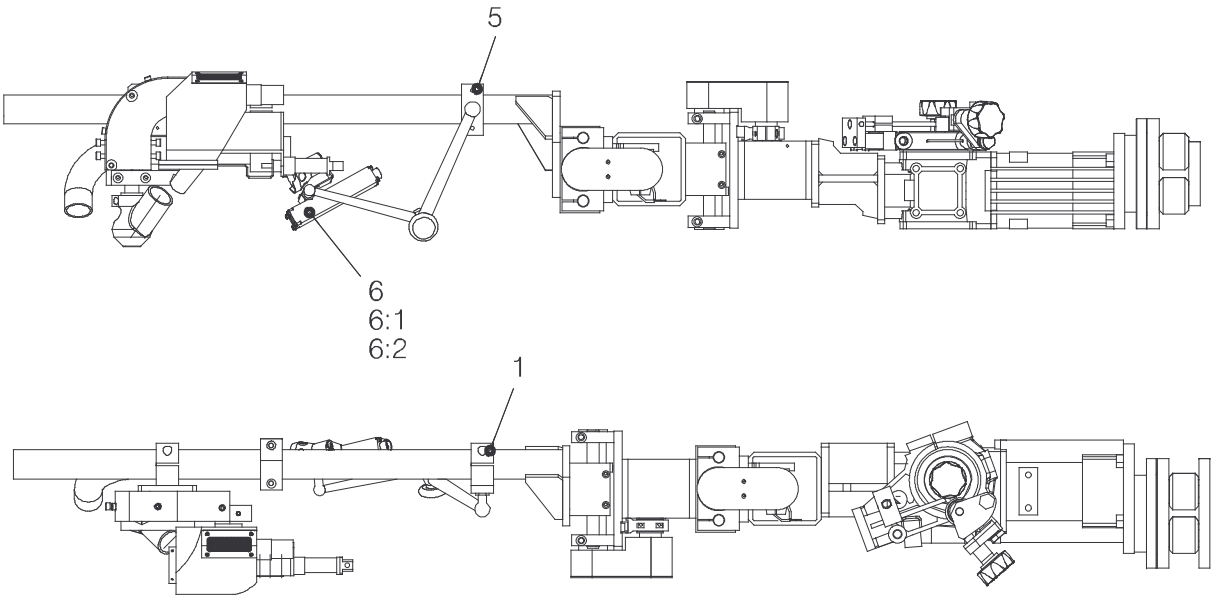
Item no.	Qty	Ordering no.	Denomination	Notes
		0809289880	**Wire guider 90 degrees**	
2	3	0191418089	Spacer sleeve	L=8
6	2	0809328001	Bushing	
8	1	0809283001	Bar	
11	7	0809330001	Roller bearing with groove	
12	9	0809329001	Roller bearing	
14	1	0809282001	Bar	
15	3	0809288001	Spacing tube	
16	1	0809325001	Bracket	
18	1	0810282001	Wire lead attachment	
20	1	0809331001	Guard plate	
22	1	0810255002	Bracket	



