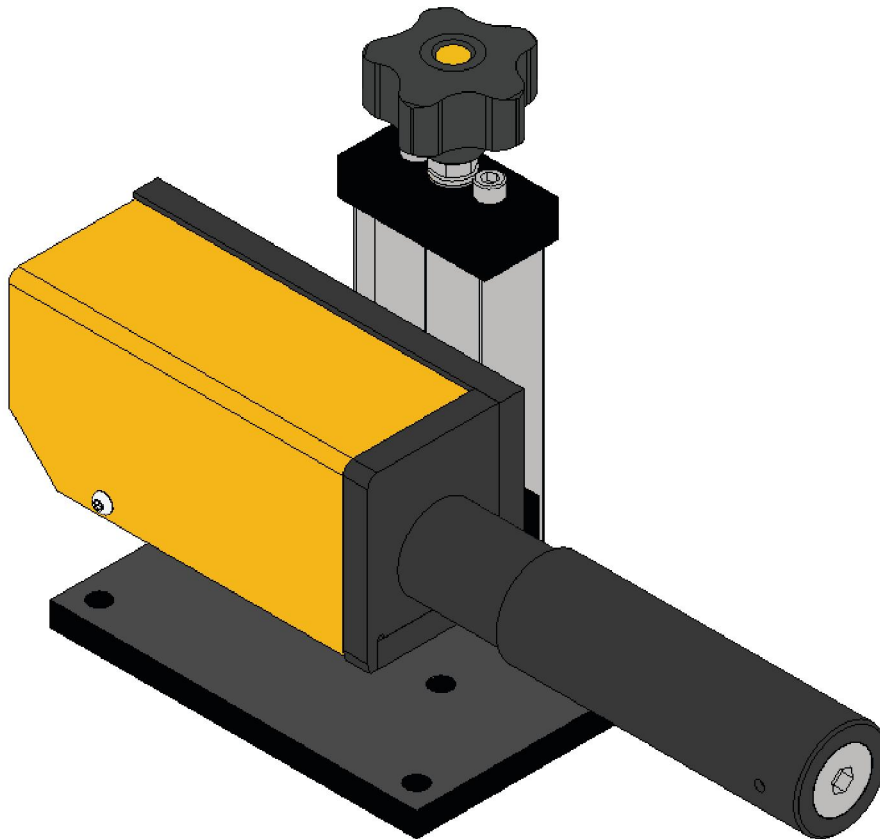


# *Weaving unit*

## *W8000*



**Instruction manual**



## EU DECLARATION OF CONFORMITY

According to  
The Machinery Directive 2006/42/EU, entering into force 29 December 2009  
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**

Welding carriage

**Type designation**

W8000,

Serial number: 1901 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](http://www.esab.com)

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

EN 12100:2010,	Safety of machinery - General principles for design. Risk assessment and risk reduction
EN 60974-10:2014	Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements
EN 61000-6-2:2005/AC:2005	Electromagnetic compatibility (EMC). Part 6-2: Generic standards. Immunity for industrial environments.
EN 61000-6-4:2007/A1:2011	Electromagnetic compatibility (EMC). Part 6-4: Generic standards. Emission standard for industrial environments

**Additional Information:**

Restrictive use, Class A equipment, intended for use in location other than residential areas

**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**

Gothenburg  
2020-01-15

**Signature**

Edward Hansen  
Director of Global Product Management,  
Flexible Automation

CE 2020

TABLE OF CONTENTS

---

<b>1</b>	<b>SAFETY</b> .....	<b>4</b>
1.1	Meaning of symbols .....	4
1.2	Safety precautions .....	4
<b>2</b>	<b>INTRODUCTION</b> .....	<b>8</b>
2.1	Overview .....	8
<b>3</b>	<b>TECHNICAL DATA</b> .....	<b>9</b>
<b>4</b>	<b>INSTALLATION</b> .....	<b>10</b>
4.1	Assembly .....	10
<b>5</b>	<b>OPERATION</b> .....	<b>11</b>
5.1	Menu .....	11
5.2	Weaving .....	11
5.3	0-Line .....	12
<b>6</b>	<b>MAINTENANCE</b> .....	<b>14</b>
<b>7</b>	<b>ORDERING SPARE PARTS</b> .....	<b>15</b>
	<b>BLOCK DIAGRAM</b> .....	<b>16</b>
	<b>ORDERING NUMBERS</b> .....	<b>17</b>
	<b>ACCESSORIES</b> .....	<b>18</b>

