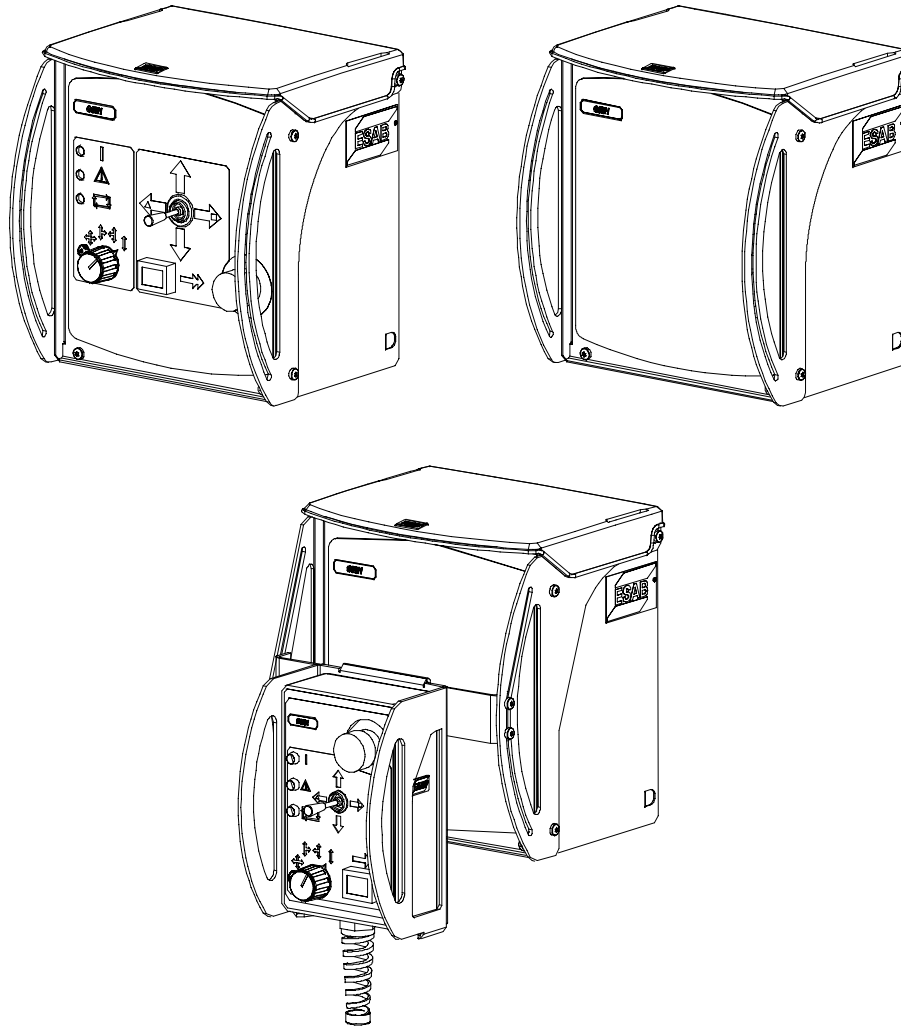


# GMH



**Bruksanvisning  
Brugsanvisning  
Bruksanvisning  
Käyttöohjeet  
Instruction manual  
Betriebsanweisung  
Manuel d'instructions  
Gebruiksaanwijzing  
Instrucciones de uso  
Istruzioni per l'uso**

**Manual de instruções  
Οδηγίες χρήσεως  
Instrukcja obsługi  
Kezelési utasítások  
Návod k používání  
Navod na pouitje  
Lietošanas pamācība  
Eksploataavimo instrukcijos  
Priručnik s uputama  
Manualul de instrucțiuni**

SVENSKA .....	5
DANSK .....	25
NORSK .....	45
SUOMI .....	65
ENGLISH .....	85
DEUTSCH .....	105
FRANÇAIS .....	125
NEDERLANDS .....	145
ESPAÑOL .....	165
ITALIANO .....	185
PORTUGUÊS .....	205
ΕΛΛΗΝΙΚΑ .....	225
POLSKI .....	245
MAGYAR .....	265
ČESKY .....	285
SLOVENSKY .....	305
LATVIEŠU .....	325
LIETUVIŪK .....	345
HRVATSKI .....	365
Rumanian .....	385

Rätt till ändring av specifikationer utan avisering förbehålles.  
Ret til ændring af specifikationer uden varsel forbeholdes.  
Rett til å endre spesifikasjoner uten varsel forbeholdes.  
Oikeudet muutoksiin pidätetään.  
Rights reserved to alter specifications without notice.  
Änderungen vorbehalten.  
Sous réserve de modifications sans avis préalable.  
Recht op wijzigingen zonder voorafgaande mededeling voorbehouden.  
Reservado el derecho de cambiar las especificaciones sin previo aviso.  
Ci riserviamo il diritto di variare le specifiche senza preavviso.  
Reservamo-nos o direito de alterar as especificações sem aviso prévio.  
Διατηρείται το δικαίωμα τροποποίησης προδιαγραφών χωρίς προειδοποίηση.  
Zastrzegamy sobie prawo do wprowadzenia zmian.  
Fenntartjuk az előzetes bejelentés nélküli változtatás jogát.  
Výrobce si vyhrazuje právo na změnu údajů bez předcházejícího upozornění.  
Výrobca si vyhradzuje právo na uskutočnenie zmien bez upovedomenia.  
Tiek paturētas tiesības bez iepriekšēja brīdinājuma izmainīt specifikācijas.  
Izmone pasiliekā teisei keisti specifikācijas be iespējimo.  
Rights reserved to alter specifications without notice.  
Rights reserved to alter specifications without notice.

Enheten är provad av ESAB i en allmän inkoppling.  
Ansvaret för den slutliga inkopplingens säkerhet och funktion åligger Intergratören.

---

Enheden er testet af ESAB i en generel forbindelse.  
Ansvaret for den endelige forbindelses sikkerhed og funktion påhviler integratoren.

