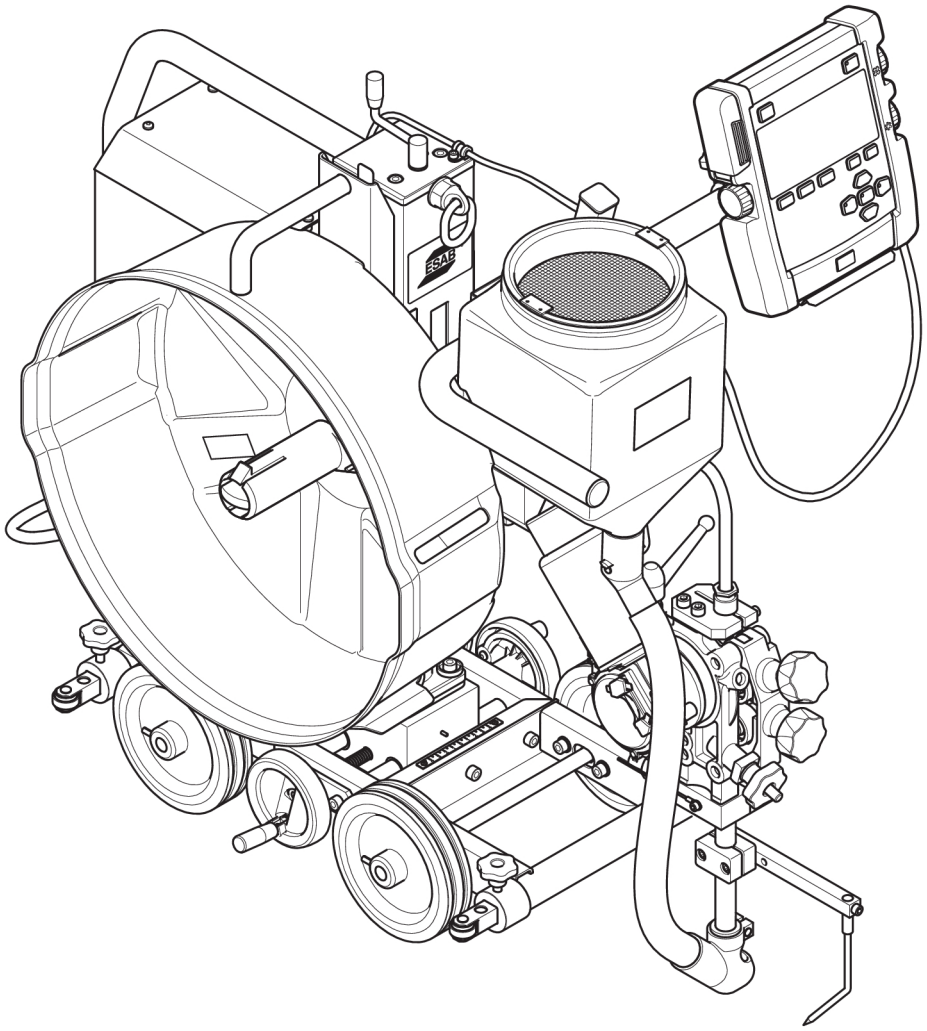
Versotrac

# *EWT 1000*



## Instruction manual

**Original instructions**

**0463 613 101 GB 20231222**

**Valid for: from serial no. 905-xxx-xxxx**

# EU DECLARATION OF CONFORMITY

According to
The Machinery Directive 2006/42/EC, entering into force 29 December 2009
The Low Voltage Directive 2014/35/EU, entering into force 20 April 2016
The EMC Directive 2014/30/EU, entering into force 20 April 2016
The RoHS Directive 2011/65/EU, entering into force 2 January 2013

**Type of equipment**
Submerged arc welding tractor

**Type designation**

| | |
|---|---|
| EWT 1000, 4 wheel drive unit, | Serial number, from: 905 xxx xxxx, |
| EWT 1000, 3 wheel drive unit, | Serial number, from: 905 xxx xxxx, |

**Brand name or trademark**
ESAB

**Manufacturer or his authorised representative established within the EEA**
**Name, address, and telephone no:**
ESAB AB
Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden
Phone: +46 31 50 90 00, www.esab.com

**The following harmonised standard in force within the EEA has been used in the design:**

| | |
|---|---|
| EN 60974-5:2013, | Arc Welding Equipment – Part 5: Wire feeders |
| EN 60974-10:2014, | Arc Welding Equipment – Part 10: Electromagnetic compatibility (EMC) requirements |
| EN 12100:2010, | Safety of machinery – Risk assessment and risk reduction general principles for design |

**Additional Information:**
Restrictive use, Class A equipment, intended for use in location other than residential
Flat fillet kit is optional

**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 | Signature | Position |
|---|---|---|
| Gothenburg | | |
| 2019-12-20 | Peter Kjällström | Automation Equipment Director |

CE 2019

# 1 SAFETY

## 1.1 Meaning of symbols

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

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

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

**CAUTION!**
**Means hazards which could result in minor personal injury.**

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

## 1.2 Safety precautions

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

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

1. Anyone who uses the equipment must be familiar with:
   - its operation
   - location of emergency stops
   - its function
   - relevant safety precautions
   - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
   - no unauthorised person is stationed within the working area of the equipment when it is started up
   - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
   - be suitable for the purpose
   - be free from drafts

4. Personal safety equipment:
   - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
   - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
   - Make sure the return cable is connected securely
   - Work on high voltage equipment **may only be carried out by a qualified electrician**
   - Appropriate fire extinguishing equipment must be clearly marked and close at hand
   - Lubrication and maintenance must **not** be carried out on the equipment during operation

**WARNING!**

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

**ELECTRIC SHOCK - Can kill**

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

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

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

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

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

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

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

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

**MOVING PARTS - Can cause injuries**

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

**FIRE HAZARD**

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

**HOT SURFACE - Parts can burn**

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

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

**PROTECT YOURSELF AND OTHERS!**

**CAUTION!**

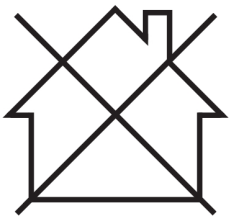
This product is solely intended for arc welding.

**WARNING!**

Do not use the power source for thawing frozen pipes.

**CAUTION!**

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



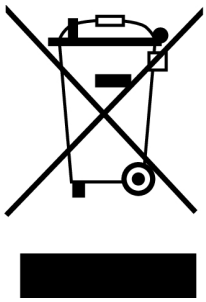
**NOTE!**

**Dispose of electronic equipment at the recycling facility!**

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

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

For further information contact the nearest ESAB dealer.



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

# 2 INTRODUCTION

The **EWT 1000** welding equipment is designed for **Submerged Arc Welding (SAW)** and **GMAW (MIG/MAG) welding** of butt and fillet joints.

**All other applications are prohibited.**

The equipment is intended for use in combination with **EAC 10** and ESAB digital power sources **LAF xxx1**, **TAF xxx1** or **Aristo 1000** and through the analogue interface also **LAF 635** and **LAF 1000**.

The **EAC 10** also supports analogue controlled power sources from other suppliers, see chapter "Connecting to compatible DC analogue power source" for more information about the interface.

## 2.1 Welding method

### 2.1.1 Definitions

| | |
|---|---|
| **SAW** | The weld bead is protected by a cover of flux during the welding. |
| **GMAW (MIG/MAG) welding** | The weld bead is protected by shielding gas during welding. |
| **Twin wire welding** | Welding with two wires in one torch. |
| **Flat fillet welding** | Welding in downhand position, on the top side of the joint. |

### 2.1.2 Submerged Arc Welding (SAW)

Use **EWH 1000** or **EWH 1000 twin** welding equipment for Submerged Arc Welding.

EWH 1000 permits loads up to 1000 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 of welding wire due to high feed pressure.

### 2.1.3 GMAW (MIG/MAG) welding

For GMAW (MIG/MAG) welding use welding equipment **EWH 600 gmaw**.

**EWH 600 gmaw** consists of a GMAW torch and gas shielding equipment.

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

## 2.2 Horizontal welding

The product described in this manual is designed for horizontal welding. The welding tractor can be used for flat fillet welding when welding a tilted fillet joint with the optional flat fillet welding kit.

**NOTE!**
Do not use **EWT 1000** when welding on inclined planes.

Avoid welding on surfaces with a slope greater than 3° (>5 cm/m) due to risk of weld defects caused by the large size of the melted metal in the weld pool.

## 2.3 Stability

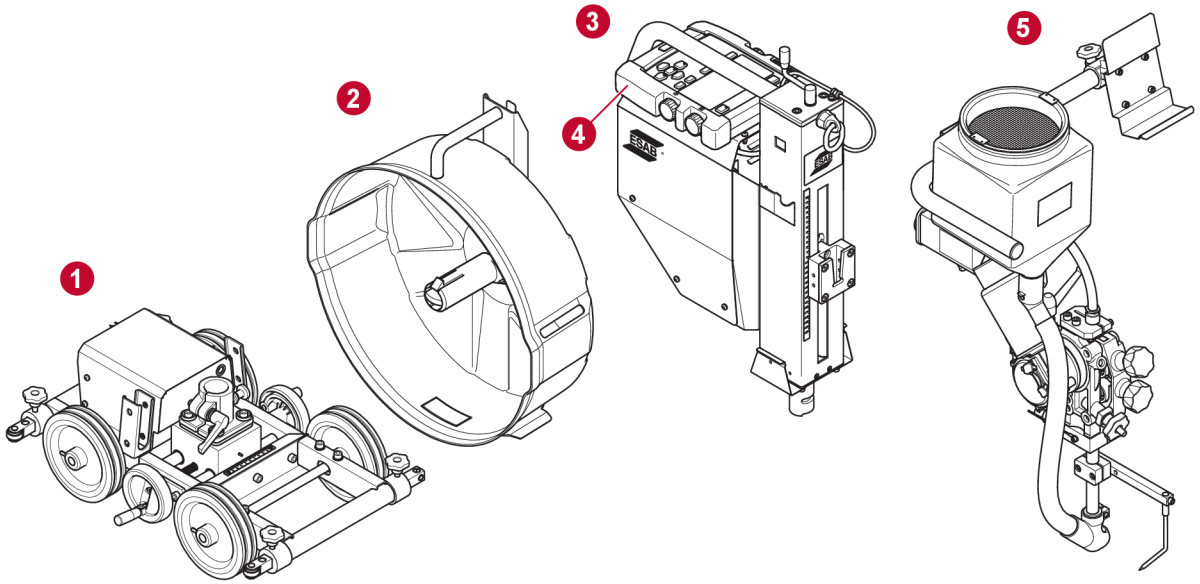
**NOTE!**
Always check the welding equipment for stability before welding.

The EWT 1000 is designed to be flexible and cover many different welding applications and setups. The stability can be improved by moving the horizontal slide, moving wire bobbin to opposite side, etc.

# 3 TECHNICAL DATA

## 3.1 Welding tractor EWT 1000




1. Tractor carriage
2. Bobbin holder
3. Column with EAC 10
4. EAC 10, control pendant
5. EWH 1000, welding head

| **EWT 1000, from serial no. 841-xxx-xxxx** | |
|---|---|
| | **EWT 1000** |
| **Supply voltage** | 60 V DC or 42 V AC, 50/60 Hz |
| **Max power requirement** | 900 VA |
| **Travel speed** | 0.1–2.0 m/min (0.3–6.6 feet/min) |
| **Brake hub braking torque** | 1.5 Nm (13.3 in. lb) |
| **Minimum turning radius for circumferential welding** | |
| Inside object diameter | 3000 mm (9 ft 10.11 in.) |
| Outside object diameter, four wheels | 3900 mm (12 ft 9.54 in.) |
| Minimum pipe diameter for internal joint welding | 1100 mm (3 ft 7.31 in.) |
| **Maximum weight of wire** | 30 kg (66 lb) |
| **Weight** | |
| Total, excluding wire and flux | 67 kg (148 lb) |
| Tractor carriage | 22.1 kg (48.7 lb) |
| Bobbin holder, without wire | 6 kg |
| Column with EAC 10 | 25 kg |
| **Relative air humidity** | Max 95% |
| **Operating temperature** | -10 to +40 °C (-14 to +104 °F) |
| **Storage temperature** | -20 to +55 °C (-4 to +131 °F) |

| EWT 1000, from serial no. 841-xxx-xxxx | |
|---|---|
| | **EWT 1000** |
| **Maximum surface temperature on weld object (wheel)** | 150 °C |
| **EMC classification** | Class A |
| **Enclosure class** | IPXX |

## 3.2 Control unit EAC 10

| EAC 10, from serial no. 841-xxx-xxxx and 905-xxx-xxxx | |
|---|---|
| **Supply voltage** | 60 V DC or 42 V AC, 50/60 Hz |
| Supply voltage to control pendant | 12 V DC |
| **Power requirement** | Max 900 VA |
| **Motor connections adapted for ESAB motors** | 6 A 100% |
| **Speed control** | Feedback from pulse encoder |
| **Operating temperature** | -10 to +40 °C (-14 to +104 °F) |
| **Storage temperature** | -20 to +55 °C (-4 to +131 °F) |
| **Relative air humidity** | Max 95% |
| **Dimensions l×w×h** | |
| EAC 10, complete control unit | 275×300×165 mm (10.8×11.8×6.5 in.) |
| EAC 10 control pendant | 245×225×50 mm (9.7×8.9×2.0 in.) |
| **Weight** | |
| EAC 10, complete control unit | 6.8 kg (15 lb) |
| EAC 10 control pendant | 1.25 kg (2.8 lb) |
| **Enclosure class** | IP23 |