# 1 SAFETY

## 1.1 Meaning of symbols

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

**DANGER!**

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

**WARNING!**

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

**CAUTION!**

Means hazards which could result in minor personal injury.

**WARNING!**

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



## 1.2 Safety precautions

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

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

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

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

**WARNING!**

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

**ELECTRIC SHOCK - Can kill**

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

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

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

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

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

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

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

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

**MOVING PARTS - Can cause injuries**

- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.



- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

**FIRE HAZARD**

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

**HOT SURFACE - Parts can burn**

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

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

**PROTECT YOURSELF AND OTHERS!**

**CAUTION!**

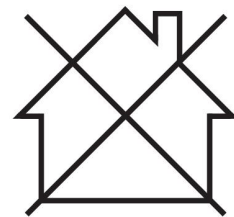
This product is solely intended for arc welding.

**WARNING!**

Do not use the power source for thawing frozen pipes.

**CAUTION!**

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





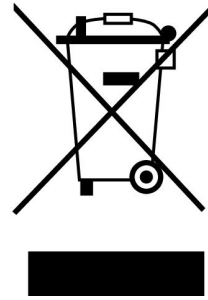
**NOTE!**

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

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

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

For further information contact the nearest ESAB dealer.



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

## 2 INTRODUCTION

---

### 2.1 Overview

The **Weaving unit W8000** can be used to mechanize your GMAW and SAW processes it can be used for weaving, gap bridging, filling and capping. You can store: weaving speed, width, hold time out, hold time in and preheat. The **Weaving unit W8000** has a maximum weaving width of 60 mm. Control unit is included.

**ESAB accessories for the product can be found in the "ACCESSORIES" chapter of this manual.**



---

### 3 TECHNICAL DATA

---

<b>Weaving unit W8000</b>	
Supply	20 – 49 VAC
	24 – 70 VDC
Power	30 W
Weight weaving unit (incl. bracket and slide)	4 kg
Motor type	Stepper motor
Weaving speed	1 – 40 mm/s
Weaving width	0 – 60 mm
Hold time (left and right position)	0.0 – 5.0 s
Horizontal electrical adjustment	Joystick
Horizontal mechanical adjustment	80 mm
Slide adjustment vertical	+/- 40 mm
Maximum load weaving arm	5 kg
External start / stop input	24 VDC

## 4 INSTALLATION

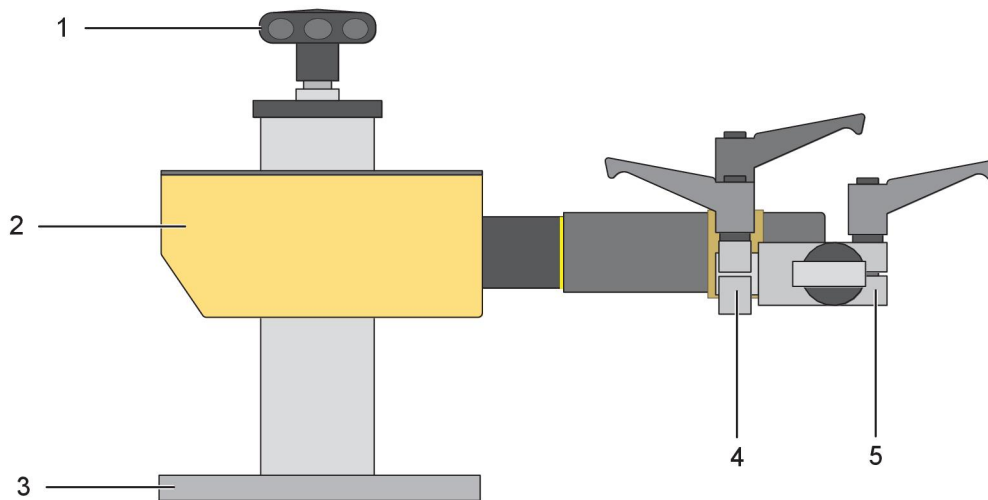
The installation must be carried out by a professional.