---

Enheten er testet av ESAB i en generell tilkobling. Den som integrerer systemet, har ansvaret for sikkerheten og funksjonen ved den endelige tilkoblingen.

---

ESAB on koekäyttänyt yksikön yleisessä sähköliitännässä.  
Vastuu lopullisen kytkennän turvallisuudesta ja toimimisesta on integraattorilla.

---

The unit is tested by ESAB in a general purpose operation.  
Responsibility for the safety and function of the final operation remains with the Integrator.

---

Die Einheit wurde von ESAB in einer allgemeinen Schaltung geprüft.  
Die Verantwortung für die Sicherheit und Funktion der letztendlichen Schaltung liegt beim Integrator.

---

L'unité est testée par ESAB sur un raccordement général.  
L'Intégrateur est le seul responsable de la sécurité et du fonctionnement du raccordement définitif.

---

De eenheid werd door ESAB getest in een algemene schakeling.  
Diegene die de uiteindelijke schakeling uitvoert is aansprakelijk voor de veiligheid en werking ervan.

---

La unidad ha sido probada por ESAB en una conexión general.  
La seguridad y la funcionalidad de la conexión final son responsabilidad del Integrador.

---

L'unità è stata testata da ESAB in un impianto generico.  
La sicurezza e il funzionamento dell'impianto finale sono di responsabilità dell'installatore.

---

A unidade foi testada pela ESAB numa ligação de carácter geral.  
O integrador é responsável pela segurança da ligação final e pelo funcionamento.

---

Η μονάδα είναι δοκιμασμένη από την ESAB σε με κοινή σύνδεση.  
Η ευθύνη για την ασφάλεια και λειτουργία της τελικής σύνδεσης είναι του ολοκληρωτή.

---

Jednostka została przetestowana przez firmę ESAB dla ogólnej konfiguracji podłączenia.  
Za bezpieczeństwo i działanie końcowej konfiguracji podłączenia odpowiada Wykonawca.

---

Az egység az ESAB cégnél egy általános célú művelet során kipróbálásra került.  
A végső működés során a biztonságért és a működésért az integrátor felel.

---

Společnost ESAB jednotku testuje v obecném provozu.  
Odpovědnost za bezpečnost a funkčnost konečného provozu nese osoba, která provedla zabudování.

---

Jednotka je testovaná vo všeobecnej prevádzke spoločnosťou ESAB.  
Za bezpečnosť a funkčnosť konečnej prevádzky stále zodpovedá integrátor.

---

Iekārta ir ESAB pārbaudīta vispusīgas ekspluatācijas apstākļos.  
Par galaizmantošanas drošību un darbību atbildīgs ir integrators.

---

Įrenginio veikimas naudojant jį pagal benraįą paskirtį patikrintas ESAB.  
Už įrenginio galutinio veikimo saugą ir funkcijas atsako įrangos montuotojas.

---

ESAB je testirao jedinicu u operaciji opće namjene.  
Odgovornost za sigurnost i funkciju završne operacije ostaje na Integratoru.

---

-----  
Unitatea este testată de ESAB în timpul funcționării în scop general.  
Responsabilitatea pentru siguranță și funcționarea finală este a Integratorului.  
-----

<b>1 SAFETY</b> .....	<b>86</b>
<b>2 INTRODUCTION</b> .....	<b>88</b>
2.1 General .....	88
2.2 Variants .....	88
2.3 Technical data .....	89
2.4 Main parts .....	90
<b>3 INSTALLATION</b> .....	<b>92</b>
3.1 General .....	92
3.2 Installation and connection .....	92
3.3 Tuning the sensor finger .....	92
3.4 Tuning the inductive sensor .....	92
<b>4 OPERATION</b> .....	<b>93</b>
4.1 General .....	93
4.2 Joint-tracking unit with control panel .....	93
4.3 Joint-tracking unit – rear section .....	95
4.4 Portable control box .....	96
4.5 Joint-tracking .....	98
4.6 Positioning for welding start .....	101
4.7 Positioning for welding start (with inductive joint-tracking) .....	102
<b>5 MAINTENANCE</b> .....	<b>103</b>
5.1 General .....	103
5.2 Wear parts .....	103
<b>6 ACCESSORIES</b> .....	<b>104</b>
<b>DIAGRAM</b> .....	<b>405</b>
<b>DIMENSION DRAWING</b> .....	<b>408</b>
<b>SPARE PARTS LIST</b> .....	<b>411</b>

---

# 1 SAFETY

---

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

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

1. Anyone who uses the welding equipment must be familiar with:
  - its operation
  - location of emergency stops
  - its function
  - relevant safety precautions
  - welding
2. The operator must ensure that:
  - no unauthorised person is stationed within the working area of the equipment when it is started up.
  - no-one is unprotected when the arc is struck
3. The workplace must:
  - be suitable for the purpose
  - be free from draughts
4. Personal safety equipment
  - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves.
  - 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. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.**

**ELECTRIC SHOCK - Can kill**

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

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

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to 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.

**FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

**NOISE - Excessive noise can damage hearing**

- Protect your ears. Use earmuffs or other hearing protection.
- Warn bystanders of the risk.

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

**READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.**

**PROTECT YOURSELF AND OTHERS!**

## 2 INTRODUCTION

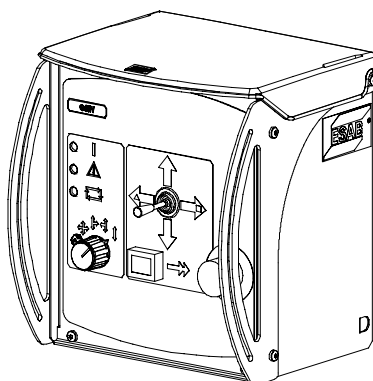
### 2.1 General

**GMH** is joint-tracking equipment for the positioning and joint-tracking of automatic welding equipment in all types of joint that arise where the sensor finger has a guiding edge to follow. The equipment is adapted to ESAB's standard servo slides and control one or two servo motors simultaneously.