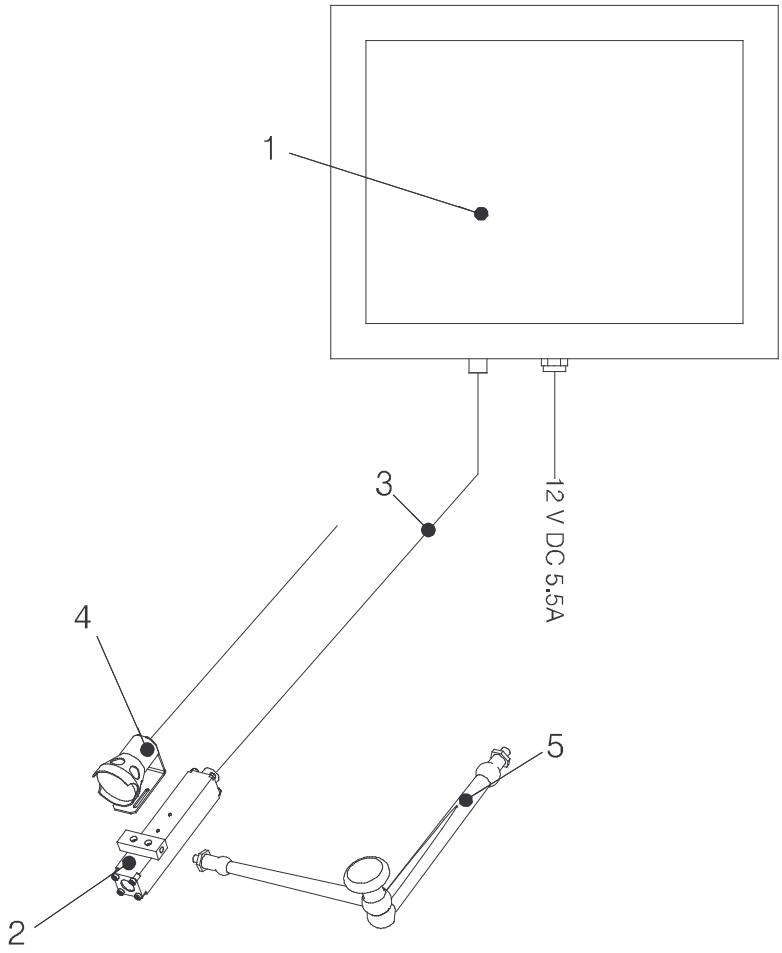




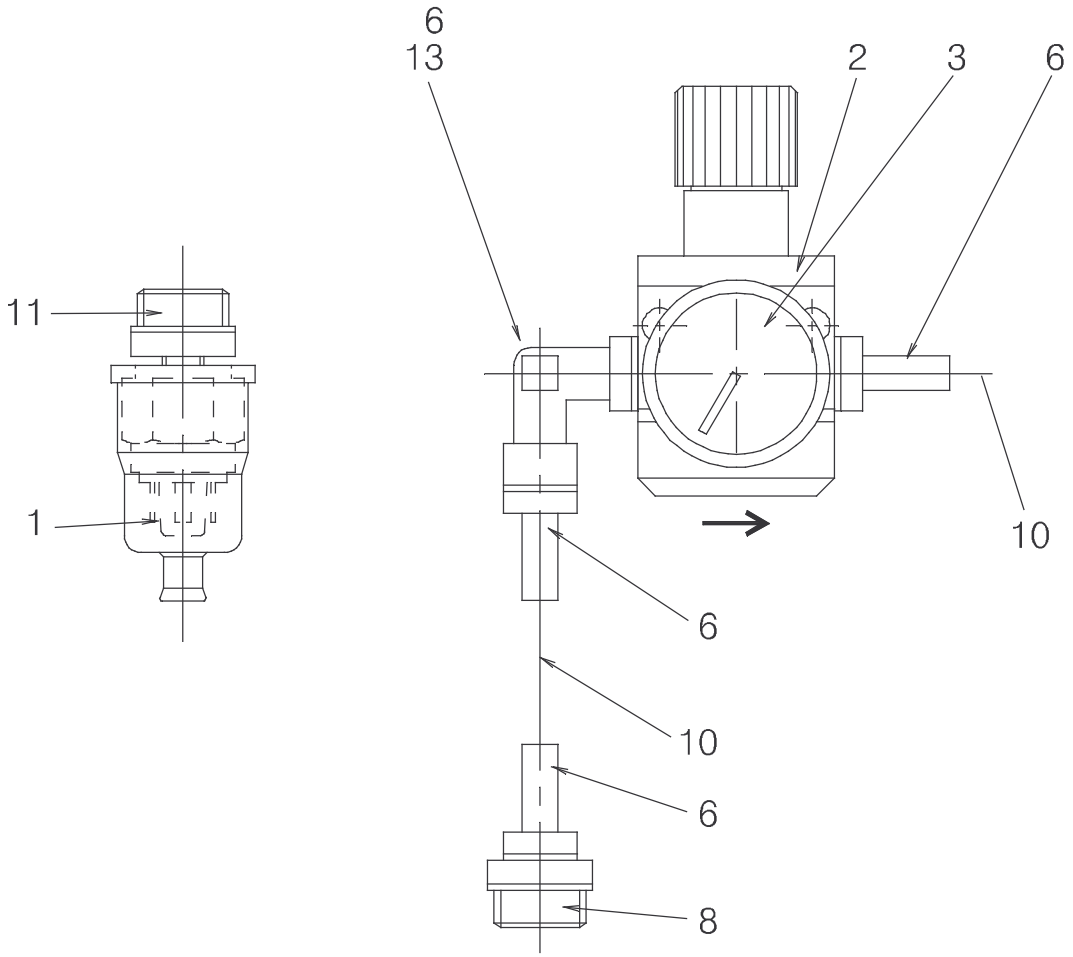
Item no.	Qty	Ordering no.	Denomination	Notes
		0811176880	**TV monitoring equipment**	**Option 10**
1	1	0810255001	Bracket	
5	1	0811175001	Mounting plate	
6	1	0811413880	Camera equipment with pressure guard	
6:1	1	0811411880	Submerged arc welding Camera	SAW C2
6:2	1	0453248880	Cooling air unit	



