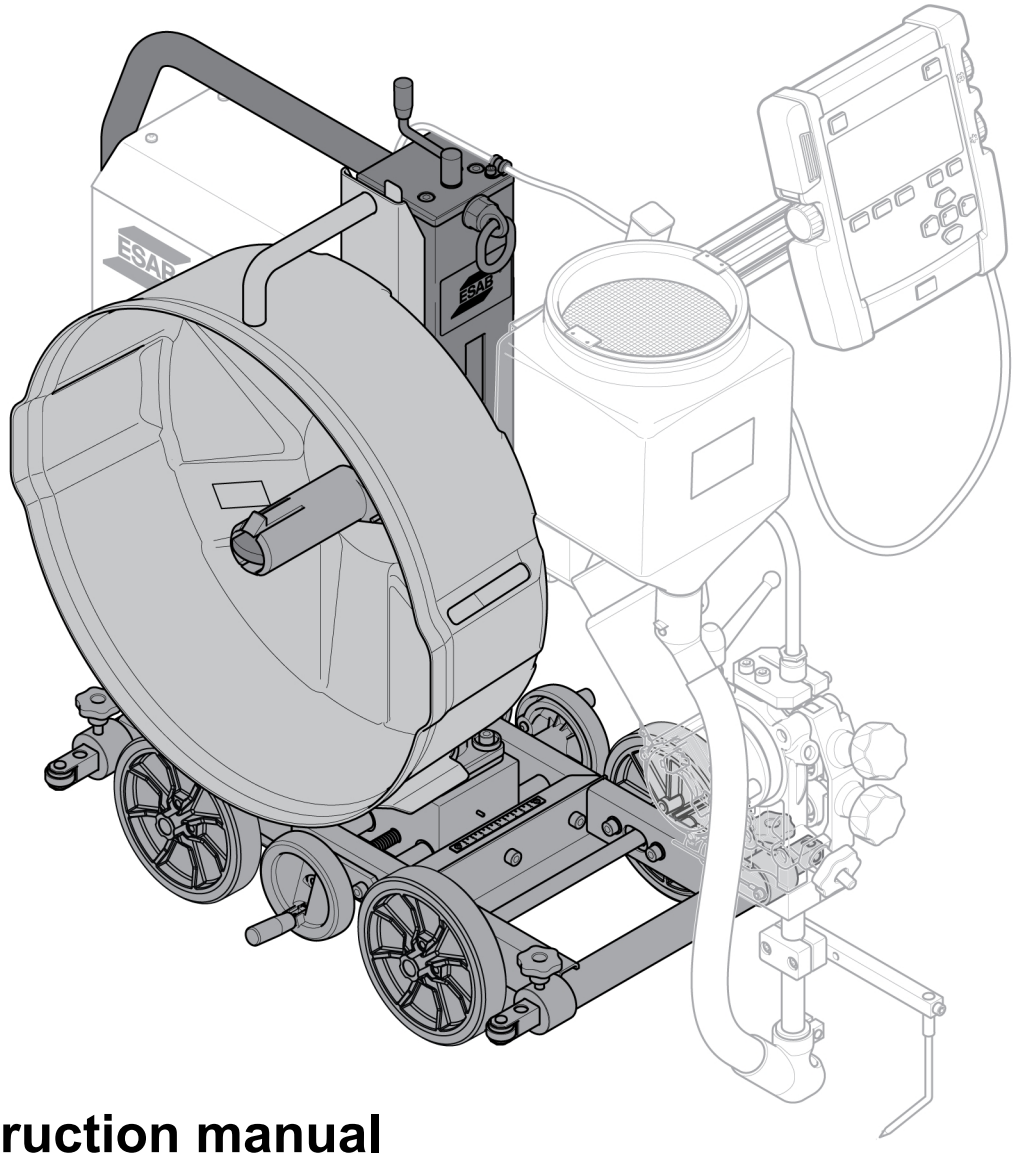
Versotrac EWT 1000 Chassis



Instruction manual

Translation of the manual in original

0463 613 101 US 20260415

Valid for: from serial no. 905-xxx-xxxx & LX905-xxxx-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

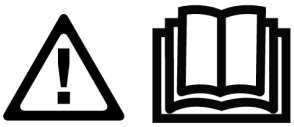
As used throughout this manual: Means Attention! Be Alert!

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 unauthorized 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 with 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, guards, and covers closed and securely in place.
- Have only qualified people remove covers for maintenance and troubleshooting as necessary.

- Keep hands, hair, loose clothing and tools away from moving parts.
- Reinstall panels or covers and close doors when service is finished and before starting the unit.

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.

CAUTION!

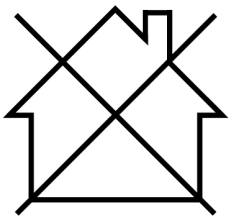
This product is solely intended for arc welding.

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.



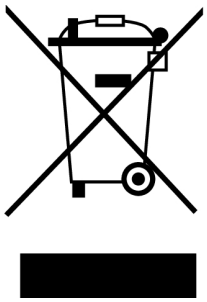
NOTE!

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

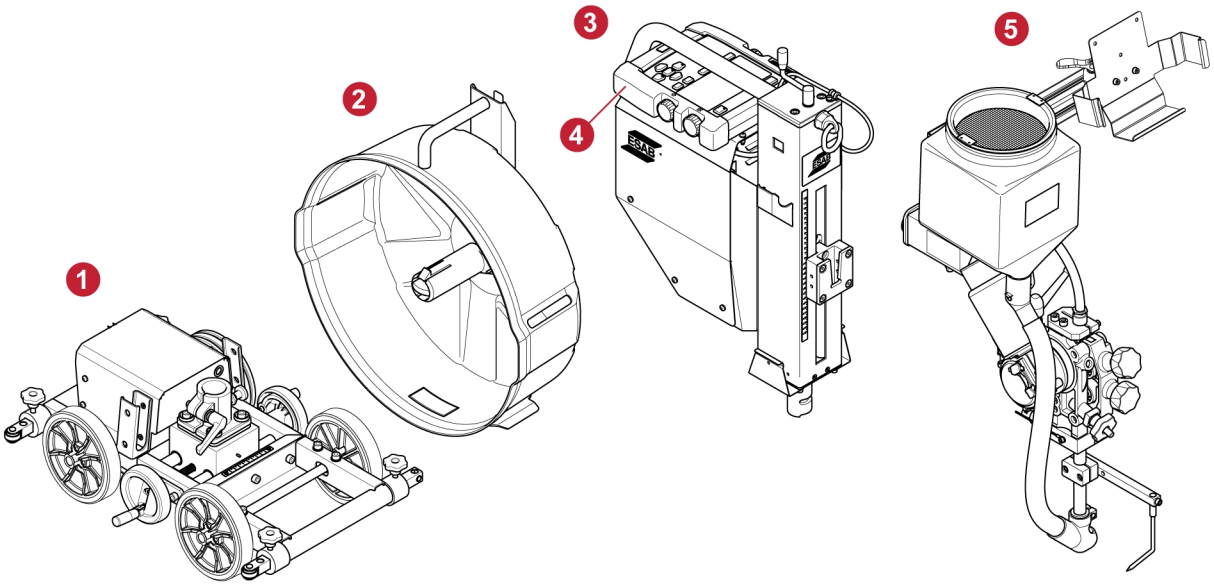
The **Versotrac EWT 1000** welding equipment is designed for **Submerged Arc Welding (SAW)** and **GMAW (MIG/MAG) welding** of butt and fillet joints.

All other applications are prohibited.

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

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

2.1 Overview of complete tractor parts



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

2.2 Welding method

2.2.1 Definitions

SAW	The weld bead is protected by a covering 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 the downhand position, on the top side of the joint.

2.2.2 Submerged Arc Welding (SAW)

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

EWH 1000 permits loads of 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 an even wire feed without risk of deformation of the welding wire due to high feed pressure.

2.2.3 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.

2.3 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 of greater than 3° (>6 in/10 ft / >5 cm/m) due to risk of weld defects caused by the large amount of melted metal in the weld pool.

2.4 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. Stability can be improved by moving the horizontal slide, moving the wire bobbin to the opposite side, etc.

3 TECHNICAL DATA

Versotrac EWT 1000 Chassis with EAC 10 control unit, from serial no. 905-xxx-xxxx and LX905-xxxx-xxxx	
	EWT 1000 & EAC 10
Supply voltage	60 V DC or 42 V AC, 50/60 Hz
Max power requirement	900 VA
Supply voltage to control pendant	12 V DC
Travel speed	0.1–2.0 m/min (0.3–6.6 feet/min)
Speed control	Feedback from pulse encoder
Brake hub braking torque	1.5 Nm (13.3 in. lb)
Minimum turning radius for circumferential welding	
Inside object diameter	9 ft 10.11 in (3000 mm)
Outside object diameter, four wheels	3900 mm (12 ft 9.54 in.)
Minimum pipe diameter for internal joint welding	3 ft 7.31 in (1100 mm)
Maximum weight of wire	66 lb (30 kg)
Weight	
Total, excluding wire and flux	148 lb (67 kg)
Tractor carriage and EAC 10	99 lb (45 kg)
Bobbin holder, without wire	13.2 lb
Relative air humidity	Max 95%
Operating temperature	-10 to +40°C (-14 to +104°F)
Storage temperature	-4 to +131°F (-20 to +55°C)
Maximum surface temperature on weld object (wheel)	150°C
EMC classification	Class A
Enclosure class tractor carriage	IPXX
Enclosure class control unit	IP23

4 INSTALLATION

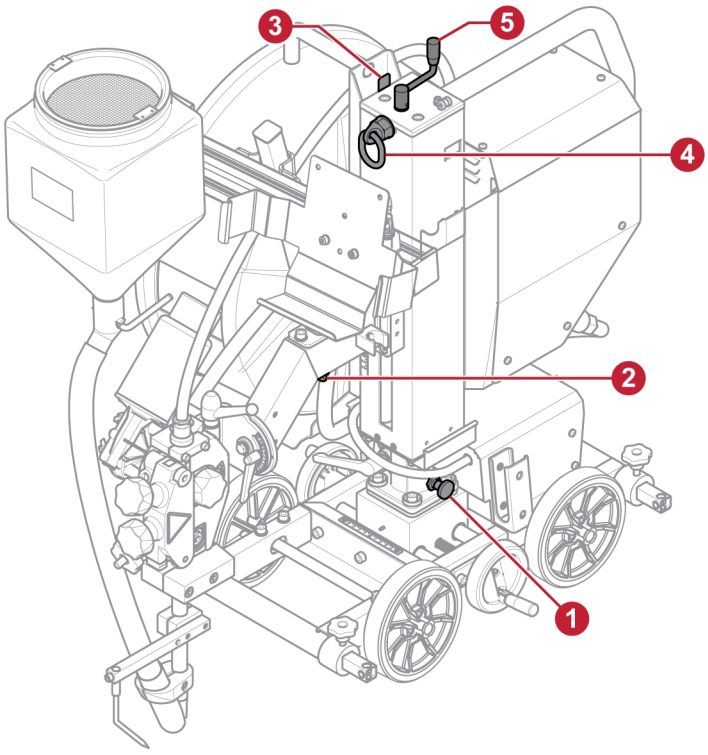
4.1 General

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 must not be lifted with the tractor.
- Remove optional air and water hoses.