## 3.3 Welding head EWH 600 / EWH 1000

| EWH 1000, for serial no. 841-xxx-xxxx, 905-xxx-xxxx and 910-xxx-xxxx | | | |
|---|---|---|---|
| | **EWH 1000** | **EWH 1000 twin** | **EWH 600 gmaw** |
| **Supply voltage** | 42 V DC | 42 V DC | 42 V DC |
| **Permissible load at 100%** | 1000 A | 1000 A | 600 A |
| **Wire dimensions** | | | |
| Fe solid single | 1.6–5.0 mm (0.06–0.20 in.) | NA | 0.8–2.5 mm (0.03–0.10 in.) |
| Fe solid twin | 2×1.2–3.2 mm[1)] (2×0.05–0.09 in.[1)]) | 2×1.2–1.6 mm (2×0.05–0.06 in.) | NA |
| Fe flux cored | 1.6–5.0 mm (0.06–0.20 in.) | NA | 1.2–3.2 mm (0.05–1/8 in.) |

| **EWH 1000, for serial no. 841-xxx-xxxx, 905-xxx-xxxx and 910-xxx-xxxx** | | | |
|---|---|---|---|
| | **EWH 1000** | **EWH 1000 twin** | **EWH 600 gmaw** |
| Fe flux cored twin | 2×1.2–3.2 mm[1)] (2×0.05–0.09 in.[1)]) | NA | NA |
| SS solid | 1.6–4.0 mm (0.06–0.20 in.) | NA | 0.8–1.6 mm (0.03–0.06 in.) |
| SS solid twin | 2×1.2–2.4 mm[1)] (2×0.05–0.09 in.[1)]) | 2×1.2–1.6 mm (2×0.05–0.06 in.) | NA |
| SS flux cored | 1.6–4.0 mm (0.06–0.20 in.) | NA | 1.2–3.2 mm (0.05–1/8 in.) |
| SS flux cored twin | 2×1.2–2.4 mm[1)] (2×0.05–0.09 in.[1)]) | NA | NA |
| Al Solid | NA | NA | 2.5 mm (0.10 in.) |
| **Type of gas** | NA | NA | $CO_2$, Ar |
| **Maximum wire feed speed** | | | |
| Maximum (≤ 4 mm wire) | 9.0 m/min (29.5 feet/min) | 16 m/min (52.5 feet/min) | 16 m/min (52.5 feet/min) |
| Maximum (5 mm wire) | 2.5 m/min (8.2 feet/min) | | |
| **Brake hub braking torque** | 1.5 Nm (13.3 in. lb) | | |
| **Flux hopper volume** | 6 l | 6 l | N/A |
| **Dimensions l×w×h** | 620×530×832 mm (24.4×20.9×32.8 in.) | 600×530×805 mm (23.6×20.9×31.7 in.) | 600×500×760 mm (23.6×19.7×29.9 in.) |
| **Weight** welding head, excluding wire and flux | 17 kg (37.5 lb) | 19 kg (41.9 lb) | 16.5 kg (36.4 lb) |
| **Enclosure class** | IPXX | | |
| **EMC classification** | Class A | | |

[1)] with optional twin kit accessory

# 4 INSTALLATION

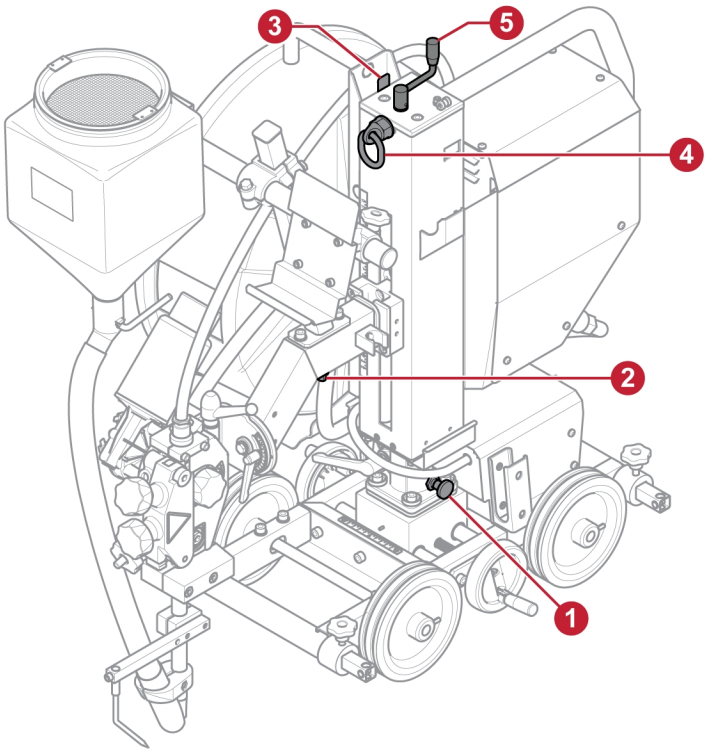
## 4.1 General

**The installation must be carried out by a professional.**

**WARNING!**
Rotating parts can cause injury, take great care.

**CAUTION!**
This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

## 4.2 Lifting instructions



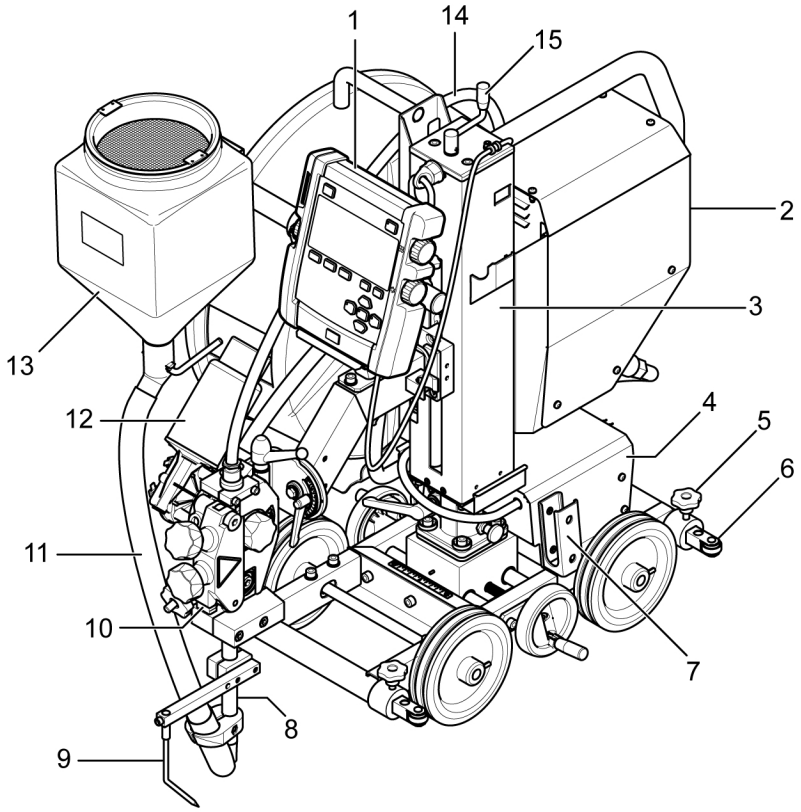

**WARNING!**
The welding tractor must be lifted using the lifting eye (**4**).

- Disconnect the power source and remove all consumables (flux and welding wire).
- Disconnect and remove welding cables from the welding tractor. The welding cables are not to be lifted with the tractor.
- Remove optional air and water hoses.
- Make sure the column is in locked position (**1**), directed forward as shown in illustration.

- Make sure the welding head arm is in locked position (**2**).
- Remove bobbin holder or remove wire drum from bobbin holder. Make sure that the empty bobbin holder is in locked position (**3**).
- Make sure that the crank, for height adjustment (**5**), is turned away from the lifting eye (**4**).

## 4.3 Main components




1. EAC 10 Control pendant
2. EAC 10 Motor drive unit
3. Column
4. Tractor carriage
5. Guide bar lock
6. Guide bar
7. Cable support
8. Contact tube
9. Guide pin
10. Wire feed unit
11. Flux tube
12. Wire feed motor
13. Flux hopper
14. Wire liner
15. Crank, for height adjustment

### 4.3.1 Welding cables

Use different welding cables for different welding currents:

| | |
|---|---|
| Up to 500 A | two 95 $mm^2$ cables (one on each side of the tractor) |
| 500 - 1000 A | two 120 $mm^2$ cables (one on each side of the tractor) |

**NOTE!**
With two welding cable setup, run the welding cables close to each other in parallel, but do not twist them around each other.

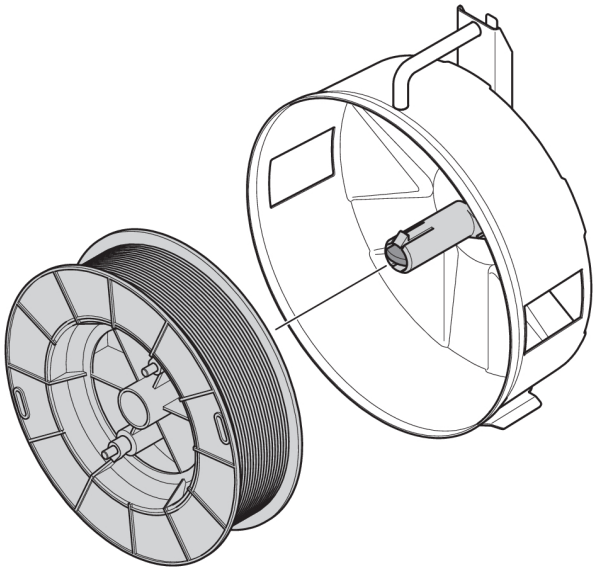
## 4.4 Assembly

For information about assembly of the welding tractor, see chapter "Transportation".

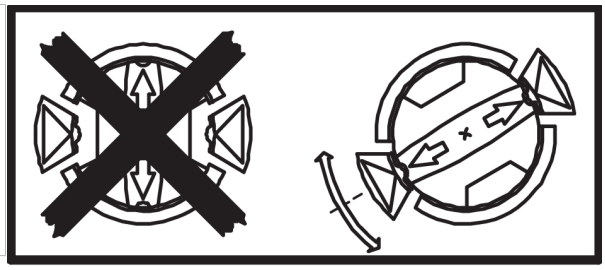
 

### 4.4.1 Bobbin holder

Mount the wire drum on the brake hub in the bobbin holder.



**WARNING!**
To prevent the reel from 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.

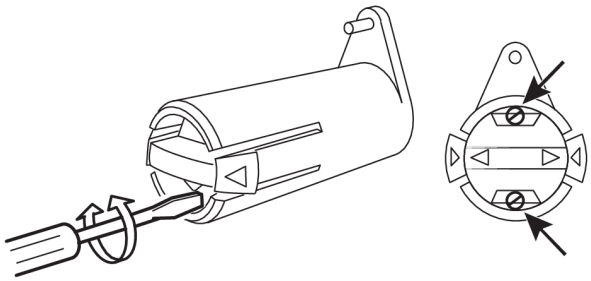


### 4.4.2 Adjusting the brake hub

The brake hub is adjusted at delivery. If readjustment is required, follow the instructions below. Adjust the brake hub so the wire is slightly slack when wire feed stops.

Adjusting the braking torque:

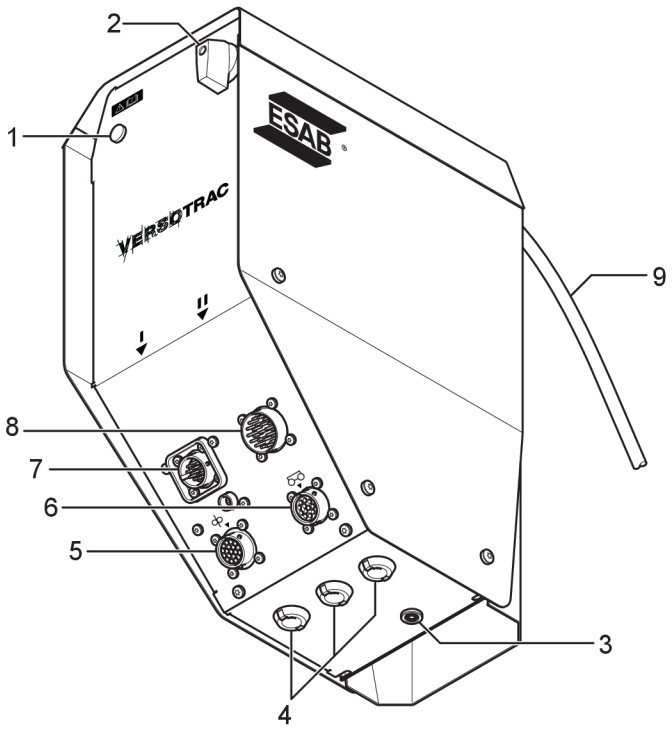
1. Turn the red handle to the locked position.
2. Insert a screwdriver into the springs in the hub.
   - Turn the springs clockwise to reduce the braking torque.
   - Turn the springs counter-clockwise to increase the braking torque.



**NOTE!**
Turn both springs the same amount.

## 4.5 Connections

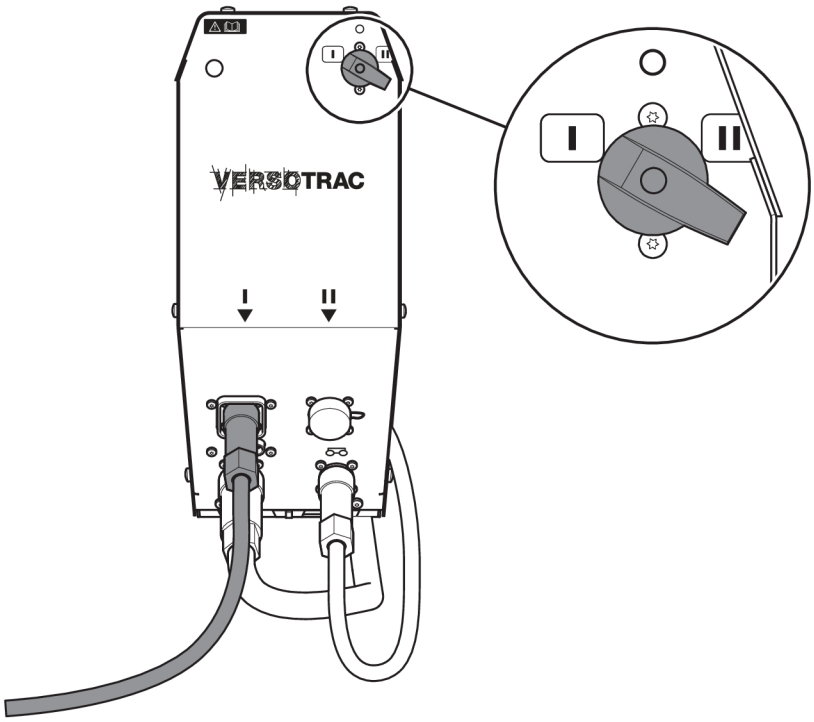



1. On/Off indicator
2. On/Off switch
3. Connection work piece voltage reference brush
4. Accessory cable entries
5. Connection welding head
6. Connection tractor carriage
7. Connection digital power source
8. Connection anlogue power source
9. Cable to control pendant

**NOTE!**
Connect only digital power source **or** analogue power source at a time.

### 4.5.1 Connecting to digital power source




Connect the interconnection cable to connector marked with **I**.

Interconnection cable between CAN based ESAB power source and EAC 10 are available as accessories in different lengths.