### CAUTION!

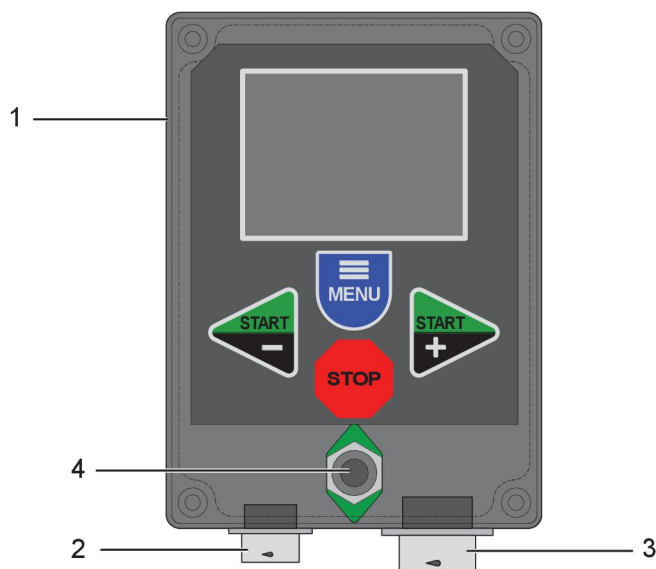
This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

### 4.1 Assembly



- 1. Height Slide
- 2. Weaving unit
- 3. Base plate

- 4. Torch bracket for adjusting torch position
- 5. Torch clamp



- 1. Control box
- 2. Connector weaving unit

- 3. Connector supply
- 4. Joystick

## 5 OPERATION

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!

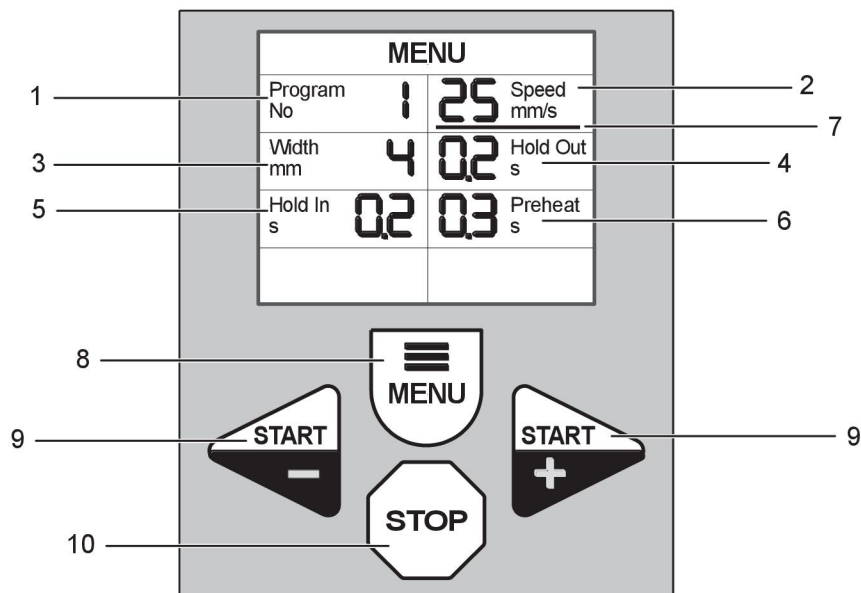


### WARNING!

Electric shock! Do not touch the workpiece or the welding head during operation!