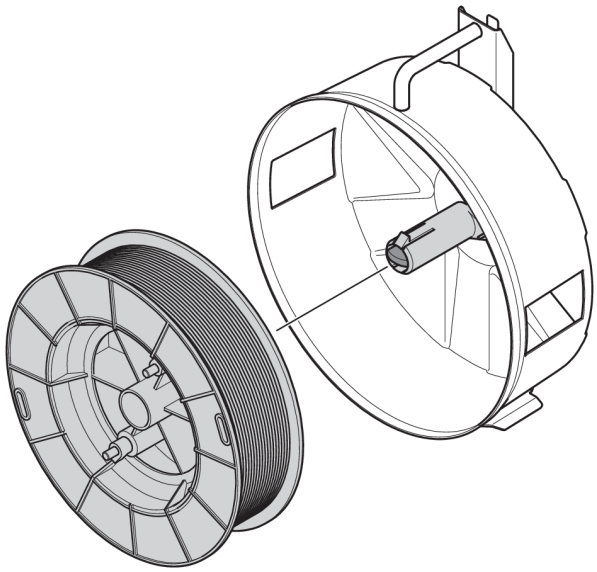
- Make sure the column is in the locked position (**1**), directed forward as shown in the illustration.
- Make sure the welding head arm is in the locked position (**2**).
- Remove the bobbin holder or the wire drum from the bobbin holder. Make sure that the empty bobbin holder is in the locked position (**3**).
- Make sure that the crank, for height adjustment (**5**), is turned away from the lifting eye (**4**).

4.3 Assembly

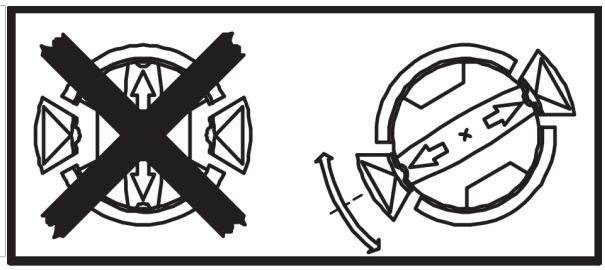
For information about assembly of the welding tractor, see chapter "Transportation."

4.3.1 Spool hub holder (optional)

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.

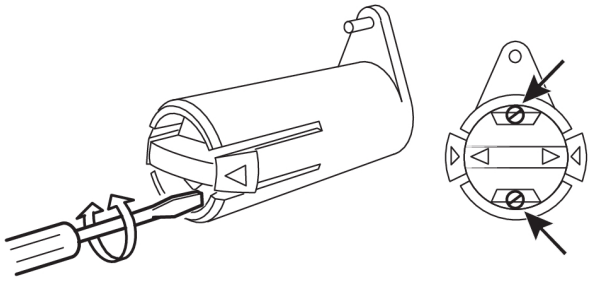


4.3.2 Adjusting the brake hub

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

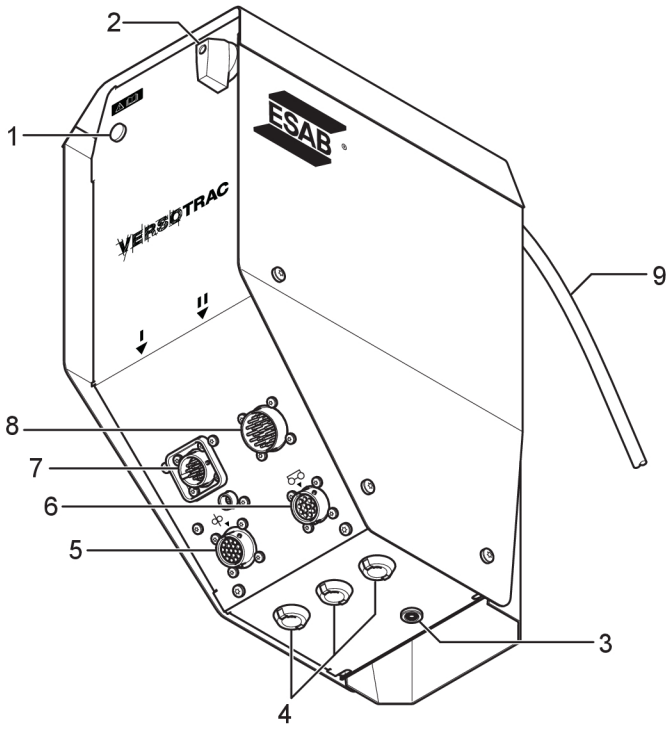
Adjusting the braking torque:

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.

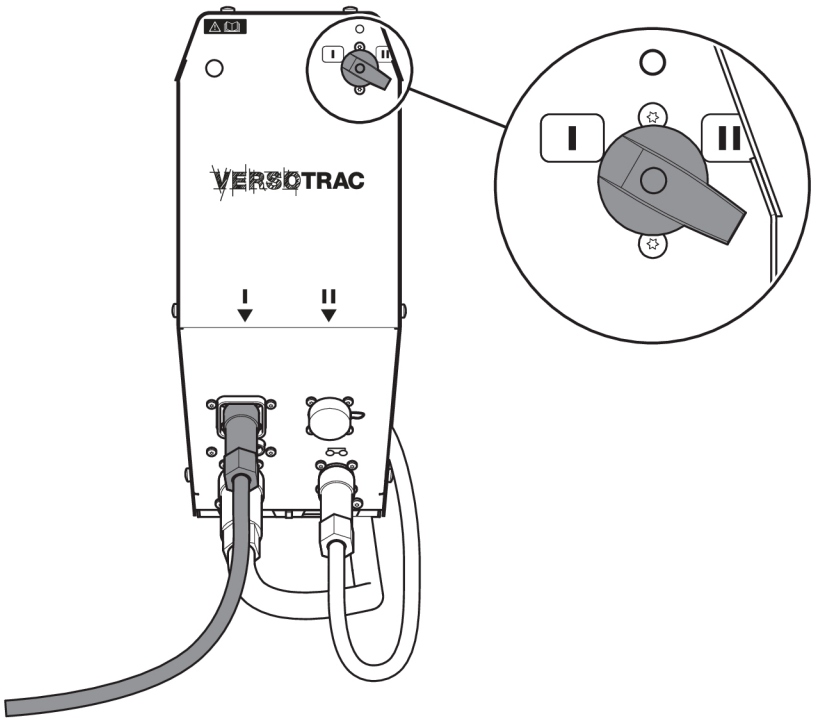
4.4 Connections



1. On/Off indicator
2. On/Off switch
3. Connection work piece voltage reference brush
4. Accessory cable entries
5. Welding head connection
6. Tractor carriage connection
7. Digital power source connection
8. Analog power source connection
9. Cable to control pendant

NOTE!
Only connect one digital power source **or** one analog power source at a time.

4.4.1 Connecting to a digital power source



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

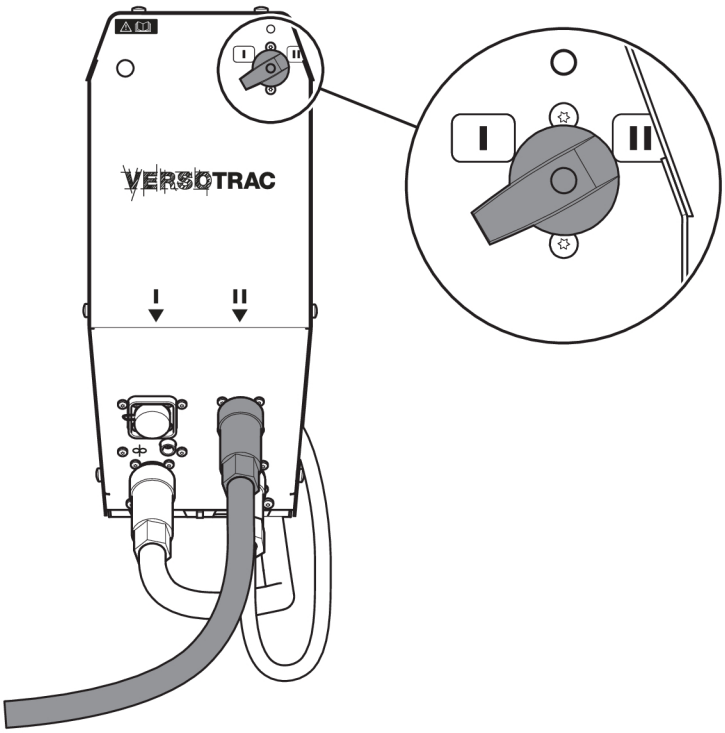
Interconnection cables between CAN-based ESAB power sources and the EAC 10 are available as accessories in different lengths.

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

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

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

4.4.2 Connecting to a compatible DC analog power source



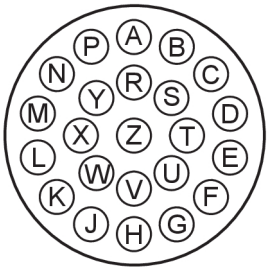
Connect the interconnection cable to the connector marked "**II**".

