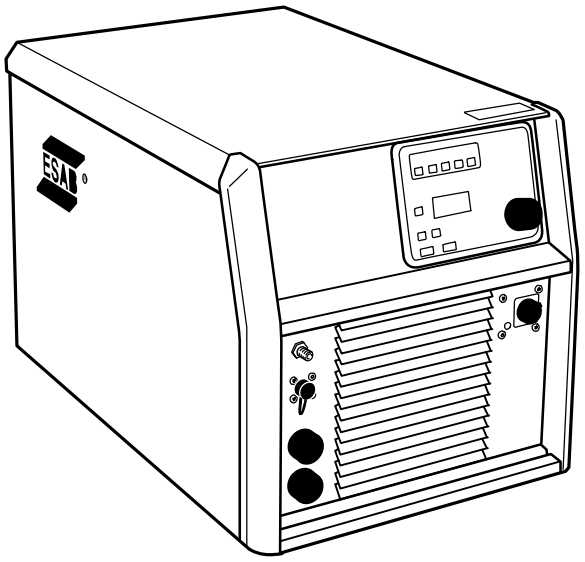
GB

ESAB

Origo™

Tig 3000i AC/DC



Instruction manual

0459 942 101 GB 20121105

Valid for serial no. 802-xxx-xxxx, 039-xxx-xxxx

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
Arc welding power source

Type designation
Tig 3000i AC/DC, TA24 AC/DC, from serial number 802 xxx xxxx (2008 w.2)
Tig 3000i AC/DC is a member of the ESAB Origo™ product family

Brand name or trade mark
ESAB

Manufacturer or his authorized representative established within the EEA:
Name, address, phone, website:
ESAB AB
Lindholmsallén 9
Box 8004, 402 77 GÖTEBORG, Sweden
Phone: +46 31 509 000
Website: www.esab.com

The following harmonized standards, 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 striking and 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 authorized representative established within EEA, that the equipment in question complies with the safety requirements stated above.

Date
2012-09-27

Signature

Jerker Funnemark
Clarification

Position
Managing Director
Equipment & Automation

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 extinquishing equipment must be clearly marked and close at hand.
   - Lubrication and maintenance must **not** be carried out on the equipment during operation.

GB

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.

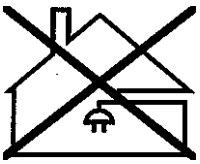
PROTECT YOURSELF AND OTHERS!

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.

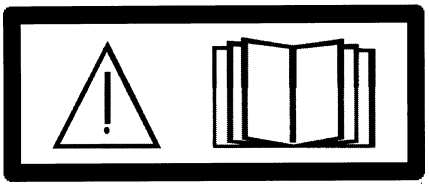


CAUTION

This product is solely intended for arc welding.

CAUTION

Read and understand the instruction manual before installing or operating.



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

GB

Dispose of electronic equipment at the recycling facility!

In observance of European Directive 2002/96/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.

2 INTRODUCTION

The **Tig 3000i AC/DC** is a TIG welding power source for alternating current (AC) or direct current (DC). It can also be used for MMA welding.

ESAB's accessories for the product can be found on page 15.

2.1 Equipment

The power source is supplied with:

Instruction manual for the welding power source, instruction manual for the control panel and 5 m return cable.

Instruction manuals in other languages can be downloaded from the website, www.esab.com.

2.2 Control panel

TA24 AC/DC

See the separate instruction manual for a detailed description of the control panel.

3 TECHNICAL DATA

Tig 3000i AC/DC	
Mains voltage	400 V, ±10%, 3~ 50/60 Hz
Mains supply	$S_{sc\ min}$ 1.7 MVA
Primary current	
I_{max} TIG	16 A
I_{max} MMA	22 A
No-load power demand when in the energy-saving mode, 6.5 min. after welding	30 W
Setting range TIG, AC* / DC	4-300 A
MMA	16-300 A
Permissible load at TIG, AC/DC	
35% duty cycle	300 A / 22 V
60% duty cycle	240 A / 19.6 V
100% duty cycle	200 A / 18 V

Tig 3000i AC/DC	
Permissible load at MMA	
30% duty cycle	300 A / 32 V
60% duty cycle	230 A / 29.2 V
100% duty cycle	190 A / 27.6 V
Power factor at maximum current	
TIG	0.90
MMA	0.89
Efficiency at maximum current	
TIG	69%
MMA	76%
Open-circuit voltage	
MMA	54-64 V
Operating temperature	-10 to +40° C
Transportation temperature	-20 to +55° C
Constant A-weighted sound pressure	< 70 dB
Dimensions lxwxh	652 x 412 x 423 mm
Weight	44.5 kg
Insulation class transformer	H
Enclosure class	IP 23
Application class	S

**) The minimum current during AC welding depends on the alloy used for the aluminium plates and their surface cleanliness.*

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.