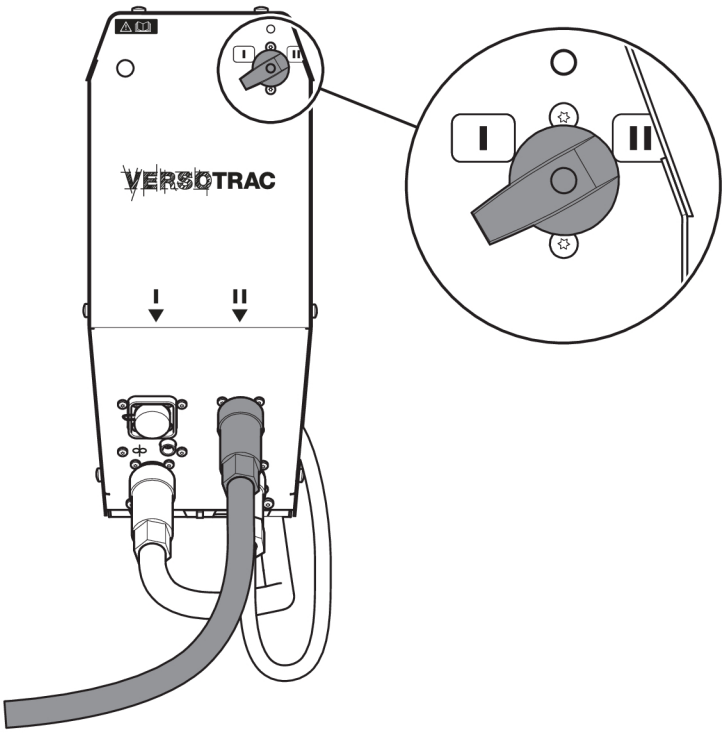
ESAB CAN based power sources are LAF xxx1, TAF xxx1 and Aristo® 1000.

For further information about connecting welding power source, see separate instruction manual.

Always use the dust cover on the connections where no cable is connected.

### 4.5.2 Connecting to compatible DC analogue power source



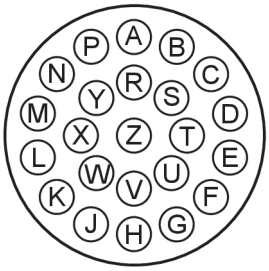

Connect the interconnection cable to connector marked with **II**.

Interconnection cable between analogue based ESAB power source and EAC 10 control unit are available as accessories in different lengths.

Always use the dust cover on the connections where no cable is connected.

Requirements on the analogue power source

- Supply voltage 60 V DC or 42 V AC, 50/60 Hz from welding power source or by external means.
- Voltage feedback from negative welding terminal (for welding voltage measurement for display in pendant).
- Start input to initiate welding, analogue input (0–10 V DC) for setting welding parameter (control signal).
- 1000 A/60 mV shunt output for welding current measurement.




| **Power source connection socket XP2 pinouts** | |
|---|---|
| B, C | 42 V AC |
| E, F | 42 V AC return |
| J | Power source negative terminal (U-) |
| W | Power source positive terminal (U+) |

| Power source connection socket XP2 pinouts | |
|---|---|
| X | Arc voltage from welding head |
| K | Power source start |
| L | 0 V, common for power source start and reference |
| M | 0-10 V reference |
| N | Current shunt negative (-mV) |
| P | Current shunt positive (+mV) |
| R | Emergency stop |
| Y | Emergency stop |
| S | 24 V AC / trigger input. For non-ESAB power sources. |
| T | Contact closure to pin S / trigger common. For non-ESAB power sources. |
| U | Reserved for future use. |

To connect EAC 10 with non-ESAB SAW analogue power source, an analogue power source interface box and control cables are available as accessories.

See chapter "ACCESSORIES".

# 5 OPERATION

## 5.1 General

**CAUTION!**
Read and understand the instruction manual before installing or operating.

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

**NOTE!**
When moving the equipment use intended handle. Never pull the cables.

**NOTE!**
The tractor is supplied with a strap. It can be used to collect the welding cables behind the tractor.

## 5.2 Transportation

It is possible to transport the welding tractor EWT 1000 following the instructions in section "Lifting instructions".

Follow these instructions to dismount the welding tractor EWT 1000 into four separate modules before transportation.

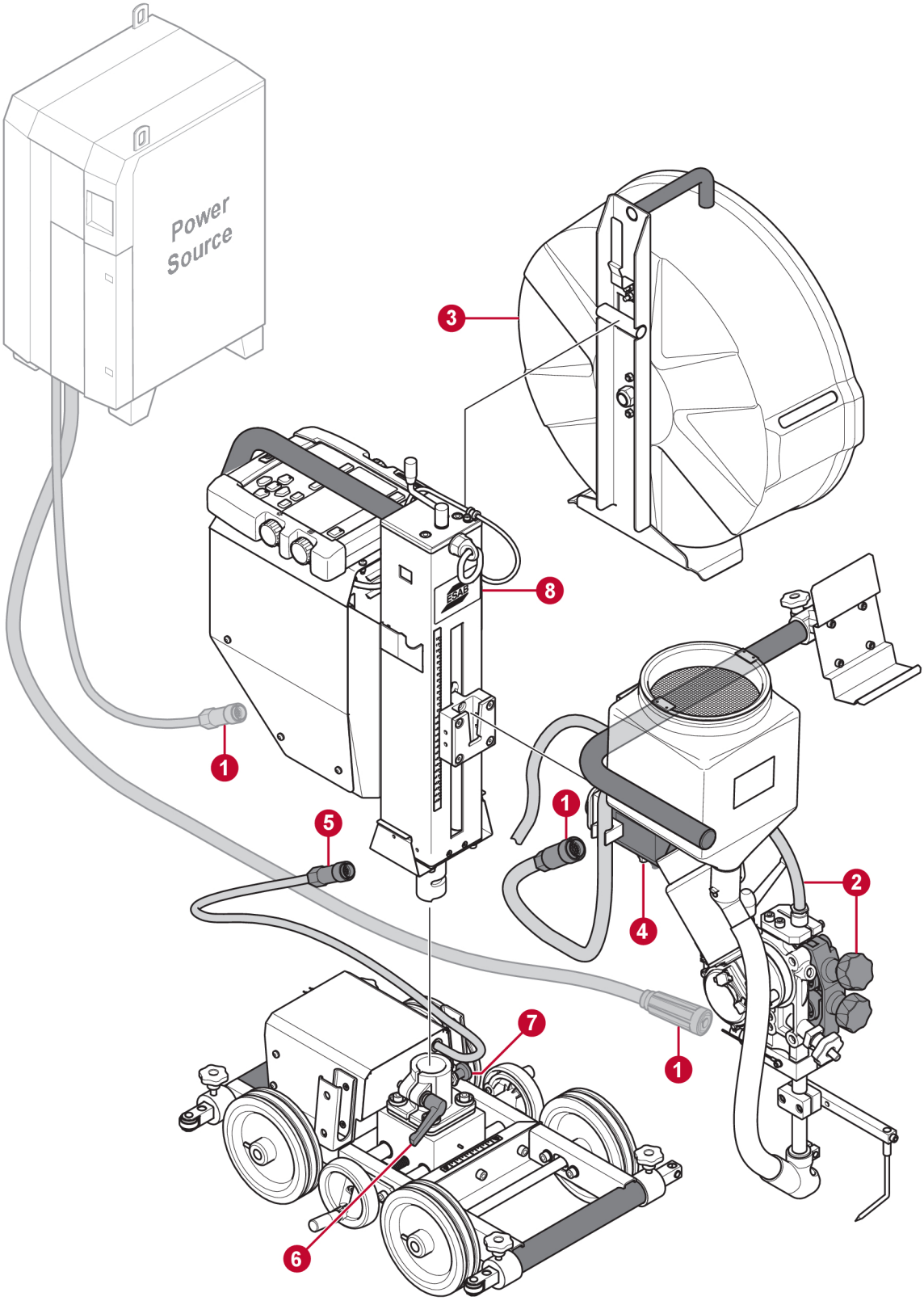
When transporting the welding tractor EWT 1000 on the wheels: place the horizontal slide in the middle position with the needle pointing to zero on the scale.

**NOTE!**
Make sure the welding head has cooled down before dismounting.

1. Turn off and disconnect the power source. Disconnect the cables to the welding head and the tractor carriage (1). Remove the cables from the welding tractor.

   **NOTE!**
   If the power source is disconnected without turning off power first, the power source emergency stop can be activated.
2. Remove wire from wire feed unit and wire liner (2).
3. Unlock and dismount the bobbin holder (3).
4. Place the EAC 10 control pendant on the top of the EAC 10 motor drive unit.
5. Make sure the column is positioned in the middle of the tractor carriage.
6. Unlock and dismount the welding head (4).
7. Disconnect the cable (5) between the tractor carriage and the control unit.
8. Unlock the column rotation with the handle (6). Rotate to end point. Pull (7) and rotate a few more degrees. Dismount the control unit (8).
9. Reassemble in backwards order. Make sure to lock the welding head (6).

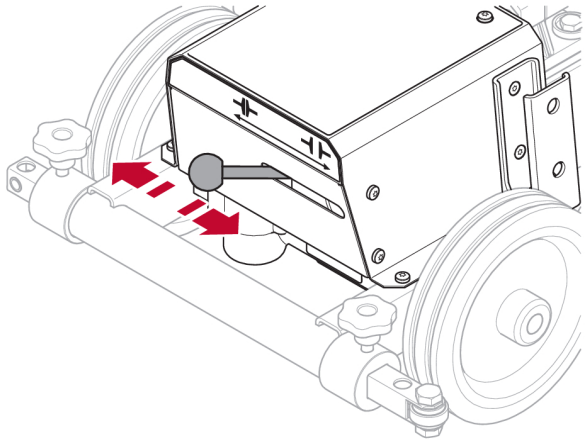
 



## 5.3 The clutch

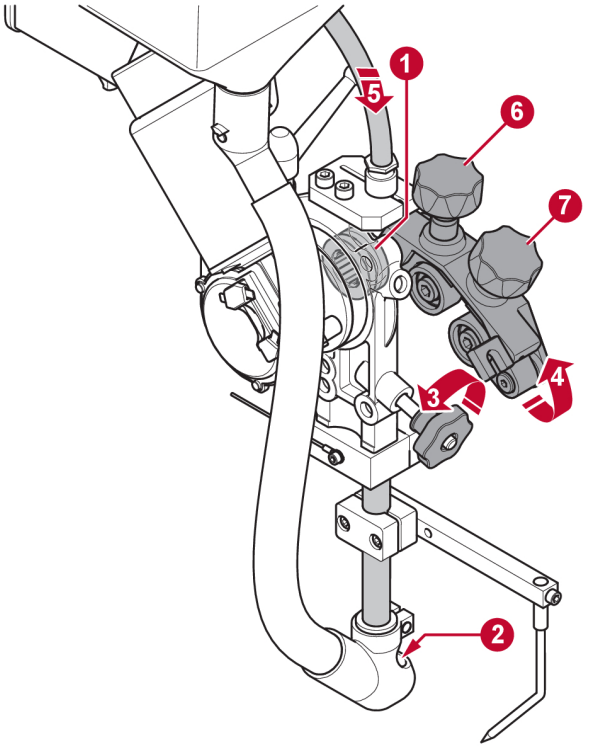
Use the clutch knob in the back of the tractor carriage to lock and unlock the wheels from the motor. The wheels will be engaged with the motor when in locked position.



## 5.4 Loading the welding wire

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

1. Turn off EAC 10 using the On/Off switch.
2. Check that feed roller (1) and contact nozzle (2) have the correct dimension for the selected welding wire.
3. Turn the knob (3) to release the wire straightener.
4. Lift up the wire straightener with memory (4). There will be no change in the settings.
5. Feed the welding wire (5) into the contact nozzle.
6. Lower the wire straightener with memory (4) back to its position. Lock by turning the knob (3) fully.
7. Turn on EAC 10 and select the welding wire when prompted on the display.
8. With control unit EAC 10: Feed the welding wire through the contact nozzle until it is visible below the contact nozzle.
9. When needed, adjust wire feed pressure with knob (6).
10. When needed, adjust wire straightness with knob (7).



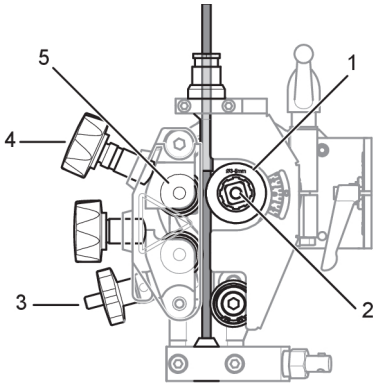

**NOTE!**
Do not tighten feed pressure knob (6) too hard. This can result in overheating the wire feeder.

## 5.5 Changing the feed roller

### 5.5.1 Single wire

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




#### 5.5.1.1 Knurled rollers for flux-cored wire

- Change the feed roller (**1**) and pressure roller (**5**) as a pair for the wire size to be used.

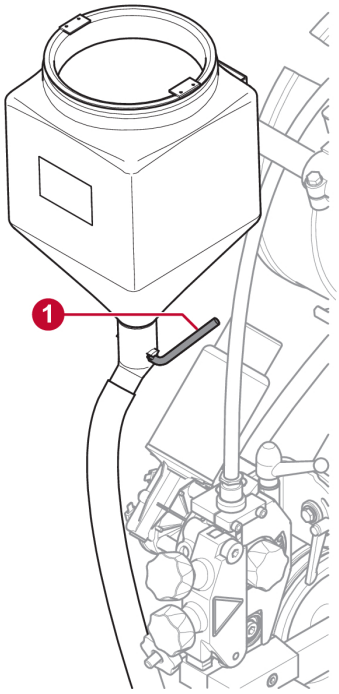
**NOTE!**
A special stub shaft is required for the pressure roller (ordering no. 0212 901 101).

- Tighten the pressure screw (**4**) with moderate pressure to ensure that the flux-cored wire does not deform.

## 5.6 Refilling with flux powder

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

   **NOTE!**
   The flux powder must be dry. Use preheated flux powder only when the flux hopper is designed for that.
4. Position the flux tube without twisting it.
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.