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

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

Requirements for analog power sources

- Supply 60 V DC or 42 V AC, 50/60 Hz voltage from the 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, analog input (0–10 V DC) for setting welding parameters (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.

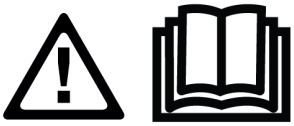
To connect EAC 10 with a non-ESAB SAW analog power source, an analog power source interface box and control cables are available as accessories.

See "ACCESSORIES" chapter.

5 OPERATION

5.1 General

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

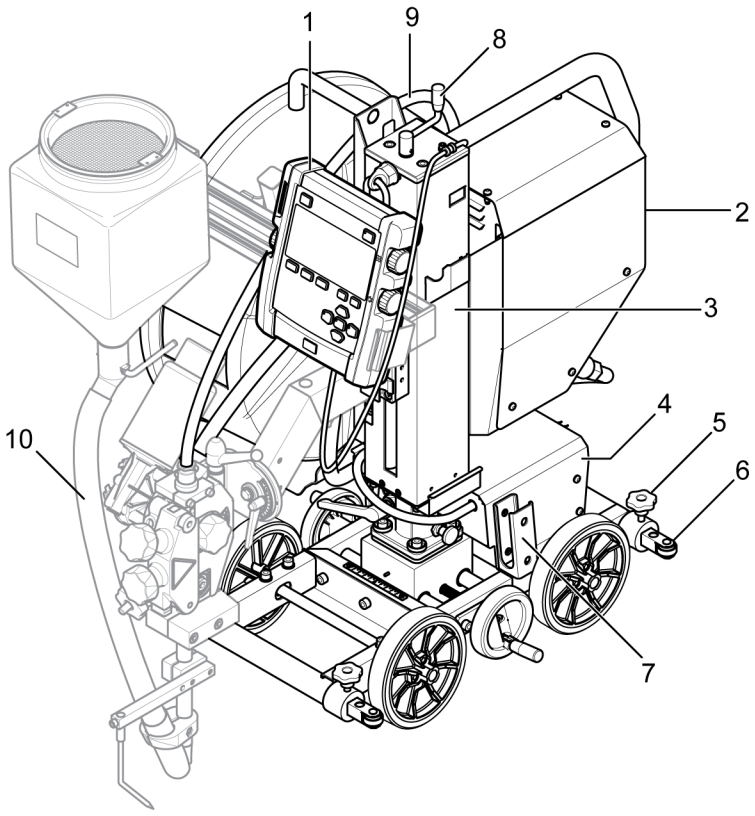


General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!

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 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. Crank, for height adjustment
9. Wire liner
10. Welding head (optional) - not part of Versotrac EWT 1000 Chassis

5.2.1 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 a two welding cable setup, run the welding cables close to each other in parallel, but do not twist them around each other.

5.3 Transportation

It is possible to transport the fully assembled Versotrac EWT 1000 welding tractor or the Versotrac EWT 1000 Chassis only by following the instructions in section "Lifting instructions".

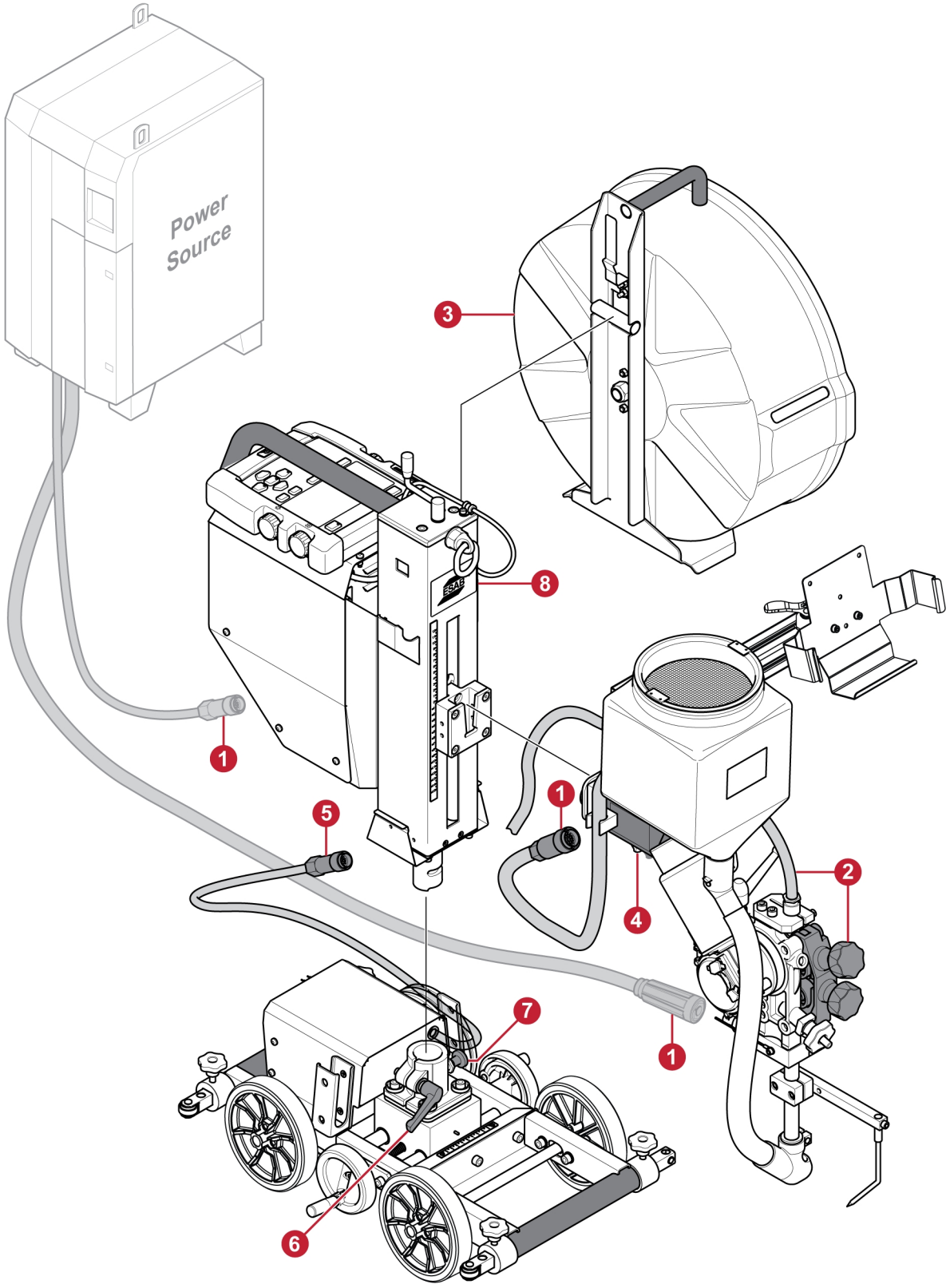
Follow these instructions to dismount the fully assembled Versotrac EWT 1000 welding tractor into four separate modules before transportation.

When transporting the EWT 1000 welding tractor on 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.

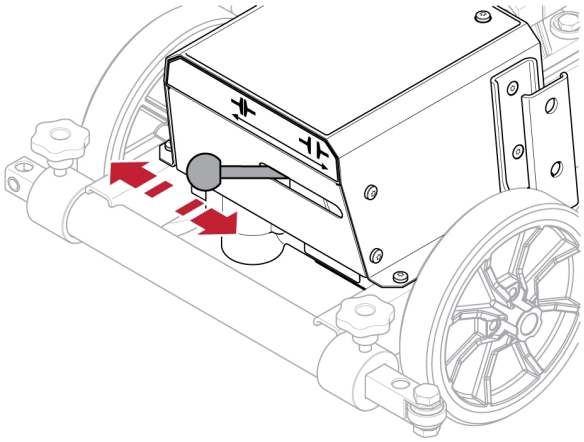
1. Turn off and disconnect the power source. Disconnect the cables to the welding head and the tractor carriage (1). Remove the cables from the welding tractor.

   NOTE!
   If the power source is disconnected without first turning off the power, the power source emergency stop can be activated.
2. Remove the wire from the wire feed unit and wire liner (2).
3. Unlock and dismount the bobbin holder (3).
4. Place the EAC 10 control pendant on 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 reverse order. Make sure to lock the welding head (6).



5.4 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 the locked position.

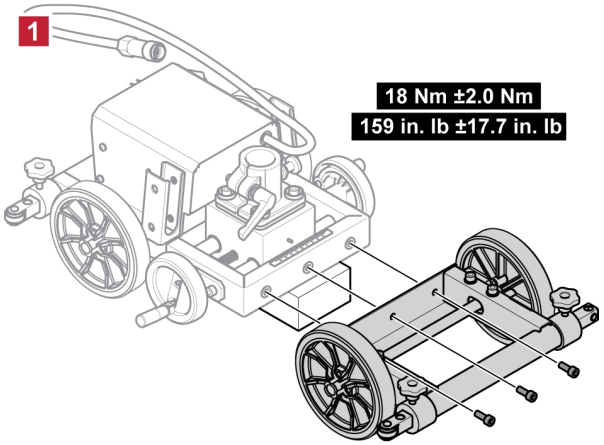


5.5 Changing to three wheeler module

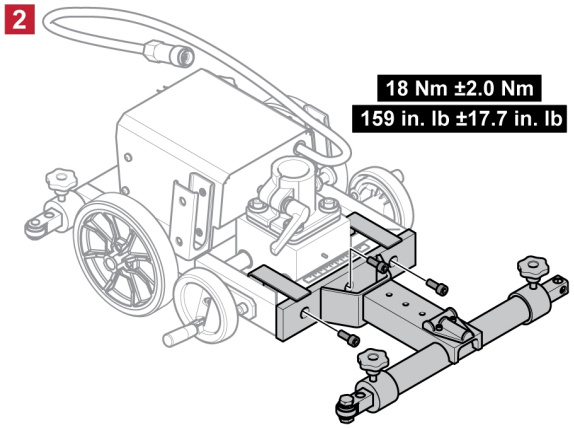
1. Dismount the welding tractor according to the instructions in chapter "Transportation."

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

   Remove the three screws holding the front wheels.



