

GB



# *Buddy™*

# *Tig 160*



**Instruction manual**



## DECLARATION OF CONFORMITY

According to

The Low Voltage Directive 2006/95/EC, entering into force 16 January 2007

The EMC Directive 2004/108/EC, entering into force 20 July 2007

### Type of Equipment

Buddy™ Tig 160

### Type Designation etc.

Buddy™ Tig 160, Stock code: 0700 300 886, from serial number 01107071340 (2011 wk32)

### Brand name or trade mark.

ESAB

### Manufacturer or his authorised representative established within the EEA.

Name, address, telephone No, telefax No:

ESAB, Welding Equipment (EPG)  
Hanover House,  
Queensgate,  
Britannia Road,  
Waltham Cross,  
Hertfordshire  
EN8 7TF  
Tel:+44 (0) 1992 768515, Fax:+44 (0) 1992 716486

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

EN 60974-1, Arc Welding Equipment - Part 1: Welding Power Sources.  
EN 60974-3, Arc Welding Equipment - Part 3: Arc Starting & Stabilizing Devices.  
EN 60974-10, Arc Welding Equipment - Part 10: Electromagnetic Compatibility (EMC) requirements.

Additional Information: Restrictive use, Class A equipment, intended for use in locations 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  
UK 2011-08-15

Signature  


Mr. P. A Chew  
Clarification

Position  
Global Director  
Enterprise Products Group

<b>1 SAFETY</b> .....	<b>4</b>
<b>2 INTRODUCTION</b> .....	<b>6</b>
2.1 Equipment .....	6
<b>3 TECHNICAL DATA</b> .....	<b>6</b>
<b>4 INSTALLATION</b> .....	<b>7</b>
4.1 Location .....	7
4.2 Mains power supply .....	7
4.2.1 Recommended fuse sizes and minimum cable area .....	7
<b>5 OPERATION</b> .....	<b>8</b>
5.1 Connections .....	8
5.2 Connection of welding and return cable .....	8
5.3 Symbols and functions .....	9
5.4 TIG welding .....	11
5.4.1 Welding current setting .....	11
5.5 MMA welding .....	11
5.5.1 Welding current setting .....	11
5.5.2 Arc force .....	12
5.5.3 Striking the arc .....	12
5.5.4 Manipulation of electrode .....	12
5.5.5 Anti-electrode pick-up .....	12
5.5.6 Electrode selection .....	13
<b>6 MAINTENANCE</b> .....	<b>13</b>
6.1 Power source .....	13
6.2 Welding torch .....	13
<b>7 FAULT-TRACING</b> .....	<b>14</b>
<b>8 ORDERING</b> .....	<b>14</b>
<b>9 DISMANTLING AND SCRAPPING</b> .....	<b>14</b>
<b>DIAGRAM</b> .....	<b>15</b>
<b>ORDER NUMBER</b> .....	<b>16</b>
<b>ACCESSORIES</b> .....	<b>17</b>

---

# 1 SAFETY

---

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
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 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**

***Do not use the power source for thawing frozen pipes.***



# WARNING



**Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting. Ask for your employer's safety practices which should be based on manufacturers' hazard data.**

**ELECTRIC SHOCK - Can kill**

- Install and earth the 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.**

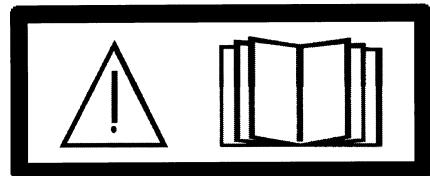
**Read and understand the instruction manual before installing or operating.**

**PROTECT YOURSELF AND OTHERS!**



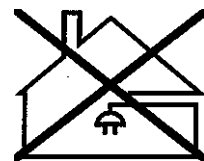
**CAUTION**

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



**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.*



**CAUTION**

*This product is solely intended for arc welding.*

**ESAB can provide you with all necessary welding protection and accessories.**

## 2 INTRODUCTION

**TIG 160** is a welding power source intended for TIG welding and for use with MMA welding (coated electrodes).

**ESAB's accessories for the product can be found on page 17.**

### 2.1 Equipment

The power source is supplied with:

- 4 meter TIG welding torch
- 3 meter welding cable with electrode holder and return cable with return clamp
- Instruction manual.