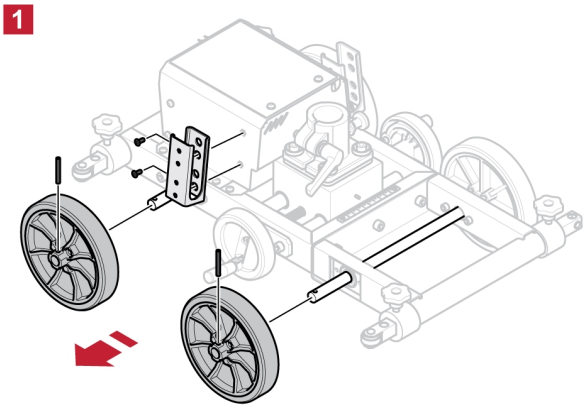

 

## 5.7 Upgrading the tractor to 4 wheel drive

1. Dismount the welding tractor according to the instructions in chapter "Transportation".

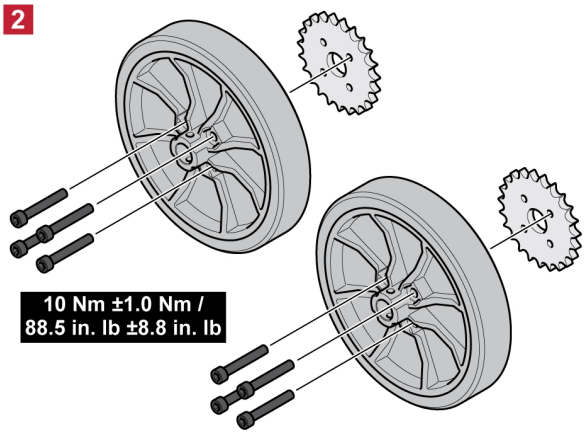
   Remove the cable support and wheels held by the roll pins on one side.

1



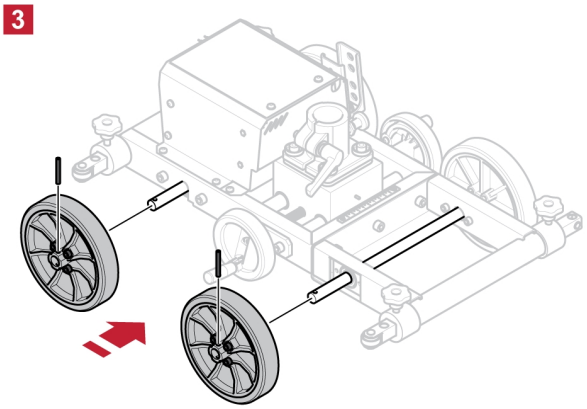
2. Mount the sprockets to the wheels using the included screws.

2



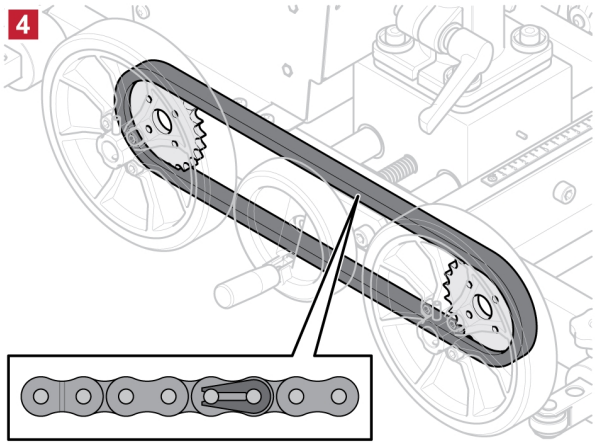

3. Mount the wheels onto the shafts and lock them in position using the roll pins.

3

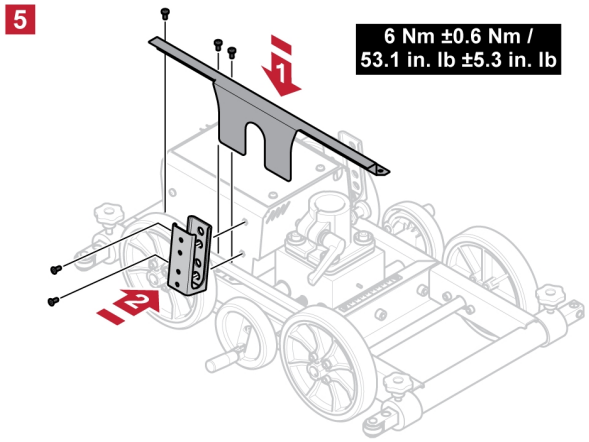


4. Put the chain onto the sprockets and lock with chain lock.




5. Mount the chain protection and the cable support using the included bolts.



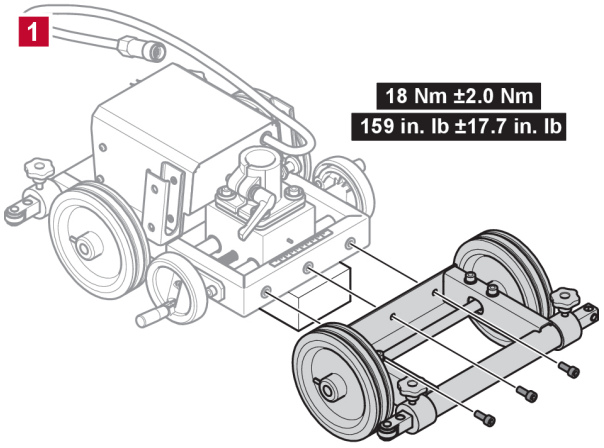

 

## 5.8 Changing to three wheeler module

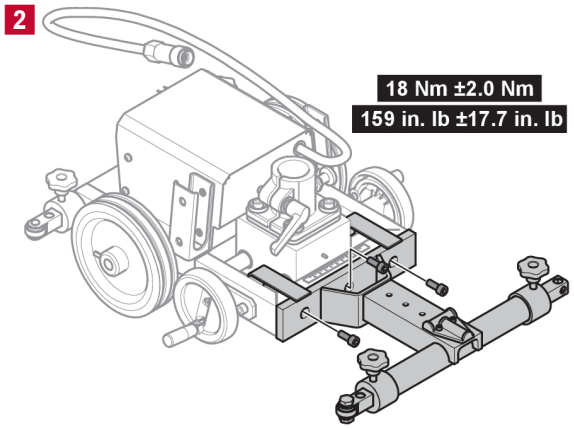
1. Dismount the welding tractor according to the instructions in chapter "Transportation".

   To prevent overturning, place a support block under the welding tractor before removing the front wheels.

   Remove the three screws holding the front wheels.



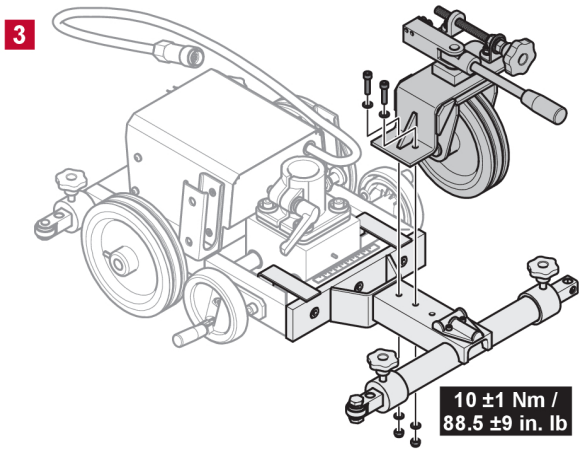

2. Assemble the bracket using the three screws.




3. Slide the three wheel kit onto the bracket.

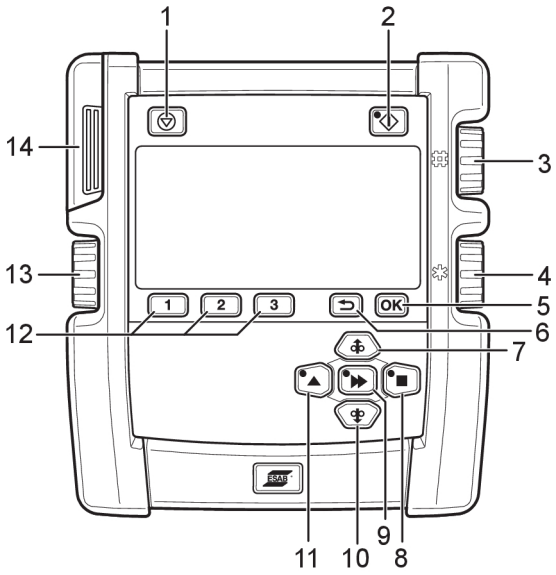
   Lock into position with the two screws.

   Change back to four wheels following these steps in backwards order.



## 5.9 Control panel EAC 10

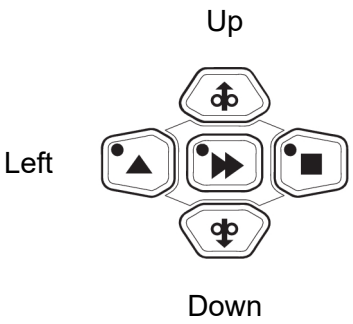



1. Welding stop
2. Welding start
3. Welding current / Wire feed speed/balance*
4. Arc voltage / Offset voltage*
5. OK / Setting menu
6. Back
7. Manual wire feed upwards
8. Manual travel motion direction
9. Fast motion
10. Manual wire feed downwards
11. Manual travel motion direction
12. Memory 1, 2, 3 / Soft keys
13. Travel speed / frequency*
14. USB connection

*Only with Aristo® 1000 in AC mode.

### 5.9.1 Keys and knobs

The buttons are used for Up, Down, Right, Left and Confirm (middle button) during configuration and setting.




**Welding stop** (1). Stops all travel motions, all motors and welding current.

**Welding start** (2). The LED is lit when welding is in progress.


The **OK** button (5) is used to confirm a selected choice.

The **Back** button (6) is used to go back one step inte the menu.
To set wire type and wire dimension, press and hold for more than 3 seconds.

Press **Manual wire feed upwards** button (7) to feed the wire upwards. The wire is fed as long as the button is pressed.

Press **Travel motion** (8) button to drive in the direction of welding where the symbol is indicated on the weld equipment.

**Fast motion** button (9) is used together with other buttons to increase speed. Press the button to activate fast motion and then press manual wire feed (7, 10) or travel motion (8, 11) button. The LED on the fast motion button is lit while fast motion is activated. Press again to deactivate fast motion.
During configuration, it is possible to confirm and save a value and return to previous screen using the Fast motion button.

Press **Manual wire feed downwards** button (10) to feed the wire downwards. The wire is fed as long as the button is pressed.

Press **Travel motion** (11) button to drive in the direction of welding where the symbol is indicated on the weld equipment.


Three different welding data memories per welding head can be stored in the control panel memory using the soft keys 1, 2 and 3 (12). The soft keys have also varying functions depending on which menu currently is in use. The current function can be seen from the text in the bottom row of the display.

The welding current / wire feed speed/balance knob[1] (3) is used for increasing or decreasing set values.

The arc voltage / offset voltage knob[1] (4) is used for increasing or decreasing set values.

The travel speed/frequency knob[1] (13) is used for increasing or decreasing set values.

[1] Only with Aristo® 1000 in AC mode.

### 5.9.2 Initial configuration

At first startup after delivery, after a program update and after a completed reset, the control panel requires initial configuration. The initial configuration starts automatically.

Initial configuration can also be initiated by pressing and holding *OK* during startup, while the ESAB logo is shown.

It is possible for an authorised user to change the configuration in the *GENERAL SETTINGS* menu.

1. Select language using the Up/Down/Right/Left buttons. Confirm with *OK* or with the middle button.
2. Select measurement unit using the Right/Left buttons. Confirm with *OK* or with the middle button.
3. Set date using the Up/Down buttons. Change between year, month and day with the Right/Left buttons. Confirm with *OK* or with the middle button.
4. Set time using the Up/Down buttons. Change between hours and minutes with the Right/Left buttons. Confirm with *OK* or with the middle button.
5. Select wire type using the Up/Down buttons. The wire types shown depend on the welding head detected during startup. Confirm with *OK* or with the middle button.
6. Select wire dimension using the Up/Down buttons. Confirm with *OK* or with the middle button.
7. After initial configuration, the control panel continues to the *SET* menu.

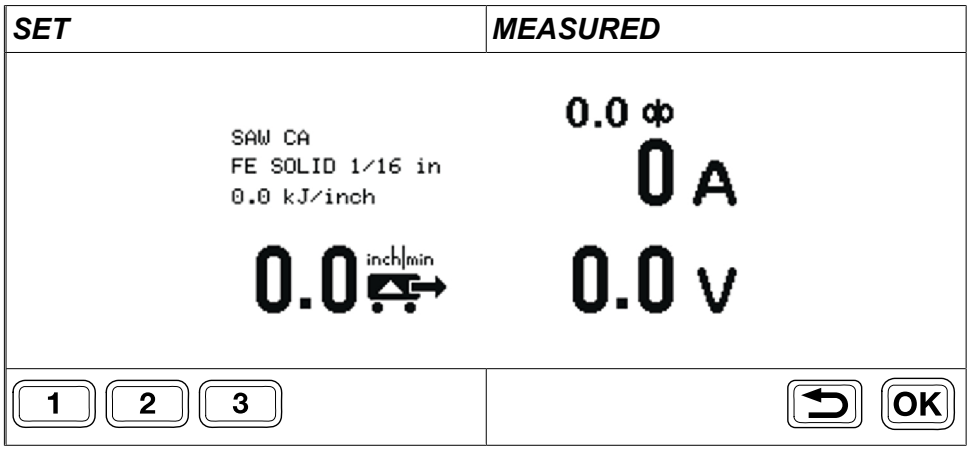
### 5.9.3 Startup


1. The software version is shown on the control panel during startup. The control panel automatically detects the welding head during startup.

   **NOTE!**
   The welding head is identified by the welding head cable. If the cable is replaced, use ESAB original spare part to maintain the feature.

2. If no digital power source is attached, a menu for selecting type of analogue power source is shown.
   Previously used analogue power source is shown if on/off switch is in position II. Press any button within 3 seconds to open the menu and change analogue power source using the buttons Up/Down and OK.
   If no button is pressed, the startup will proceed with no changes on power source.
3. Previously selected wire type and wire dimension is shown. Press any button within 7 seconds to open the menu. Select wire type and wire dimension using the buttons Up/Down and OK.
   If no button is pressed, the control panel continues to the *SET* menu with no changes on wire type or wire dimension.

### 5.9.4 Measured screen




The *MEASURED* screen shows the measured values during welding. The information on the screen depends on the selected welding method.