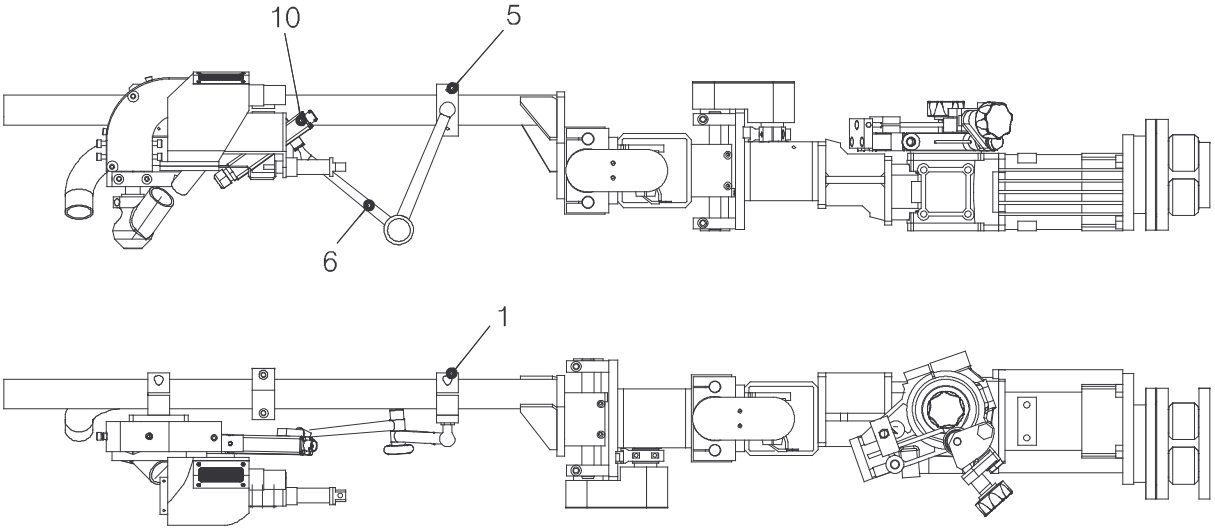
Item no.	Qty	Ordering no.	Denomination	Notes
		0811411880	**Submerged arc welding Camera, complete**	**SAW C2**
1	1	0811383880	Screen-unit	cpl. p1
2	1	0810517881	Submerged arc welding Camera (with cooling)	
3	1	0811179003	Camera/ screen cable	l=30m
4	1	0802713880	Halogen lighting	
5	1	0810093880	Flexible arm	



