




Loading Clamp Strap Type

Calibration Manual

Product Models: 01-13-001

Revision: 02



Helping you make the right connections.

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01. Introduction

General Description

The Caldervale Stack loading series are designed for use when welding Tapping Tee / Branch Saddle fittings to varying types and diameters of plastic pipe. These clamps are for tapping tees/branch saddles that are designed to be held in position during installation/welding/cooling, by means of a downward force applied to the top of the 'stack' when correctly mounted to a fitting.

A force of between 1.4kN to 1.5kN is created by the Loading Cell and this is indicated by turning the handle to the right until the top of the indicator cap is level with the tightening handle top face.

An adapter foot is available to permit the clamps to fit onto Branch Saddles with outlets that are greater than 32mm, and with stacks 63mm 90mm and 125mm.

Note: Certain types of tapping tee/branch saddle require loading pressure other than 1.5kN. prior to welding the operative is advised to check the fitting manufacturers data sheet to ensure that the required load pressure is correct for the tool.



Important!

This tool should be used in accordance with the pipe manufacturers' recommendations and in line with local codes of practice.

This manual outlines the operation of the pipe clamping tool for polyethylene (PE) pipe and forms a part of the product to which it relates. It should be kept for the life of the product. Any amendments issued by Caldervale Technology Ltd should be incorporated in the text. The manual should be passed to any subsequent holder or user of this product.

Regulatory Information

The top loading tool is designed to clamp and hold pipe to provide stability and prevent movement primarily for electrofusion purposes with any polyethylene pipe material (new, weathered or previously installed) in accordance with Gas Industry Standards GIS/PL2-5 Part 5: Electrofusion and Ancillary Tools.

Before Using

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

The condition of the webbing straps should be inspected thoroughly prior to use, worn or frayed straps must be replaced immediately.

Correct safety clothing including gloves and eye protection should be worn when operating this tool.

The unit should be periodically re-calibrated at least once every year. You (the owner/user) are responsible for returning the unit for re-calibration at or before the calibration expiry date shown on the label attached to the tool or if the unit is damaged, suspected damaged, or fails to give consistent weld's due to normal wear and tear.

This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Caldervale Technology Ltd, Dewsbury.

Important Notice

The Loading Cell is a **Calibrated Unit** designed and tested to a pre-set pressure rating to ensure all appropriate fittings are correctly pressured during welding and cooling cycles. In the event that the unit is damaged (i.e. the loading handle breaks or the retaining nut underneath the handle becomes loose) **DO NOT CONTINUE TO USE THE UNIT!**

Return the unit to Caldervale Technology Ltd at the address contained at the end of this booklet, or telephone for advice on +44 (0)1924 469571 before continuing to use this unit.

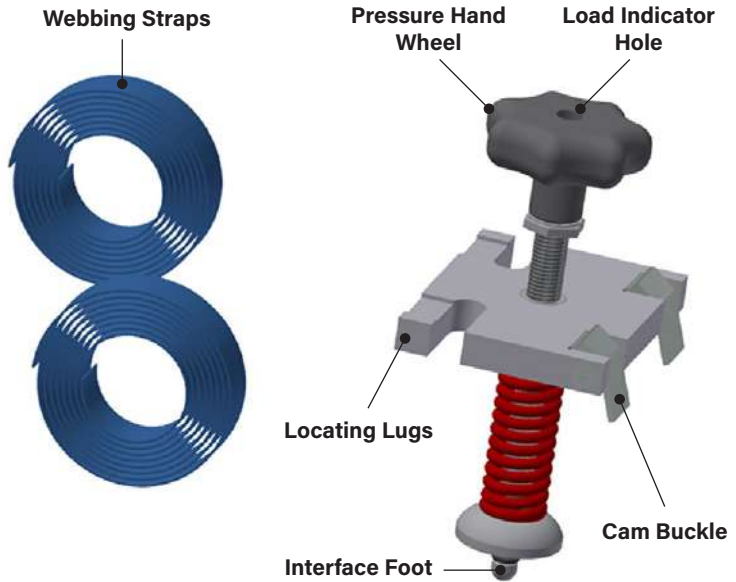
Failure to follow the above statement could result in a weld failure at a critical point in any system, whether pressurised or not, and Caldervale Technology Ltd cannot accept liability in any way whatsoever if the unit is used when damaged or not used in the way described in this manual. It is the owner(s) / user(s) responsibility to return the unit for repair as soon as the fault/damage is recognised.

Please Note: There is a charge payable for re-calibration (information for which is available on request and not including P&P) unless the unit is within the warranty period of 12 months, whereby only P&P and return is payable.

02. **Safety Instructions**

1. Read and understand the operating instructions before using the tool.
2. Never attempt to operate on pipes that are not within the specified dimensions.
3. Operatives should wear eye protection, gloves, safety headwear and footwear when using the equipment.

03. Operation



Instructions for Use

Note: It is important that the electrofusion service fittings are stored at all times in their protective plastic bags.

Important: If the pipe has been coiled then it may be oval. If this is the case, a rerounding tool will have to be used first, to make the pipe circular prior to welding the saddle.

1. Unscrew the pressure hand wheel by rotating to the left.
2. Remove the looped end of the webbing straps from their locating lugs on the body block. It is not necessary to remove the straps from the cam buckle.