The screen shows information divided into four parts:

| | |
|---|---|
| Method, wire, heat input | Amperage |
| Travel speed | Voltage |

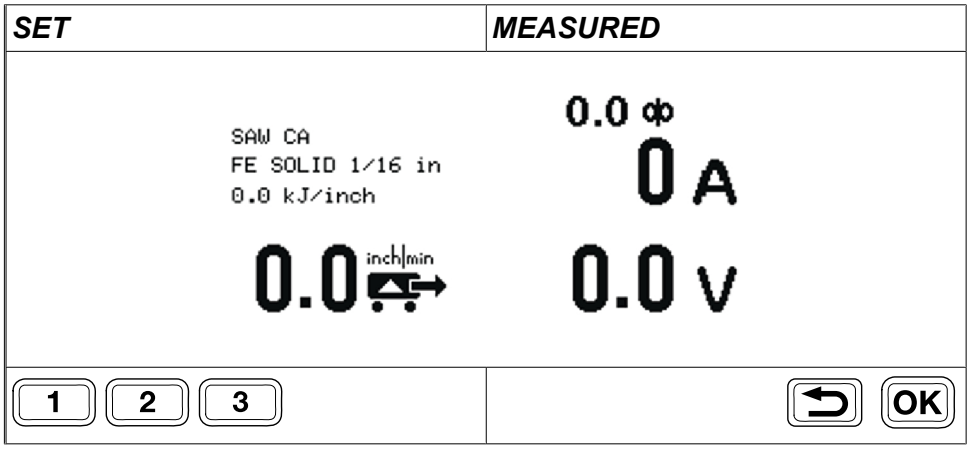
OK A short press on *OK* when an AC power source is connected will open the AC settings screen. A long press on *OK* opens the *WELDING MENU* settings screen.

Turn any of the knobs after welding stop to open the *SET* screen. The values are shown and the *SET* screen is kept open.

1 A short press on any of the keys 1, 2, or 3 recalls the corresponding memory slot. The *SET* screen is opened and the values are displayed.

### 5.9.5 Set screen, digital power source

**NOTE!**
The available functions of the *SET* screen depends on selected welding method.




The *SET* screen is used to change welding settings and save settings to the memory slots using the keys 1, 2 and 3.

Turn any of the knobs during welding to open the *SET* screen from the *MEASURED* screen. The values are shown during 2 seconds before returning to the *MEASURED* screen unless any adjustments are made.

If the *SET* screen is opened without ongoing welding, it will stay active. When welding starts, the *MEASURED* screen is activated.

Change the welding settings by using the knob next to the value shown on the display. It it possible to save the settings for easy access.

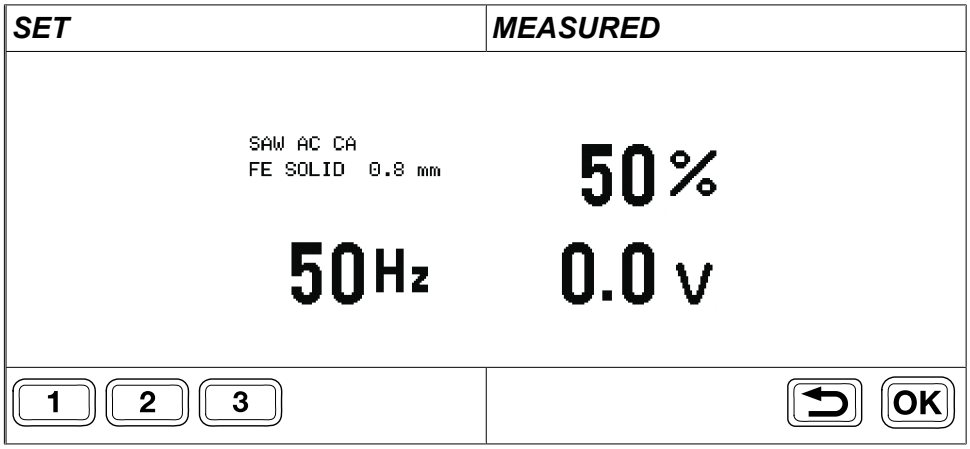
1 A short press on any of the keys 1, 2 or 3 will display the saved welding data memory settings, set the values and show the the *MEASURED* screen again. The welding data memory number in use is shown on the *SET* tab and also with a bar above the key with the corresponding number.

OK With AC power source: A short press on the OK button opens the *AC SETTINGS* screen.

A long press on the OK button opens the *WELDING MENU*. Return by pressing the Back button.
To set wire type and wire dimension, press and hold the Back button for more than 3 seconds.

### 5.9.6 Set screen, analogue power source




OK With AC power source: A short press on the OK button opens the *AC SETTINGS* screen.

With Aristo® 1000 power siurce and SAW welding head: A short press on the OK button opens a screen where the knobs will control frequency, balance and offset.

Save values and return to the *MEASURE* screen by pressing the Back button.

### 5.9.7 Welding menu

OK When any of the screens *SET* or *MEASURED* is shown, press long on OK to open the extended *WELDING MENU*.

The information on the display depends on the authorisation level, attached power source and welding head. The authorisation level is shown with an icon in the upper right corner of the display.

| **Example of welding menu for Aristo® 1000 AC/DC** | | | |
|---|---|---|---|
| | ***WELDING MENU*** | | |
| | *METHOD* | *DC+* | |
| | *REGULATION TYPE* | *CA* | |
| | *START TYPE* | *DIRECT* | |
| | *CRATER FILL TIME* | *O.O s* | |
| | *BURNBACK TIME* | *0.50 s* | |

| **Example of welding menu for SAW welding with LAF or TAF** | | | |
|---|---|---|---|
| | ***WELDING MENU*** | | |
| | *REGULATION TYPE* | *CA* | |
| | *START TYPE* | *DIRECT* | |
| | *CRATER FILL TIME* | *O.O s* | |
| | *BURNBACK TIME* | *0.7 s* | |

Select the *WELDING MENU* by pressing the Right button.

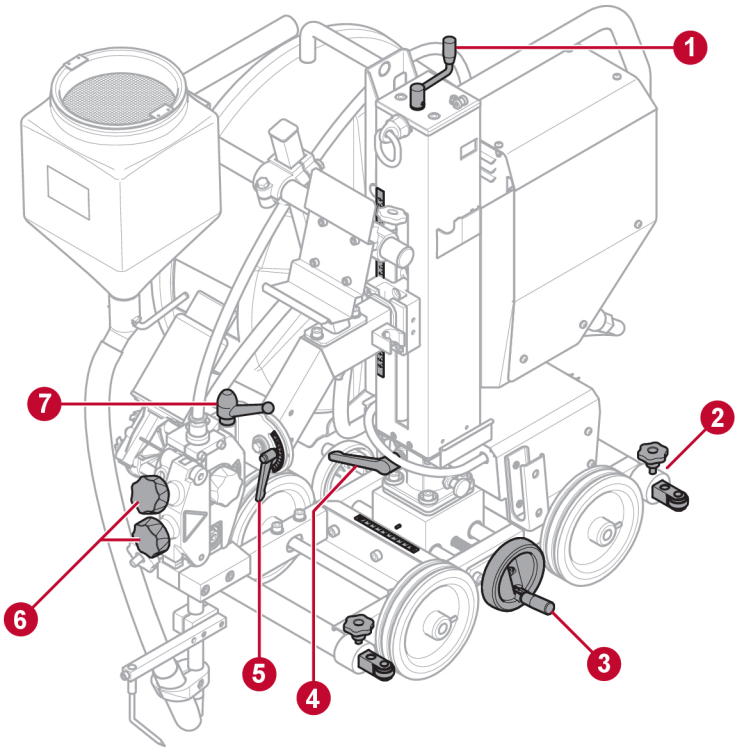
Select a menu row using the Up/Down buttons and press OK or confirm with the middle button.

Set a numerical value using the Arc voltage / Offset voltage knob (4).
Other values are selected using the Up and Down buttons.

Press OK or the Middle button to confirm and return to the previous menu level. The new value is displayed.

Return to previous menu level WITHOUT changed settings with Back or the Left button.

## 5.10 Adjustments




**NOTE!**
Always keep handle in locked position when not adjusting.

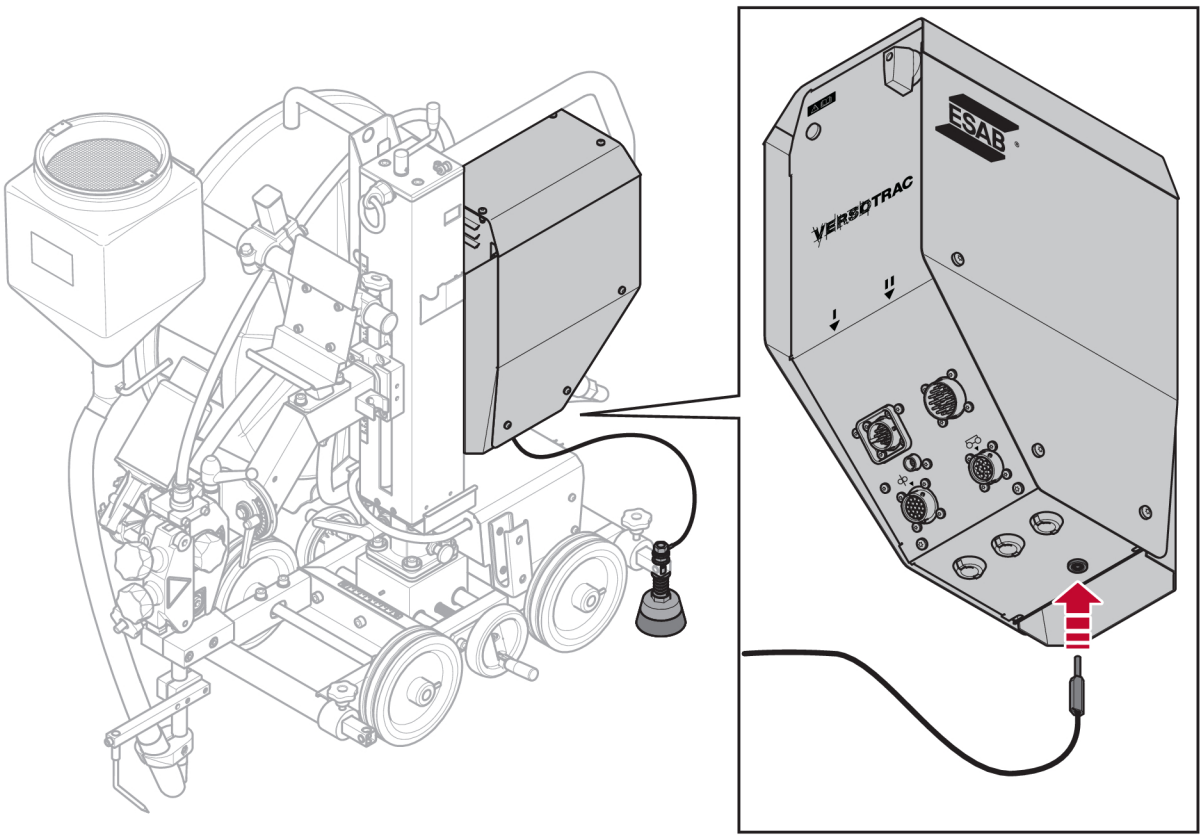
1. Vertical adjustment of the welding head, see scale on the column.
2. Adjust the guide roller device distance, both in front and back of welding tractor.
3. Adjust the horizontal column location, see scale next to the column.
4. Adjust the rotation angle of the column.
5. Adjust the rotation angle of the welding head, see scale next to handle.
6. Adjust the wire pressure.
7. Adjust the rotation angle of the welding head.

## 5.11 Work piece voltage reference brush

The Versotrac offers an alternative work piece voltage reference through a mounted brush. The work piece voltage reference brush provides a stable work piece voltage reference for the welding power source. The solution effectively eliminates disturbance in the arc voltage measuring cables by providing a more stable welding arc.

This is the recommended solution for work piece reference when welding with an AC power source with Versotrac.




Mount the work piece voltage reference brush on any of the guide bars.

Connect the cable into the work piece voltage reference input on the control unit EAC 10.

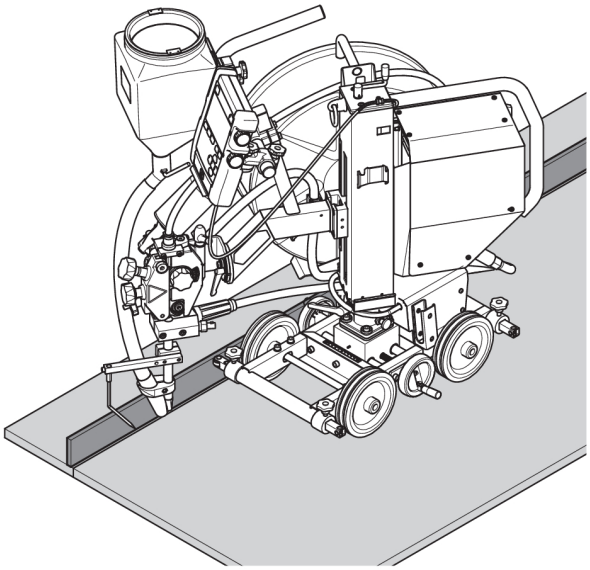
**NOTE!**
Control cable 0446 146 880-885 is required between the control unit EAC 10 and the power source. See chapter "ACCESSORIES".

## 5.12 Welding applications

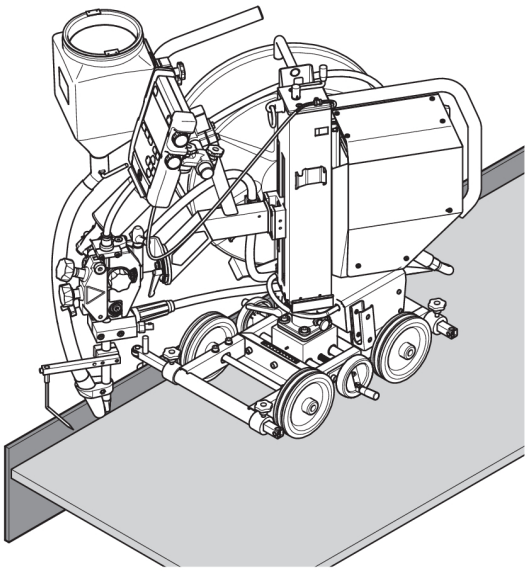
### Basic version

EWT 1000 in basic version with guide roller device. This positions the welding tractor correctly along fillet welds with the driving wheels angled about 0.5–1° in towards the vertical plate and with guide roller device steering along a guide parallel to the joint. The guide may be part of the workpiece or a separete guide rail that has been aligned parallel to the joint.
Circular fillet welding. The welding tractor follows the joint using the basic guide arm device. Minimum radius 3.9 m.