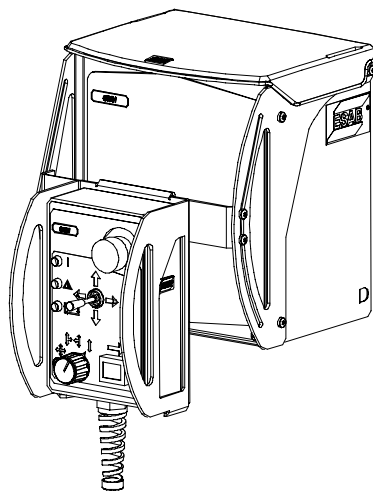
The system is available in several variants, see below.

### 2.2 Variants

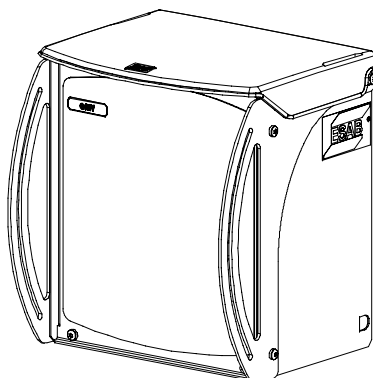
- Joint-tracking unit with control panel.



- Joint-tracking unit with portable control box.



- Built-in component for columns and booms.





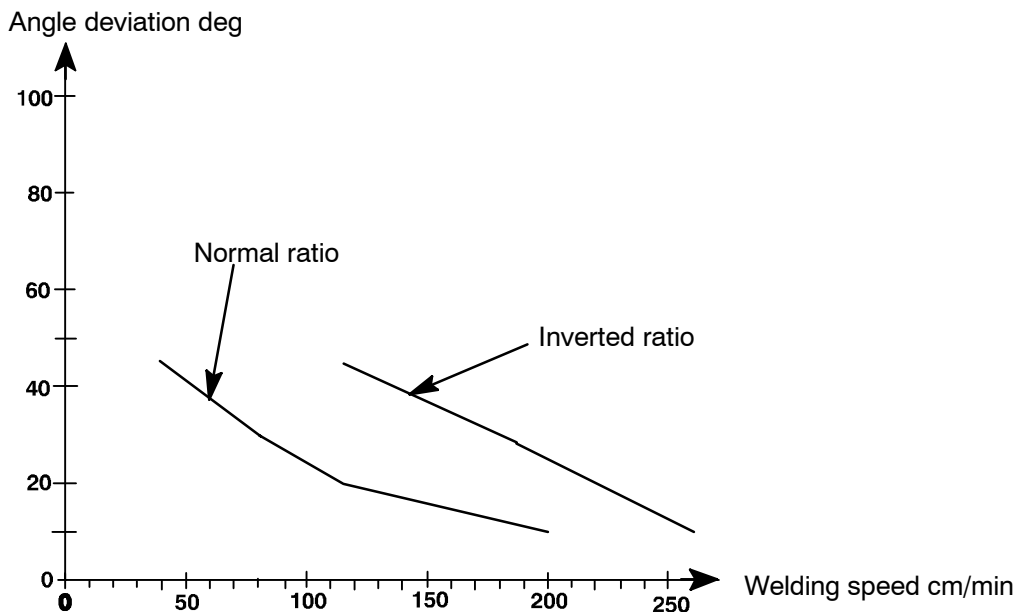
### 2.3 Technical data

	<b>GMH</b>
<b>Supply voltage</b>	42V AC, 50-60 Hz
<b>Current output</b>	450 V A
<b>Ambient temperature</b>	-15° C – + 45° C
<b>Relative atmospheric humidity</b>	Max. 98%
<b>Max. motor current</b>	6A 100%
<b>Enclosure class</b>	IP 23
<b>Current limits</b>	15 A (hardware current limit)
<b>Power supply fusing</b>	10 A slow
<b>Motor regulator, type</b>	Switched four quadrant reg.
<b>Rotor voltage</b>	40 V DC
<b>Field voltage, separate magnetised motor</b>	60 V DC
<b>Weights:</b>	
Joint-tracking unit:	6,2 kg
Portable control box:	2,7 kg (complete with 4m cable and protection)
Sensor and slide cross with bracket:	2.2 kg
Guide finger:	0.6 kg
<b>Working range sensor, radially 360°</b>	4 mm

#### Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP 23** is designed for indoor and outdoor use.

Working range and setting speed, see the figure below and the technical description in the operating instructions for A6 Slide.



*Diagram of the weld joint's maximum angle deviation in relation to the set welding speed.*

