### AUTO 306 accessories: EB3 Multihear thrth Electron Beam Source accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB3 Leadthrough Kit</td>
<td>E090-80-000</td>
</tr>
<tr>
<td>EB3 Water Flow-Switch Kit</td>
<td>E090-81-000</td>
</tr>
<tr>
<td>EB3 Beam Sweep Unit</td>
<td>E090-82-000</td>
</tr>
<tr>
<td>EB3 Motorised Turret Drive Kit</td>
<td>E090-83-000</td>
</tr>
<tr>
<td>EB3 Manual Turret Drive Kit</td>
<td>E090-84-000</td>
</tr>
<tr>
<td>EB3/FL400 Mounting Kit</td>
<td>E090-88-000</td>
</tr>
<tr>
<td>EB3 Secondary Electron Adsorber</td>
<td>E090-89-000</td>
</tr>
<tr>
<td>EB3 Four Hearth Crucible Kit</td>
<td>E090-87-020</td>
</tr>
<tr>
<td>EB3 Disk Crucible Kit</td>
<td>E090-87-022</td>
</tr>
<tr>
<td>EB3 Single Hearth Crucible Kit</td>
<td>E090-87-023</td>
</tr>
</tbody>
</table>
1 INTRODUCTION

The enclosed equipment is for use with the Edwards EB3 Multihearth Electron Beam Source accessory for the AUTO 306.

2 UNPACK AND INSPECT

*Note:* In Tables 1 to 10, the horizontal lines divide the tables to identify the components which are packed together.

Remove all packing materials and protective covers and check the equipment. If the equipment is damaged, notify your supplier and the carrier in writing within three days; state the Item Number of the equipment, together with your order number and your supplier's invoice number. Retain all packing materials for inspection. Do not use the equipment if it is damaged.

Check that you have received the items listed in the appropriate Table 1 to 10. If any item is missing, notify your supplier in writing within three days.

3 INSTALLATION, OPERATION AND MAINTENANCE

Installation, operation and maintenance instructions for the equipment are contained in the instruction manual for the EB3 Multihearth Electron Beam Source. If you do not have a copy of this instruction manual, please contact your supplier or Edwards (at the address shown on the front cover) and request a copy of publication number E090-72-880.
<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (√)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6EK25 leadthroughs</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Copper earth terminals</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Preshaped emitter wires</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Water leadthrough</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Cooling-water ‘T’ pieces</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Length of 8 mm diameter plastic tube</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reducing connectors</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>‘O’ rings</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Length of copper wire (2 mm diameter)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pack of cable ties</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 - Checklist of items for the EB3 Leadthrough Kit

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (√)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water Flow-Switch (with integral cable and plug)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pack of cable ties</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 - Checklist of items for the EB3 Water Flow-Switch

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (√)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EB3 Sweep Control</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>TL8K25 leadthrough</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Leadthrough shield</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Connector C10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Cable and connector C11</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Coil cable</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pack of cable ties</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 - Checklist of items for the EB3 Beam Sweep Unit
<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EB3 Turret Control</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Motorised drive unit</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Baffle plate with lugs, tension sprocket and M3 screws (4 off)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drive chain</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Plain sprockets</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Electrical supply cable and plug</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drive control cable C7</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drive interlock cable C4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Remote position indicator connector C9</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hex wrench (1.5 AF)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Pack of cable ties</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 - Checklist of items for the EB3 Motorised Turret Drive Kit

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manual Drive Unit</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Baffle plate with lugs, tension sprocket and M3 screws (4 off)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drive chain</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Plain sprockets</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hex wrench (1.5 AF)</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 - Checklist of items for the EB3 Manual Turret Drive Kit

EB3 Multihearth Electron Beam Source Accessories
<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Baffle plate</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Support bracket</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Support plate</td>
<td>□</td>
</tr>
<tr>
<td>2</td>
<td>Clamp bars</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Extended shutter arm</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Cooling-water inlet pipeline</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Cooling-water outlet pipeline</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Drive chain</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>Coil cable</td>
<td>□</td>
</tr>
<tr>
<td>5</td>
<td>‘O’ rings</td>
<td>□</td>
</tr>
<tr>
<td>5</td>
<td>M5 washers</td>
<td>□</td>
</tr>
<tr>
<td>5</td>
<td>M5 x 20 screws</td>
<td>□</td>
</tr>
<tr>
<td>4</td>
<td>M3 x 12 screws</td>
<td>□</td>
</tr>
</tbody>
</table>

Table 6 - Checklist of items for the EB3/FL400 Mounting Kit

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EB3 Secondary Electron Adsorber</td>
<td>□</td>
</tr>
<tr>
<td>2</td>
<td>Screws</td>
<td>□</td>
</tr>
</tbody>
</table>

Table 7 - Checklist of items for the EB3 Secondary Electron Adsorber

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Four hearth crucible</td>
<td>□</td>
</tr>
<tr>
<td>1</td>
<td>‘O’ ring</td>
<td>□</td>
</tr>
<tr>
<td>4</td>
<td>Screws</td>
<td>□</td>
</tr>
</tbody>
</table>

Table 8 - Checklist of items for the EB3 Four Hearth Crucible Kit
<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Disk crucible</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>'O' ring</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Short cooling-water director</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Top shield</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Screws</td>
<td></td>
</tr>
</tbody>
</table>

Table 9 - Checklist of items for the EB3 Disk Crucible Kit

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Check (✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single hearth crucible</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>'O' ring</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Short cooling-water director</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Top shield</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Screws</td>
<td></td>
</tr>
</tbody>
</table>

Table 10 - Checklist of items for the EB3 Single Hearth Crucible Kit
INTRODUCTION
Before you return your equipment you must warn BOC Edwards if the substances you used (and produced) in the equipment can be dangerous. This information is fundamental to the safety of our Service Centre employees and will determine the procedures employed to service your equipment.