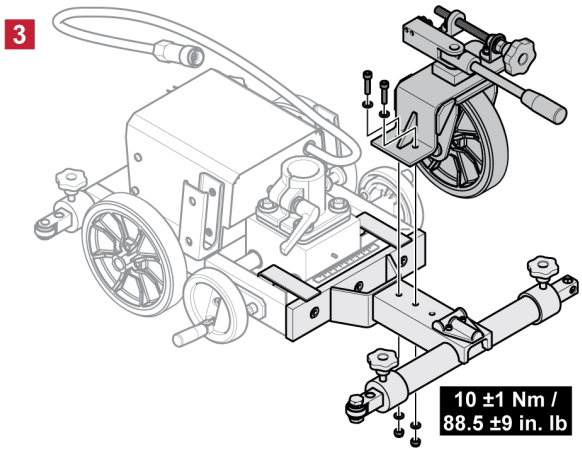
2. Assemble the bracket using the three screws.



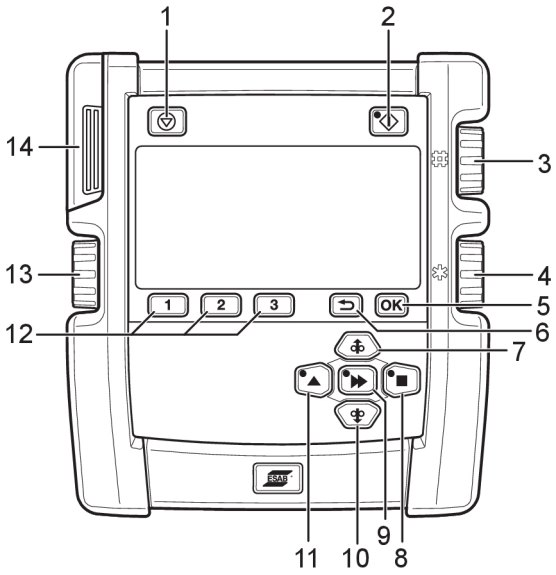
3. Slide the three wheel kit onto the bracket.

   Lock into position with the two screws.

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



5.6 EAC 10 control panel

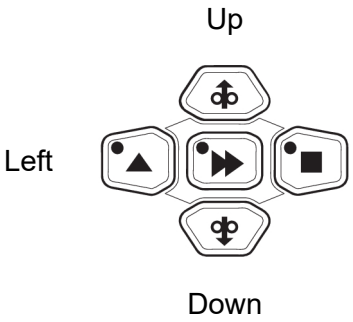


1. Welding stop
2. Welding start
3. Welding current / Wire feed speed/balance*
4. Arc voltage / Offset voltage*
5. OK / Setting menu
6. Back
7. Manual wire feed upward
8. Manual travel motion direction
9. Fast motion
10. Manual wire feed downward
11. Manual travel motion direction
12. Memory 1, 2, 3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

*Only with Aristo® 1000 in AC mode.

5.6.1 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 selection.

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

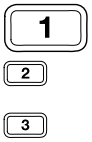
Press the **Manual wire feed upward** button (7) to feed the wire upward. The wire is fed as long as the button is pressed.

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

The **Fast motion** button (9) is used together with other buttons to increase speed. Press the button to activate fast motion and then press the manual wire feed button (7, 10) or the 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 the **Manual wire feed downward** button (10) to feed the wire downward. The wire is fed as long as the button is pressed.

Press the **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 soft keys 1, 2, and 3 (12). The soft keys also have various functions depending on which menu is currently in use. The current function is displayed in 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.

5.6.2 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 authorized user to change the configuration in the *GENERAL SETTINGS* menu.

1. Select a language using the Up/Down/Right/Left buttons. Confirm with *OK* or with the middle button.
2. Select a measurement unit using the Right/Left buttons. Confirm with *OK* or with the middle button.
3. Set the 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 the 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 a 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 a 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.

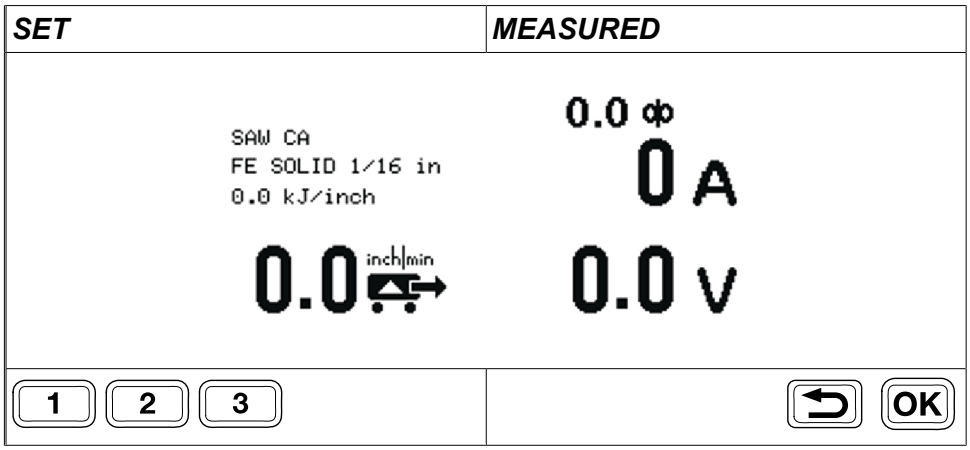
5.6.3 Startup

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 an ESAB original spare part to continue using this feature.

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

5.6.4 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

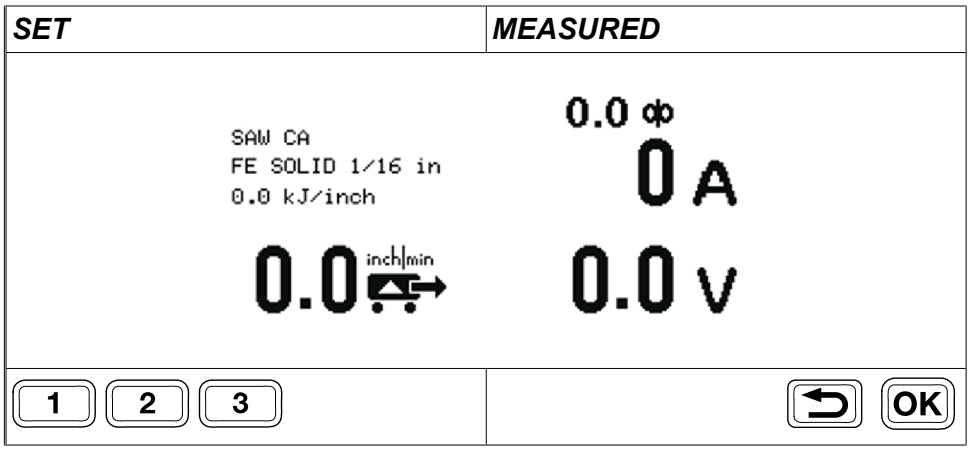
OK A short press of the *OK* button when an AC power source is connected will open the AC settings screen. A long press of the *OK* button opens the *WELDING MENU* settings screen.

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 of the 1, 2, or 3 key recalls the corresponding memory slot. The *SET* screen is opened and the values are displayed.

5.6.5 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 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 for 2 seconds before returning to the *MEASURED* screen unless any adjustments are made.

If the *SET* screen is opened while welding is not ongoing, it will stay active. When welding starts, the *MEASURED* screen is activated.

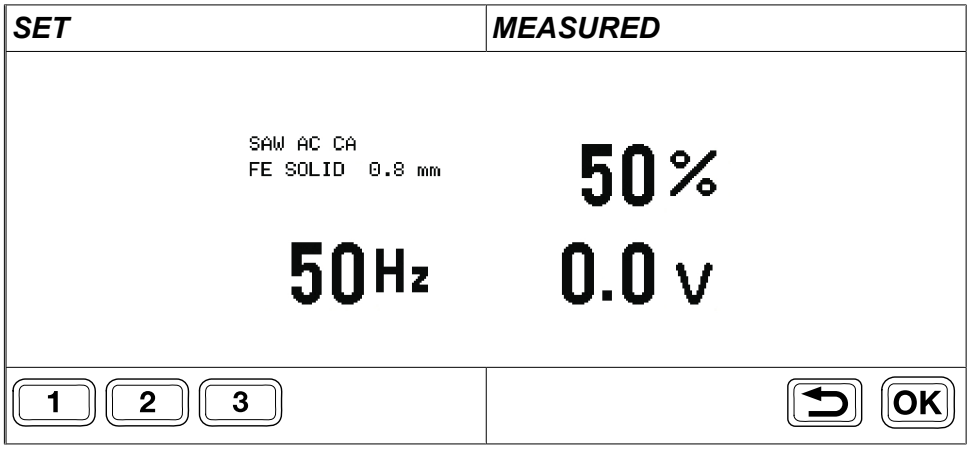
Change the welding settings by using the knob next to the value shown on the display. It is possible to save settings for easy access.

1 A short press on any of keys 1, 2 or 3 will display the saved welding data memory settings, set the values and show 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.

5.6.6 Set screen, analog power source



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

With an Aristo® 1000 power source and SAW welding head: A short press of 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.

5.6.7 Welding menu

OK When either the *SET* or *MEASURED* screen is shown, long press OK to open the extended *WELDING MENU*.