## 3 TECHNICAL DATA

<b>TIG 160</b>	
<b>Mains voltage</b>	230 V 1~ ± 10%, 50/60 Hz
<b>Primary current I<sub>max</sub></b>	32.6 A
<b>Setting range TIG</b>	5 A / 10 V - 160 A / 16.4 V
<b>Setting range MMA</b>	5 A / 20.0 V - 160 A / 26.4 V
<b>Permissible load at TIG</b>	
25 % duty cycle	160 A / 16.4 V
60 % duty cycle	100 A / 14.0 V
100 % duty cycle	90 A / 13.6 V
<b>Permissible load at MMA</b>	
25 % duty cycle	160 A / 26.4 V
60 % duty cycle	100 A / 24.0 V
100 % duty cycle	80 A / 23.2 V
<b>Power factor</b>	
at maximum current	0.72
<b>Efficiency</b>	
at maximum current	> 80 %
<b>Open-circuit voltage</b>	
U <sub>0</sub> max	58 V
<b>Operating temperature</b>	-10 to +40° C
<b>Transportation temperature</b>	-20 to +55° C
<b>Sound pressure at no-load</b>	<70 db (A)
<b>Dimensions l x w x h</b>	310 x 140 x 230 mm
<b>Weight</b>	8 kg
<b>Enclosure class</b>	IP 23S
<b>Application class</b>	<b>S</b>

#### Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld or cut at a certain load without overloading. The duty cycle is valid for 40° C.

#### Enclosure class

The **IP** code indicates the enclosure class, i. e. the degree of protection against penetration by solid objects or water. Equipment marked **IP23** is designed for indoor and outdoor use.

#### Application class

The symbol **S** indicates that the power source is designed for use in areas with increased electrical hazard.

## 4 INSTALLATION

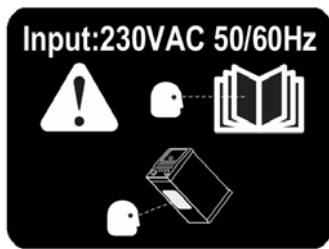
*The installation must be carried out by a professional.*

### 4.1 Location

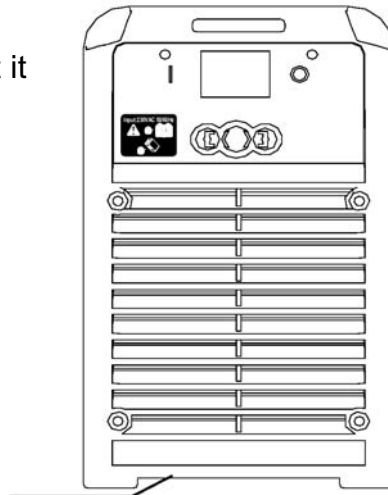
Position the power source such that its cooling air inlets and outlets are not obstructed.

### 4.2 Mains power supply

Make sure that the welding power source is connected to the correct supply voltage and that it is protected by the correct fuse rating. The outlet shall have a protective earth connection.