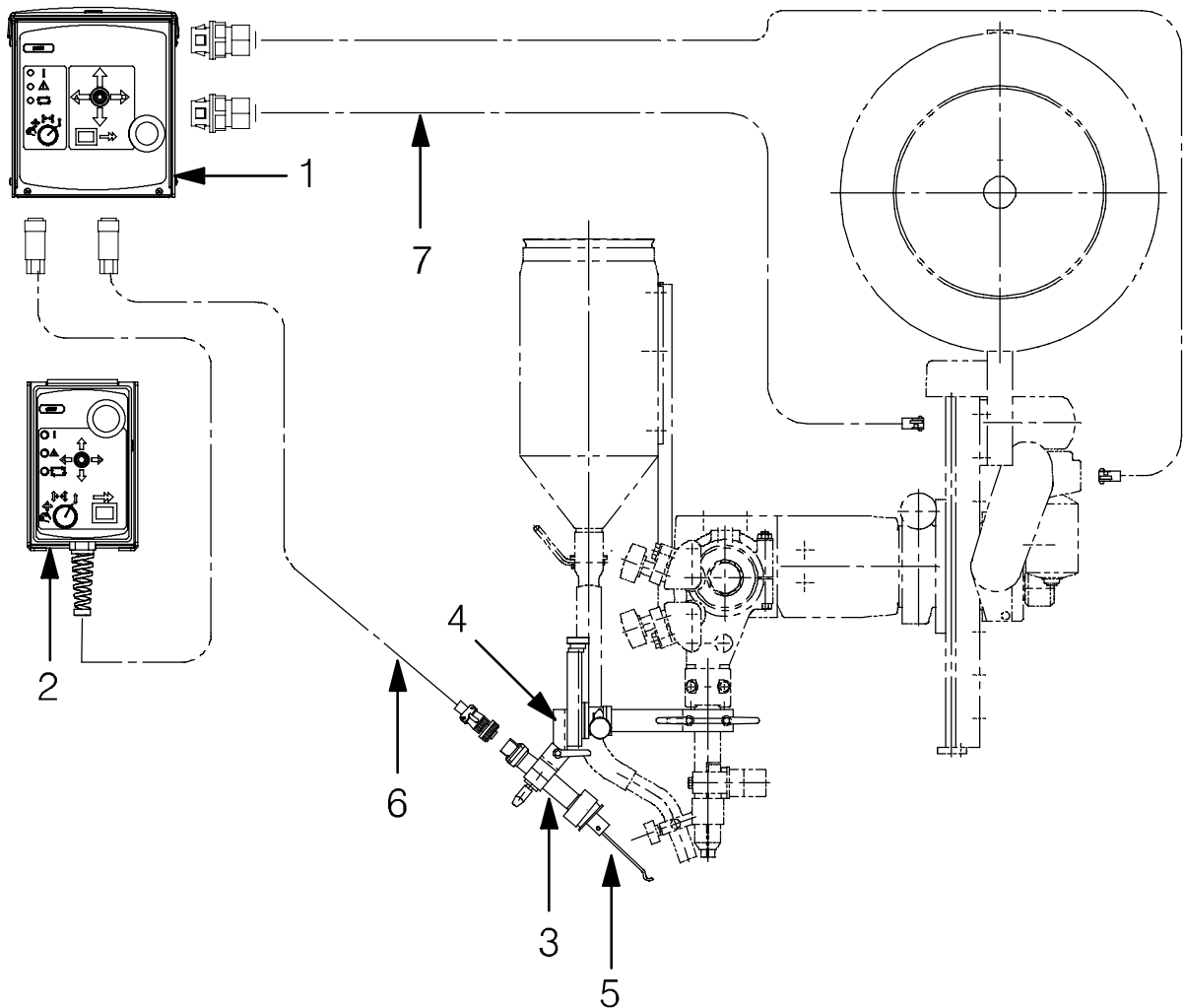
## 2.4 Main parts

1. Joint-tracking unit (with or without control panel)
2. Portable control box
3. Sensor
4. Slide cross for sensor
5. Guide finger
6. Control cable (2 m)
7. Motor cable (see **Accessories**)

**NB!**

The *portable control box (2)* and the *control cable (6)*, in accordance with the above, are discontinued for certain columns and booms and are replaced by product specific parts.

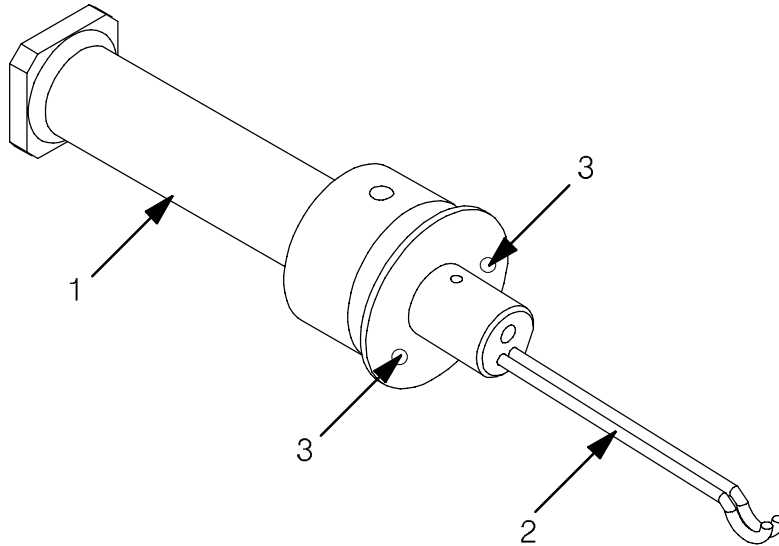
For more information, see the chapter "**Operation**", on page 93.



### 2.4.1 Sensor

The sensor is shaped like a finger. The finger is spring-loaded so that it attempts to reach the centre position laterally and downwards vertically.

1. Sensor with connection for cable to joint-tracking unit and with bracket for different tracking fingers at the front.
2. Joint-tracking fingers
3. Stop screws (two) for adjusting finger movement horizontally. The screws enable settings for different joint types.



---

## **3 INSTALLATION**

---

### **3.1 General**

*The installation must be executed by a professional.*

### **3.2 Installation and connection**

1. Measurement information, see the dimension drawings on pages 408–410.
2. Connection, see the diagrams on pages 405–407
3. Check that the required output and voltage is available for complete installation.
4. Fit the guide finger parallel with the motor driven slide cross.

### **3.3 Tuning the sensor finger**

Please refer to ESAB's service department for tuning the sensor finger.