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

Example welding menu for Aristo® 1000 AC/DC			
	WELDING MENU		
	METHOD	*DC+*	
	REGULATION TYPE	*CA*	
	START TYPE	*DIRECT*	
	CRATER FILL TIME	*0.0 s*	
	BURNBACK TIME	*0.50 s*	

Example welding menu for SAW welding with LAF or TAF		
	WELDING MENU	
	REGULATION TYPE	*CA*
	START TYPE	*DIRECT*
	CRATER FILL TIME	*0.0 s*
	BURNBACK TIME	*0.7 s*

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

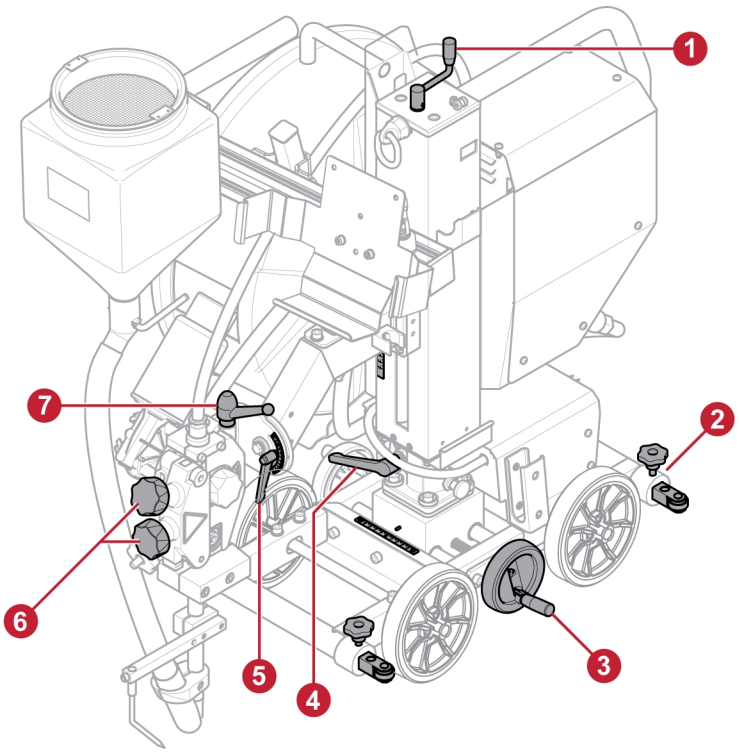
Select a menu row using the Up/Down buttons and press OK or confirm with the middle button.

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

5.7 Adjustments



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

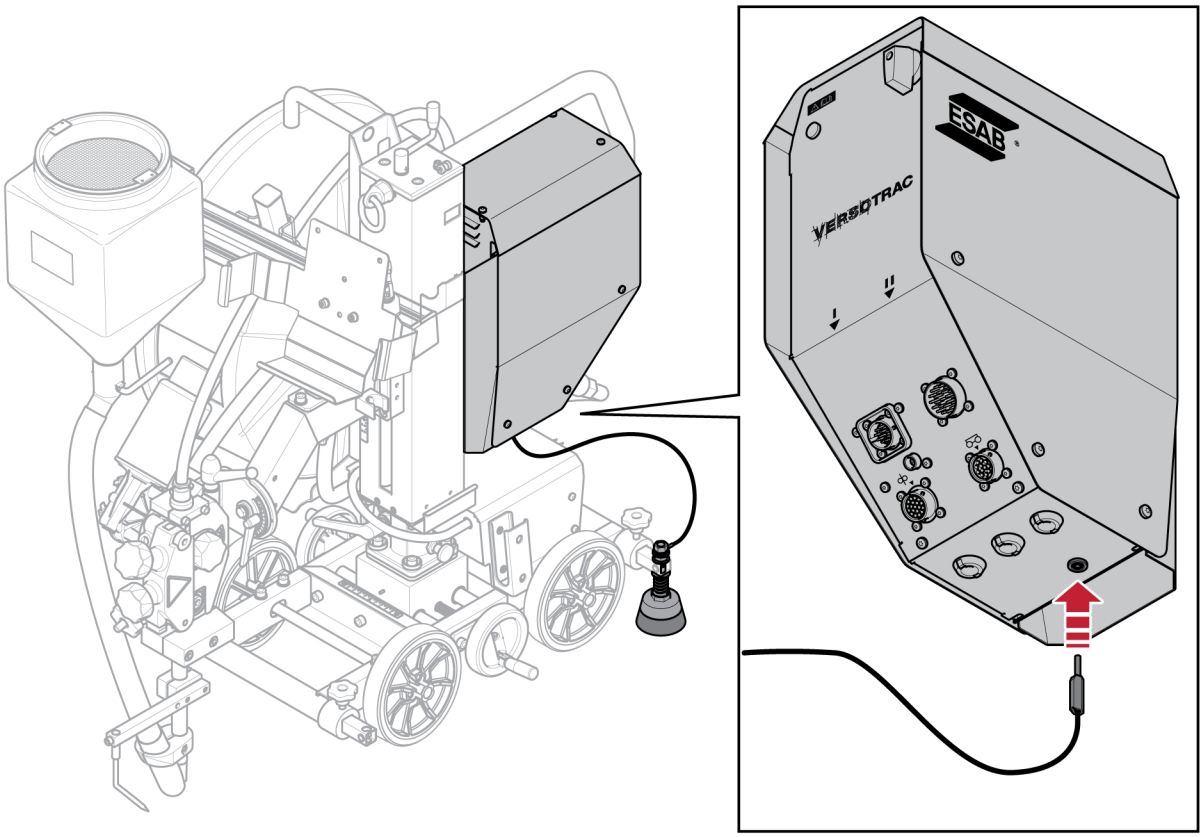
1. Vertical adjustment of the welding head, see scale on the column.
2. Adjust the guide roller device distance, both in front and back of welding tractor.
3. Adjust the horizontal column location, see scale next to the column.
4. Adjust the rotation angle of the column.

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.

5.8 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.

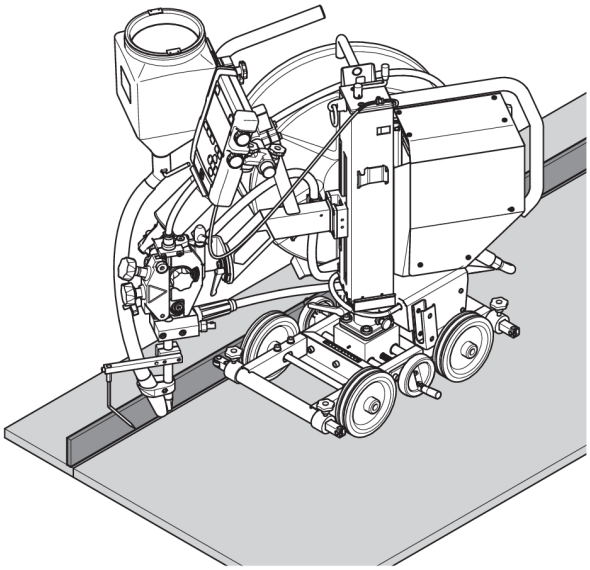
Connect the cable into the work piece voltage reference input on the control unit EAC 10.

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

5.9 Welding applications

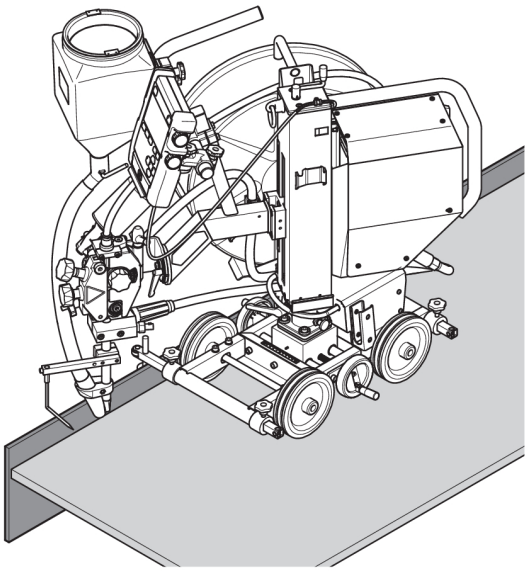
Basic version

EWT 1000 in basic version with guide roller device. This positions the welding tractor correctly along fillet welds with the driving wheels angled approximately 0.5–1°in toward 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 separate 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 12 ft 9.5 in (3.9 m).



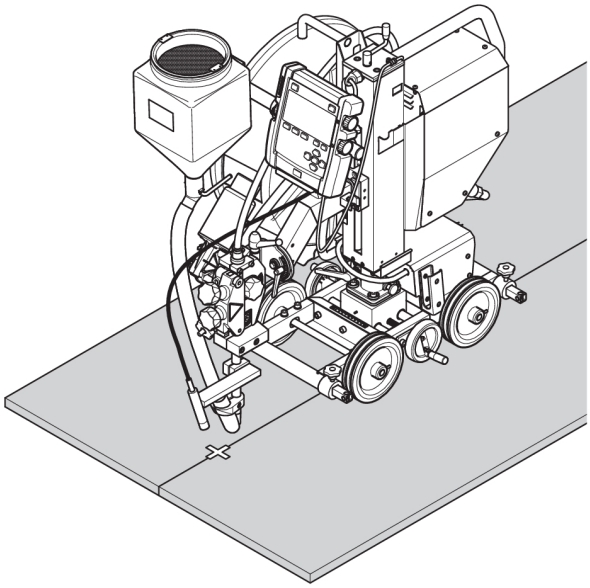
Idling rollers (0446 151 880)

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 "ACCESSORIES" chapter.



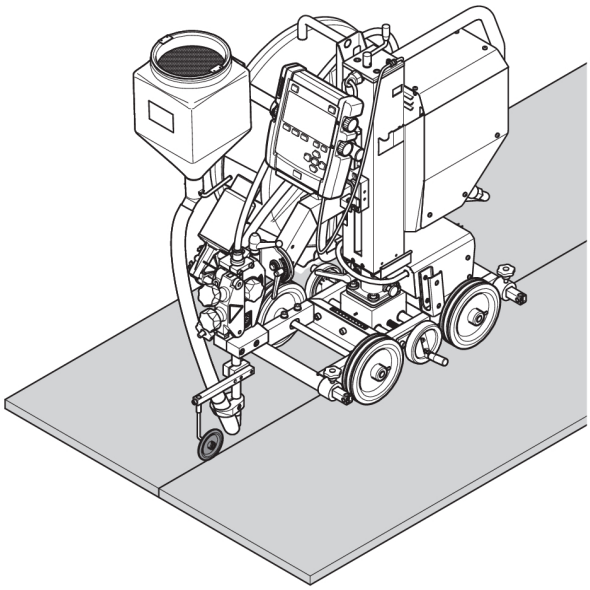
Laser lamp (0821 440 880)

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 "ACCESSORIES" chapter.



