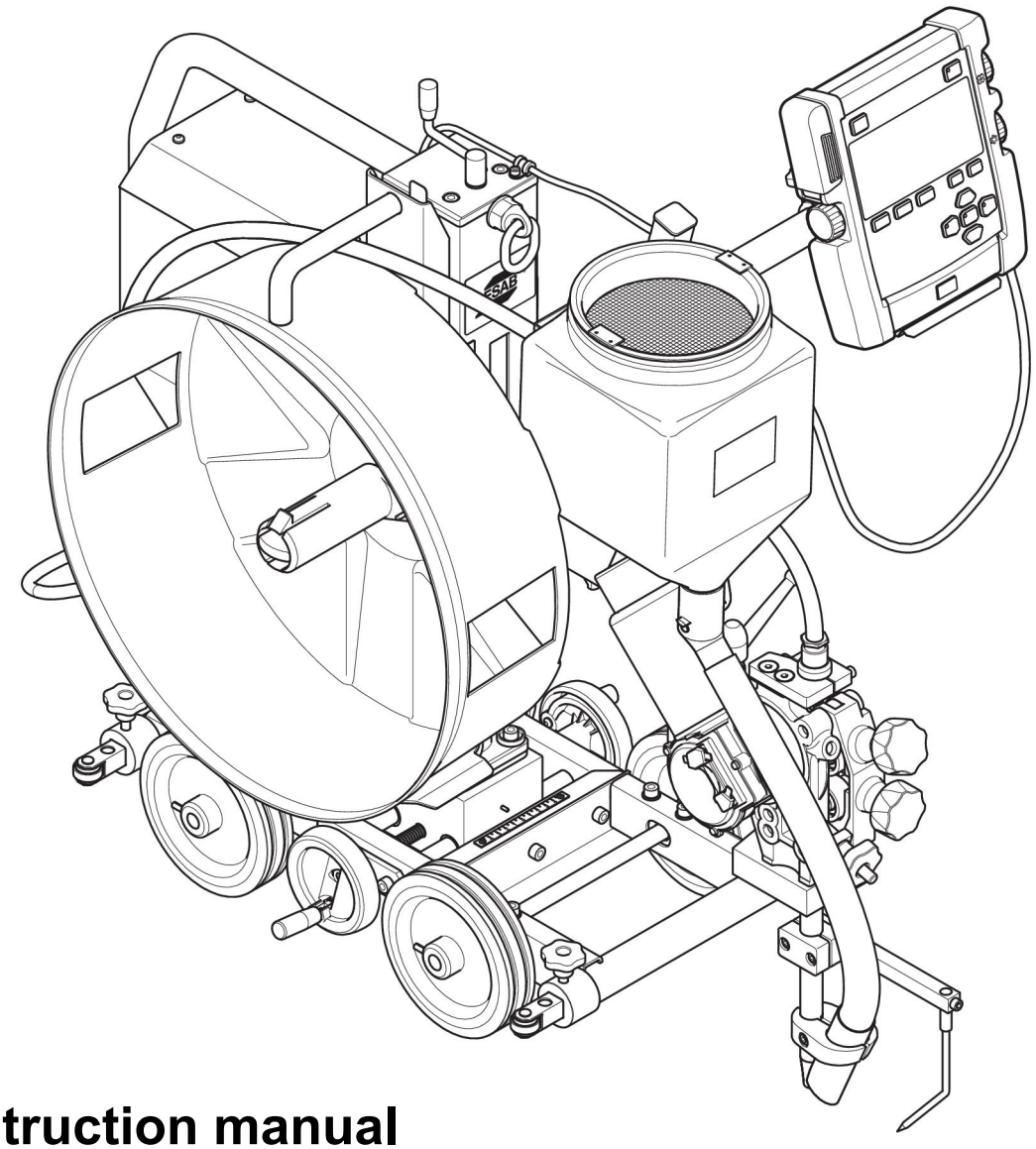
Versotrac

EWT 1000



Instruction manual

Original instructions

0463 613 001 US 20181221

Valid for: from serial no. 841-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
Subarc welding tractor

Type designation

Versotrac,	Serial number: 844 xxx xxxx, including:
- EWT 1000 drive unit,	Item number: 0904 200 880
- EWH 1000 welding head,	Item number: 0904 520 880
- EAC 10 control unit,	Item number: 0460 820 983

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

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		
2018-12-18	Peter Kjällström	Automation Equipment Director

CE 2018

1 SAFETY

1.1 Meaning of symbols

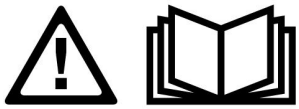
As used throughout this manual: Means Attention! Be Alert!

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 could result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
   - its operation
   - the location of emergency stops
   - its function
   - the relevant safety precautions
   - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
   - no unauthorized person is 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 may cause injury 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 - Pose health risks

- Welders with pacemakers fitted should consult their doctor 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 the 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 your 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 ear defenders 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 a fire. Make sure there are no inflammable materials nearby.
- Do not use on closed containers.

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

PROTECT YOURSELF AND OTHERS!

CAUTION!

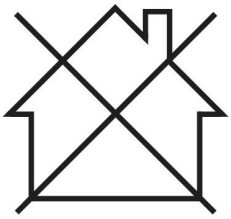
This product is solely intended for arc welding.

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 such locations, due to conducted as well as radiated disturbances.



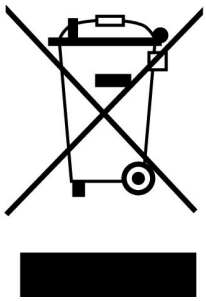
NOTE!

Dispose of electronic equipment at a recycling facility!

To conform with the 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)** 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 also through the analog interface **LAF 635** and **LAF 1000**.

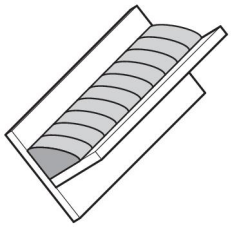
The **EAC 10** also supports analog-controlled power sources from other suppliers; see chapter "Connecting to a compatible DC analog power source" for more information about the interface.

2.1 Welding method

2.1.1 Definitions

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

Flat fillet welding Fillet welding in F1/PA position.



2.1.2 Submerged Arc Welding (SAW)

Use **EWH 1000** 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 wire welding. 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 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.

2.3 Stability

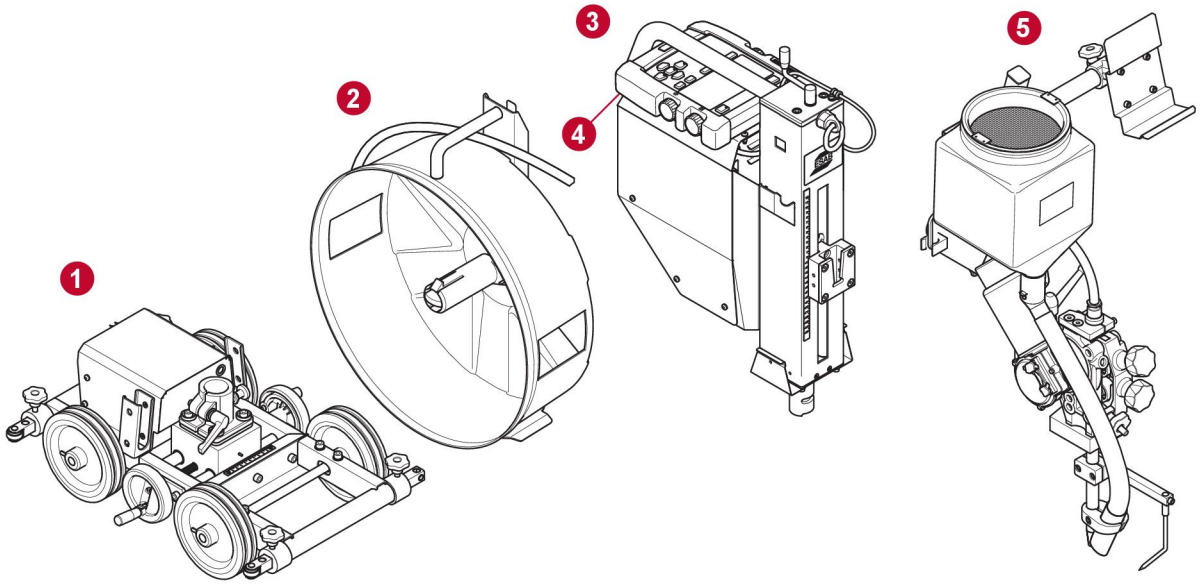
NOTE!
Always check the welding equipment for stability before starting to weld.