Mains supply, $S_{sc\ min}$

Minimum short circuit power on the network in accordance with IEC 61000-3-12

4 INSTALLATION

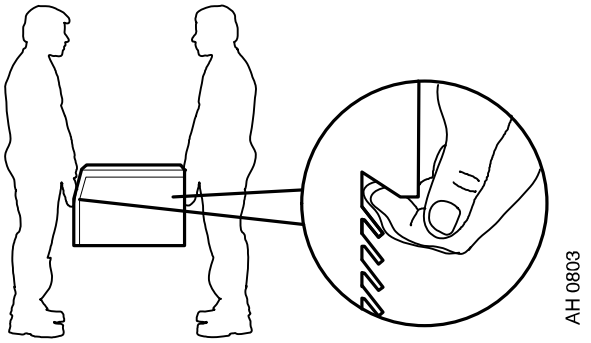
The installation must be carried out by a professional.

Note

Mains supply requirements

High power equipment may, due to the primary current drawn from the mains supply, influence the power quality of the grid. Therefore connection restrictions or requirements regarding the maximum permissible mains impedance or the required minimum supply capacity at the interface point to the public grid may apply for some types of equipment (see technical data). In this case it is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment may be connected.

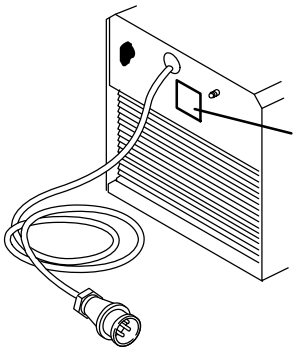
4.1 Lifting instruction



4.2 Location

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

4.3 Mains power supply



Check that the welding power source is connected to the correct mains power supply voltage, and that it is protected by the correct fuse size. A protective earth connection must be made in accordance with regulations.

Rating plate with supply connection data

Recommended fuse sizes and minimum cable area

Tig 3000i AC/DC	TIG	MMA
Mains voltage	400 V 3~ 50 Hz	400 V 3~ 50 Hz
Mains cable area mm^2	4G2,5	4G2,5
Phase current I_{1eff}	8.9 A	11 A
Fuse		
anti-surge	10 A	16 A
type C MCB	16 A	16 A

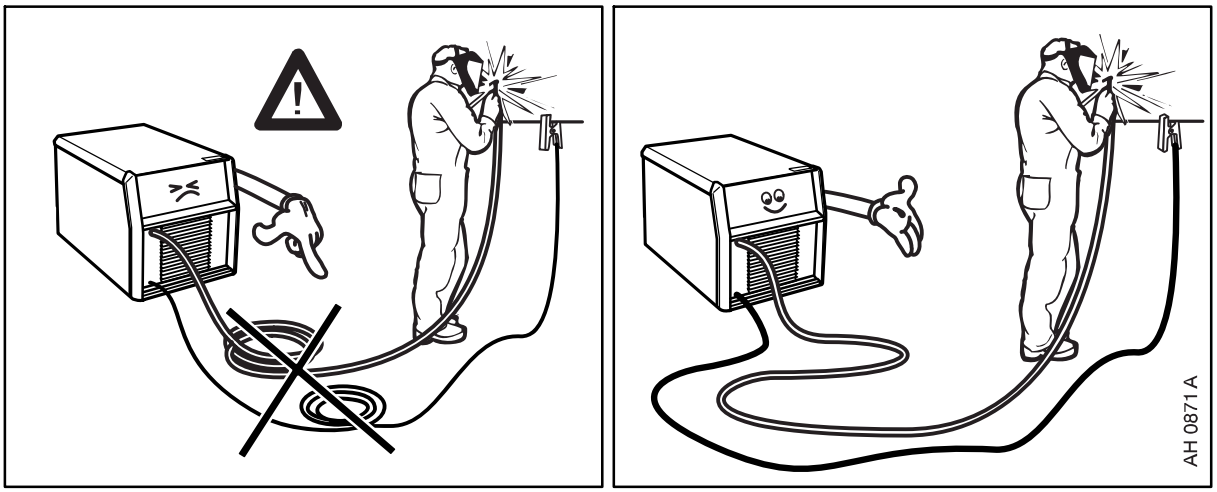
Note! *The mains cable areas and fuse sizes as shown above are in accordance with Swedish regulations. Use the welding power source in accordance with the relevant national regulations.*

Note! The welding power source is designed for connection to a 230 / 400 volt system with four conductors.