### **3.4 Tuning the inductive sensor**

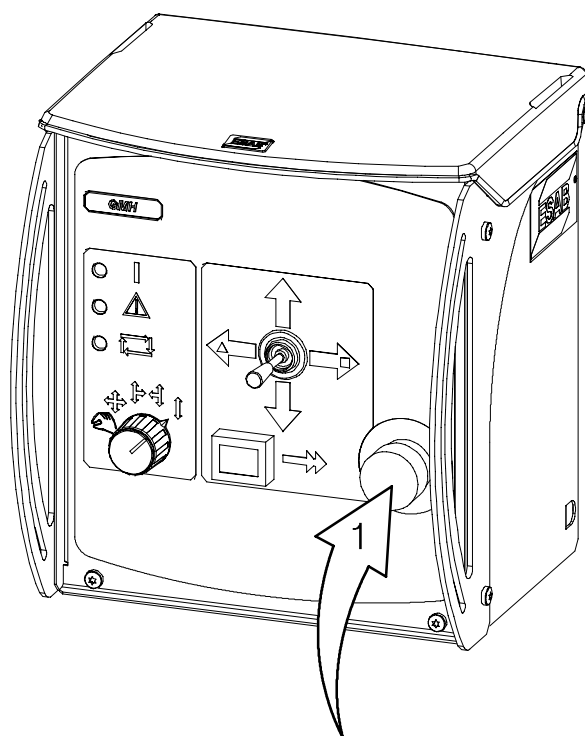
Please refer to ESAB's service department for tuning the inductive sensor.

## 4 OPERATION

### 4.1 General

**General safety regulations for the handling of the equipment can be found on page 86. Read through before you start using the equipment!**

### 4.2 Joint-tracking unit with control panel



#### **Emergency stop (1)**

- One press on the button activates EMERGENCY STOP

**NB!** An emergency stop must never be reset before the cause of the abnormal function or signal has been established and rectified.

**Signal lamp**   (white)

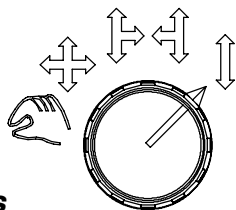
- Illuminates when the power has been switched on.

**Alarm lamp (automatic joint-tracking)**   (yellow)

- Illuminates when the guide finger is outside the working range (vertical). The automatic function is then blocked.






**Signal lamp (joint-tracking)**   (green)

- Illuminates when automatic joint-tracking is in progress.



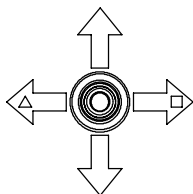
**Switch with 5 positions**

Selection of joint-tracking and joint-searching options:


- Manual preset - Position 
- Vertical and horizontal joint-tracking - Position 
- Vertical and horizontal joint-tracking with joint-searching to the right - Position 
- Vertical and horizontal joint-tracking with joint-searching to the left - Position 
- Vertical joint-tracking - Position 

**NOTE!**

If the switch is in a joint-tracking position when the equipment is switched on then the equipment will not start joint-tracking for safety reasons. To start joint-tracking, another position must be briefly selected before returning to the required position.



**Control lever**






- Manual control of servo slides Up/Down and Left/Right.  
The control lever is always overriding.  
When the alarm lamp  is illuminated the downward manual movement is blocked.

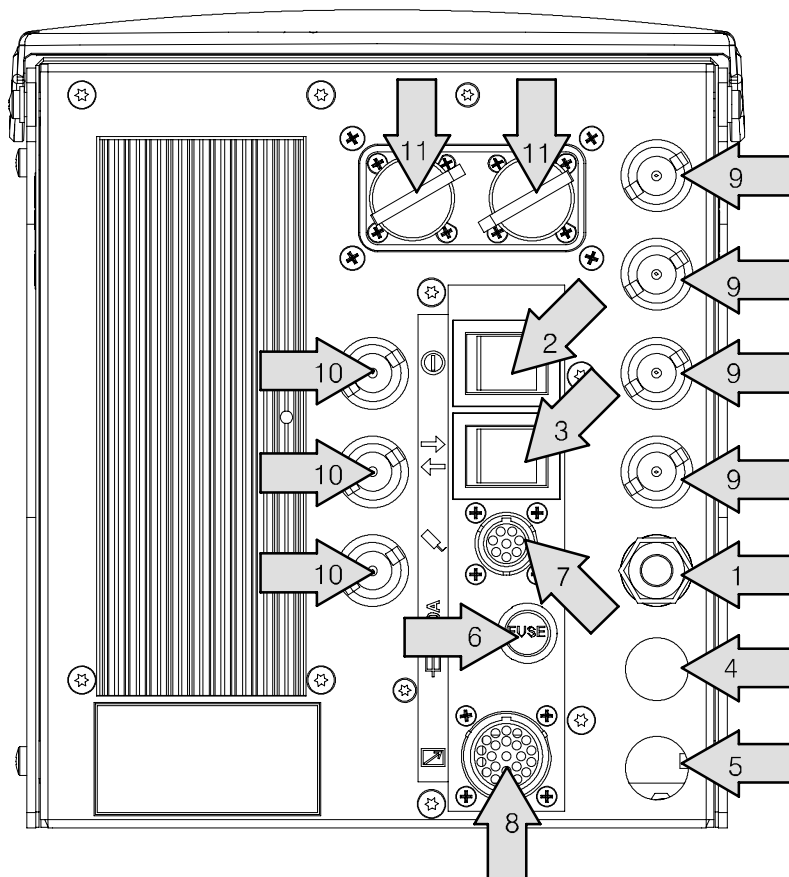


Selection of low or high speed during manual positioning with the control lever.