### 5.1 Menu

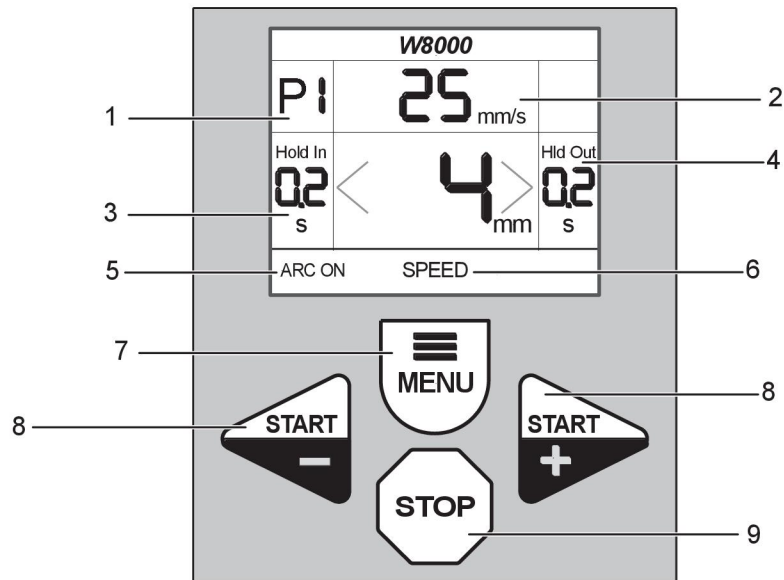
The MENU with all values for Welding unit W8000 will be visible in the information display 10 seconds after power up. Then the information display will change to weaving mode. To return to menu press the MENU switch 2 seconds.



1. Program number
2. Weaving speed
3. Weaving width
4. Hold time outer position
5. Hold time inner position
6. Preheat delayed start of weaving in relation to start welding
7. Cursor showing which function is active
8. MENU switch to change function
9. +/- switch to adjust value up/down
10. STOP switch to exit the menu before 10 seconds

### 5.2 Weaving

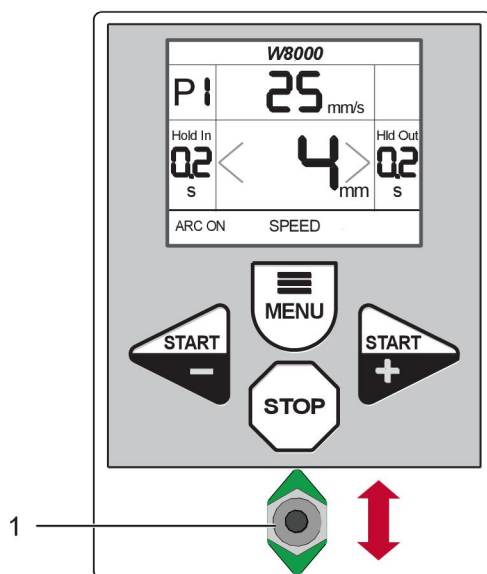
10 seconds after power up the information display will change from menu to Weaving mode. After start default menu is speed. In this mode you can start/stop the welding and weaving as well adjust speed and width. Use the STOP switch to stop weaving even if started externally from a PLC. When not weaving, to return to menu (for adjustment of Hold Time) press the MENU switch 2 seconds.