Rating plate with supply connection data



#### 4.2.1 Recommended fuse sizes and minimum cable area

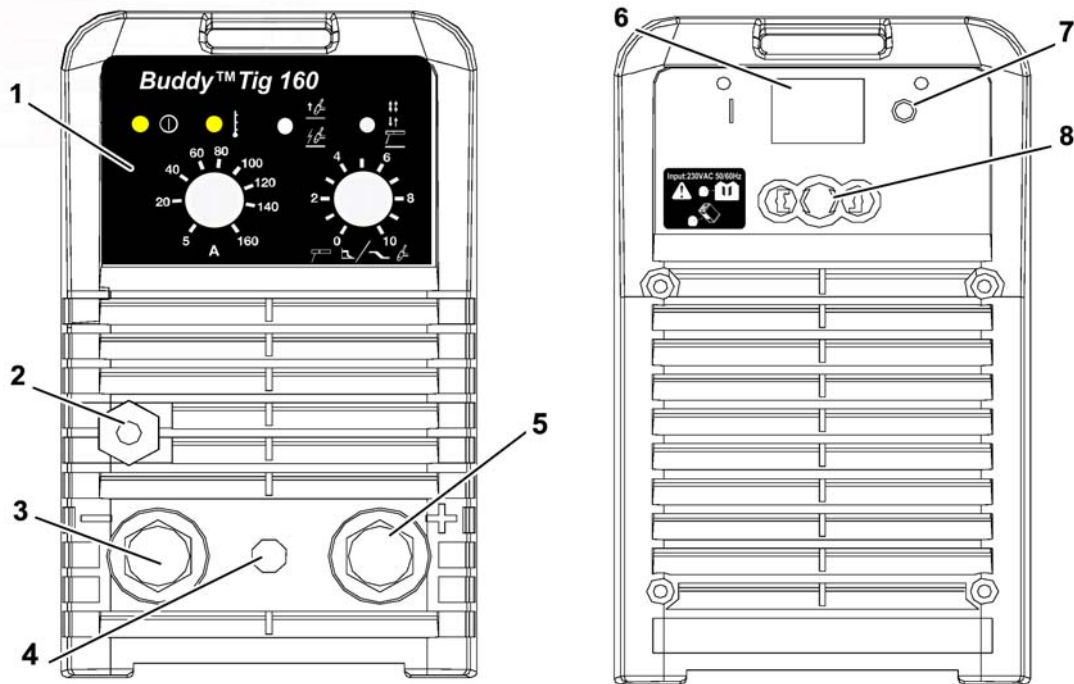
	TIG 160
Mains voltage	230 V 1 ~ ± 10%, 50/ 60 Hz
Mains cable area mm <sup>2</sup>	3 G 2.5
Phase current I <sub>1eff</sub> (TIG)	11.4 A
Phase current I <sub>1eff</sub> (MMA)	16.3 A

**NOTE!** Use the welding power source in accordance with the relevant national regulations.

## 5 OPERATION

*General safety regulations for handling the equipment can be found on page 4. Read through before you start using the equipment!*

### 5.1 Connections



- |   |  |   |  |
|---|--|---|--|
| 1 | Control panel                                    | 5 | Connection (+) for return cable or welding cable |
| 2 | Connection for TIG torch (shielding gas)         | 6 | Mains power supply switch I/O                    |
| 3 | Connection (-) for return cable or welding cable | 7 | Connection for shielding gas                     |
| 4 | Connection to the TIG torch                      | 8 | Connection for mains cable                       |

### 5.2 Connection of welding and return cable

The power source has two outputs, a negative [-] terminal (2) and a positive [+] terminal (3), for connecting welding and return cables.

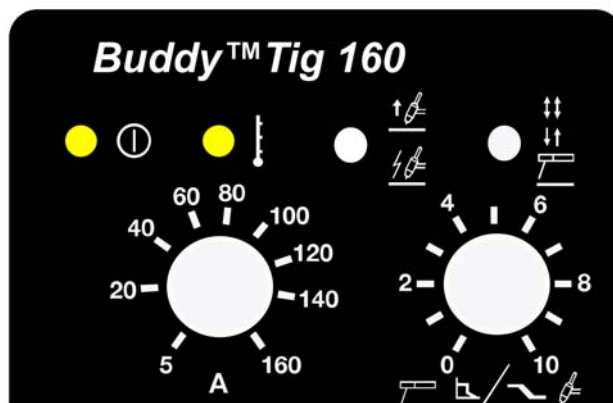
For optional TIG process, connect the TIG torch power cable to the negative [-] terminal (2). Connect gas inlet nut to a regulated shielding gas supply.

For MMA process the output to which the welding cable is connected depends on the type of electrode, please refer to electrode packaging for information relating to the correct electrode polarity.

Connect the return cable to the remaining welding terminal on the power source. Secure the return cable's contact clamp to the work piece and ensure that there is good contact.



### 5.3 Symbols and functions



	Power ON Indicating lamp, white, power supply ON		Overheating Indicating lamp, yellow, overheating
	Lift Arc		HF start
	4-stroke		2-stroke
	MMA welding		Arc force
	Slope down		



#### Overheating protection

The welding power source has a thermal overload trip which operates if the temperature becomes too high, interrupting the welding current and lighting a yellow indicating lamp on the front of the power source. The thermal overload trip resets automatically when the temperature has fallen.