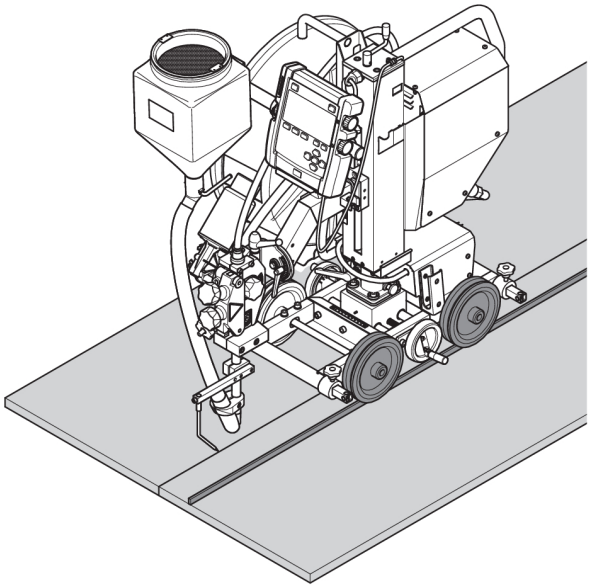
Guide wheel bogie (0413 542 880)

Use of the guide wheel bogie in a V-joint allows the welding tractor to track the joint. The welding tractor can pass over tack welds without problems and will not lose the track. The guide wheel bogie is secured to the contact tube, and the welding nozzle is positioned to weld behind the guide wheel bogie.
See "ACCESSORIES" chapter.



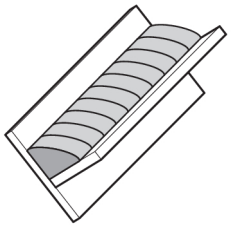
Grooved wheels (0443 682 881)

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



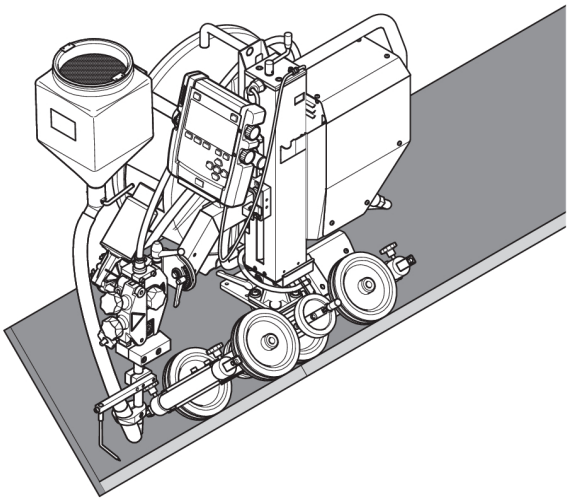
Flat fillet welding (0904 586 880)

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



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

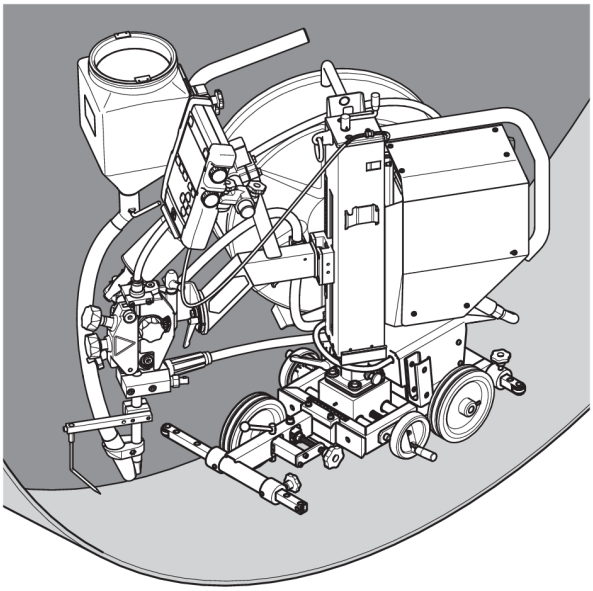
See "ACCESSORIES" chapter.



Three wheeler module (0904 557 880)

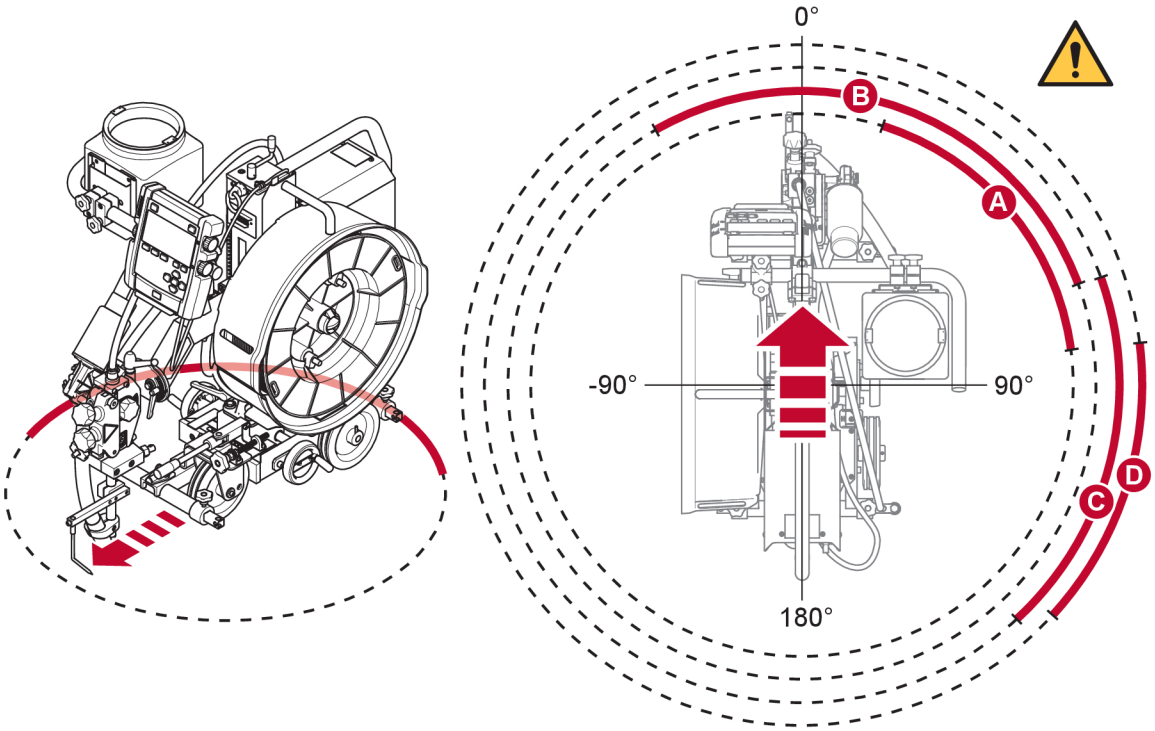
Used for internal joint welding. The welding tractor follows a guide wheel bogey which is placed in a V-joint.
Minimum pipe diameter for internal joint welding 1.1 m (3.6 ft).

See "ACCESSORIES" chapter.



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!
Make sure the power cable is disconnected before doing any kind of maintenance work.

For maintenance of the control unit, **EAC 10**, and welding heads **EWH**, see separate instruction manual.

6.2 Daily

- Make sure the column is in the locked position.
- Make sure the welding head arm is in the locked position.
- Make sure that the bobbin holder is in the locked position.
- Clean flux and dirt from moving parts.
- Clean flux and dirt from 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 66.1 lb (30 kg) wire reel should be 13.3 in-lb (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 contacting an authorized 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 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 (analog/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.

NOTE!
This is valid only for a fully assembled Versotrac EWT 1000 connected to a welding power source.

Error code		Description
LAF, TAF	**Aristo® 1000**	
6	**4201, 4202, 4203**	*High temperature* The power source has overheated and cancels welding. Welding is permitted again when the temperature falls below the maximum temperature parameter. **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 overloaded. If the error persists, send for a service technician.
7		*Low welding current* The weld arc has been shut down due to too low welding current during the welding process. **Action:** Is reset at next weld start. If the error persists, send for a service technician.
8		*Low battery voltage* Battery voltage too low. If the battery is not replaced, all stored data will be lost. This error does not disable any functions. **Action:** Send for a service technician to replace the battery.
11	**8411 sub-code 0**	*Speed error on a motor,* (wire feed, travel motor) A motor cannot maintain its speed. Welding stops. **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)* The load on the system's CAN-bus is temporarily too high. The power source may have lost contact with the control unit. **Action:** Check that all the equipment is correctly connected. If the error persists, send for a service technician.

Error code		Description
LAF, TAF	**Aristo® 1000**	
14	**14, 95**	*Communication error* The system's CAN bus has temporarily stopped working due to the load being too high. The current welding process stops. **Action:** Check that all the equipment is correctly connected. Turn off the power supply to reset the unit. If the error persists, send for a service technician.
17	**8117**	*Lost contact with the unit* **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* Start prevented. **Action:** Check the gas valve, hoses and connectors.
43	**71**	*High welding current* Power source has switched off the welding process because the current has exceeded the maximum current parameter for the power source. **Action:** Is reset at next weld start. If the error persists, send for a service technician.
44	**100**	*Start pause welding current* The welding process has stopped because it has not advanced within 10 seconds. **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.* There are no pulses from the motor pulse transducer. For LAF and TAF: 168 = Motor M1 (Wire feeder motor), 169 = Motor M2 (Travel motor) **Action:** Check the motor cables. Replace the pulse transducer.
	2310	*Current servo saturation* The power source has temporarily delivered maximum current. **Action:** If the error persists, try lowering the weld data.
4	**3205**	*High DC voltage* **Action:** Check if the main voltage is too low or too high.
88	**5010**	*High inductance* Inductance is too high, depending on long welding cables and/or high weld data. **Action:** Try adjusting the weld data.