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.

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.

3 TECHNICAL DATA

3.1 EWT 1000 welding tractor



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	0.3–6.6 ft/min (0.1–2.0 m/min)
Brake hub braking torque	13.3 in-lb (1.5 Nm)
Minimum turning radius for circumferential welding	
Inside object diameter	9 ft 10.11 in (3000 mm)
Outside object diameter, four wheels	12 ft 9.54 in (3900 mm)
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	48.7 lb (22.1 kg)
Bobbin holder, without wire	4.2 lb (6 kg)
Column with EAC 10	55.1 lb (25 kg)
Relative air humidity	Max 95%
Operating temperature	-14 to +104°F (-10 to +40°C)
Storage temperature	-4 to +131°F (-20 to +55°C)

EWT 1000, from serial no. 841-xxx-xxxx	
	EWT 1000
Maximum surface temperature	140°F (60°C)
EMC classification	Class A
Enclosure class	IPXX

3.2 EAC 10 control unit

EAC 10, from serial no. 841-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	-14 to +104°F (-10 to +40°C)
Storage temperature	-4 to +131°F (-20 to +55°C)
Relative air humidity	Max 95%
Dimensions l×w×h	
EAC 10, complete control unit	10.8×11.8×6.5 in (275×300×165 mm)
EAC 10 control pendant	9.7×8.9×2.0 in (245×225×50 mm)
Weight	
EAC 10, complete control unit	15 lb (6.8 kg)
EAC 10 control pendant	2.8 lb (1.25 kg)
Enclosure class	IP23

3.3 Welding head EWH 1000

EWH 1000, from serial no. 841-xxx-xxxx	
Supply voltage	42 V AC
Permissible load at 100%	1000 A
Wire dimensions	
Fe solid single	0.06–0.20 in (1.6–5.0 mm)
Fe flux cored	0.06–0.20 in (1.6–5.0 mm)
SS solid	0.03–0.20 in (0.8–5.0 mm)
SS flux cored	0.03–0.20 in (0.8–5.0 mm)
Al Solid	N/A
Al Flux Cored	N/A
Type of gas	N/A
Wire feed speed	
Maximum (≤ 4 mm wire)	29.5 ft/min (9.0 m/min)

EWH 1000, from serial no. 841-xxx-xxxx	
Maximum (5 mm wire)	8.2 ft/min (2.5 m/min)
Minimum	1.3 ft/min (0.4 m/min)
Brake hub braking torque	13.3 in-lb (1.5 Nm)
Flux hopper volume	6 l
Dimensions l×w×h	24.4×20.9×32.8 in (620×530×832 mm)
Weight welding head, excluding wire and flux	37.5 lb (17 kg)
Enclosure class	IPXX
EMC classification	Class A

4 INSTALLATION

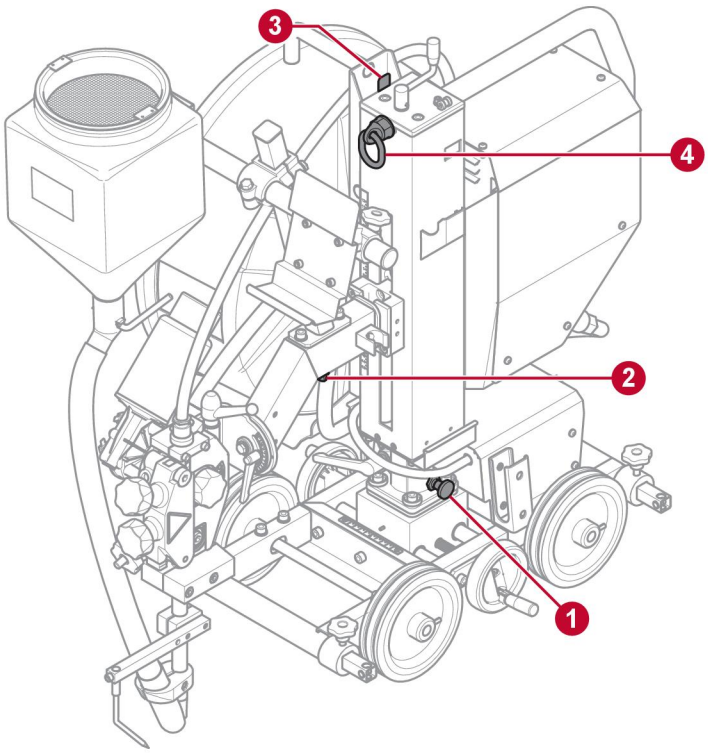
4.1 General

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

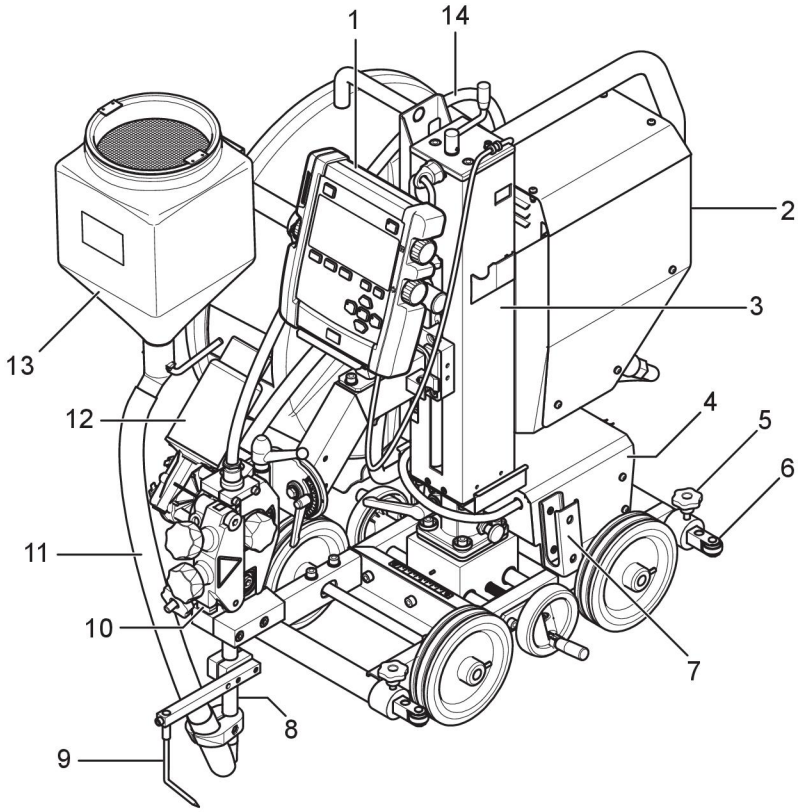


WARNING!
The welding tractor must be lifted using the lifting eye (**4**).

- 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**).

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

4.3.1 Welding cables

Use a different number of welding cables for different welding currents:

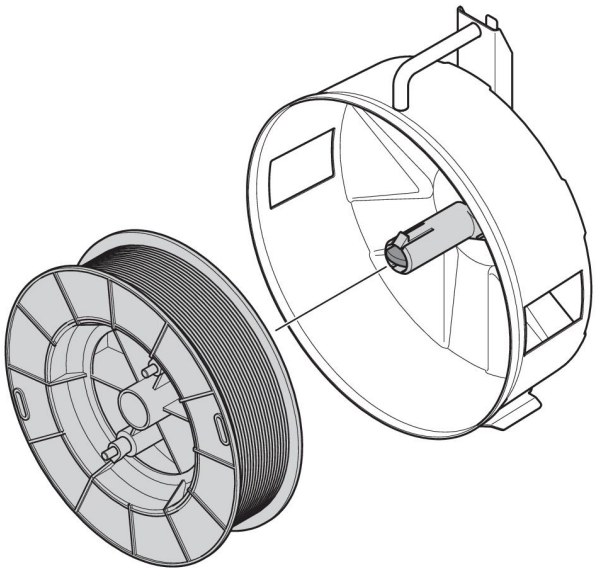
Up to 500 A	one 120-mm^2 cable
500–1000 A	two 120-mm^2 cables

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.