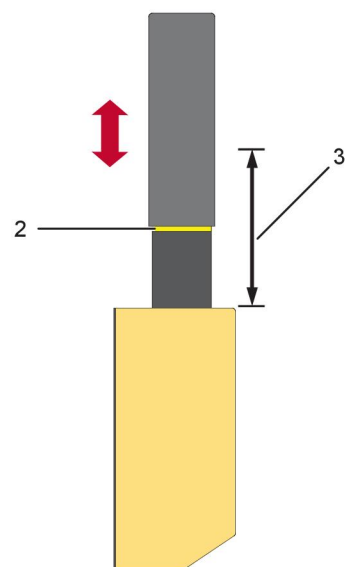
- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. Program number</li> <li>2. Weaving speed</li> <li>3. Hold time inner position</li> <li>4. Hold time outer position</li> <li>5. Information display</li> </ul> | <ul style="list-style-type: none"> <li>6. Active menu</li> <li>7. MENU switch for speed or width selection</li> <li>8. +/- buttons are used to adjust the value. Press once to start weaving. Press twice to start welding and weaving. ARC ON will be shown in the information display</li> <li>9. Stop</li> </ul> |
|---|---|

### 5.3 0-Line

It is possible to adjust the weaving arm position (0-line) before start using the joystick. During weaving it is possible to adjust the position out/in in step of 0.25 mm. When not weaving it is possible to return to menu by pressing the MENU switch 2 seconds.



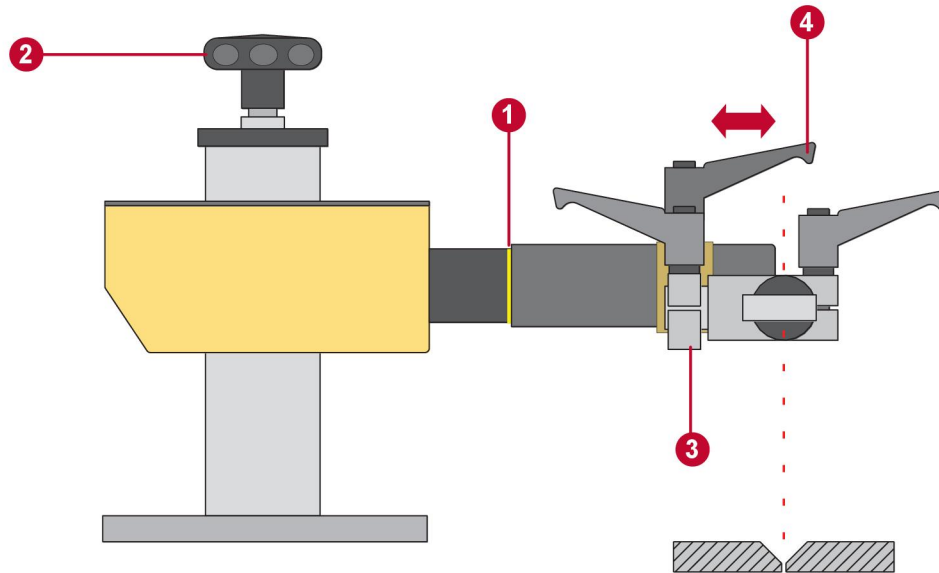
- 1. Joystick for position adjusting out/in
- 2. Yellow ring, center position



- 3. Maximum working length 80 mm

### Setting 0-Line

1. Adjust the weaving arm using the joystick to center position, yellow ring (1).
2. Adjust the height slide (2) to center position.
3. Slide the torch bracket (3) in/out and turn up/down for correct position of the torch in the center of the weaving width.
4. Unlock the handle (4) to adjust the torch position in/out.
5. Keep the torch as close as possible to the weaving arm and the length from arm down to the tip of welding torch as short as possible.
6. Ready for weaving.



## 6 MAINTENANCE

---



**WARNING!**

The mains supply must be disconnected during cleaning and maintenance.



**CAUTION!**

The product is covered by manufacturer's warranty. Any attempt to carry out repair work by non-authorized service centers or personnel will invalidate the warranty.



**NOTE!**

Regular maintenance is important for safe and reliable operation.



**NOTE!**

Perform maintenance more often during severe dusty conditions.

Before each use - make sure that:

- Product and cables are not damaged,
- The torch is clean and not damaged.