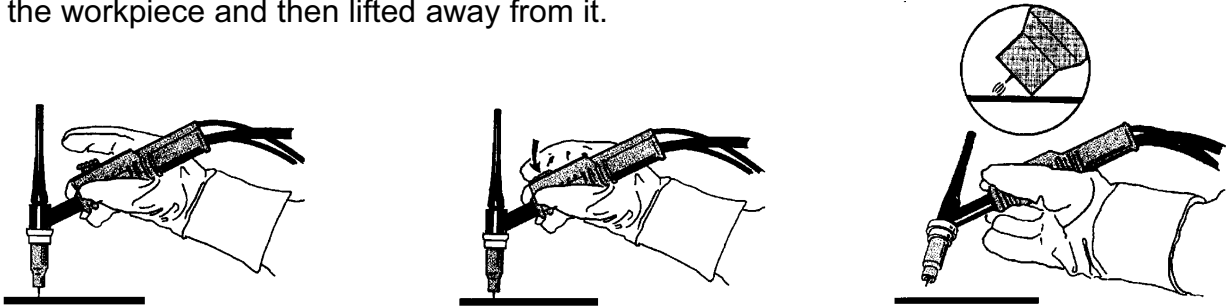


#### HF start

The HF start function strikes the arc by means of a spark from the electrode to the workpiece as the electrode is brought closer to the workpiece.

 **LiftArc**

The LiftArc™ function strikes the arc when the electrode is brought into contact with the workpiece and then lifted away from it.



*Striking the arc with the LiftArc function. Step 1: the electrode is touched on to the workpiece. Step 2: the trigger switch is pressed, and a low current starts to flow. Step 3: the welder lifts the electrode from the workpiece: the arc strikes, and the current rises automatically to the set value.*

 **4-stroke**

In the 4 stroke control mode, pressing the TIG torch trigger switch starts gas pre-flow (if used). At the end of the gas pre-flow time, the current rises to the pilot current (a few ampere), and the arc is struck. Releasing the trigger switch increases the current to the set value (with slope up, if in use). When the trigger switch is pressed in the current returns to the set pilot current (with "slope down" if in use). When the trigger switch is released again the arc is extinguished and any gas post flow occurs.

 **2-stroke**

In the 2 stroke control mode, pressing the TIG torch trigger switch starts gas pre-flow (if used) and strikes the arc. The current rises to the set value (as controlled by the slope up function, if in operation). Releasing the trigger switch reduces the current (or starts slope down if in operation) and extinguishes the arc. Gas post-flow follows if it is in operation.

 **MMA welding**

MMA welding may also be referred to as welding with coated electrodes. Striking the arc melts the electrode, and its coating forms protective slag.

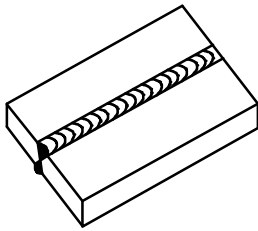
 **Slope down**

TIG welding uses "slope down", by which the current falls 'slowly' over a controlled time, to avoid craters and/or cracks, when a weld is finished.

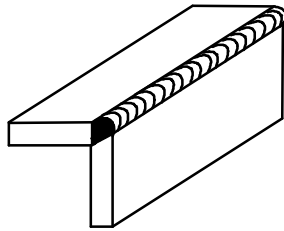
 **Arc force**

The arc force is important in determining how the current changes in response to a change in the arc length. A lower value gives a calmer arc with less spatter.

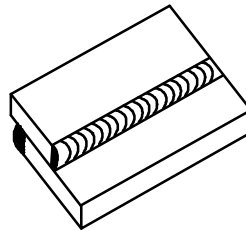
**Joint forms**



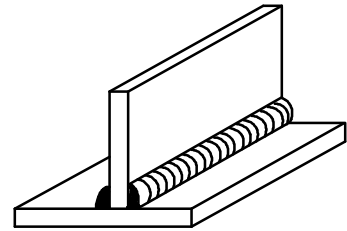
*Butt joint*



*Corner joint*



*Lap joint*



*T joint*

**5.4 TIG welding**

TIG welding melts the metal of the workpiece, using an arc struck from a tungsten electrode, which does not itself melt. The weld pool and the electrode are protected by shielding gas.

TIG welding is particularly useful where high quality is demanded and for welding thin plate. The power sources also have good characteristics for TIG welding.