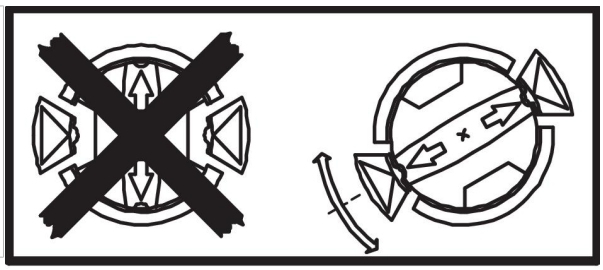
4.4 Assembly

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.

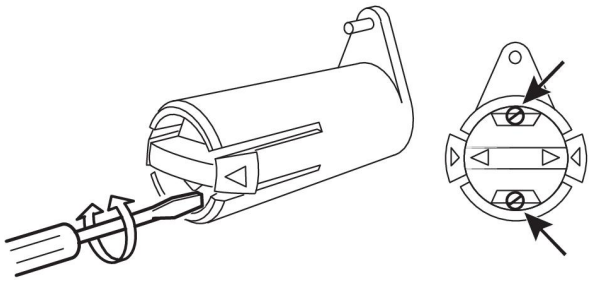


4.4.1.1 Adjusting the brake hub

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.

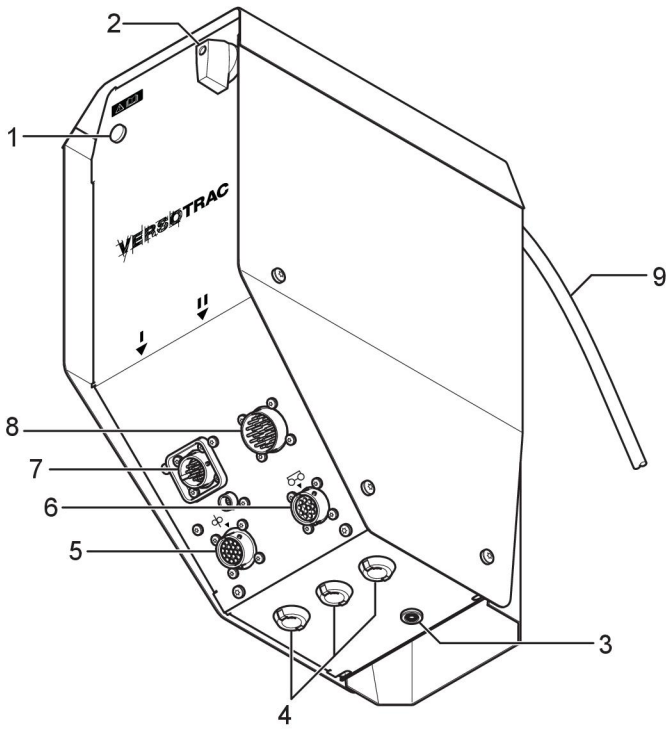
Adjusting the braking torque:

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.

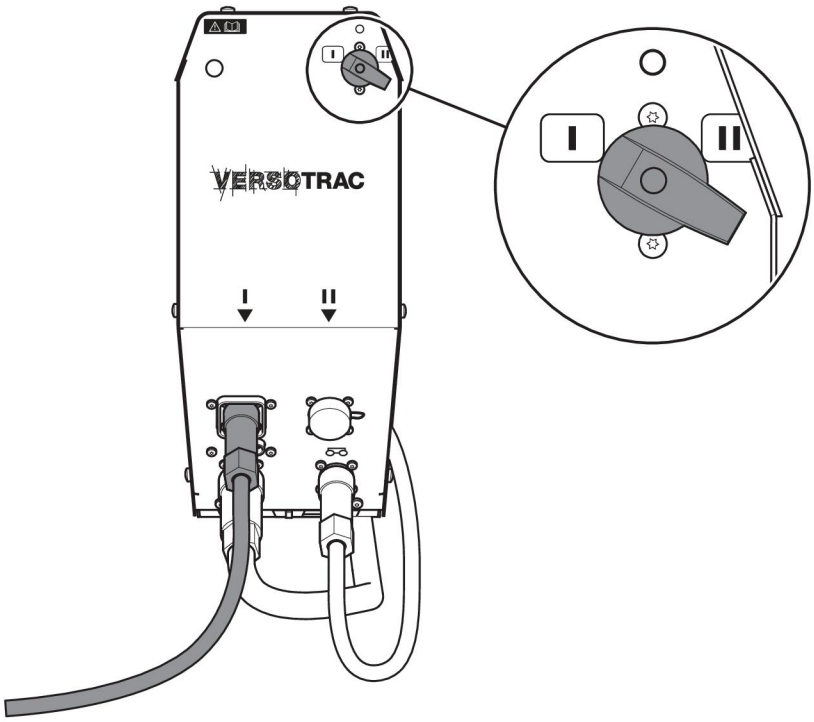
4.5 Connections



1. On/Off indicator
2. On/Off switch
3. Work piece voltage reference input
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.

4.5.1 Connecting to a digital power source



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

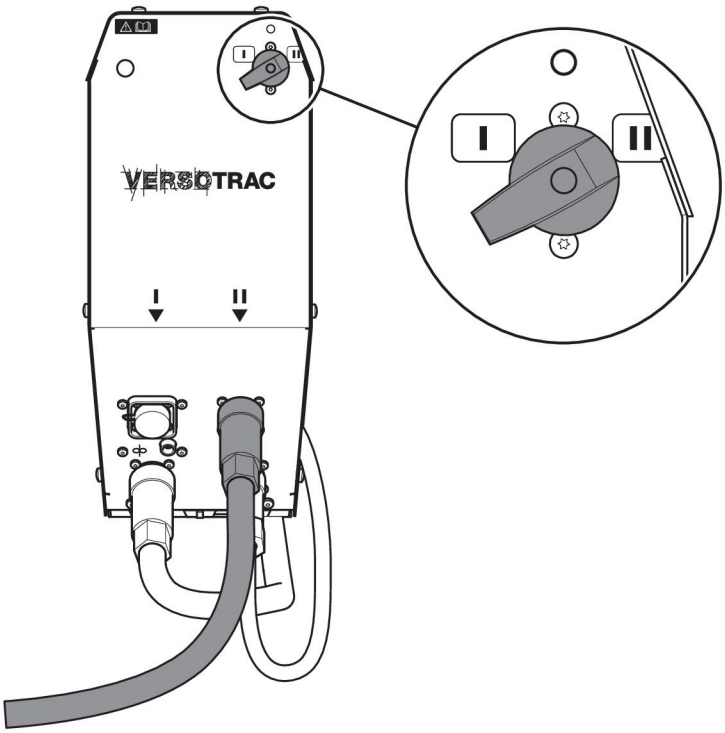
Interconnection cables between CAN-based ESAB power sources and the EAC 10 are available as accessories in different lengths.

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.

4.5.2 Connecting to a compatible DC analog power source



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

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

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

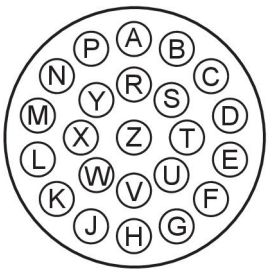
Requirements for analog power sources

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 of 0–10 V for setting welding parameters (control signal).

Shunt output or scaled 0–10 V (1 V per 100 arc Amp) output for welding current measurement.



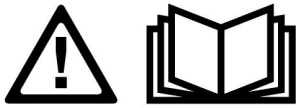
Power source connection socket XP2 pinouts	
B, C	42 V AC
E, F	42 V AC return
J	Power source negative terminal (U-)
W	Power source positive terminal (U+)

Power source connection socket XP2 pinouts	
X	Arc voltage from welding head
K	Power source start - Open collector output
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 / torch input. For non-ESAB power sources.
T	Weld start / torch common. For non-ESAB power sources.
U	Current feedback (1 V/100 A). For non-ESAB power sources.

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!