Complete the Declaration (HS2) and send it to BOC Edwards before you dispatch the equipment. It is important to note that this declaration is for BOC Edwards internal use only, and has no relationship to local, national or international transportation safety or environmental requirements. As the person offering the equipment for shipment, it is your responsibility to ensure compliance with applicable laws.

GUIDELINES
- Your equipment is ‘uncontaminated’ if it has not been used, or if it has only been used with substances that are not dangerous/hazardous. Your equipment is ‘contaminated’ if it has been used with any dangerous/hazardous substances.
- If your equipment has been used with radioactive substances, you must decontaminate it before you return it to BOC Edwards. You must send independent proof of decontamination (for example a certificate of analysis) to BOC Edwards with the Declaration (HS2). Phone BOC Edwards for advice.
- If your equipment is contaminated, you must either:
  - Remove all traces of contamination (to the satisfaction of the laws governing the transportation of dangerous/hazardous substances).
  - Or, properly classify the hazard, mark, manifest and ship the equipment in accordance with the applicable laws governing the shipment of contaminated/hazardous materials.

Note: Some contaminated equipment may not be suitable for shipment as airfreight.

PROCEDURE
1. Contact BOC Edwards and obtain a Return Authorisation Number for your equipment.
2. Complete the Return of BOC Edwards Equipment - Declaration (HS2).
3. If the equipment is contaminated, you must contact your transporter to ensure that you properly classify the hazard, mark, manifest and ship the equipment, in accordance with the applicable laws governing the shipment of contaminated/hazardous materials. As the person offering the equipment for shipment, it is your responsibility to ensure compliance with applicable laws. Note: Equipment contaminated with some hazardous materials, such as semiconductor by-products, may not be suitable for shipment as airfreight - contact your transporter for advice.
4. Remove all traces of dangerous gases: pass an inert gas through the equipment and any accessories that will be returned to BOC Edwards. Where possible, drain all fluids and lubricants from the equipment and its accessories.
5. Disconnect all accessories from the equipment.
6. Seal up all of the equipment’s inlets and outlets (including those where accessories were attached) with blanking flanges or, for uncontaminated equipment, with heavy gauge tape.
7. Seal the equipment in a thick polythene bag or sheet.
8. If the equipment is large, strap the equipment and its accessories to a wooden pallet. If the equipment is too small to be strapped to a pallet, pack it in a suitable strong box.
9. Fax or post a copy of the Declaration (HS2) to BOC Edwards. The Declaration must arrive before the equipment.
10. Give a copy of the Declaration (HS2) to the transporter. You must tell your transporter if the equipment is contaminated.
11. Seal the original Declaration in a suitable envelope; attach the envelope securely to the outside of the equipment package, in a clear weatherproof bag.

WRITE YOUR RETURN AUTHORIZATION NUMBER CLEARLY ON THE OUTSIDE OF THE ENVELOPE OR ON THE OUTSIDE OF THE EQUIPMENT PACKAGE.
You must:
- Know about all of the substances which have been used and produced in the equipment before you complete this Declaration
- Read the Return of BOC Edwards Equipment - Procedure (HS1) before you complete this Declaration
- Contact BOC Edwards to obtain a Return Authorisation Number and to obtain advice if you have any questions
- Send this form to BOC Edwards before you return your equipment

**SECTION 1: EQUIPMENT**

<table>
<thead>
<tr>
<th>Equipment/System Name</th>
<th>Part Number</th>
<th>Serial Number</th>
</tr>
</thead>
</table>

Has the equipment been used, tested or operated?

- YES [ ] Go to Section 2
- NO [ ] Go to Section 4

**SECTION 2: SUBSTANCES IN CONTACT WITH THE EQUIPMENT**

Has the equipment been exposed to substances which are:

- Radioactive (if YES, see Note 1) [ ] YES [ ] NO
- Biologically active [ ] YES [ ] NO
- Dangerous to human health and safety? [ ] YES [ ] NO

**Note 1:** BOC Edwards will not accept delivery of any equipment that is contaminated with radioactive substances, unless you:
- Decontaminate the equipment
- Provide proof of decontamination

YOU MUST CONTACT BOC EDWARDS FOR ADVICE BEFORE YOU RETURN SUCH EQUIPMENT
### SECTION 3: LIST OF SUBSTANCES IN CONTACT WITH THE EQUIPMENT

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Chemical symbol</th>
<th>Precautions required (for example, use protective gloves, etc.)</th>
<th>Action required after a spill, leak or exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 4: RETURN INFORMATION

Reason for return and symptoms of malfunction
____________________________________________________________________________________
____________________________________________________________________________________

If you have a warranty claim:
- who did you buy the equipment from? ______________________________________________________________________________________________
- give the supplier's invoice number _______________________________________________________________________________________________

### SECTION 5: DECLARATION

Print your name: ________________________________________ Print your job title: _____________________________________________
Print your organisation: __________________________________________________________________________________________________________
Print your address: ____________________________________________________________________________________________________________
Telephone number: ______________________________________ Date of equipment delivery: ________________________________
I have made reasonable enquiry and I have supplied accurate information in this Declaration. I have not withheld any information, and I have followed the Return of BOC Edwards Equipment - Procedure (HS1).
Signed: ______________________________________________________ Date _________________________________

Note: Please print out this form, sign it and return the signed form as hard copy.
## Addresses

### EUROPE

**CORPORATE/EUROPE HEADQUARTERS**

BOC Edwards
Manor Royal
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