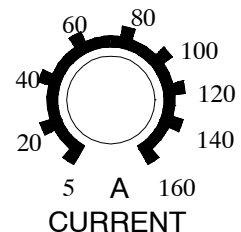
In order to TIG weld, the power source must be equipped with:

- a welding gas cylinder (a suitable welding gas)
- a welding gas regulator (suitable gas regulator)
- tungsten electrode
- suitable auxiliary material, if necessary.

Move process selector switch to desired welding process. NOTE: Power source output is enabled. Check welding cable and TIG torch polarity matches electrode requirements. Select desired welding current level.

**5.4.1 Welding current setting**

The power source has an adjustable welding current from 5 to 160 Amps.

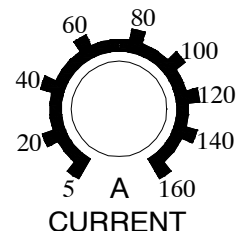


**5.5 MMA welding**

Move process selector switch to desired welding process. NOTE: Power source output is enabled. Check welding cable polarity selection matches electrode requirements. Select desired welding current level.

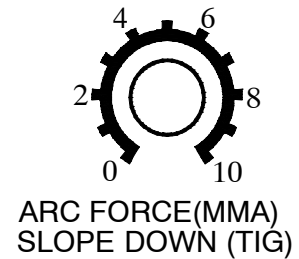
**5.5.1 Welding current setting**

The power source has an adjustable welding current from 5 to 160 Amps.



### 5.5.2 Arc force

This knob is used to adjust the arc force.



### 5.5.3 Striking the arc

MMA welding may also be referred to as welding with coated electrodes. Striking the arc melts the electrode, and its coating forms protective slag.

If, when striking the arc, the tip of the electrode is pressed against the metal, it immediately melts and sticks to the metal, rendering continued welding impossible. Therefore, the arc has to be struck in the same way that you would light a match. Quickly strike the electrode against the metal and then raise it to give an appropriate arc length (approx. 2 mm). If the arc is too long, it will crackle and split before finally going out completely. Once the arc has been struck, move the electrode from left to right. The electrode should be at an angle of 60° to the metal.

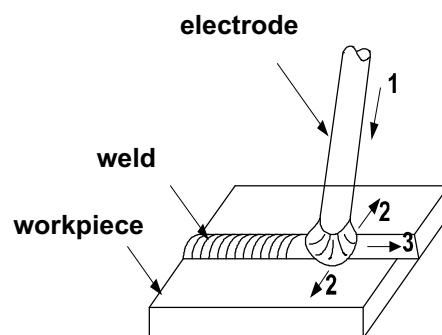
### 5.5.4 Manipulation of electrode

In MMA welding, there are three motions to be matched in the end of electrode: the electrode moving to the molten pool along axes [1];

a small oscillation maybe necessary to achieve the desired width of the melt pool [2];

the electrode moving along welding way [3].

The operator can choose the manipulation of electrode based on welding joint sharp, welding position, electrode spec, welding current and operation skill, etc.



1 electrode moving

2 the electrode oscillation (right and left)

3 the electrode move along weld

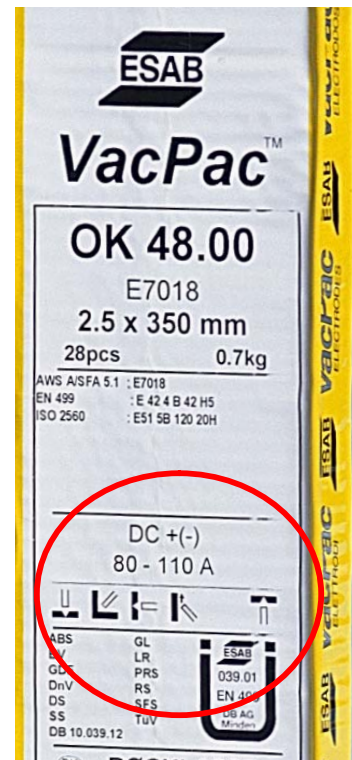
### 5.5.5 Anti-electrode pick-up

If, during welding, the tungsten electrode would get in direct contact (touching) with the work piece to form a short circuit the welding current will drop to a minimum to prolong the life of the electrode.

