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1 DIRECTIVE

DECLARATION OF CONFORMITY
ESAB Welding Equipment AB, S-695 81 Laxå, Sweden, gives its unreserved guarantee that auto-
transformer Autotransformer TUA 1, Autotransformer TUA 2 from serial number 303 complies with
standard IEC/EN 60974–1, in accordance with the requirements of directive (73/23/EEC) and adden-
dum (93/68/EEC) and with standard EN 50199 in accordance with the requirements of directive
(89/336/EEC) and addendum (93/68/EEC).

Laxå 2003-06-12

Henry Selenius
Vice President
ESAB Welding Equipment AB
695 81 LAXÅ
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Tel: + 46 584 81000 Fax: + 46 584 411924

2 SAFETY

WARNING
ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAU-
TIONS 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!

WARNING!
Read and understand the instruction manual before installing
or operating.
3 TECHNICAL DATA

<table>
<thead>
<tr>
<th></th>
<th>Autotransformer TUA 1</th>
<th>Autotransformer TUA 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains voltage</td>
<td>208/230/400/460/475/500/575V, ± 10%, 3– 50/60 Hz</td>
<td>208/230/400/460/475/500/575V, ± 10%, 3– 50/60 Hz</td>
</tr>
<tr>
<td>Primary current</td>
<td>I_{max}</td>
<td>I_{max}</td>
</tr>
<tr>
<td></td>
<td>85/77/43/38/37/35/30 A</td>
<td>85/77/43/38/37/35/30 A</td>
</tr>
<tr>
<td>Continual A-weighted sound pressure</td>
<td>&lt;70 db</td>
<td>&lt;70 db</td>
</tr>
<tr>
<td>Dimensioner lxwxh</td>
<td>614 x 289 x 266 mm</td>
<td>621 x 389 x 266 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>67 kg</td>
<td>80 kg</td>
</tr>
<tr>
<td>Insulation class</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Enclosure class</td>
<td>IP 23</td>
<td>IP 23</td>
</tr>
</tbody>
</table>

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.

4 INSTALLATION

The installation must be executed by a professional.

See connection instruction on page 9.

WARNING!
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 Mains power supply

B Mains cable from the welding power source.
A Mains connection.
Check that the autotransformer 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 areas

<table>
<thead>
<tr>
<th>Autotransformer</th>
<th>60 Hz</th>
<th>50/60 Hz</th>
<th>50 Hz</th>
<th>60 Hz</th>
<th>60 Hz</th>
<th>50 Hz</th>
<th>60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains voltage</td>
<td>208 V</td>
<td>230 V</td>
<td>400 V</td>
<td>460 V</td>
<td>475 V</td>
<td>500 V</td>
<td>575 V</td>
</tr>
<tr>
<td>Mains cable area, mm²</td>
<td>4G10</td>
<td>4G10</td>
<td>4G4</td>
<td>4G4</td>
<td>4G4</td>
<td>2.5G4</td>
<td>2.5G4</td>
</tr>
<tr>
<td>Phase current, I RMS</td>
<td>59A</td>
<td>54 A</td>
<td>30 A</td>
<td>27 A</td>
<td>26 A</td>
<td>25 A</td>
<td>22 A</td>
</tr>
<tr>
<td>Fuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-surge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type C MCB</td>
<td>63 A</td>
<td>63 A</td>
<td>35 A</td>
<td>35 A</td>
<td>35 A</td>
<td>35 A</td>
<td>25 A</td>
</tr>
</tbody>
</table>

**NB!** The mains cable areas and fuse sizes as shown above are in accordance with Swedish regulations. They may not be applicable in other countries: make sure that the cable area and fuse sizes comply with the relevant national regulations.

### 5 MAINTENANCE

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

Regular maintenance is important for safe, reliable operation.

Maintenance must be executed by a professional.

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

**Note!**

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

#### 5.1 Cleaning the air filter

- Release the cover plate with the dust filter (1).
- Swing out the cover plate (2).
- Remove the dust filter (3).
- Blow it clean with compressed air at reduced pressure.
- Replace if necessary.
• Replace the filter the finer mesh on the side against the cover plate (2).
• Refit the cover plate with the filter.

6 ORDERING OF SPARE PARTS

Repair and electrical work should be performed by an authorized serviceman. Use only original spare and wear parts.

Autotransformer TUA 1 / Autotransformer TUA 2 is designed and tested in accordance with the international and European standards IEC/EN 60974-1 and EN 50199. 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 are to be ordered from ABB Automation Technologies AB. Kindly indicate type of unit, serial number, denominations and ordering number.

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Spare parts list

<table>
<thead>
<tr>
<th>Item</th>
<th>Ordering no.</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3HEA801730-002</td>
<td>Filter</td>
</tr>
<tr>
<td>2</td>
<td>3HEA801730-003</td>
<td>Front grill</td>
</tr>
</tbody>
</table>