9 ORDERING SPARE PARTS

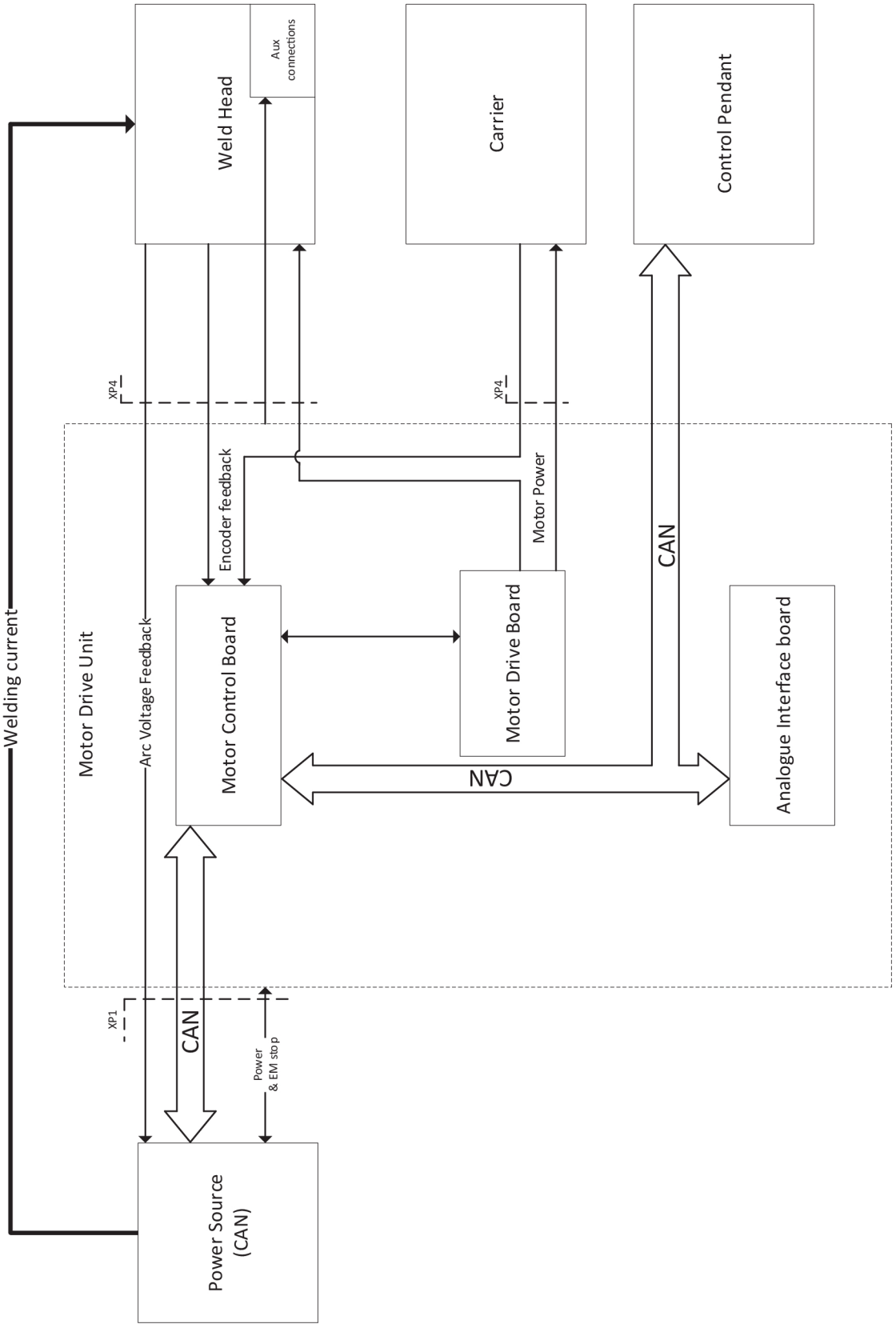
CAUTION!
Repair and electrical work should be performed by an authorized ESAB service technician. Use only ESAB original spare and wear parts.

The Versotrac EWT 1000 Chassis 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 standards.

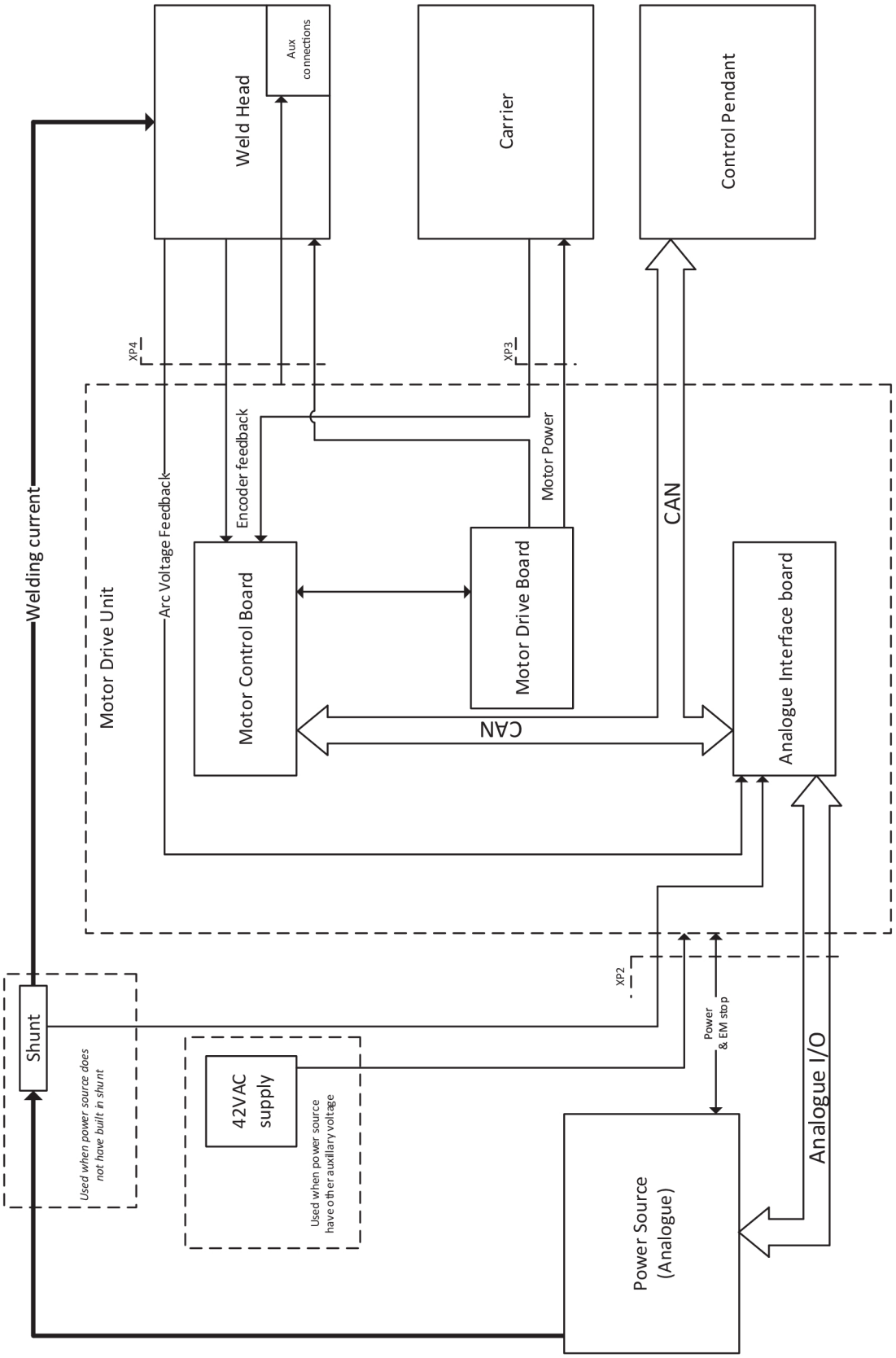
Spare parts and wear parts can be ordered through your nearest ESAB dealer, see the back cover of this document. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