## 7 ORDERING SPARE PARTS

---



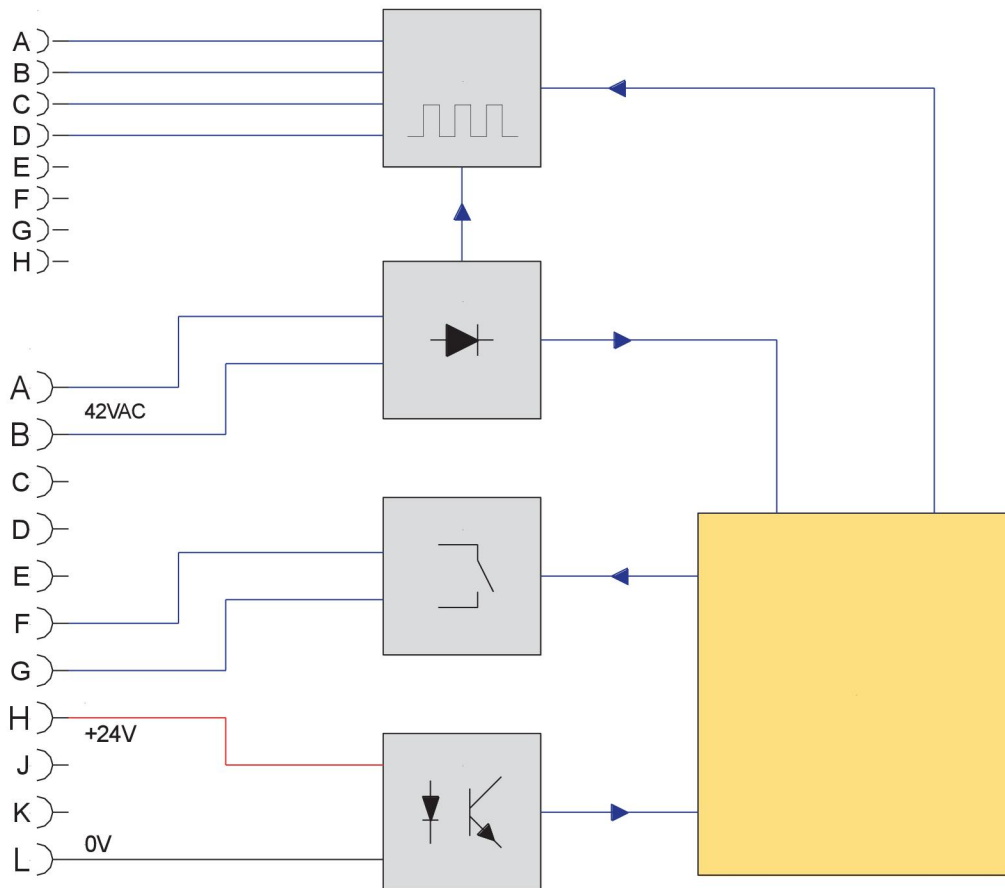
### CAUTION!

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

Weaving unit W8000 is designed and tested in accordance with the international and European standards **IEC/EN 60204-1**, **ISO/EN 12100-2** and **IEC/EN 60974-10**. 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 [esab.com](http://esab.com). When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.