If the power source is to be used in countries with a higher supply voltage, the power source must be connected via a safety transformer.

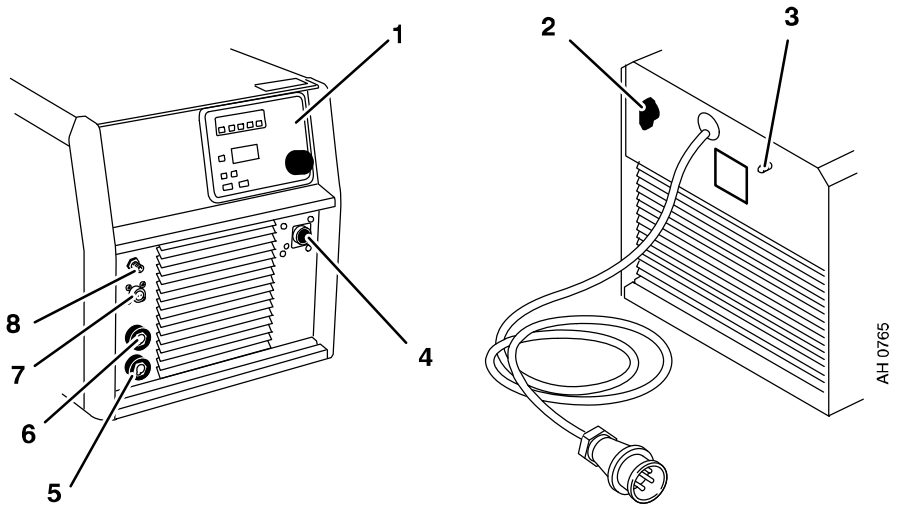
5 OPERATION

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



5.1 Connections and control devices

1	Control panel, see separate instruction manual	**5**	Connection for return cable
2	Mains voltage switch	**6**	Connection for welding cable or welding torch
3	Connection for shielding gas	**7**	Connection for start signal from the welding torch
4	CAN connection for cooling unit or remote control unit	**8**	Connection for gas to the torch



5.2 Key to symbols

 **MMA**  **TIG**  **Return clamp**

5.3 Fan control

The power source has a time control that means that the fans continue to run for 6.5 minutes after welding has stopped, and the unit switches to energy-saving mode. The fans start again when welding restarts.

The fans run at reduced speed for welding currents up to 110 A, and at full speed for higher currents.

5.4 Overheating protection

The welding power source has overheating protection that operates if the temperature becomes too high. When this occurs the welding current is interrupted and a fault code is displayed on the control panel.

The overheating protection resets automatically when the temperature has fallen.

6 MAINTENANCE

Regular maintenance is important for safe, reliable operation.

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.

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

6.1 Inspection and cleaning

Power source

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

How often and which cleaning methods apply depend on: the welding process, arc times, placement, and the surrounding environment. It is normally sufficient to blow down the power source with dry compressed air (reduced pressure) once a year.

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

Welding torch

The welding torch's 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 authorised service technician.