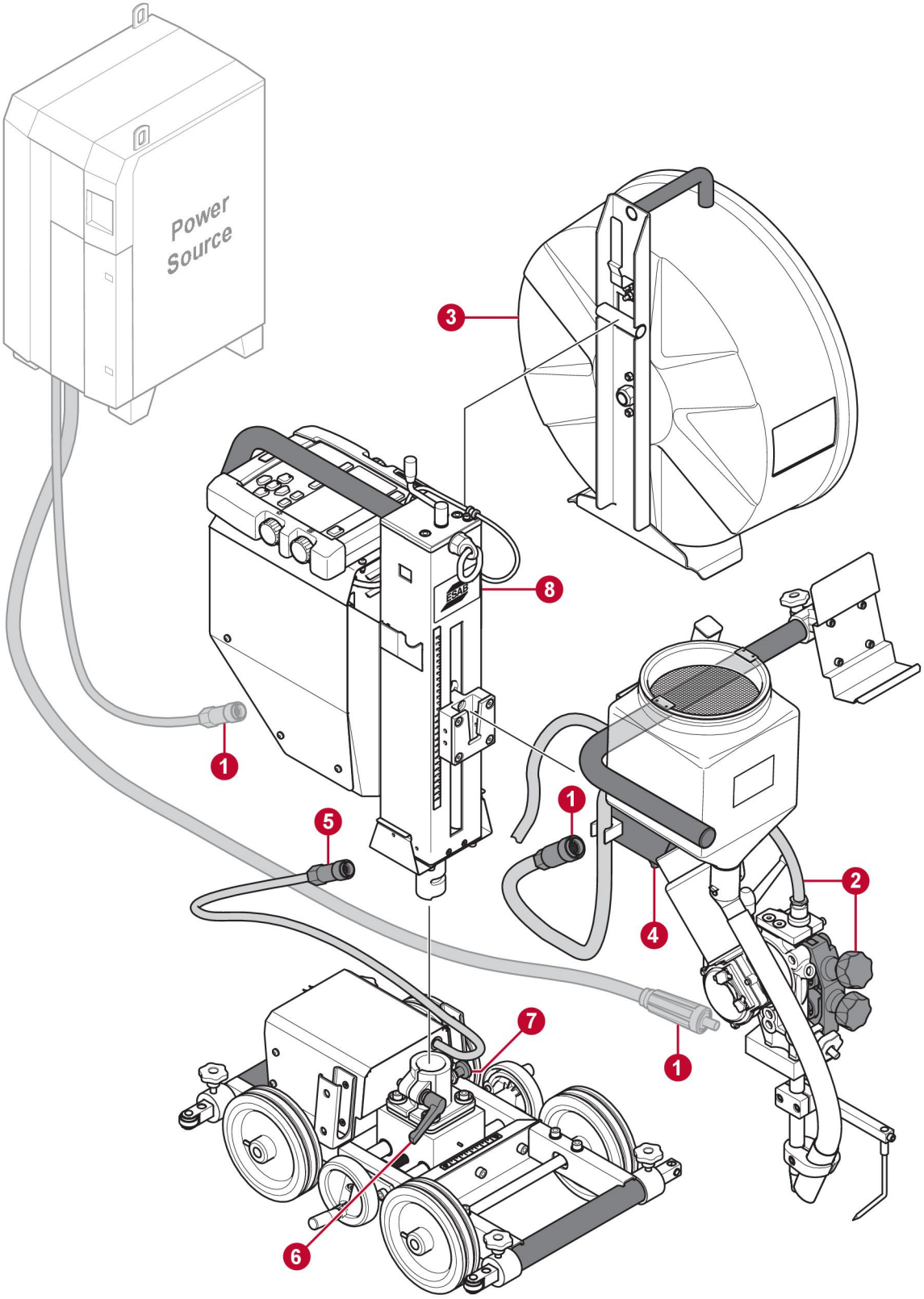
NOTE!
When moving the equipment, use the handle. Never pull the cables.

5.2 Transportation

The EWT 1000 welding tractor can transported by following the instructions in the "Lifting instructions" section.

Follow these instructions to dismount the 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.

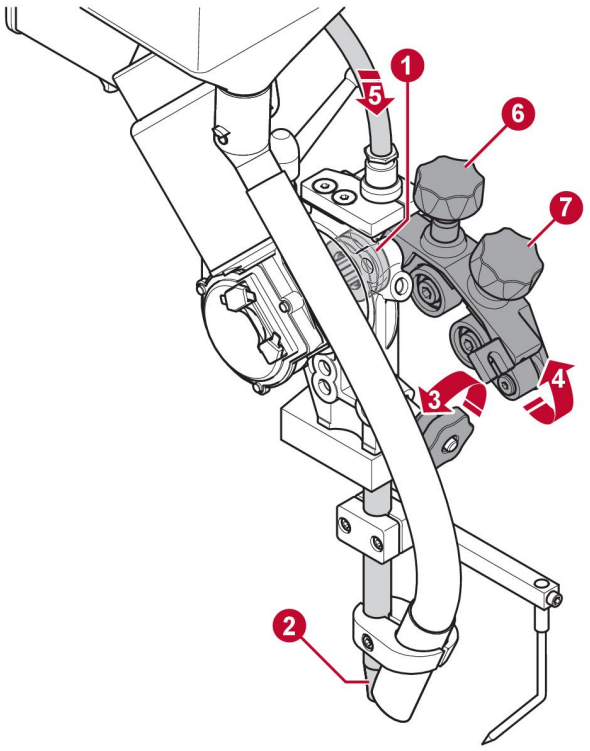
> **NOTE!**
> If the power source is disconnected without first turning off the power, the power source emergency stop can be activated.

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).

5.3 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 dimensions 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 the EAC 10 control unit: Feed the welding wire through the contact nozzle until it is visible below the contact nozzle.
9. Use the knob (6) to adjust the wire feed pressure as needed.
10. Use the knob (7) to adjust the wire straightness as needed.

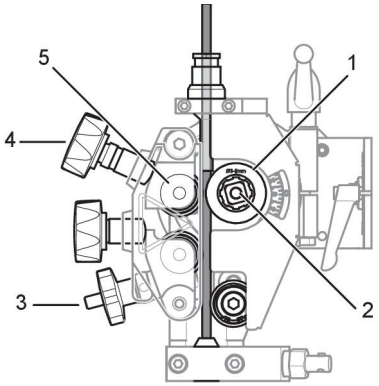


> **NOTE!**
> Do not overtighten the feed pressure knob (6). This can result in the wire feeder overheating.

5.4 Changing the feed roller

5.4.1 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.



5.4.1.1 Knurled rollers for flux-cored wire

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

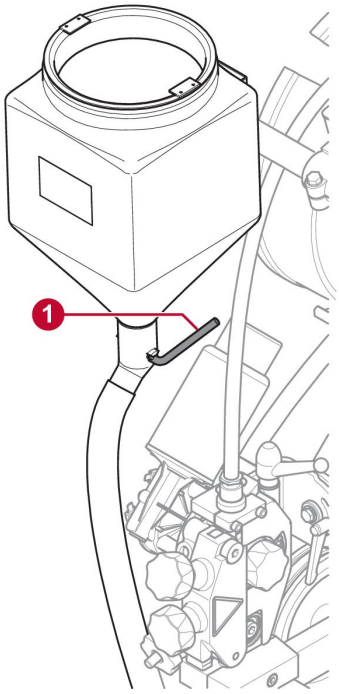
NOTE!
A special stub shaft is required for the pressure roller (ordering no. 0212 901 101).

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

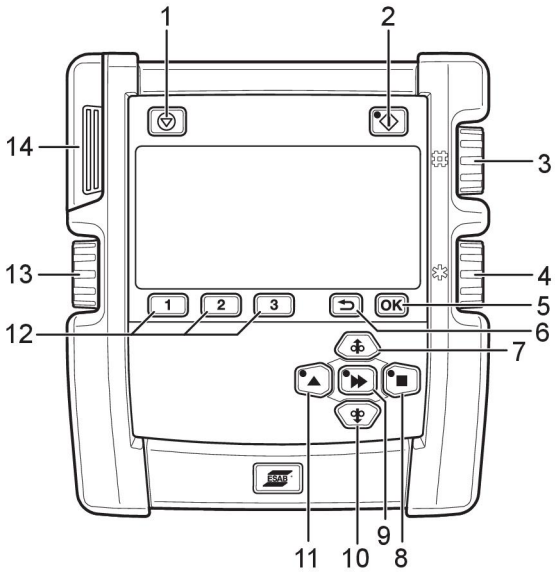
5.5 Refilling with flux powder

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

   NOTE!
   The flux powder must be dry. Use preheated flux powder only when the flux hopper is designed for its use.
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 to ensure that arc penetration does not occur.