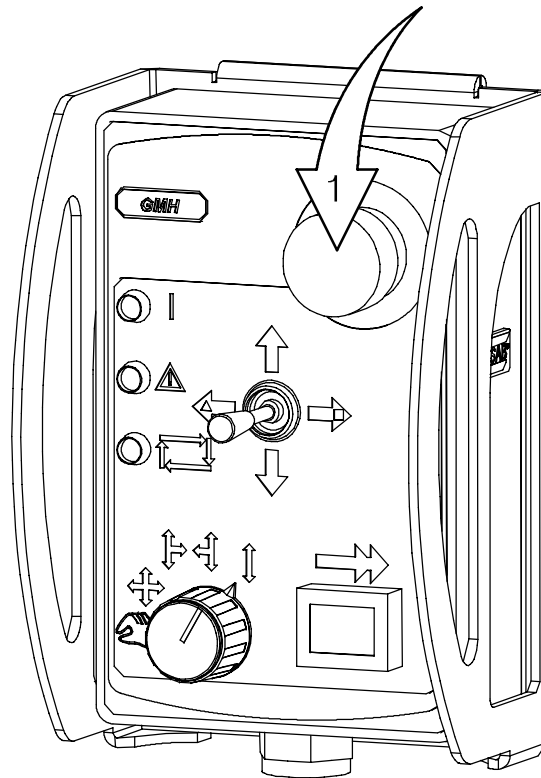
- One press on the button activates rapid speed.  
A lamp in the button illuminates when the function is activated.
- Return to low speed by pressing the button again  
Check that the lamp has gone out before carrying out further commands.

### 4.3 Joint-tracking unit - rear section

1		Connection, power supply 42 V
2		Switch Power supply On/Off
3		Switch For switching the horizontal slide motor's direction of movement.
4		Socket, for connecting the vertical slide motor
5		Socket, for connecting the horizontal slide motor
6		Control fuse, 10 A slow
7		Sleeve socket (8-pin), for connecting the guide finger.
8		Socket (23-pin), for connecting the portable control box.
9		Sockets, for connecting the limit position switch
10		Extra sockets
11		Service contacts



#### 4.4 Portable control box



##### **Emergency stop (1)**

- One press on the button activates EMERGENCY STOP

**NB!** An emergency stop must never be reset before the cause of the abnormal function or signal has been established and rectified.

**Signal lamp**   (white)

- Illuminates when the power has been switched on.

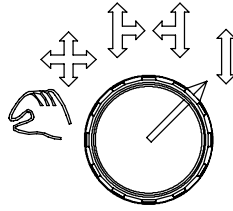
**Alarm lamp (automatic joint-tracking)**   (yellow)

- Illuminates when the guide finger is outside the working range (vertical). The automatic function is then blocked.

**Signal lamp (joint-tracking)**   (green)






- Illuminates when automatic joint-tracking is in progress.





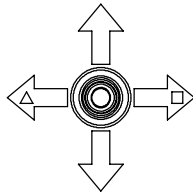
**Switch with 5 positions**

Selection of joint-tracking and joint-searching options:


- Manual preset - Position 
- Vertical and horizontal joint-tracking - Position 
- Vertical and horizontal joint-tracking with joint-searching to the right - Position 
- Vertical and horizontal joint-tracking with joint-searching to the left - Position 
- Vertical joint-tracking - Position 

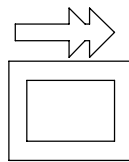
**NOTE!**

If the switch is in a joint-tracking position when the equipment is switched on then the equipment will not start joint-tracking for safety reasons. To start joint-tracking, another position must be briefly selected before returning to the required position.



**Control lever**

- Manual control of servo slides Up/Down and Left/Right.  
The control lever is always overriding.  
When the alarm lamp  is illuminated the downward manual movement is blocked.



**Lamp pushbutton (rapid speed)**

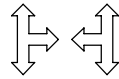
Selection of low or high speed during manual positioning with the control lever.



- One press on the button activates rapid speed.  
A lamp in the button illuminates when the function is activated.
- Return to low speed by pressing the button again  
Check that the lamp has gone out before carrying out further commands.

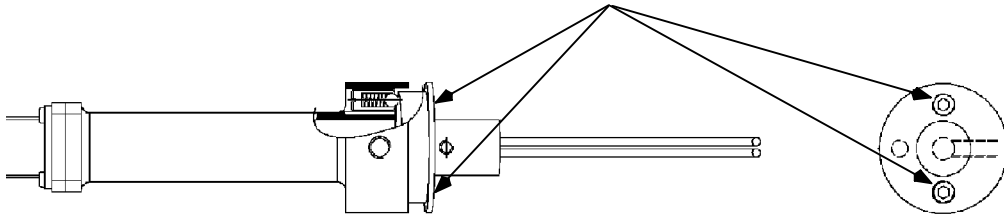
## 4.5 Joint-tracking

The joint-tracking equipment can be set for different types of joint-tracking. It can be set for joint-tracking with edge control and for joint-tracking with groove control. The setting is made both on the control box and on the sensor.

### 4.5.1 Joint-tracking with edge control

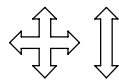




The following functions are set on the control box,  or  depending on whether right or left-hand control is required. The two stop screws on the sensor should be screwed in to the stop point. See the illustration below. This means that the fuses are spring-loaded laterally and edge control is allowed. Joint-tracking with edge control is used for welding fillet welds and similar joints, see also the joint table on page 99.

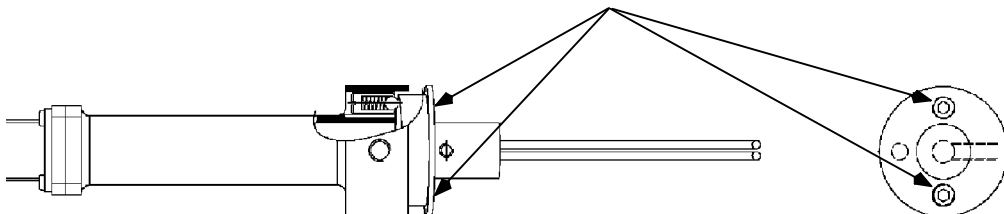


*The stop screws are tightened to the stop point.*

### 4.5.2 Joint-tracking with groove control





















The following functions are set on the control box,  or  depending on whether both vertical and lateral control or just vertical control are required. The stop screws on the sensor must be screwed out at least two turns or to the stop point, see the illustration below. This releases the spring loading for the search fingers laterally and enables groove control. If the stop screws are not screwed out then there is a risk that the search fingers start to "climb" up the joint walls in shallow V and U-joints. See also on page 99 for selection of setting.