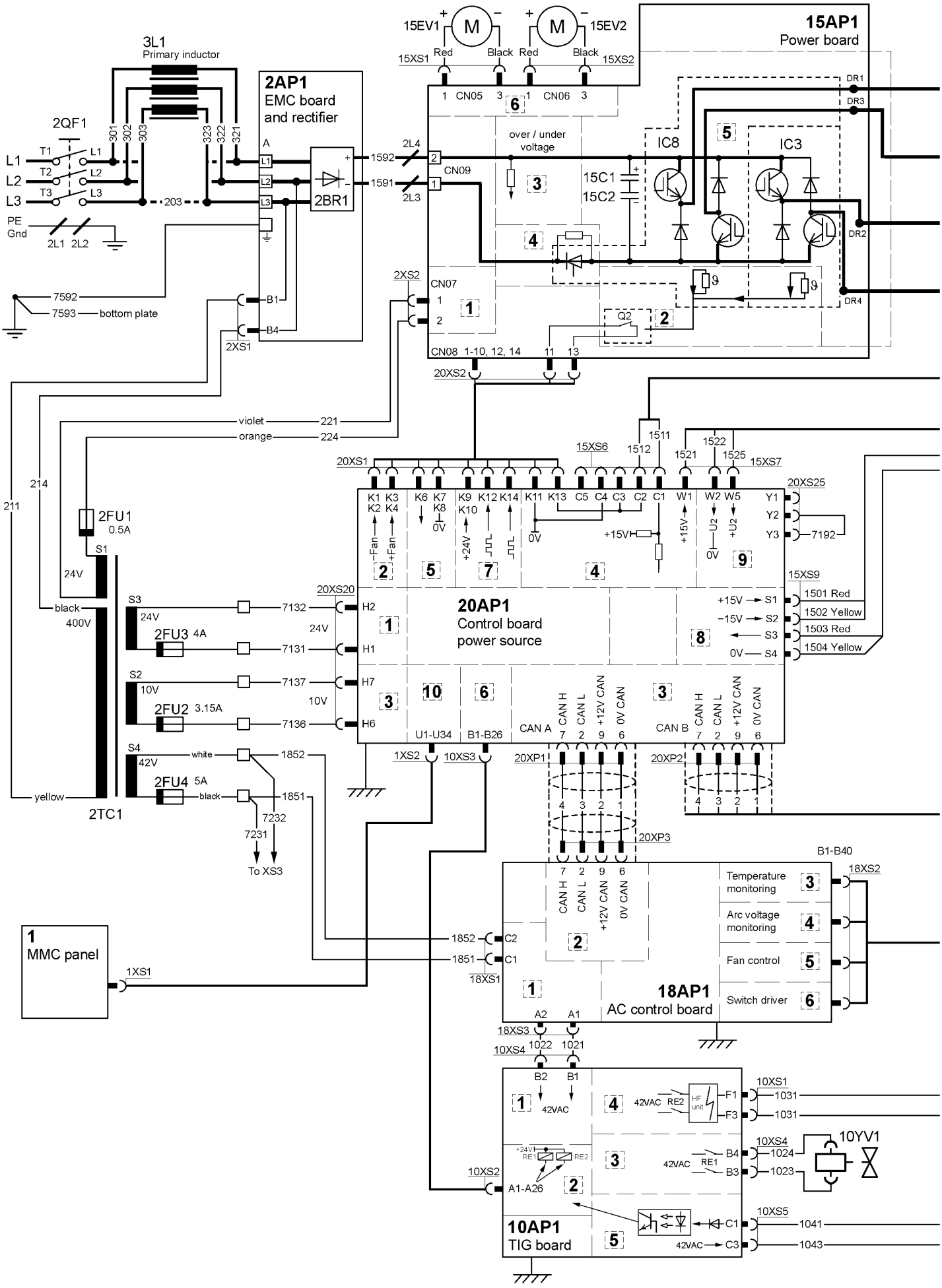
Type of fault	Corrective action
No arc.	• Check that the mains power supply switch is turned on. • Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set.
The welding current is interrupted during welding.	• Check whether the overheating protection has operated (fault code E6 is displayed on the control panel). • Check the mains power supply fuses.
The overheating protection trips frequently.	• Make sure that you are not exceeding the rated data for the welding power source (i.e. that the unit is not being overloaded).
Poor welding performance.	• Check that the welding current supply and return cables are correctly connected. • Check that the correct current value is set. • Check that the correct electrodes are being used. • Check the mains power supply fuses.