5.6 EAC 10 control panel

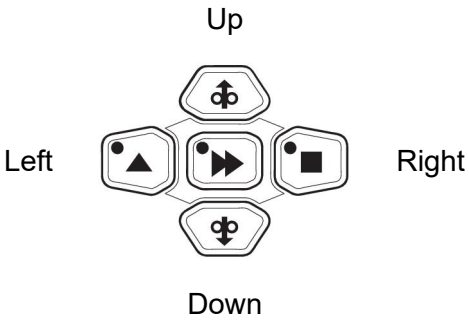


1. Welding stop
2. Welding start
3. Welding current / Wire feed speed/balance*
4. Arc voltage / Offset voltage*
5. OK / Setting menu
6. Back
7. Manual wire feed upward
8. Manual travel motion direction
9. Fast motion
10. Manual wire feed downward
11. Manual travel motion direction
12. Memory 1, 2, 3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

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 welding direction of the symbol 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 to increase or decrease set values.

The arc voltage / offset voltage knob[1] (4) is used to increase or decrease set values.

The travel speed / frequency knob[1] (13) is used to increase or decrease set values.

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

5.6.2 Initial configuration

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

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.

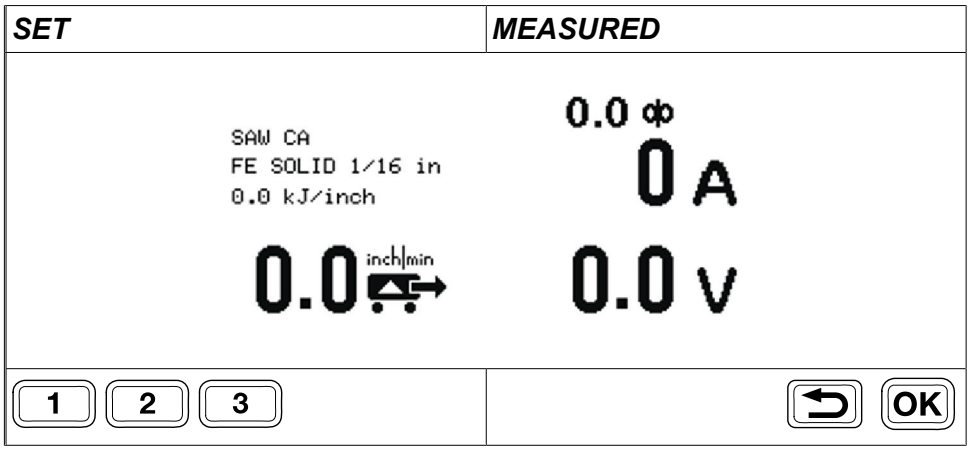
5.6.3 Startup

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

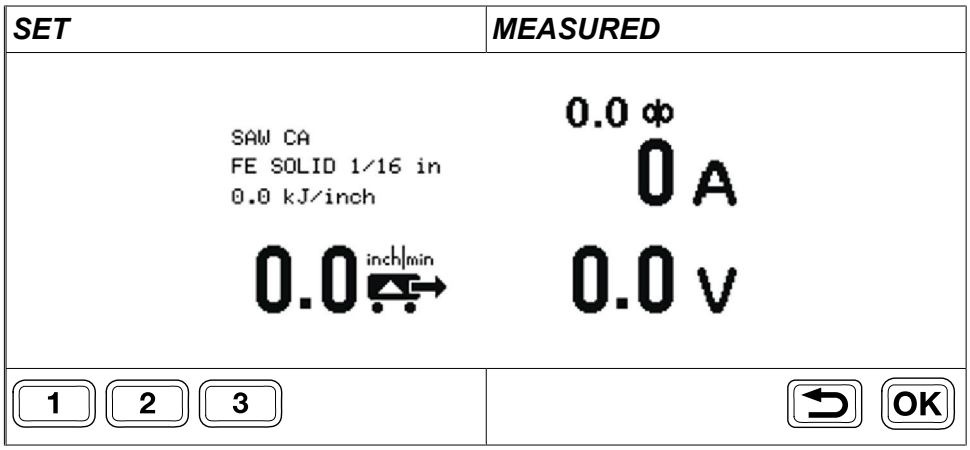
OK A short press of the *OK* button when an AC power source is connected will open the AC settings screen. A long press of the *OK* button opens the *WELDING MENU* settings screen.

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 the selected welding method.



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

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

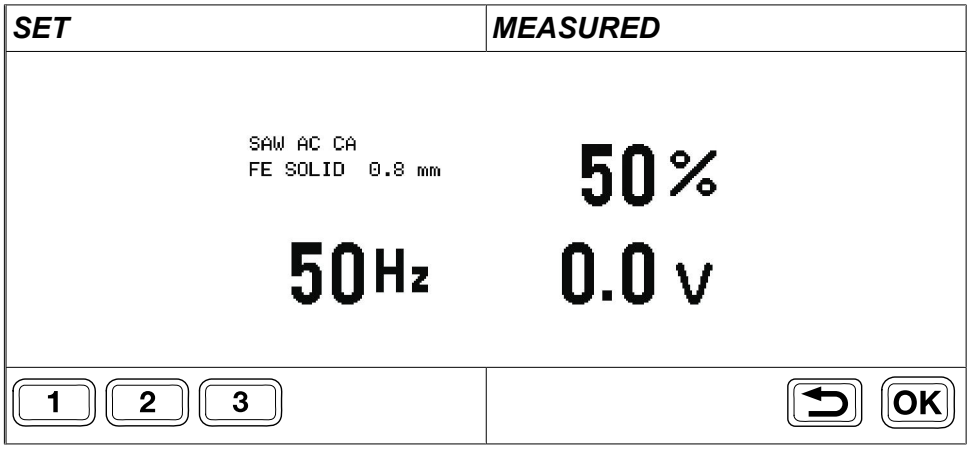
Change the welding settings by using the knob next to the value shown on the display. It is possible to save settings for easy access.

1 A short press of the 1, 2, or 3 key 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 an AC power source: A short press of the OK button opens the *AC SETTINGS* screen.

A long press of the OK button opens the *WELDING MENU*. Return by pressing the Back button.

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.

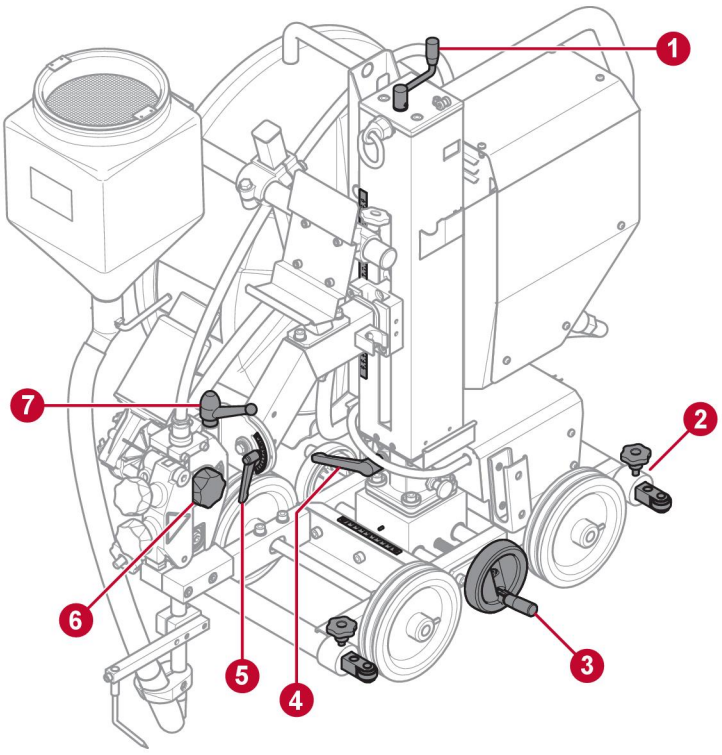
Select a menu row using the Up/Down buttons and press OK or confirm with the middle button.

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.

