OPERATING INSTRUCTIONS
FOR
EFAC180 Alignment Clamp

1. Machine to be operated by trained personnel.
2. Instructions to be read before use.
Product Data Sheet

Electro-Fusion Restraining & Re-Rounding Clamp EFC180 (63-180mm)

Option 1: For Couplers & Reducers.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>089-000048</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>8 Kg</td>
</tr>
<tr>
<td>Leading Dimensions</td>
<td>L: 535   W:240   H:305</td>
</tr>
</tbody>
</table>

Option 2: For Couplers, Reducers, Elbows & Tee’s

<table>
<thead>
<tr>
<th>Product Code</th>
<th>089-000049</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>12.6 Kg</td>
</tr>
<tr>
<td>Leading Dimensions</td>
<td>L: 535   W:430   H:305</td>
</tr>
</tbody>
</table>

Pipe Range: 63mm – 180mm Inclusive.

Application: For Electro-Fusion couplers / reducers. With optional 45°/ 90° adaptor, the unit can also be used for clamping 45° and 90° Elbows and Tee’s.

Features: The EFC180 Electro-Fusion Clamp is designed to restrain the movement and axially align the pipe during the electro-fusion process. It’s unique design enables the clamp to be used on any diameter of pipe within it’s range without the requirement for the use of inserts or any other loose pieces. The clamping arms are able to slide along the chromed bars to allow a variable working gap. The unit can be orientated either under or over the top of the pipe. The unit is available in standard form for straight couplers and reducers or complete with the optional adaptor to enable clamping of Elbows and Tee’s.
Technical Data.

Materials:
- Steel  ES 970  080M40
- Aluminium  LM6
- Plastic  Polyamide (Nylon)

Finish:
- Chrome Plated (Steel)
- Zinc Plated (Steel)

Dimensions:
- Standard Clamp  L: 535mm  W: 240mm  H: 300mm
- C/w 45-90° Adaptor  L: 535mm  W: 430mm  H: 300mm

Weight:
- Standard Clamp  8Kg
- C/w 45-90° Adaptor  12.6Kg

Design Specification:

Hy-ram Engineering Co. Ltd have designed and manufactured this unit to meet the requirements of National Grid Gas Industry Standards
**Important!**

This manual outlines the operation of the electrofusion tooling. This manual forms a part of the product to which it relates. It should be kept for the life of the product. Any amendments issued by Hy-Ram Engineering Co Ltd should be incorporated in the text. The manual should be passed to any subsequent holder or user of this product.

**General description.**

EFAC180 Alignment and restraining clamps are designed for restraining the movement of medium diameter couplers and reducers. They are designed to fit pipe sizes from 63mm through to 180mm.

**Before using**

It is important to ensure all component parts are present and in serviceable condition.

**Instructions for use.**

**Pipe Size and fitting shape**

1. Turn the knobs anti-clockwise to release them and allow each jaw to open.
2. Prepare the pipes to be joined using accepted procedures
3. Place the clamp around each end of the pipes being welded.
4. Position the fitting in the centre of the clamp in between the two jaws.
5. The clamping jaws can be moved closer and further away from each other by loosening the holding knobs.
6. Elbows or tees are held using the 45/90 adaptor, the base of the 45/90 adaptor can be adjusted and fixed using the clamping knobs.
7. If Tees are being held, then the electrofusion side should be held and welded first, then the spigot outlet held and welded second.
8. If the spigot is long enough, the tool can be used as a straight clamp.
9. Turn the knobs clockwise to secure the clamp, pipe and fitting in position.
10. The fitting is now constrained and ready for welding.

**Removal**

1. On completion of the jointing and cooling cycle, the clamp may be removed by turning the clamping knobs anti-clockwise to release clamp pressure.

**Certificate of calibration.**

- This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Hy-Ram Engineering Co Ltd.
- This product has no calibration period, periodic, safety inspections should be carried out by the operator if in any doubt please contact the manufacturer for further information.
Decommissioning & Disposal Instructions

These give the instructions for decommissioning and disposal of the equipment and confirm how it is to be taken out of service safely, in respect of the Essential Health and Safety Requirements.

- If an EFAC180 Alignment and restraining clamps has reached the end of its useful working life and cannot be refurbished it must be disposed of through a licensed scrap or waste disposal facility. Alternatively, a reverse engineering company could be used to strip the equipment for recycling purposes.
- Disposal is the responsibility of the Customer this can also be achieved by returning the product back to the manufacturer.

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Warranty Information.

1. Extent of Warranty.

(a) Hy-Ram Engineering Co Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for six months after the date of purchase by the end-user customer, subject to providing proof of purchase.

(b) If Hy-Ram Engineering Co Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty, Hy-Ram Engineering Co Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.

(c) All warranty work will be carried out by Hy-Ram Engineering Co Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Hy-Ram Engineering Co Ltd service facilities world-wide.

(d) Customers shall prepay shipping charges for products returned to Hy-Ram Engineering Co Ltd for warranty service, and Hy-Ram Engineering Co Ltd will charge for return of the products back to the customer.

(e) This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.
2. **Pre-conditions for Warranty Application.**

Hy-Ram Engineering Co Ltd’ warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:

(a) All the instructions contained in the operating manual have been complied with
(b) And none of the following apply:
   (i) Improper or inadequate maintenance;
   (ii) Physical abuse;
   (iii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice;
   (iv) Operation outside the products specifications;
   (v) Improper site preparation or maintenance; and
   (vi) Faulty pipe or fittings.

3. **Limitations of Warranty.**

(a) Hy-Ram Engineering Co Ltd does not warrant the operation of any product to be uninterrupted or error free.
(b) Hy-Ram Engineering Co Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Hy-Ram Engineering Co Ltd specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.
(c) To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.
(d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer’s sole and exclusive remedies.
(e) This tool has been designed for the range of fittings available at the time of its design and development. Hy-Ram Engineering Co Ltd can accept NO liability for the unit’s ability or otherwise to work with new or different fittings that subsequently appear in the market place.
Please complete this information and keep it safely with your proof of purchase receipt. You will require it for any warranty claim.

Where purchased ................................................................................................................................................................

Date of purchase ...........................................................................................................................................................

Name & address Of purchaser ...........................................................................................................................................
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Type of tool ...................................................................................................................................................................

Serial number ...................................................................................................................................................................

For Service and repair please contact:

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