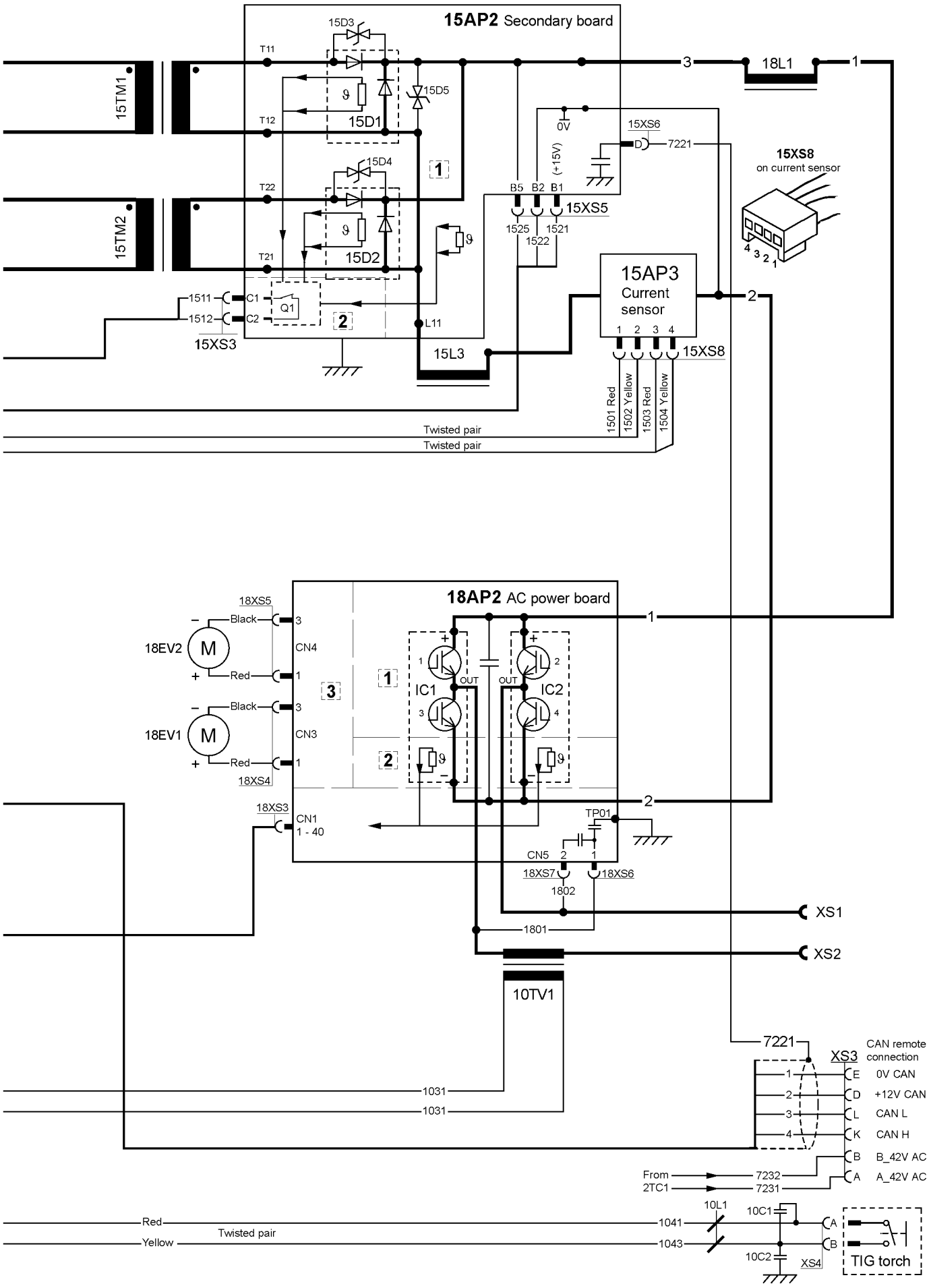
8 ORDERING SPARE PARTS

Tig 3000i AC/DC 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.

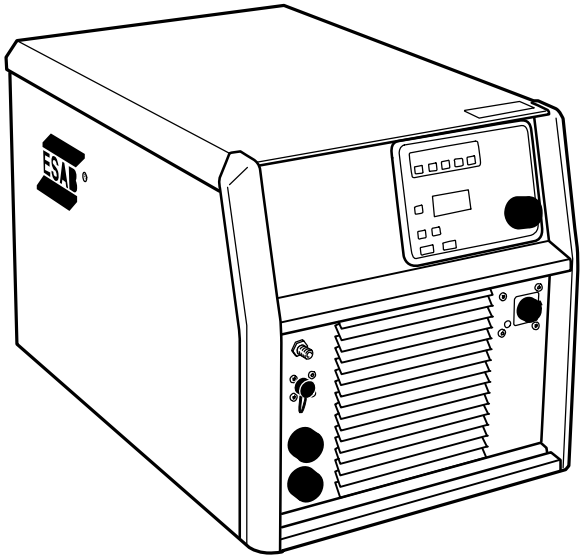
Spare parts may be ordered through your nearest ESAB dealer, see the last page of this publication.