DIAGRAM

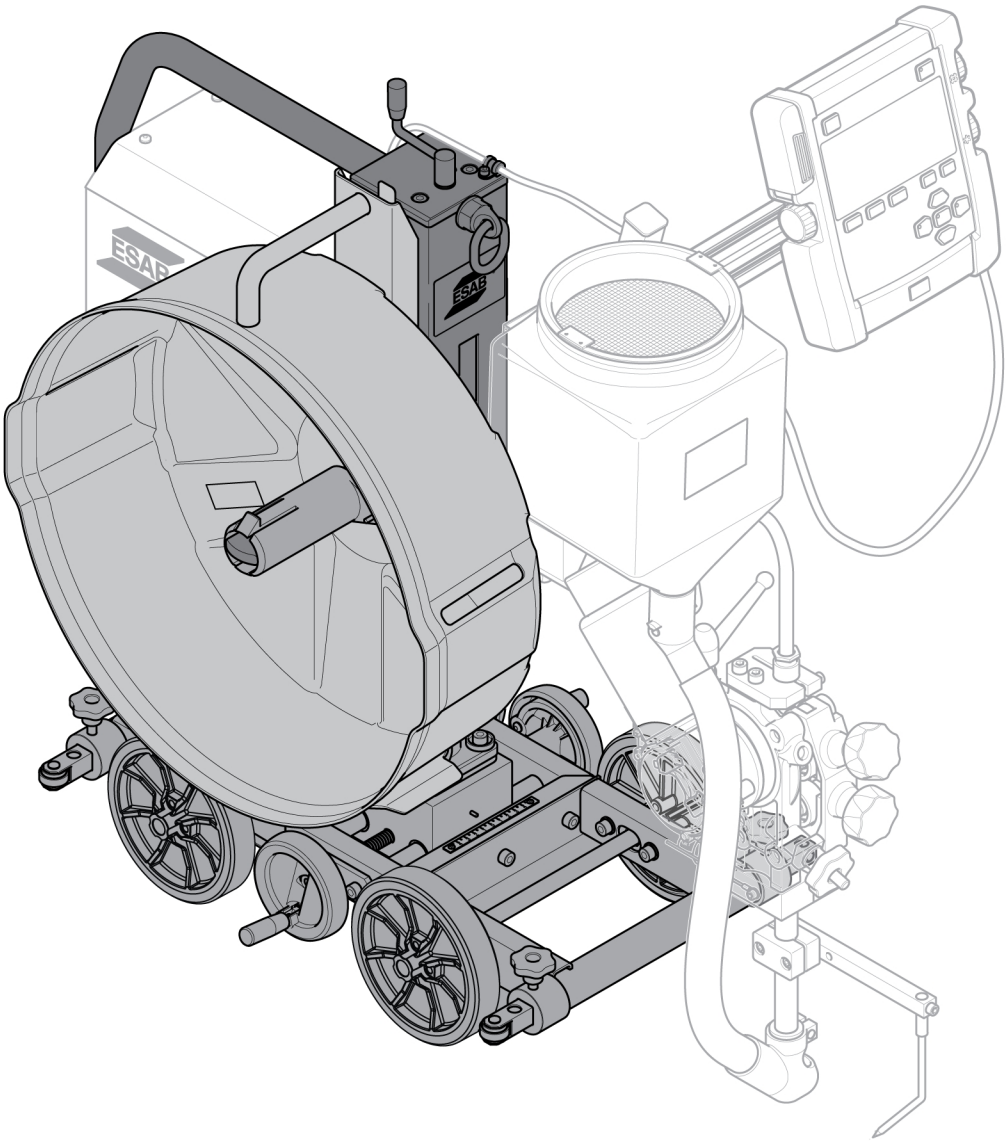
Digital power source



Analog power source



ORDERING NUMBERS

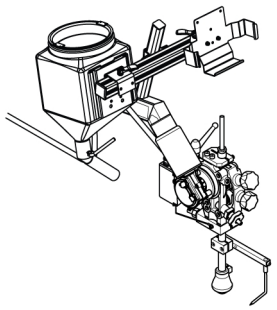
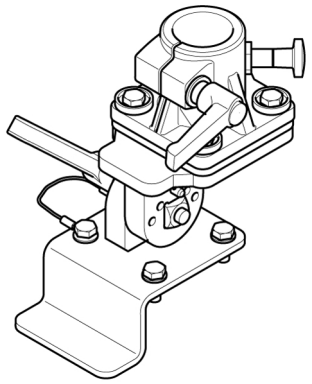
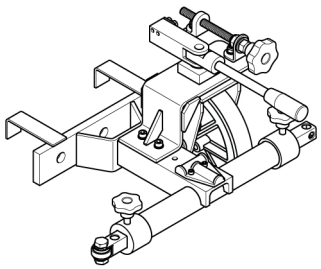
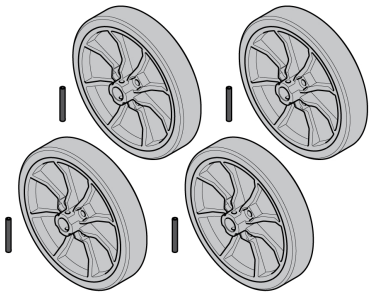
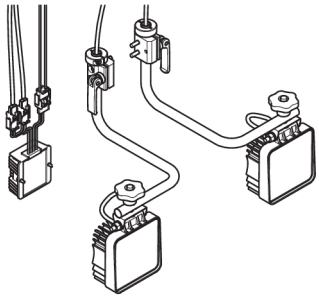


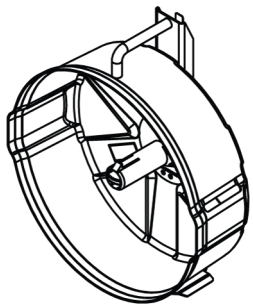
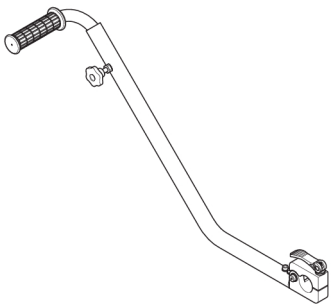
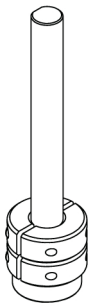
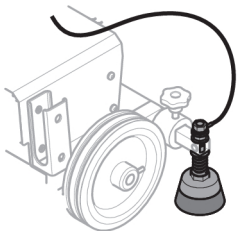
Ordering number	Denomination	Type	Notes
0904 200 891	Welding tractor	Versotrac EWT 1000 Chassis, 4WD	Welding heads and Bobbin holder avilable separately.
0463 614 001	Spare parts list		

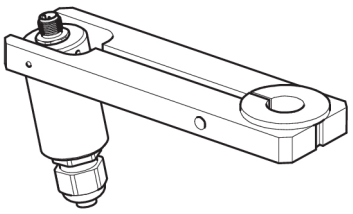
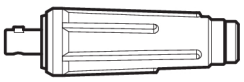
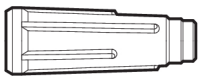
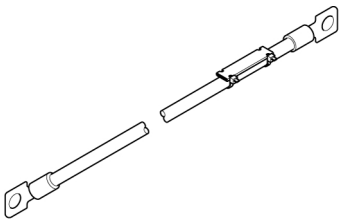
Technical documentation is available on the Internet at: www.esab.com

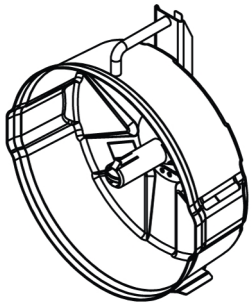
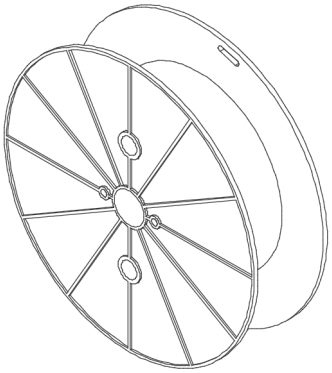
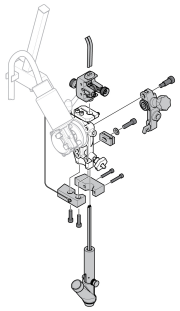
The three last digits in the document number of the manual show the version of the manual. Therefore they are replaced with * here. Make sure to use a manual with a serial number or software version that corresponds with the product, see the front page of the manual.

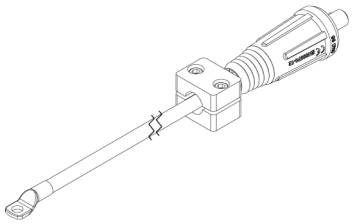
ACCESSORIES

EWT 1000		
0904 520 880	**Welding head, EWH 1000 Single**	
0904 520 884	**Welding head, EWH 1000 Twin** Requires two Portable Wire Bobbin Holders - 0908520880	
0904 520 885	**Welding head, EWH 600 GMAW**	
0908 904 880	**Gouging head, EWH 1600 Gouging**	
0904 586 880	**Flat fillet welding kit**	
0904 557 880	**Three wheeler module**	
0910 531 880	**Wheel kit**	
0904 273 880	**LED lamp kit**, 27 W, 12/24 V	

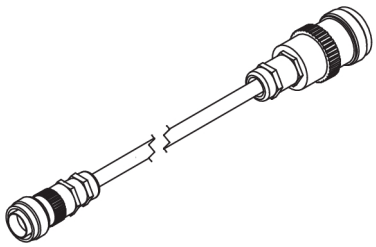
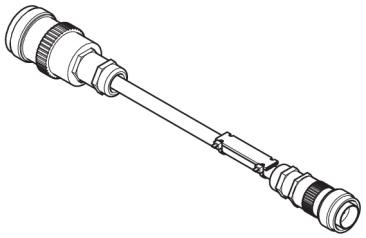
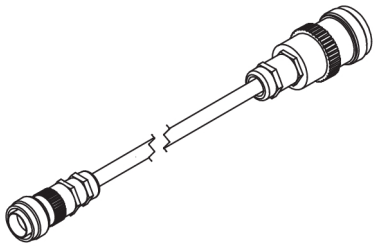
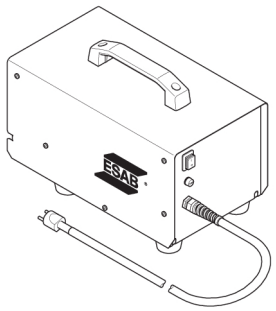
EWT 1000		
0908 520 880	**Bobbin holder**	
0904 537 880	**Steering handle**	
0446 151 880	**Idling roller** (1 piece)	
0443 682 881	**V-wheeltrack** steel (4 pcs)	
0443 682 880	**V-wheeltrack** steel (1 piece)	
0332 947 880	**Bracket suction**	
0904 223 880	**Work piece voltage reference brush**	
0413 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.	

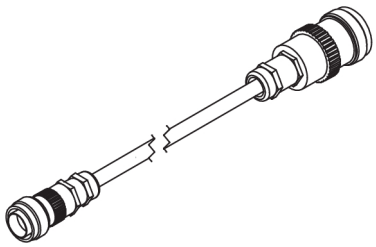
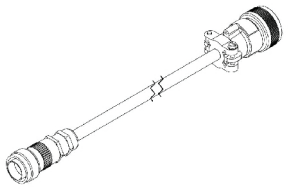
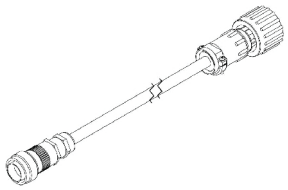
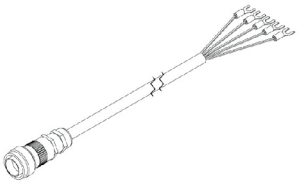
EWH 1000		
0821 440 984	**Laser lamp kit**, 0.5 m (1 ft 7.7 in.) cable	
0160 360 882	**OKC connector** Male, 70-120 mm²	
0160 361 882	**OKC connector** Female, 70-120 mm²	
Welding cable with OKC		
0446 134 880	95 mm², 15 m (49 ft)	
0446 134 881	95 mm², 25 m (82 ft)	
0446 134 882	95 mm², 35 m (115 ft)	
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**	

Gouging cables with OKC (For gouging head)		**Maximum Current A**	**Required Qty**[1)]	
0908 778 880	95 mm²	1000	2	
0908 778 881	120 mm²	630	1	
		1250	2	
		1600	3	

[1)] The number of cables needed for proper and safe function at the specified maximum current. The cables are ordered by piece.

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 Suitable for power sources: • Lincoln Flextec 650/650x • Lincoln DC 600 • Lincoln DC 655	
0446 156 880	Control cable 14-pin, CPC type Suitable for power sources: • Miller dimension 650, 652, 452	
0446 178 880	Control cable, terminal block Suitable for power sources: • Miller SubArc DC 650, 800, 1000, 1250 • Lincoln DC 1000	

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