### 5.5.6 Electrode selection

The selection of the right electrode diameter should be based on the thickness of the work piece, the welding position, the type of joint etc. Please refer to the recommendations on the electrode package for further details.

- To ensure good quality weld, the electrode should always be dried or dry stored. This to avoid hydrogen inclusion, blowhols and cold cracks.
- In the welding process, the arc must not be too long; otherwise, it will cause unstable arc burning, large spatter, light penetration, undercut, blowhole, etc. If the arc is too short, it will cause electrode stick.



## 6 MAINTENANCE

*Regular maintenance is important for safe, reliable operation.*

*Only those persons who have appropriate electrical knowledge (authorized personnel) may remove the safety plates.*



### CAUTION

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

### 6.1 Power source

Check regularly that the welding power source is not clogged with dirt.

How often and which cleaning methods apply depend on:

- welding process
- arc time
- placement
- surrounding environment.

It is normally sufficient to blow the power source with dry compressed air (reduced pressure) once a year.

Clogged or blocked air inlets and outlets otherwise result in overheating.

### 6.2 Welding torch

Wear parts should be cleaned and replaced at regular intervals in order to achieve trouble-free welding.

## 7 FAULT-TRACING

*Try these recommended checks and inspections before sending for an authorized service technician.*

Type of fault	Corrective action
No arc.	<ul style="list-style-type: none"> <li>• Check that the mains power supply switch is turned on.</li> <li>• Check that the welding current supply and return cables are correctly connected.</li> <li>• Check that the correct current value is set.</li> <li>• Check to see whether the MCB has tripped.</li> </ul>
The welding current is interrupted during welding.	<ul style="list-style-type: none"> <li>• Check whether the thermal cut-outs have tripped (indicated by the orange lamp on the front panel).</li> <li>• Check the mains power supply fuses.</li> </ul>
The thermal cut-out trips frequently.	<ul style="list-style-type: none"> <li>• Check to see whether the dust filter is clogged.</li> <li>• Make sure that you are not exceeding the rated data for the power source (i.e. that the unit is not being overloaded).</li> </ul>
Poor welding performance.	<ul style="list-style-type: none"> <li>• Check that the welding current supply and return cables are correctly connected.</li> <li>• Check that the correct current value is set.</li> <li>• Check that the correct electrodes are being used.</li> <li>• Check the gas flow.</li> </ul>

## 8 ORDERING

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

**Tig 160 is designed and tested in accordance with the international and European standards EN 60974-1, 60974-3 and EN 60974-10. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the said standard.**