### Idling rollers (0446 151 880)

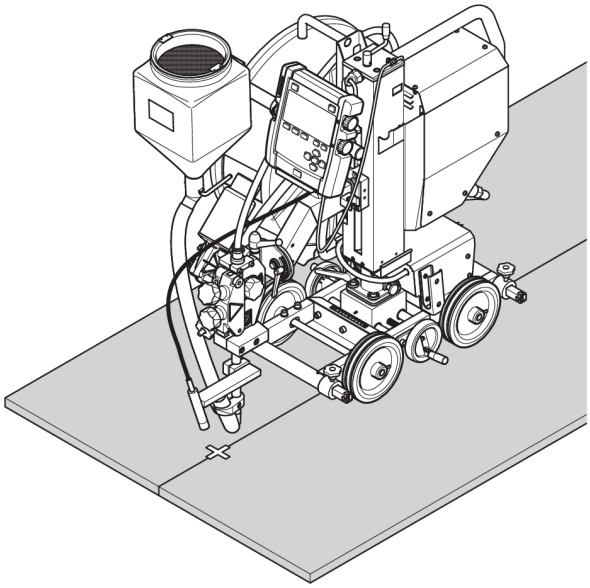
Idling rollers with adjustable height are supplied as an accessory. Two idling rollers are required when fillet welding along a low vertical plate. The idling rollers can also be used for various types of workpieces, for example along guide edges parallel to the weld joint.
See chapter "ACCESSORIES".



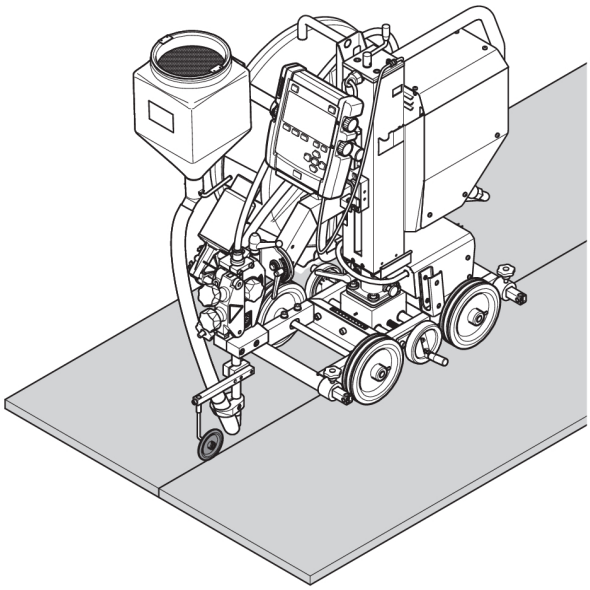
### Laser lamp (0821 440 880)

If there is no suitable edge along which to steer the welding tractor mechanically, for example when making an I-joint, the laser lamp will be helpful with submerged-arc welding in order to indicate the position of the welding nozzle in the joint.
See chapter "ACCESSORIES".



### Guide wheel bogey (0413 542 880)

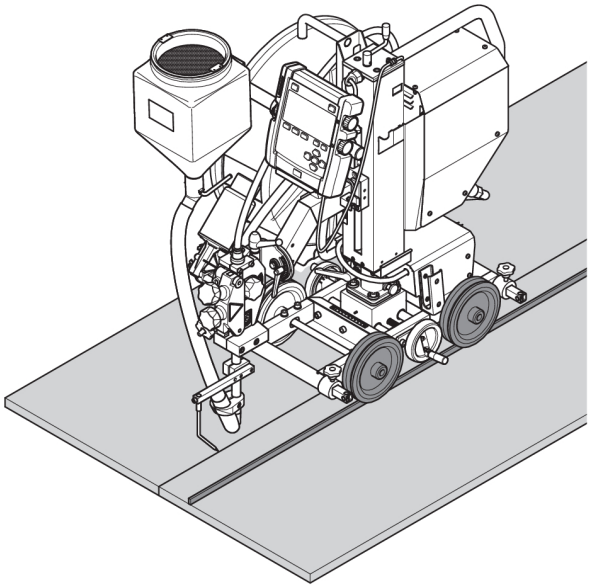
Use of the guide wheel bogey in a V-joint allows the welding tractor to track the joint. The welding tractor can pass over tack welds without problems, and without losing the track. The guide wheel bogey is secured to the contact tube, and the welding nozzle is positioned to weld behind the guide wheel bogey.
See chapter "ACCESSORIES".



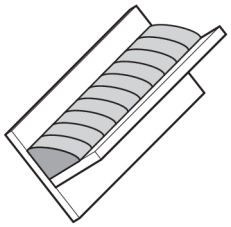
### Grooved wheels (0443 682 881)

If there is no suitable edge along which to steer the welding tractor, as when making an I-joint, it can be fitted with two grooved wheels, which will run on an angle iron guide rails can be joined together to make up the required length.
See chapter "ACCESSORIES".



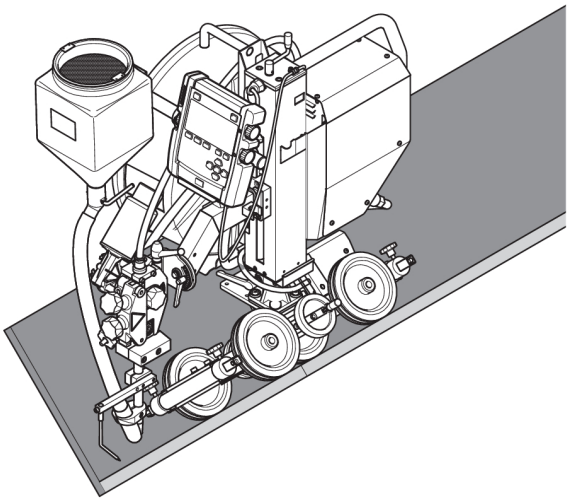
### Flat fillet welding (0904 586 880)

The flat fillet welding kit can be used to keep the equipment straight upwards when welding a tilted fillet joint.



The angle can be set to 0, 30° and 45°.

See chapter "ACCESSORIES".

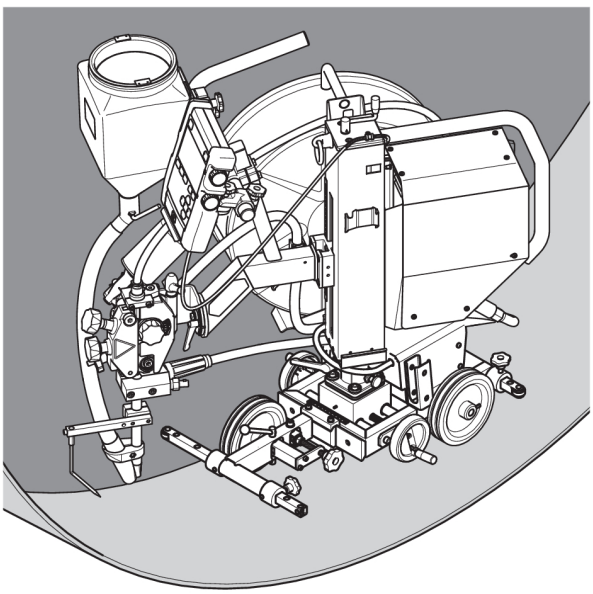


### Three wheeler module (0904 557 880)

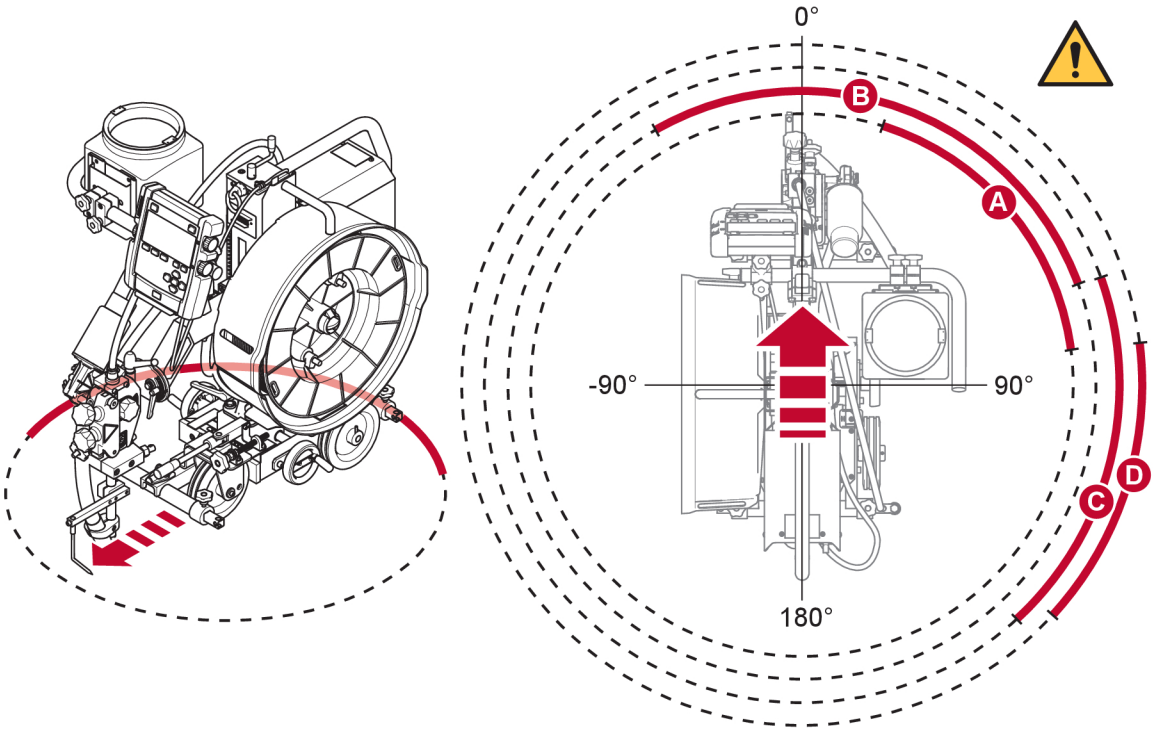
Used for internal joint welding. The welding tractor follows a guide wheel bogey which is placed in a V-joint.
Minimum pipe diameter for internal joint welding 1.1 m (3.6 ft).

See chapter "ACCESSORIES".



**WARNING!**
To prevent overturning, always keep welding head within the allowed welding area.

The welding area depends on the mounted equipment, as shown in the image.




A. No flux, no wire: Welding head **not** within 17–82.5°
B. Only flux: Welding head **not** within -30–70°
C. Only wire: Welding head **not** within 70–137.5°
D. Both flux and wire: Welding head **not** within 82.5–133°

# 6 MAINTENANCE

## 6.1 General

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

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

For maintenance of the control unit, **EAC 10**, see separate instruction manual.

## 6.2 Daily

- Make sure the column is in locked position.
- Make sure the welding head arm is in locked position.
- Make sure that the bobbin holder is in locked position.
- Clean flux and dirt off moving parts.
- Clean flux and dirt off slides.
- Check:
  - The rotation lock between the carriage and the column.
  - The welding head lock.
  - The bobbin holder lock.
- Check that the contact tip and all electrical cables are connected.
- Make sure all screwed joints are tightened.
- Check that guides and drive rollers are not worn or damaged.
- Check the brake hub braking torque. Tighten if the wire reel continues to rotate when the wire feed is stopped. Loosen if 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 section "Adjusting the brake hub".

## 6.3 Weekly

- Inspect the slides. Lubricate them, if they are binding.

# 7 TROUBLESHOOTING

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

## 7.1 EWT 1000

| Type of fault | Possible cause | Action |
|---|---|---|
| No travel motion | Poor electrical connection. | Clean and tighten all electrical connections. |
| | | Check cables. |
| Incorrect motor speed | Error in encoder. No feedback in the system. | Clean and tighten all electrical connections. |
| | | Check cables. |

## 7.2 EWH 600 / EWH 1000

| Type of fault | Possible cause | Action |
|---|---|---|
| Current and voltage readings show large fluctuations | Contact jaws or nozzle are worn or wrong size. | Replace contact jaws or nozzle. |
| | Wire feed roller pressure is inadequate. | Increase pressure on wire feed rollers. |
| Wire feed is uneven | Pressure on wire feed rollers is incorrectly set. | Adjust pressure on wire feed rollers. |
| | Wire feed rollers are of the wrong size. | Replace wire feed rollers. |
| | Grooves in wire feed rollers are worn. | Replace wire feed rollers. |
| Wire feed is not functioning | Wire feed roller pressure is inadequate. | Adjust pressure on wire feed rollers. |
| | Wrong feed roller is used. | Replace feed roller. |
| Welding cables are overheating | Poor electrical connection. | Clean and tighten all electrical connections. |
| | Cross-sectional area of welding cables is too small. | Use cables with a larger cross-section or use parallel cables. |
| Incorrect motor speed | Error in encoder. No feedback in the system. | Check the electrical connections. |
| | | Check cables. |
| Bad or no start of welding or arc ignition | Poor electrical connection in welding cables. | Tighten the OKC connectors. |
| | | Check welding cables. |
| | Poor connection for welding wire. | Make sure that the welding wire is straightly cut. |
| | Aristo 1000: Poor connection for welding wire, no (+) feedback. | Check the electrical connections. Check cables. |

| Type of fault | Possible cause | Action |
|---|---|---|
| Poor welding result | Bad or no feedback to the system. | Check the electrical connections. Check cables. |
| | LAF, TAF: No (-) feedback. | Check the electrical connections. Check cables. |

## 7.3 EAC 10

| Type of fault | Possible cause | Action |
|---|---|---|
| Control unit does not start, diode not lit | 42 V missing. | Check the electrical connections. |
| | | Check control cable. |
| | | Check if On/Off switch is in the right position (analogue/digital). |
| Control pendant does not start | 12 V missing. | Check the electrical connections. |
| | | Check cable. |

# 8 ERROR CODES

Error management codes are used to indicate that an error has occurred in the welding process. It is indicated in the display via a pop-up menu.

