



OPERATING INSTRUCTIONS FOR EFRAC180 Kit Delux

- 1. Machine to be operated by trained personnel.**
- 2. Instructions to be read before use.**

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Engineering Excellence

Product Data Sheet

Electro-Fusion Restraining & Re-Rounding Clamp 63-180mm

Product Code	089-000302
Weight	7.5 Kg
Leading Dimensions	L: 500 W:300 H:340



Pipe Diameter Range: 63mm – 180mm inclusive.

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

Features: The Clamp is designed to restrain the movement and axially align the pipe during the electro-fusion process. It's design features enable the clamp to be adapted to be used on any diameter of pipe within the clamps range. The unit offers Re-Rounding capabilities for the pipe ends prior to them being inserted in to the Electro Fusion couplers to ensure ease of fit and reduce the risk of internal damage. The clamp assemblies are able to slide along the backbone 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 when fitted with the Vari-Angle backbone the Clamp can handle 45° and 90° elbows. Further accessories allow for accommodating electrofusion 'Tee's' and there is also an optional saw guide for ease of cutting the pipe.

Specification: GIS/PL2-5:2006 Part 5 Electro-Fusion Ancillary Tooling

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Alignment Clamps



EFRAC 180 – Standard Kit



EFRAC 180 – Delux Kit



EFRAC 180 delux with 90° Tee Adaptor Clamp

EFRAC 180 Standard and Delux Kits; Restraining and Alignment Clamp

Extremely rigid and powerful Clamp available in two Kit options and with the option of additional accessories.

New... 'Click-tight' liners for quick and easy adjustment for different pipe diameters... screws and allen keys are not required!

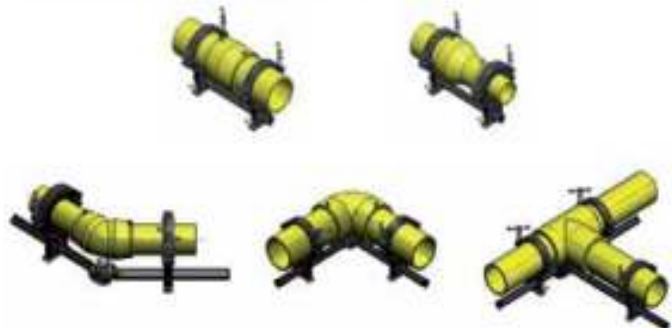
The standard Clamp caters for straight and reducing fittings, whilst the Delux Clamp can also handle elbows. Both kits come in a tough carry-bag and have the option of additional size liners and a 90° arm attachment to enable the use of a third clamp ring for welding 90° equal tees.

Product code	Description	Size Diameter Range	
089-000302	EFRAC 180 Kit – Standard, complete with straight bar, standard liners and bag	63, 90, 125 and 180mm.	Ⓜ
089-000345	EFRAC 180 Kit – Delux, complete with knuckled bar, standard liners and bag	63, 90, 125 and 180mm.	Ⓜ
089-000305	EFRAC 180 90° tee adaptor clamp	63, 90, 125 and 180mm.	Ⓜ

Table showing all 'click-tight' liners available

Product code	Description	
604-000005	63mm Liner, each (4 required)	Ⓜ
604-000009	75mm Liner, each (4 required)	Ⓜ
604-000004	90mm Liner, each (4 required)	Ⓜ
604-000006	110mm Liner, each (4 required)	Ⓜ
604-000003	125mm Liner, each (4 required)	Ⓜ
604-000007	140mm Liner, each (4 required)	Ⓜ
604-000008	160mm Liner, each (4 required)	Ⓜ

* Note, other size liners available on request



Kit Bag

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

GIS/PL2-5:2006 Part 5: Electro-Fusion Ancillary Tooling.

Hy-Ram Engineering Co Ltd has a policy of continuous improvement in product quality and design. Hy-Ram Engineering Co Ltd therefore reserves the right to change the specification of its models at any time, without prior notice.

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. Check the pipe size and set the liners to suit. Turn the knobs anti-clockwise to release them and allow the top half of the clamping rings to be removed.
2. The liners are held in place with a spring loaded ball, they simply clip in and clip out of position.
3. Prepare the pipes to be joined using accepted procedures.
4. Place the clamp around each end of the pipes being welded.
5. Position the fitting in the centre of the clamp in between the two clamping rings.
6. Turn the knobs clockwise to secure the clamp, pipe and fitting in position.
7. The clamping rings can be moved closer and further away from each other by loosening the holding screw which releases the clamping pressure on the box section base. The rings can now be moved or removed from the base.
8. If elbows or tees are being held, then the holding screw can be released enough to allow the clamping ring to slide along the box section base the angle making joint piece can be set to the appropriate angle or the tee piece adapter box section can be fitted in place by locating the unit on the box section base.
9. If Tees are being held, then the electrofusion side should be held and welded first, then the spigot outlet held and welded second. If the spigot is long enough, the tool can be used as a straight clamp. If there is not enough room, adjust the tool to a 90 degree angle and clamp between the main pipe and the side pipe.
10. The fitting is now constrained and ready for welding

Removal

1. Turn Knob anti-clockwise to release clamp pressure. Remove tool from pipework.

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 EFRAC180 clamp 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



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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