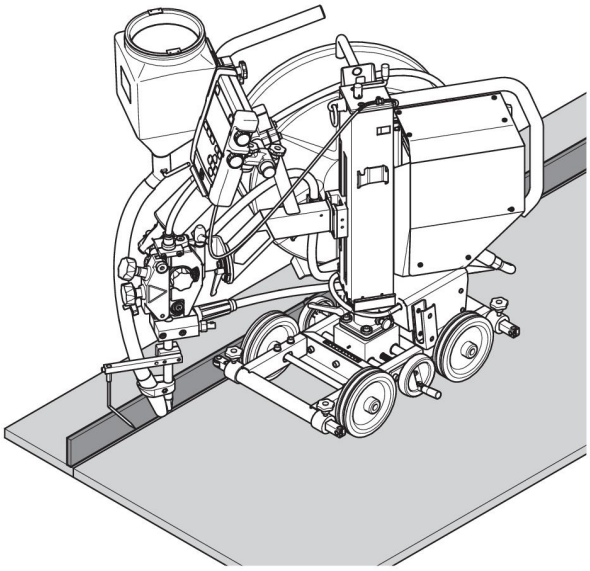
1. Vertical adjustment of the welding head, see scale on the column.
2. Adjust the guide roller device distance, both in front and back of welding tractor.
3. Adjust the horizontal column location, see scale next to the column.
4. Adjust the rotation angle of the column.

5. Adjust the rotation angle of the welding head, see scale next to handle.
6. Adjust the welding wire tension.
7. Adjust the rotation angle of the welding head.

5.8 Welding applications

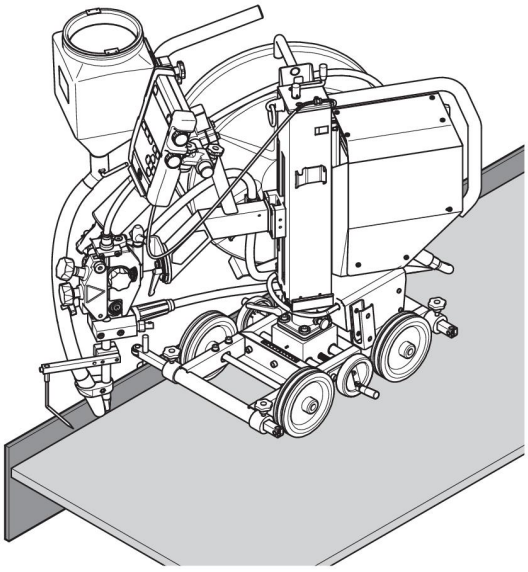
Basic version

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).



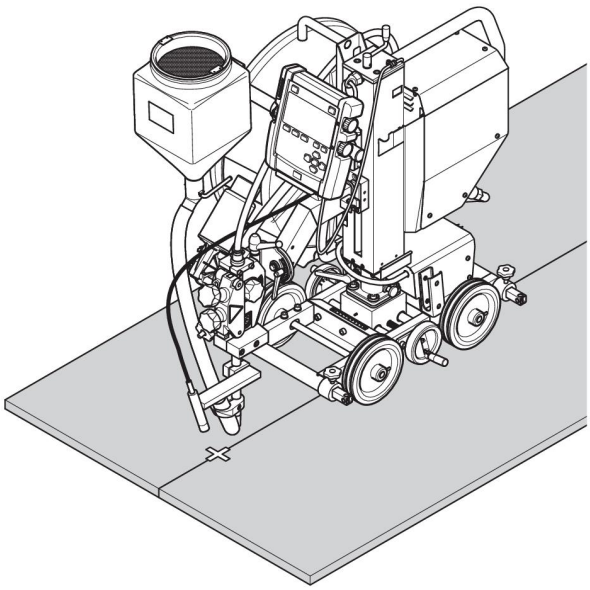
Idling rollers (0333 164 880)

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



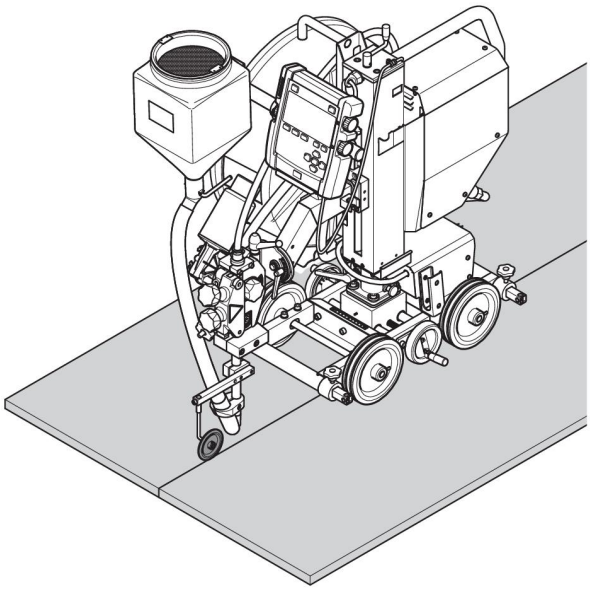
Laser lamp (0821 440 880)

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.



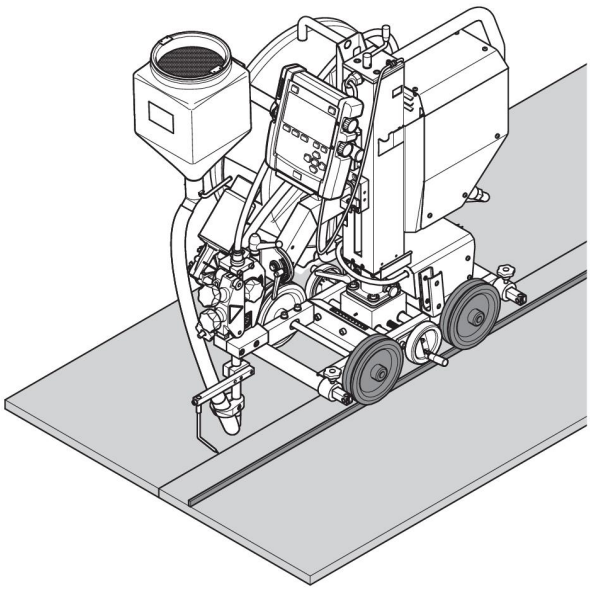
Guide wheel bogie (0413 542 880)

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.



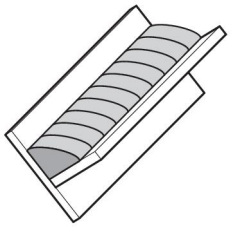
Grooved wheels (0443 682 881)

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.



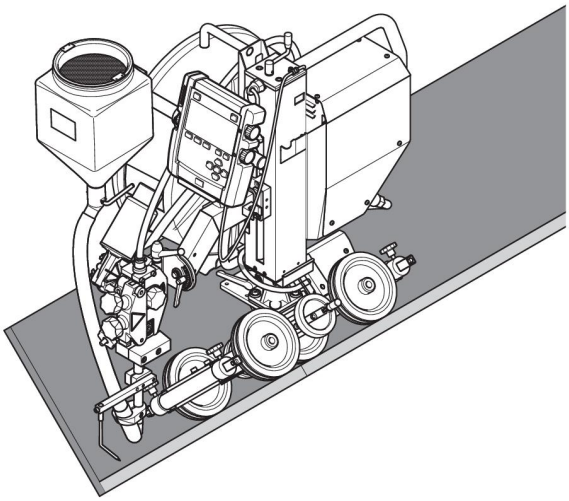
Flat fillet welding (0904 255 001)

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.



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 **EAC 10** control unit, see the 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.

- Check that the welding power source is connected to the correct power voltage.
- Check that welding cables and connections are not damaged.
- Check that the controls are set correctly.
- Check that power is disconnected before starting any type of repair action.

Type of fault	Possible cause	Corrective action
Current and voltage readings show large fluctuations.	Contact jaws or nozzle are worn or the wrong size.	Replace contact jaws or nozzle.
	Wire feed roller pressure is inadequate.	Increase pressure on wire feed rollers.
Wire feed is irregular.	Pressure on wire feed rollers is set incorrectly.	Adjust pressure on wire feed rollers.
	Wire feed rollers are the wrong size.	Replace wire feed rollers.
	Grooves in wire feed rollers are worn.	Replace wire feed rollers.
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.

8 ERROR CODES

For error code information, see the EAC 10 instruction manual.

9 ORDERING SPARE PARTS

CAUTION!