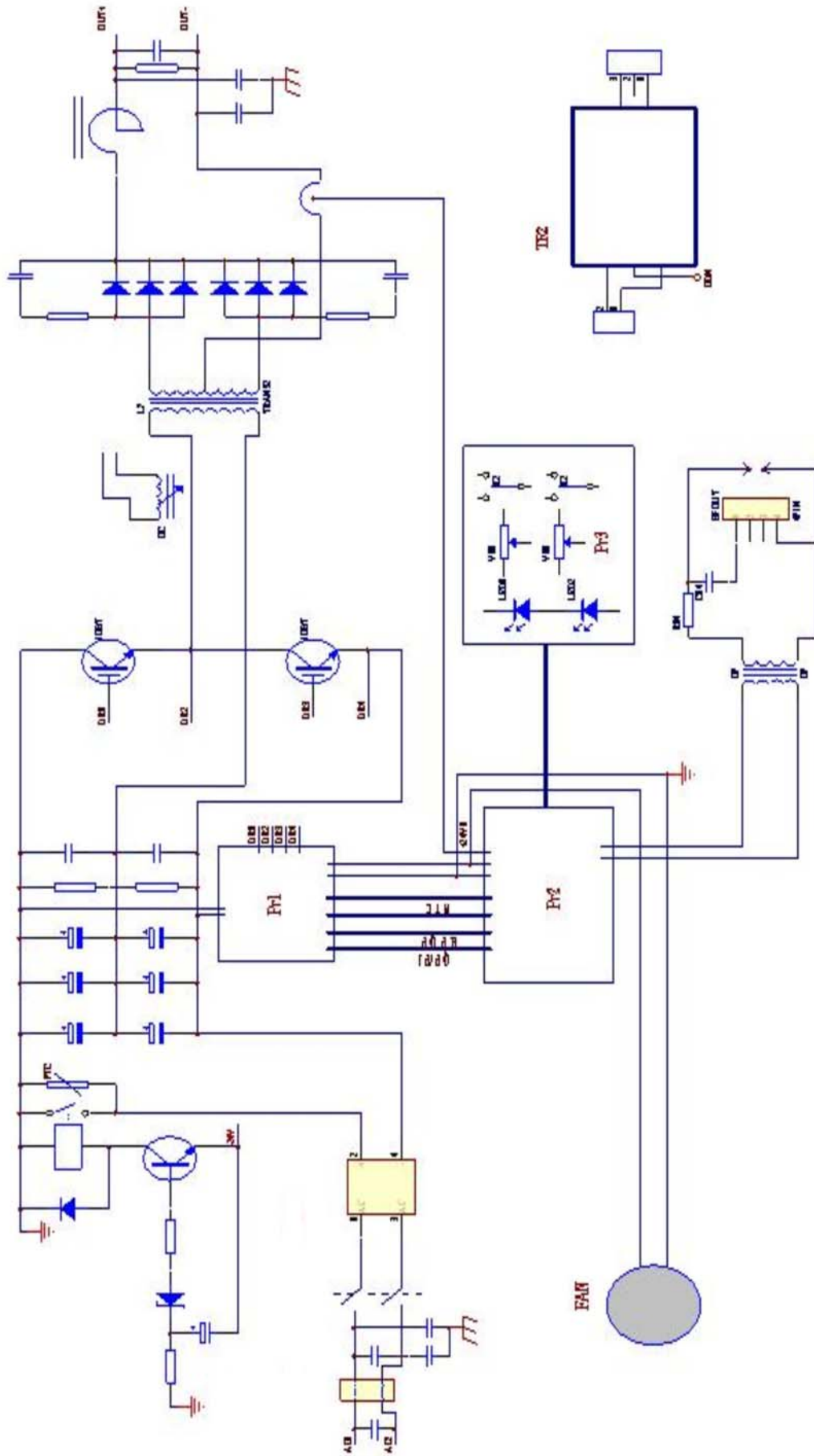
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

## 9 DISMANTLING AND SCRAPPING

Welding equipment primarily consists of steel, plastic and non-ferrous metals, and must be handled according to local environmental regulations.

Coolant must also be handled according to local environmental regulations.

# Diagram



## Tig 160

### Order number



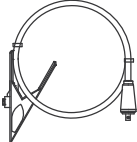
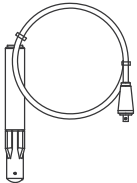

Ordering no.	Description	Type
0700 300 886	Welding power source	Buddy™ Tig 160
0459 839 067	Spare parts list	Buddy™ Tig 160

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



# Tig 160

## Accessories

	<b>Return cable with clamp</b> ..... 0700 300 863 3 m 16 mm <sup>2</sup>
	<b>Welding cable with electrode holder</b> ..... 0700 300 862 3 m 16 mm <sup>2</sup>
	<b>ET17 TIG torch, 4 m</b> ..... 0700 300 860



NOTES

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

# 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

### BULGARIA

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

### 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.  
Bareggio (Mi)  
Tel: +39 02 97 96 8.1  
Fax: +39 02 97 96 87 01

### 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

## ROMANIA

ESAB Romania Trading SRL  
Bucharest  
Tel: +40 316 900 600  
Fax: +40 316 900 601

## RUSSIA

LLC ESAB  
Moscow  
Tel: +7 (495) 663 20 08  
Fax: +7 (495) 663 20 09

## 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

## UKRAINE

ESAB Ukraine LLC  
Kiev  
Tel: +38 (044) 501 23 24  
Fax: +38 (044) 575 21 88

## 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

### AUSTRALIA

ESAB South Pacific  
Archerfield BC QLD 4108  
Tel: +61 1300 372 228  
Fax: +61 7 3711 2328

### 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

## Africa

### EGYPT

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

### SOUTH AFRICA

ESAB Africa Welding & Cutting Ltd  
Durbanvill 7570 - Cape Town  
Tel: +27 (0)21 975 8924

## Distributors

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

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



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