This manual describes the error codes for the EAC 10. The error codes for other units are described in the manuals for these units.

| Error code | | Description |
|---|---|---|
| **LAF, TAF** | **Aristo® 1000** | |
| **6** | **4201, 4202, 4203** | *High temperature*<br>The power source has overheated and cancels welding. Welding is permitted again when the temperature falls below the maximum temperature parameter.<br>**Action:** Check that the cooling air inlets or outlets are not blocked or clogged with dirt. Check the duty cycle being used, to make sure that the equipment is not being overloaded. If the error persists, send for a service technician. |
| **7** | | *Low welding current*<br>The weld arc has been shut down due to too low welding current during the welding process.<br>**Action:** Is reset at next weld start. If the error persists, send for a service technician. |
| **8** | | *Low battery voltage*<br>Battery voltage too low. If the battery is not replaced, all stored data will be lost. This error does not disable any functions.<br>**Action:** Send for a service technician to replace the battery. |
| **11** | **8411 sub-code 0** | *Speed error on a motor,* (wire feed, travel motor)<br>A motor cannot maintain its speed. Welding stops.<br>**Action:** Check that the wire feed has not jammed or runs too fast. If the error persists, send for a service technician. |
| **12** | **12, 93** | *Internal communication error (warning)*<br>The load on the system's CAN-bus is temporarily too high. The power source may have lost contact with the control unit.<br>**Action:** Check that all the equipment is correctly connected. If the error persists, send for a service technician. |
| **14** | **14, 95** | *Communication error*<br>The system's CAN-bus has temporarily stopped working due to the load being too high. The current welding process stops.<br>**Action:** Check that all the equipment is correctly connected. Turn off the mains power supply to reset the unit. If the error persists, send for a service technician. |

| Error code | | Description |
|---|---|---|
| **LAF, TAF** | **Aristo® 1000** | |
| **17** | **8117** | *Lost contact with the unit*<br>**Action:** Check wiring and the connector between the control unit and power source. If the error persists, send for a service technician. |
| **32** | | *No gas flow*<br>Start prevented.<br>**Action:** Check the gas valve, hoses and connectors. |
| **43** | **71** | *High welding current*<br>Power source have switched off the welding process because the current has exceeded the maximum current parameter for the power source.<br>**Action:** Is reset at next weld start. If the error persists, send for a service technician. |
| **44** | **100** | *Start pause welding current*<br>The welding process has stopped because it has not advanced within 10 seconds.<br>**Action:** Is reset at next weld start. If the error persists, send for a service technician. |
| **168, 169** | **8411 sub-code 1** | *A motor has stopped.*<br>There are no pulses from the motor pulse transducer.<br>For LAF and TAF: 168 = Motor M1 (Wire feeder motor), 169 = Motor M2 (Travel motor)<br>**Action:** Check the motor cables. Replace the pulse transducer. |
| | **2310** | *Current servo saturation*<br>The power source has temporarily delivered maximum current.<br>**Action:** If the error persists, try lowering the weld data. |
| **4** | **3205** | *High DC voltage*<br>**Action:** Check if the main voltage is too low or too high. |
| **88** | **5010** | *High inductance*<br>Inductance is too high, depending on long welding cables and/or high weld data.<br>**Action:** Try adjusting the weld data. |

# 9 ORDERING SPARE PARTS

**CAUTION!**

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

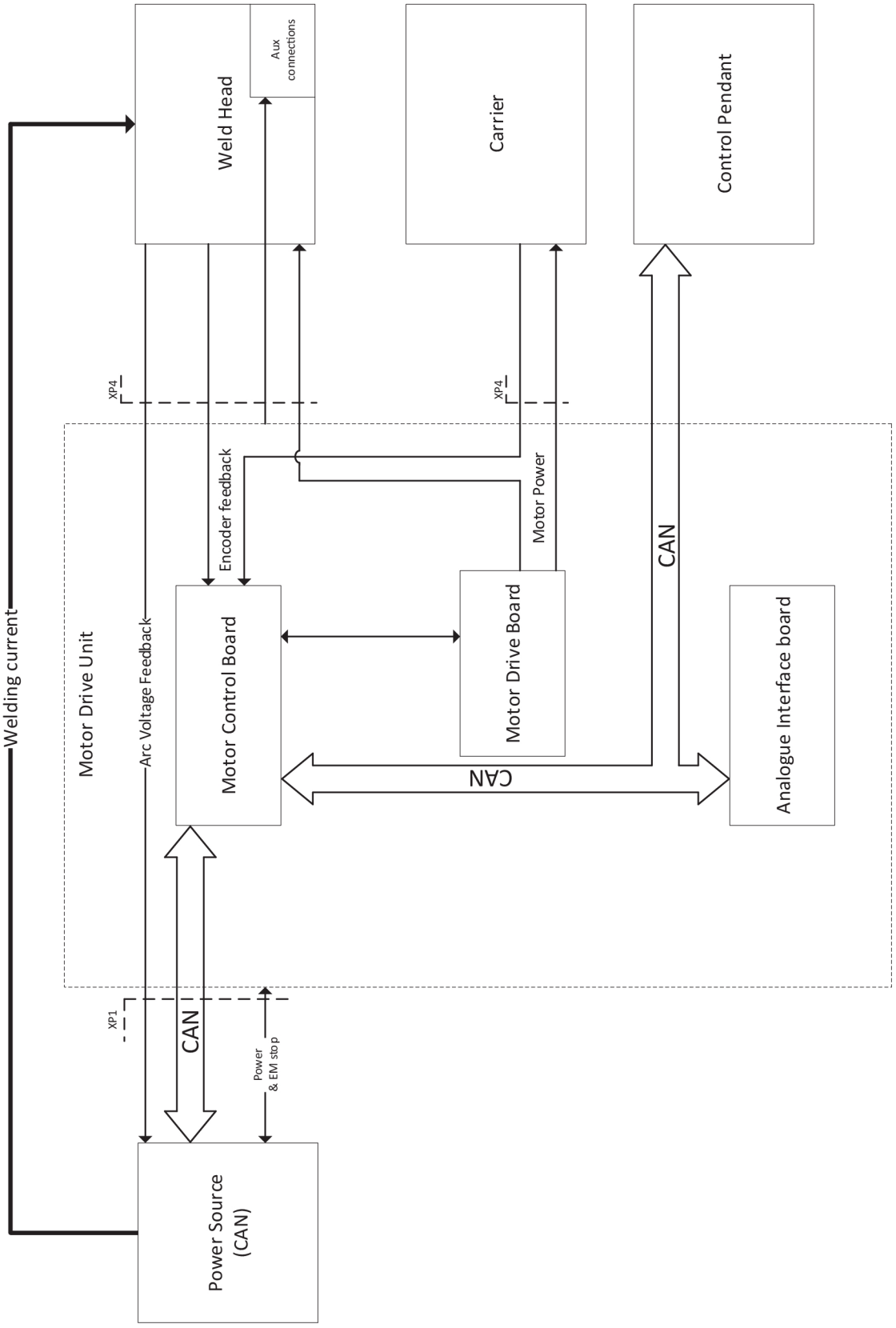
The EWT 1000 is designed and tested in accordance with international and European standards **IEC/EN 60974-5**, **IEC/EN 60974-10** and **EN 12100:2010**. On completion of service or repair work, it is the responsibility of the person(s) performing the work to ensure that the product still complies with the requirements of the above standard.

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

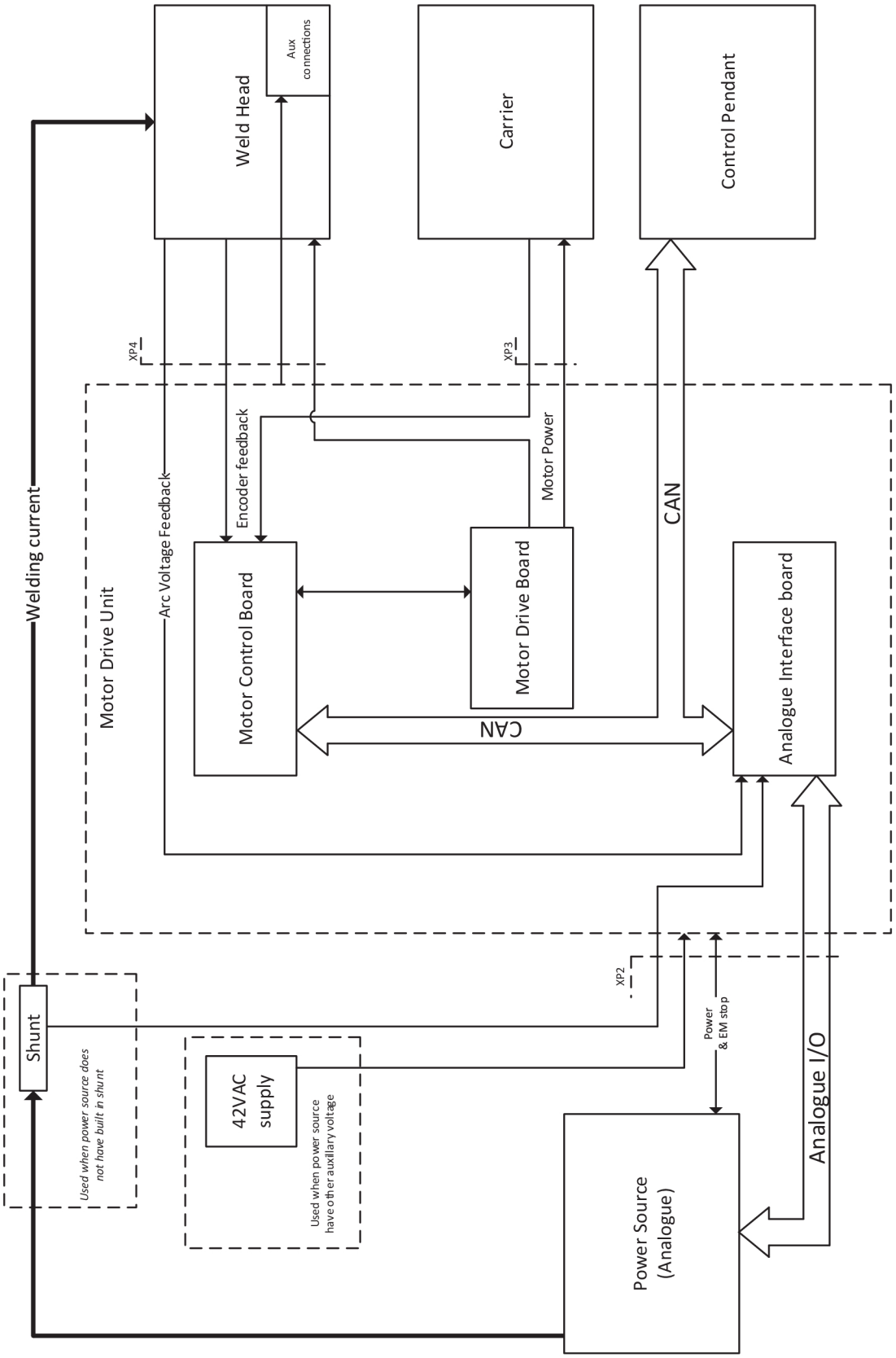
# DIAGRAM

## Digital power source



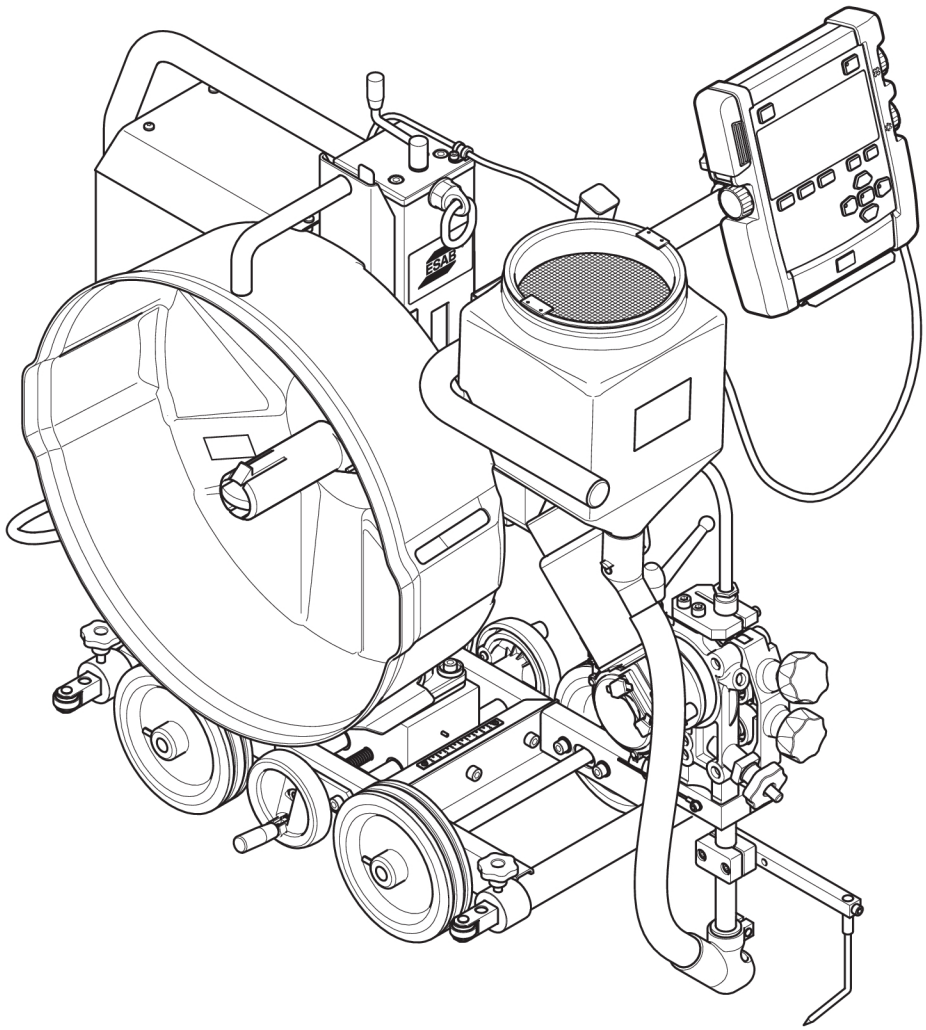

 