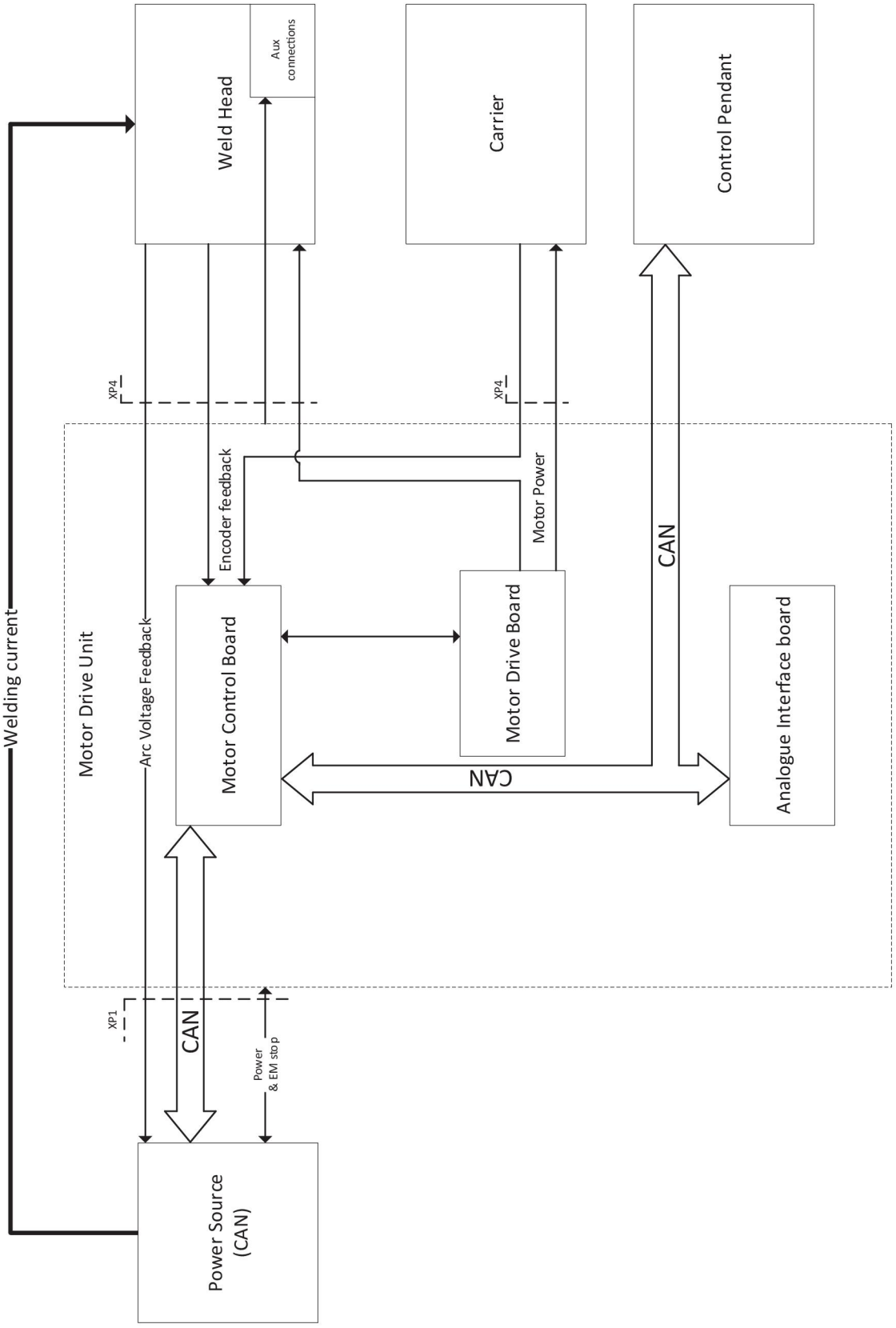
Repair and electrical work should be performed by an authorised ESAB service technician. Use only ESAB original spare and wear parts.

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 standards.

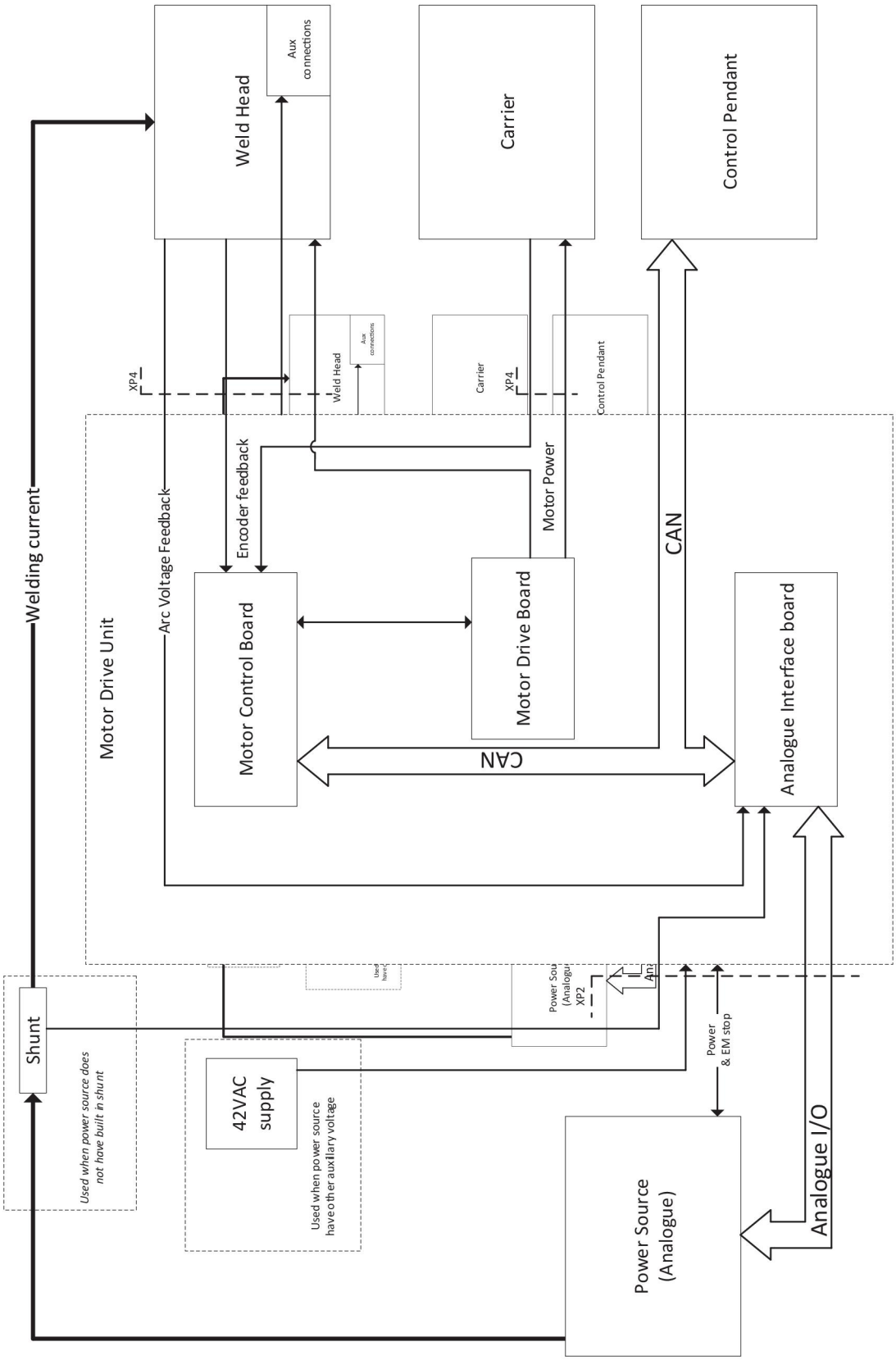
Spare parts and wear parts can be ordered through your nearest ESAB dealer, see the back cover of this document. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