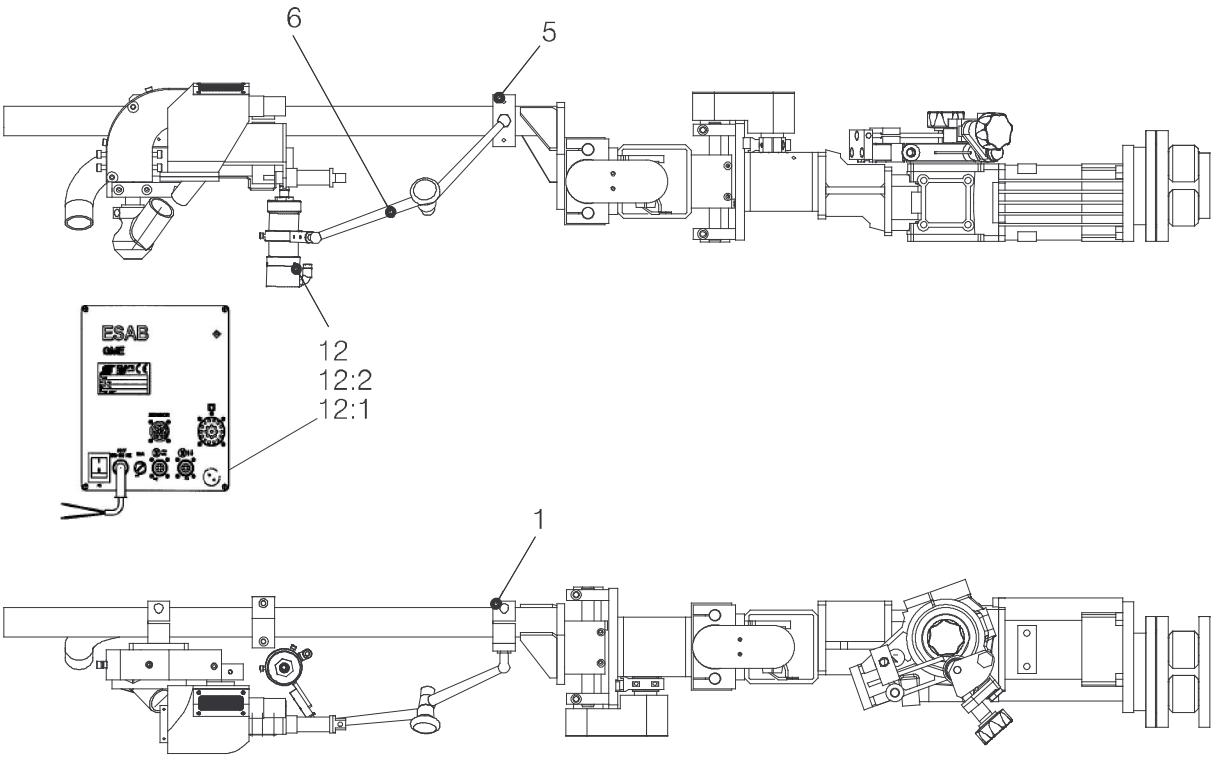
Item no.	Qty	Ordering no.	Denomination	Notes
		0453248880	**Cooling air unit**	
1	1	0451306001	Pressure switch	0.5/10 bar
2	1	0416898001	Pressure gauge	1/8”
3	1	0417163001	Regulator	c 1104-r00
6	3	0417797009	Hose nipple	d7-1/4”
8	1	0417851002	Bushing	r1/2”r1/4”
10	3	0190343102	Hose	d 12,7/6,3
11	1	0417851004	Bushing	1/2”-1/8”
12	2	0394791061	Double nipple	r1/2-r1/4”
13	1	0416897003	Angular pipe	1/4”