## Analogue power source



# ORDERING NUMBERS

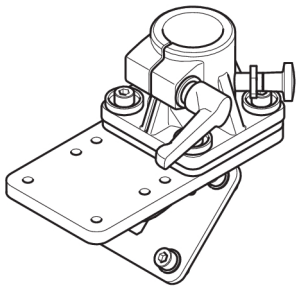
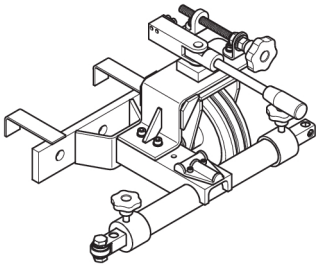
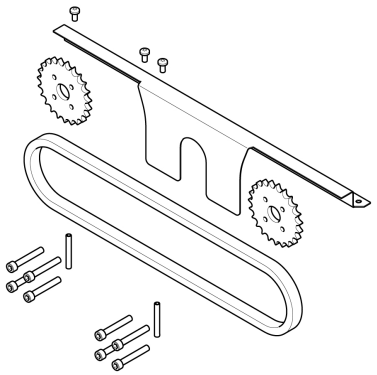
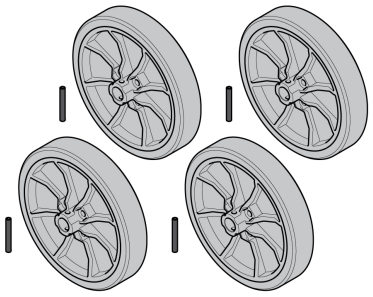
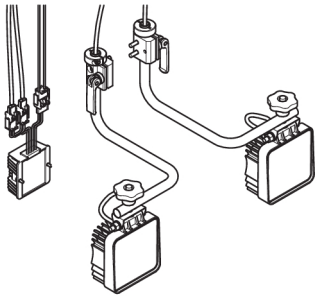


| Ordering number | Denomination | Type | Notes |
|---|---|---|---|
| 0904 200 880 | Welding tractor | Versotrac EWT 1000 including welding head EWH 600 / EWH 1000, bobbin holder and control unit EAC 10. | Feed roller and contact tip not included. |
| 0463 627 * | Instruction manual | EWH 600 / EWH 1000 welding head | |
| 0463 612 * | Instruction manual | EAC 10 control panel | Describes software functions. |
| 0463 609 * | Instruction manual | EAC 10 control unit | |
| 0463 614 001 | Spare parts list | | |

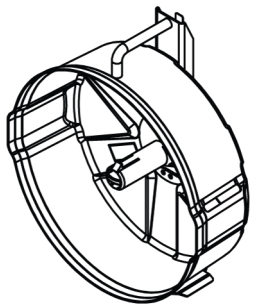
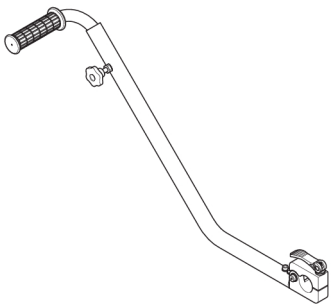
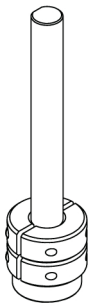
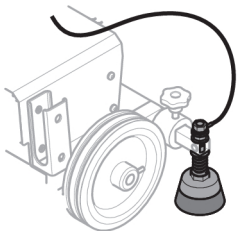
Technical documentation is available on the Internet at: www.esab.com

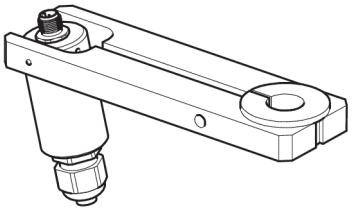
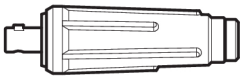
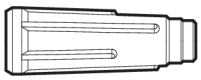
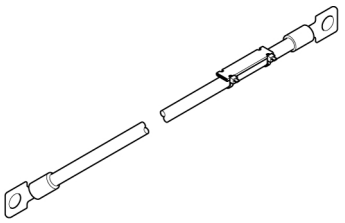
# ACCESSORIES

| **EWT 1000** | | |
|---|---|---|
| 0904 586 880 | **Flat fillet welding kit** |  |
| 0904 557 880 | **Three wheeler module** |  |
| 0910 053 880 | **4 wheel drive kit**<br>Early version of tractors have old version of wheels that are not compatible with the 4 wheel drive kit. In this case both kit and new wheels are needed.<br>Item 0910 531 880 shows the new version of wheels, that compatible with the 4 wheel drive kit. |  |
| 0910 531 880 | **Wheel kit** |  |
| 0904 273 880 | **LED lamp kit**, 27 W, 12/24 V |  |

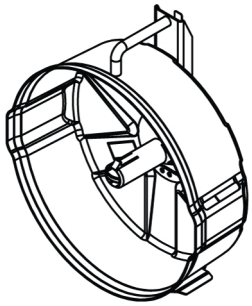
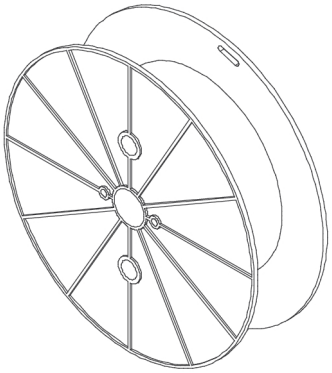
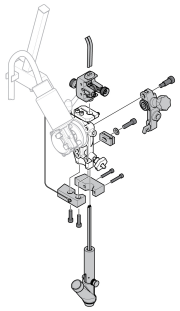
 

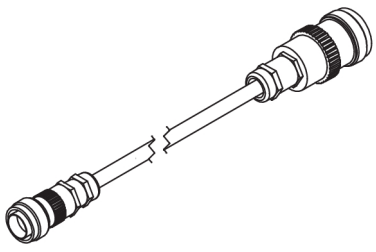
| **EWT 1000** | | |
|---|---|---|
| 0908 520 880 | **Bobbin holder** |  |
| 0904 537 880 | **Steering handle** |  |
| 0446 151 880 | **Idling roller** (1 piece) |  |
| 0443 682 881 | **V-wheeltrack** steel (4 pcs) | |
| 0443 682 880 | **V-wheeltrack** steel (1 piece) | |
| 0332 947 880 | **Bracket suction** | |
| 0904 223 880 | **Work piece voltage reference brush** |  |
| 0413 542 880 | **Guide wheel bogey**. For V-joints, used for joint tracking, for fitting on the contact tube. | |
| 0415 857 002 | **Heat resistant wheel** (1 piece), 250 °C (482 °F) | |
| 0154 203 880 | **Guide rail with magnets**, 3 m (9.8 ft). Several lenghts of guide rail can be used. | |

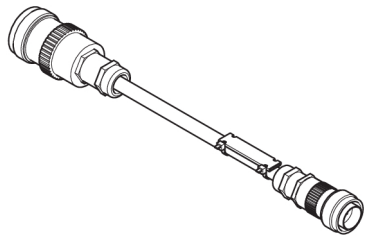
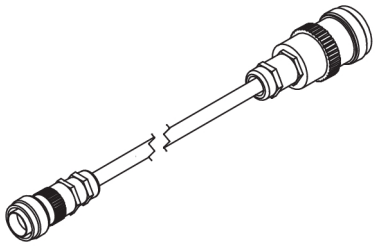
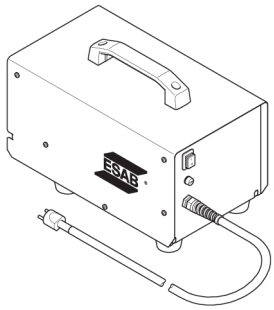
| | | |
|---|---|---|
| **EWH 1000** | | |
| 0821 440 984 | **Laser lamp kit**, 0.5 m (1 ft 7.7 in.) cable |  |
| 0160 360 882 | **OKC connector** Male, 70-120 mm² |  |
| 0160 361 882 | **OKC connector** Female, 70-120 mm² |  |
| **Welding cable with OKC** | |  |
| 0446 134 880 | 95 mm², 15 m (49 ft) | |
| 0446 134 881 | 95 mm², 25 m (82 ft) | |
| 0446 134 882 | 95 mm², 35 m (115 ft) | |
| 0446 134 883 | 95 mm², 50 m (164 ft) | |
| 0446 134 884 | 95 mm², 75 m (246 ft) | |
| 0446 134 885 | 95 mm², 100 m (328 ft) | |
| 0446 134 890 | 120 mm², 15 m (49 ft) | |
| 0446 134 891 | 120 mm², 25 m (82 ft) | |
| 0446 134 892 | 120 mm², 35 m (115 ft) | |
| 0446 134 893 | 120 mm², 50 m (164 ft) | |
| 0446 134 894 | 120 mm², 75 m (246 ft) | |
| 0446 134 895 | 120 mm², 100 m (328 ft) | |
| 0810 093 880 | **Flexible arm** | |
| 0148 140 880 | **Flux recovery unit OPC** | |
| 0413 315 881 | **Flux hopper of silumin alloy** | |
| 0145 221 881 | **Concentric flux feeding funnel** | |
| **Contact tube** | | |
| 0413 510 001 | 260 mm (10.24 in.) | |
| 0413 510 002 | 190 mm (7.48 in.) | |
| 0413 510 003 | 100 mm (3.94 in.) | |
| 0413 510 004 | 500 mm (1 ft 7.7 in.) | |
| 0413 511 001 | **Contact tube**, bent | |

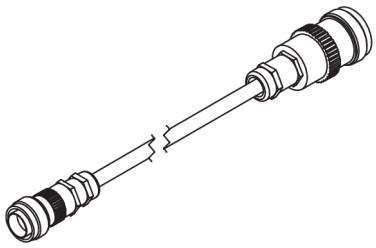
 

| | | |
|---|---|---|
| 0908 520 880 | **Bobbin holder** |  |
| 0153 872 880 | **Wire reel**, plastic, 30 kg |  |
| 0449 125 880 | **Wire reel**, steel, flexible width | |
| 0671 164 080 | **Wire reel**, steel Ø 220 mm | |
| 0446 110 880 | **Single to twin conversion kit** |  |

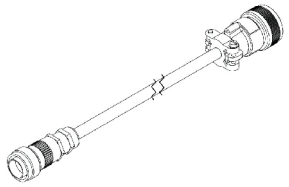
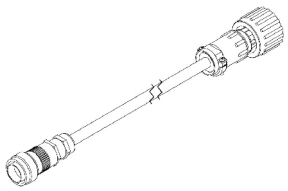
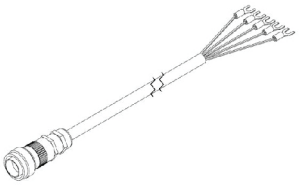
| **EAC 10** | | |
|---|---|---|
| **Control cable EAC 10 - digital power source** | |  |
| 0460 910 880 | 5 m (16 ft) | |
| 0460 910 881 | 15 m (49 ft) | |
| 0460 910 882 | 25 m (82 ft) | |
| 0460 910 883 | 35 m (115 ft) | |
| 0460 910 884 | 50 m (164 ft) | |
| 0460 910 885 | 75 m (246 ft) | |
| 0460 910 886 | 100 m (328 ft) | |

| | | |
|---|---|---|
| **Control cable EAC 10 - digital power source and work piece voltage reference brush** | |  |
| 0446 146 880 | 5 m (16 ft) | |
| 0446 146 881 | 15 m (49 ft) | |
| 0446 146 882 | 25 m (82 ft) | |
| 0446 146 883 | 35 m (115 ft) | |
| 0446 146 884 | 50 m (164 ft) | |
| 0446 146 885 | 75 m (246 ft) | |
| **Control cable EAC 10 - ESAB analogue power source** | |  |
| 0449 500 880 | 15 m (49 ft) | |
| 0449 500 881 | 25 m (82 ft) | |
| 0449 500 882 | 35 m (115 ft) | |
| 0449 500 883 | 50 m (164 ft) | |
| 0449 500 884 | 75 m (246 ft) | |
| 0449 500 885 | 100 m (328 ft) | |
| Welding power source interface, for non-ESAB analogue SAW power source | |  |
| 0446 180 880 | 115 V version | |
| 0446 180 881 | 230 V version | |
| 0462 062 001 | **USB Memory stick** 2 Gb |  |

| | | |
|---|---|---|
| **Welding power source interface** | | |
| **Control cable EAC 10 - Welding power source interface** | |  |
| 0446 179 880 | 15 m (49 ft) | |
| 0446 179 881 | 25 m (82 ft) | |
| 0446 179 882 | 35 m (115 ft) | |
| 0446 179 883 | 50 m (164 ft) | |
| 0446 179 884 | 75 m (246 ft) | |
| 0446 179 885 | 100 m (328 ft) | |
| **Control cable for welding power source interface - general analogue controlled power source** | | |

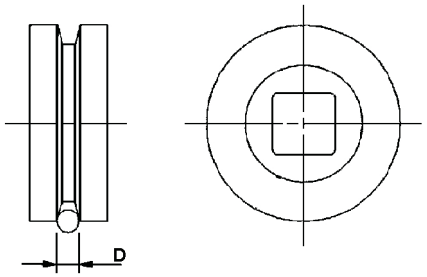
| | | |
|---|---|---|
| 0446 157 880 | Cable with 14-pin MS3106 20-27PX plug<br>Suitable for power sources:<br>• Lincoln Flextec 650/650x<br>• Lincoln DC 600<br>• Lincoln DC 655 |  |
| 0446 156 880 | Control cable 14-pin, CPC type<br>Suitable for power sources:<br>• Miller dimension 650, 652, 452 |  |
| 0446 178 880 | Control cable, terminal block<br>Suitable for power sources:<br>• Miller SubArc DC 650, 800, 1000, 1250<br>• Lincoln DC 1000 |  |

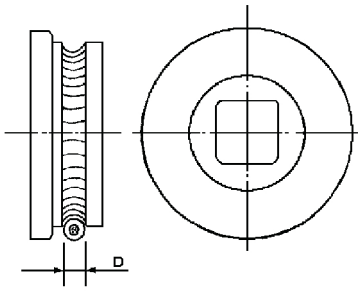
# WEAR PARTS

### Feed rollers

| SAW | |
|---|---|
| **Part no.** | **D (mm)** |
| 0218 510 281 | 1.6 |
| 0218 510 282 | 2.0 |
| 0218 510 283 | 2.5 |
| 0218 510 286 | 4.0 |
| 0218 510 287 | 5.0 |
| 0218 510 298 | 3.0–3.2 |

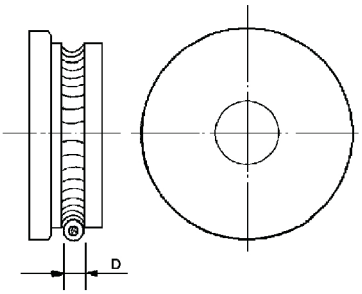



| Grooved and knurled roller for tubular wire | |
|---|---|
| **Part no.** | **D (mm)** |
| 0146 024 880 | 0.8–1.6 |
| 0146 024 881 | 2.0–4.0 |



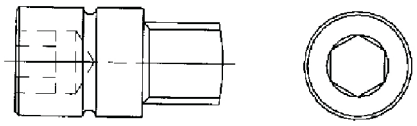

### Pressure rollers

| Pressure roller groved and knurled for tubular wire | |
|---|---|
| **Part no.** | **D (mm)** |
| 0146 025 880 | 0.8–1.6 |
| 0146 025 881 | 2.0–4.0 |
| 0146 025 882 | 5.0–7.0 |




### Stub shaft for pressure roller

| EWH 1000 tubular wire |
|---|
| **Part no.** |
| 0212 901 101 |



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