Diagram




15AP2 Secondary board
15TM1
15TM2
T11
T12
T22
T21
15D3
15D1
15D4
15D2
15D5
1
2
3
18L1
1
0V
(+15V)
15XS6
7221
15XS8
on current sensor
B5 B2 B1
15XS5
1525
1521
1522
15AP3
Current
sensor
1 2 3 4
15XS8
2
1511
1512
C1
C2
Q1
15XS3
L11
15L3
1501 Red
1502 Yellow
1503 Red
1504 Yellow
Twisted pair
Twisted pair
18AP2 AC power board
18XS5
Black
Red
18EV2
M
CN4
18EV1
CN3
18XS4
18XS3
CN1
1 - 40
IC1
IC2
OUT
TP01
CN5
18XS7
18XS6
1802
1801
XS1
XS2
10TV1
7221
XS3
CAN remote
connection
0V CAN
+12V CAN
CAN L
CAN H
B_42V AC
A_42V AC
From
2TC1
7232
7231
1031
1031
Red
Yellow
Twisted pair
1041
1043
10L1
10C1
10C2
XS4
TIG torch

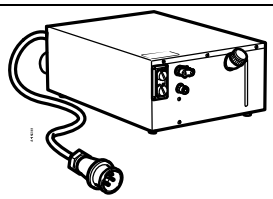
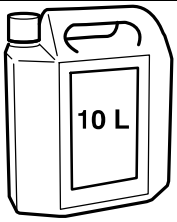
Order number

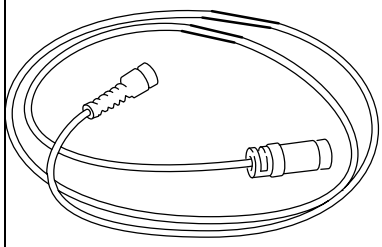
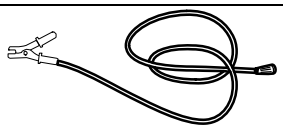


Ordering no.	Denomination	Type
0459 735 880	Welding power source	Origo™ Tig 3000i AC/DC, TA24 AC/DC
0459 839 006	Spare parts list	Tig 3000i AC/DC
0459 839 003	Spare parts list	Control panel Origo™ TA24 AC/DC
0459 944	Instruction manual	Control panel Origo™ TA24 AC/DC

Instruction manuals and the spare parts list are available on the Internet at **www.esab.com**

Accessories

	**Trolley** 2 wheel . . . . . 0459 366 890 **Trolley** 4 wheel 0460 060 880	
	**Cooling unit CoolMidi 1800 . . . .** Includes 5 m cable	0459 840 880
	**Coolant** (Ready mixed) 50% water and 50% mono-ethylene glycol (10 l)	0007 810 012
	**Remote control adapter RA12** 12 pole . . . . For analogue remote controls to CAN based equipment.	0459 491 910
	**Remote control unit MTA1 CAN** MIG/MAG: wire feed speed and voltage MMA: current and arc force TIG: current, pulse and background current	0459 491 880
	**Remote control unit M1 10Prog CAN . . . . . .** Choice of on of 10 programs MIG/MAG: voltage deviation TIG and MMA: current deviation	0459 491 882

	**Remote control unit AT1 CAN . .** MMA and TIG: current	0459 491 883
	**Remote control unit AT1 CF CAN . . . . . .** MMA and TIG: rough and fine setting of current.	0459 491 884
	**Remote control unit RAT1 CAN** For TIG-torch TXHr Including holder and 0.25 m cable	0459 491 912
	**Remote control unit T1 Foot CAN . . . . . .** Including 5 m cable	0460 315 880
	**Remote cable CAN 4 pole - 12 pole** 5 m . . . . . . 10 m . . . . . . 15 m . . . . . . 25 m . . . . . . 0.25 m	 0459 554 880 0459 554 881 0459 554 882 0459 554 883 0459 554 884
	**Return cable** 5 m 50 mm^2	0156 743 907

Information on Tig torches can be found in separate brochures.

NOTES

NOTES

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.
Missisauga, 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

www.esab.com

110915