*The stop screws screwed out 2 turns*

Examples of different types of joint and of the guide finger's application against the guiding edges.

	Joint type	Setting, control box
Double flanged butt weld		
I-weld (A=guide bar)		
V-weld		
1/2 V-weld		
1/2 V-weld		
U-weld		
Double U-weld		
J-weld		
Double J-weld		

X-weld



Asymmetrical X-weld



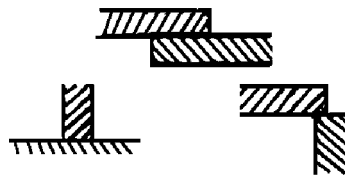
K-weld



K-weld

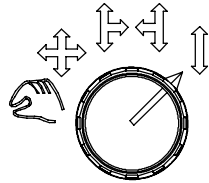


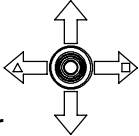
Fillet weld

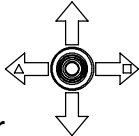


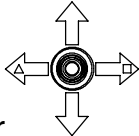

### 4.6 Positioning for welding start

1. Align the welding equipment into position in relation to the weld joint so that the working range of the slide cross covers the whole height and lateral deviation of the joint from starting point to the stopping point for welding.

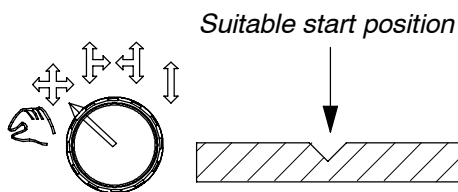
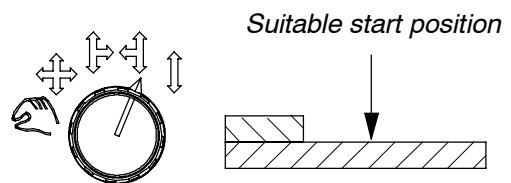
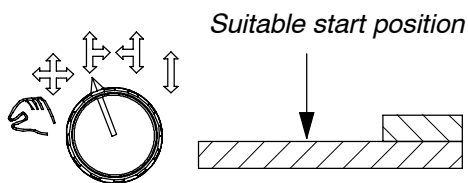


2. Set the switch  in the required joint-tracking position.

3. Operate the guide finger horizontally using the control lever , until the finger is above a suitable start position, see the figure below. For vertical joint-tracking along the guide finger is positioned where the start of the weld is required to be.

4. Operate the welding head downwards with the control lever , until the signal lamp  goes out.

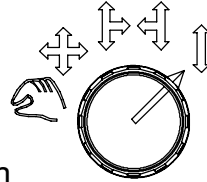
The equipment now searches for the ideal position itself vertically and horizontally if horizontal joint-tracking is activated.



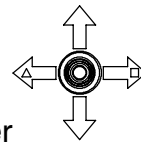
### 4.7 Positioning for welding start (with inductive joint-tracking)



The product must be configured before inductive joint-tracking is possible. Please refer to ESAB's service department for configuration.

1. Align the welding equipment into position in relation to the weld joint so that the working range of the slide cross covers the whole height and lateral deviation of the joint from starting point to the stopping point for welding.



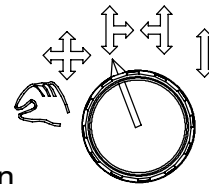
2. Set the switch in the vertical joint-tracking position



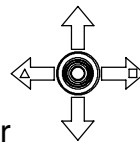
3. Position the sensor downwards with the control lever lamp   goes out.

The equipment now searches for the ideal position itself vertically.

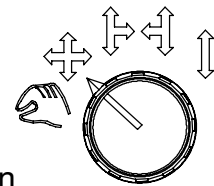
**N.B.** If only vertical joint-tracking shall be used, skip the following points.





4. Set the switch in the vertical-right joint-tracking position



5. Position the sensor using the control lever horizontally to the ideal position until the signal lamp   goes out.



6. Set the switch in the vertical-horizontal joint-tracking position

The signal lamp goes out.   The equipment searches for the ideal position itself horizontally and vertically. If the signal lamp does not go out repeat the procedure from Step 1.

---

## 5 MAINTENANCE

---

### 5.1 General

**Note:**

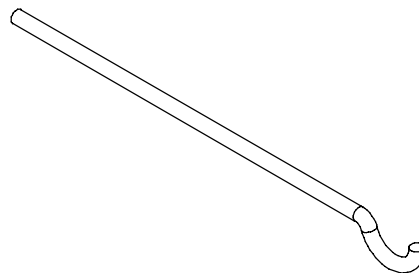
*All warranty undertakings given by the supplier cease to apply if the customer attempts to rectify any faults on the machine during the warranty period.*

- Check daily that the guide fingers are not worn or damaged.
- Clean the sensor with compressed air regularly.
- Follow the instructions for the internal components.
- Please refer to ESAB's service department for tuning the system.

### 5.2 Wear parts

#### Tracking fingers

Part no. 146 586-001



## **6 ACCESSORIES**

	<b>Ordering number:</b>
Intermediate transformer for separate power supply, from mains power 190, 220, 380, 415, 440, 500V 50 Hz 200, 230, 380, 415, 440, 500V 60 Hz to secondary 42V, 660 VA	0148636002
Cable 3 x 2.5 mm <sup>2</sup> , connection, transformer	0262613404
A6 servo slide ball bushing type with permanent magnetised motor 42 V DC	0334333xxx
A6 motor driven slide, slide bearing mounted long runner, with A6 VEC motor 42V - 4000 rpm ratio 74:1	0334426xxx
Motor cable The cable is available in different lengths, see the appropriate sales brochure for the servo slide (contact ESAB's sales office)	0460745xxx
Finger with ball (L=100 mm)	0416719001
Finger for internal and external corner	0418091880
Sensor cable with 90° contact (2 m)	0417346887
Protective rubber bellows	0412013001
Console for control box (the console is available in different versions)	0433762xxx
Counterbalance plate for cables	0460861880