# BLOCK DIAGRAM



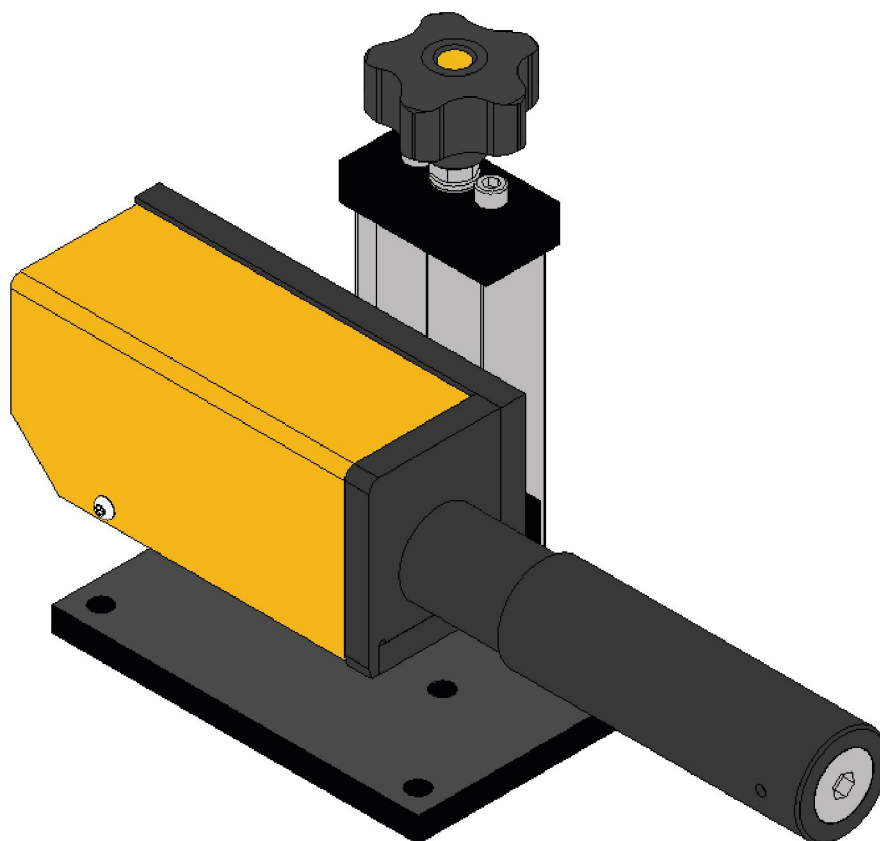
Pin H: External Start / Stop weaving with +24V from PLC. Connect 0V to pin L



---

**ORDERING NUMBERS**

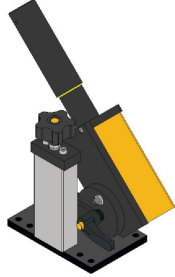
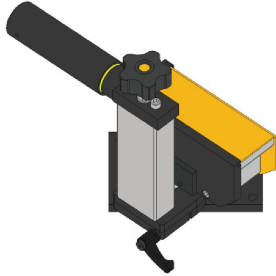
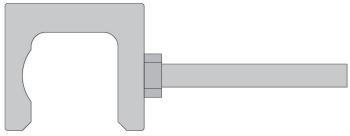
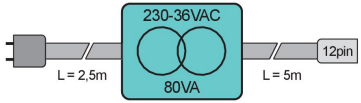


---



Ordering number	Denomination	Type
0459 990 646	Weaving unit	W8000
0463 723 001	Service manual	
0463 724 001	Spare parts list	

Technical documentation is available on the Internet at: [www.esab.com](http://www.esab.com)

## ACCESSORIES

0398 145 202	<p>Tilt bracket</p> <p>For adjustment of the weaving unit angle, 0 – 45 degree.</p> <p>Fixed position for 22.5 and 45 degree.</p>	
0398 145 203	<p>Turning bracket</p> <p>For rotation position of the weaving unit. +/- 30 degree.</p>	
0398 145 106	<p>Torch clamp</p> <p>Ø20 – 30 degree.</p>	
0457 467 880	Transformer	
0457 360 880	<p>Control cable 12 – 23 pin</p> <p>L = 5m</p>	
0457 360 881	<p>Control panel 12 pin</p> <p>L = 5m</p>	





# A WORLD OF PRODUCTS AND SOLUTIONS.



For contact information visit [esab.com](http://esab.com)

ESAB AB, Lindholmsallén 9, Box 8004, 402 77 Gothenburg, Sweden, Phone +46 (0) 31 50 90 00

<http://manuals.esab.com>