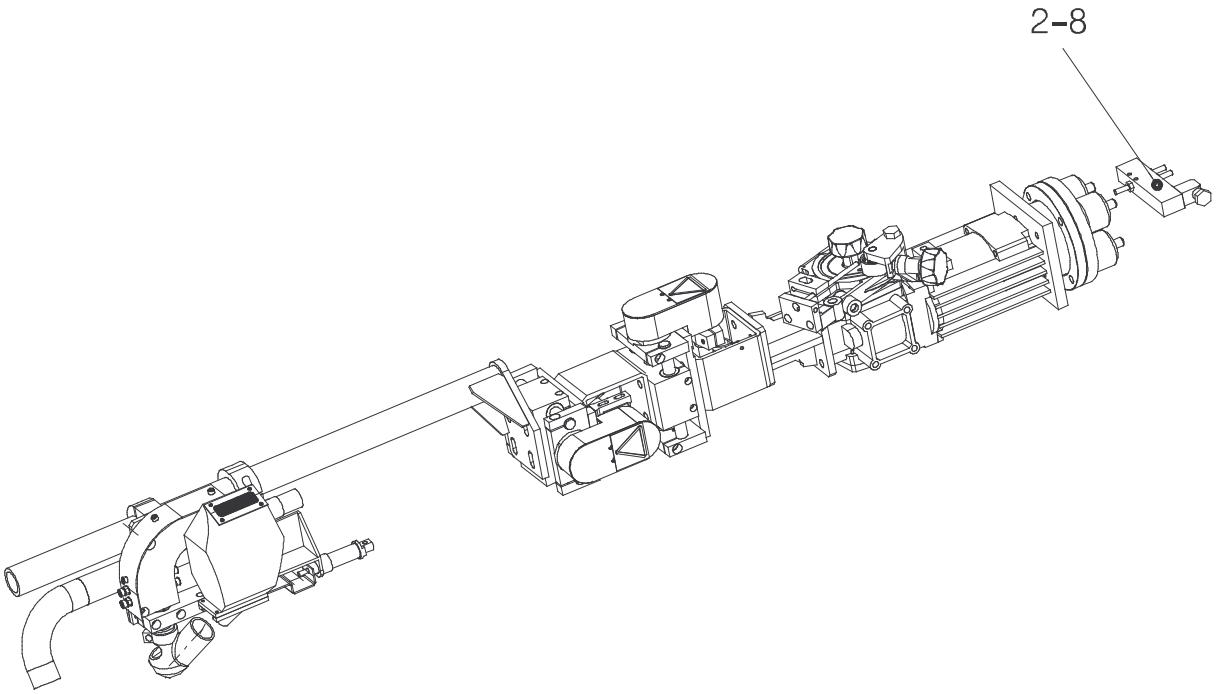
Item no.	Qty	Ordering no.	Denomination	Notes
		0811177880	**Laser lamp complete**	**Option 20**
1	1	0810255001	Bracket	
5	1	0811175001	Mounting plate	
6	1	0810093881	Flexible arm and attachment	
10	1	0811174001	Laser lamp point	llp-100



Item no.	Qty	Ordering no.	Denomination	Notes
		0811178880	**Inductive joint tracking**	**Option 30**
1	1	0810255001	Bracket	
5	1	0811175001	Mounting plate	
6	1	0810093881	Flexible arm and attachment	
12	1	0811052880	Inductive joint tracking	1 axis
12:1	1	0810876880	El. inductive joint tracking	
12:2	1	0810860880	Inductive gauge	



Item no.	Qty	Ordering no.	Denomination	Notes
		0813620880	**Pneumatic flux valve**	**Option 40**
2	1	0417859004	Magnetic valve	5/2-way
3	3	0417797008	Hose nipple	D7-1/8”
4	3	0417792004	Nylon washer	1/8”
5	5	0190315104	Hose	D12.5/6.4
6	2	0192238341	Allen screw	steel 8.8 M5x50
7	2	0215100011	Washer	BRB Steel 10/5.3x1
8	2	0417873001	Throttle valve with silencer	



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.
Missisauga, 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

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

www.esab.com

081016