# ESAB subsidiaries and representative offices

## Europe

### AUSTRIA

ESAB Ges.m.b.H  
Vienna-Liesing  
Tel: +43 1 888 25 11  
Fax: +43 1 888 25 11 85

### BELGIUM

S.A. ESAB N.V.  
Brussels  
Tel: +32 2 745 11 00  
Fax: +32 2 745 11 28

### THE CZECH REPUBLIC

ESAB VAMBERK s.r.o.  
Vamberk  
Tel: +420 2 819 40 885  
Fax: +420 2 819 40 120

### DENMARK

Aktieselskabet ESAB  
Herlev  
Tel: +45 36 30 01 11  
Fax: +45 36 30 40 03

### FINLAND

ESAB Oy  
Helsinki  
Tel: +358 9 547 761  
Fax: +358 9 547 77 71

### FRANCE

ESAB France S.A.  
Cergy Pontoise  
Tel: +33 1 30 75 55 00  
Fax: +33 1 30 75 55 24

### GERMANY

ESAB GmbH  
Solingen  
Tel: +49 212 298 0  
Fax: +49 212 298 218

### GREAT BRITAIN

ESAB Group (UK) Ltd  
Waltham Cross  
Tel: +44 1992 76 85 15  
Fax: +44 1992 71 58 03

### ESAB Automation Ltd

Andover  
Tel: +44 1264 33 22 33  
Fax: +44 1264 33 20 74

### HUNGARY

ESAB Kft  
Budapest  
Tel: +36 1 20 44 182  
Fax: +36 1 20 44 186

### ITALY

ESAB Saldatura S.p.A.  
Mesero (Mi)  
Tel: +39 02 97 96 81  
Fax: +39 02 97 28 91 81

### THE NETHERLANDS

ESAB Nederland B.V.  
Amersfoort  
Tel: +31 33 422 35 55  
Fax: +31 33 422 35 44

## NORWAY

AS ESAB  
Larvik  
Tel: +47 33 12 10 00  
Fax: +47 33 11 52 03

## POLAND

ESAB Sp.zo.o.  
Katowice  
Tel: +48 32 351 11 00  
Fax: +48 32 351 11 20

## PORTUGAL

ESAB Lda  
Lisbon  
Tel: +351 8 310 960  
Fax: +351 1 859 1277

## SLOVAKIA

ESAB Slovakia s.r.o.  
Bratislava  
Tel: +421 7 44 88 24 26  
Fax: +421 7 44 88 87 41

## SPAIN

ESAB Ibérica S.A.  
Alcalá de Henares (MADRID)  
Tel: +34 91 878 3600  
Fax: +34 91 802 3461

## SWEDEN

ESAB Sverige AB  
Gothenburg  
Tel: +46 31 50 95 00  
Fax: +46 31 50 92 22

### ESAB international AB

Gothenburg  
Tel: +46 31 50 90 00  
Fax: +46 31 50 93 60

## SWITZERLAND

ESAB AG  
Dietikon  
Tel: +41 1 741 25 25  
Fax: +41 1 740 30 55

## North and South America

### ARGENTINA

CONARCO  
Buenos Aires  
Tel: +54 11 4 753 4039  
Fax: +54 11 4 753 6313

### BRAZIL

ESAB S.A.  
Contagem-MG  
Tel: +55 31 2191 4333  
Fax: +55 31 2191 4440

### CANADA

ESAB Group Canada Inc.  
Mississauga, Ontario  
Tel: +1 905 670 02 20  
Fax: +1 905 670 48 79

### MEXICO

ESAB Mexico S.A.  
Monterrey  
Tel: +52 8 350 5959  
Fax: +52 8 350 7554

### USA

ESAB Welding & Cutting Products  
Florence, SC  
Tel: +1 843 669 44 11  
Fax: +1 843 664 57 48

## Asia/Pacific

### CHINA

Shanghai ESAB A/P  
Shanghai  
Tel: +86 21 2326 3000  
Fax: +86 21 6566 6622

### INDIA

ESAB India Ltd  
Calcutta  
Tel: +91 33 478 45 17  
Fax: +91 33 468 18 80

### INDONESIA

P.T. ESABindo Pratama  
Jakarta  
Tel: +62 21 460 0188  
Fax: +62 21 461 2929

### JAPAN

ESAB Japan  
Tokyo  
Tel: +81 45 670 7073  
Fax: +81 45 670 7001

### MALAYSIA

ESAB (Malaysia) Snd Bhd  
USJ  
Tel: +603 8023 7835  
Fax: +603 8023 0225

### SINGAPORE

ESAB Asia/Pacific Pte Ltd  
Singapore  
Tel: +65 6861 43 22  
Fax: +65 6861 31 95

### SOUTH KOREA

ESAB SeAH Corporation  
Kyungnam  
Tel: +82 55 269 8170  
Fax: +82 55 289 8864

### UNITED ARAB EMIRATES

ESAB Middle East FZE  
Dubai  
Tel: +971 4 887 21 11  
Fax: +971 4 887 22 63

## Representative offices

### BULGARIA

ESAB Representative Office  
Sofia  
Tel/Fax: +359 2 974 42 88

### EGYPT

ESAB Egypt  
Dokki-Cairo  
Tel: +20 2 390 96 69  
Fax: +20 2 393 32 13

### ROMANIA

ESAB Representative Office  
Bucharest  
Tel/Fax: +40 1 322 36 74

### RUSSIA

LLC ESAB  
Moscow  
Tel: +7 095 543 9281  
Fax: +7 095 543 9280

### LLC ESAB

St Petersburg  
Tel: +7 812 336 7080  
Fax: +7 812 336 7060

## Distributors

*For addresses and phone numbers to our distributors in other countries, please visit our home page*

[www.esab.com](http://www.esab.com)



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



[www.esab.com](http://www.esab.com)