DIAGRAM

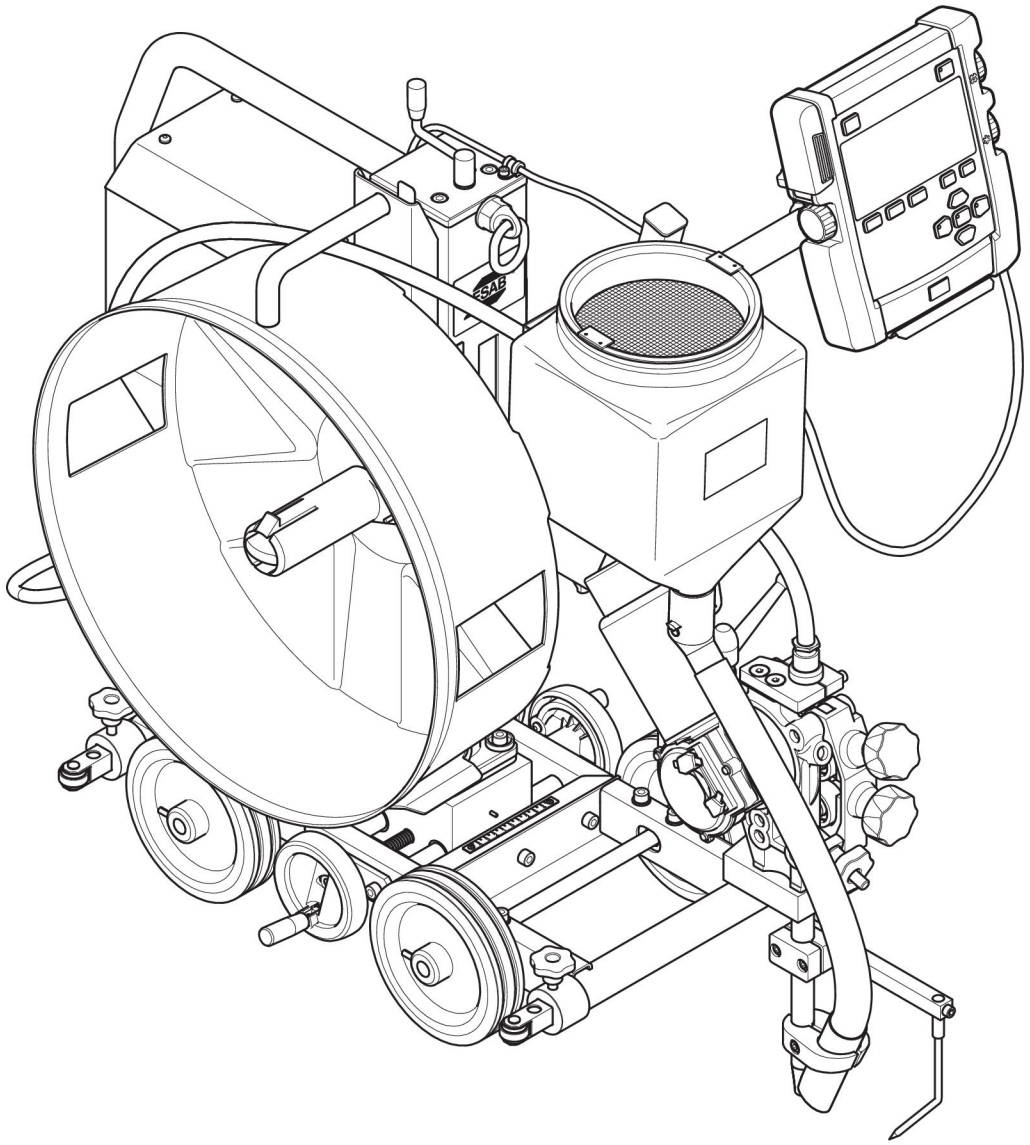
Digital power source



Analog power source



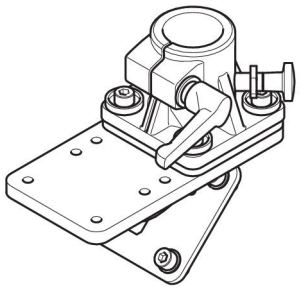
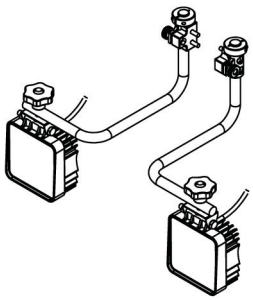
ORDERING NUMBERS

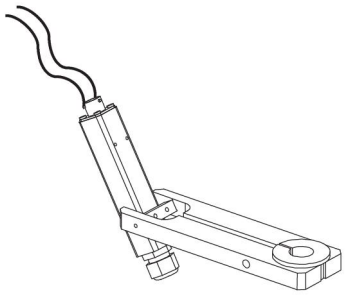
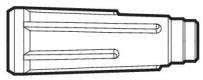
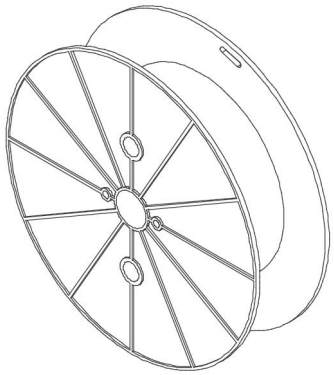


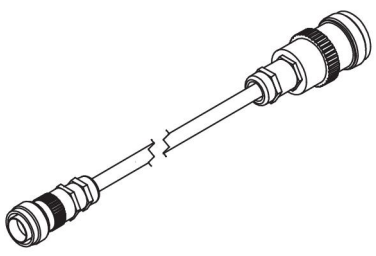
Ordering number	Denomination	Type	Notes
0904 200 880	Welding tractor	Versotrac EWT 1000 including welding head EWH 1000, bobbin holder and control unit EAC 10.	Feed roller and contact tip not included.
0463 627 *	Instruction manual	EWH 1000 welding head	
0463 612 *	Instruction manual	EAC 10 control panel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

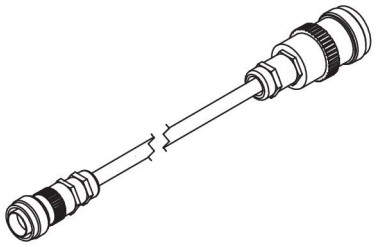
Technical documentation is available on the Internet at: www.esab.com

ACCESSORIES

EWT 1000		
0904 255 001	Flat fillet welding kit	
0904 273 880	LED lamp kit, 27 W, 12/24 V. Up to 2 lamps with additional power supply.	
0904 211 880	Bobbin module	
0333 164 880	Idling roller	
0443 682 881	V-wheeltrack in steel (4 pcs)	
0332 947 880	Bracket suction	
0904 223 880	Voltage reference option	
0413 542 880	Guide wheel bogey. For V-joints, used for joint tracking. For Fitting on the contact tube.	
0415 857 002	Wheel kit, heat resistant 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 440 880	Laser lamp kit	
0160 360 882	OKC connector, male, 70-120 mm^2	
0160 361 882	OKC connector, female, 70-120 mm^2	
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	
0413 510 001	Contact tube, 260 mm (10.24 in.)	
0413 510 002	Contact tube, 190 mm (7.48 in.)	
0413 510 003	Contact tube, 100 mm (3.94 in.)	
0413 510 004	Contact tube, 500 mm (1 ft 7.7 in.)	
0413 511 001	Contact tube, bent	
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	

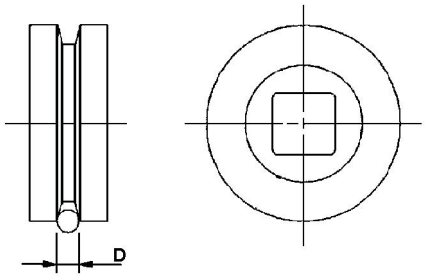
EAC 10		
Control cable EAC 10 - digital power source		
0460 910 881	15 m (49 ft)	
0460 910 882	25 m (82 ft)	
0460 910 883	35 m (115 ft)	
0460 910 884	50 m (164 ft)	

EAC 10		
Control cable EAC 10 - analog 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)	
0462 062 001	**USB Memory stick** 2 Gb	

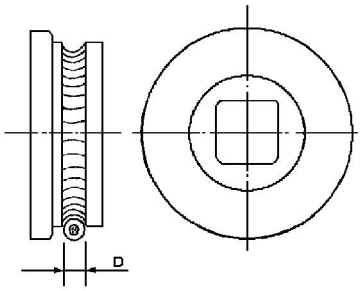
WEAR PARTS

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

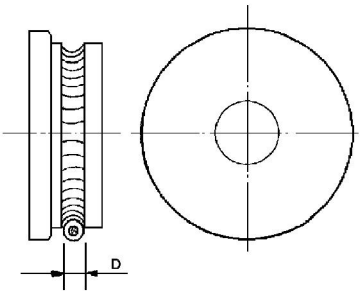


Grooved and knurled roller for tubular wire	
Part no.	**D (mm)**
0146 024 880	0.8–1.6
0146 024 881	2.0–4.0



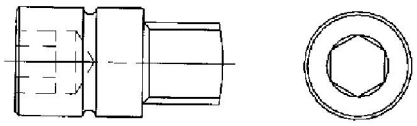
Pressure rollers

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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