3. Depress a cam buckle and pull down on the associated webbing strap so that sufficient length of webbing strap is free to pass under the pipe but do not pull it through the cam buckle, do this with both straps.
4. Taking care not to touch the fusion surface of the fitting or the pipe, push the interface foot into the hexagonal hole in the taping saddle cutter.
5. Place the clamp and taping saddle onto the pipe, passing both webbing tapes under the pipe, and fixing the looped ends onto the lugs on the body block.
6. Depressing each cam buckle in turn, pull down on the free end of the appropriate webbing tape so that the clamp and branch fitting are held securely onto the pipe.
7. Rotate the pressure hand wheel to the right until the tapes are tightened and the load spring becomes compressed.
8. Observe the load indicator in the middle of the hand wheel, as the spring becomes more compressed the load indicator pin will come level with the top of the hand wheel.
9. When the load indicator pin is level with the top of the hand wheel, the branch fitting has the correct load applied. The electro-fusion process can now proceed.

04. Specifications

Materials:	Aluminium, Stainless Steel, Mild Steel, Polyester Straps, Plastic Handle
Finish:	Natural / Zinc passivate to mild steel parts
Pipe Range:	63mm – 500mm All SDR Ratings
Dimensions:	L225mm x W225mm x H350mm
Weight :	1.06kg
Product Code:	01-13-001
Max Pipe Size O/D:	500mm
Max Load Force (on cell):	1500 N
Max Outlet Saddle (without adapter):	32mm O/D
Max Outlet Saddle (with adapter):	90mm

This unit is design and manufactured to meet the requirements of National Grid Gas Industry Standards GIS/PL2-5 Part 5: Electrofusion and Ancillary Tooling.

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

05. Calibration

Information

The units are factory calibrated before shipping but a calibration kit (01-12-200) can be supplied with the unit or separately.

Required Equipment

In order to calibrate the unit you will need, in addition to the top loading clamp:

- 1 x Calibration Kit
- 1 x 24mm spanner
- 1 x Handle turning spanner

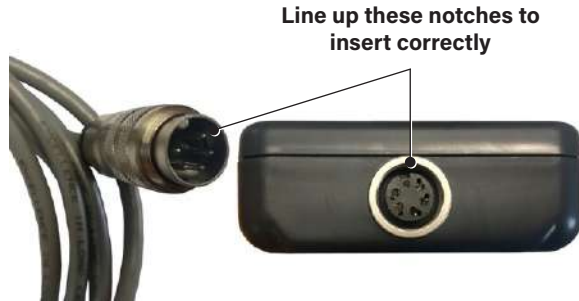
The handle turning spanners are different to a normal spanner and are specific to each type of handle that can be attached to the top loading clamp.



Calibration Kit

Calibration Kit Assembly

1. Remove all contents from the calibration kit,
2. Insert the load cell connector into the readout ensure that the orientation is correct or damage can occur.



3. Attach the loading block attachment to the top of the load cell by using the thread on the loading block attachment,
4. Use the provided M12 cap head screw to attach the load cell to the blue cross member.



Kit when assembled

Verification of Correct Calibration

The calibration kit can be used to verify that the tool being used is still calibrated correctly this can be done by:

1. Assemble the calibration kit ensuring the load cell readout is turned on.
2. Place the strap loading clamp atop the loading block attachment of the calibration kit.
3. Wrap the straps under the blue cross member and onto the locating lugs, if necessary loosen the cam buckle on the strap loading clamp to allow more of the straps to move through. It is not necessary to remove the straps from the cam buckles.
4. Take up slack on the straps by pulling through the cam buckle. Ensure that the straps are not pulled tight.
5. Zero the load cell readout.
6. Turn the handle on the strap loading clamp to the right until the load indicator is flush with the handle.

Upon verification of the calibration the load cell should give a reading of 1500N with a tolerance of 50N above or below.

Removal of Tool from Calibration Kit

Never open the cam buckles when the tool is under load.

To remove the tool from the calibration kit firstly turn the handle to the left.

When the straps are loose they can be removed from the locating lugs allowing the tool to be removed from the calibration kit. If necessary the cam buckle can be pressed to loosen the straps further.

It is not necessary to remove the straps from the cam buckles.



Recalibrating

It is recommended that before recalibration that the verification of calibration procedure outlined above is followed and if the unit requires recalibrating the steps below are followed.

1. Assemble the calibration kit ensuring the load cell readout is turned on.
2. Place the strap loading clamp atop the loading block attachment of the calibration kit.
3. Wrap the straps under the blue cross member and onto the locating lugs, if necessary loosen the cam buckle on the strap loading clamp to allow more of the straps to move through.
4. Take up slack on the straps by pulling through the cam buckle. Ensure that the straps are not pulled tight.
5. Zero the load cell readout.
6. Turn the handle on the strap loading clamp to the right until the load cell readout displays 1500N.
7. Using the 24mm spanner on the nut below the handle turn to the right (when looking from the top) and the handle turning spanner (to the left when looking from the top).

To do this heat may be required as the nut has loctite on the threads.

8. A turn the handle until the load indicator is flush with the top of the handle.
9. Ensure that prior to re tightening the nut below the handle it has Loctite (or similar) to prevent it loosening.
10. Using the 24mm spanner in an to the left direction tighten the nut under the handle. **Note:** it may be useful to use the handle turning spanner to ensure the handle does not move during this operation.
11. Calibration is complete and the unit should be re-verified for correct calibration.



Storage

IMPORTANT! When not in use always:

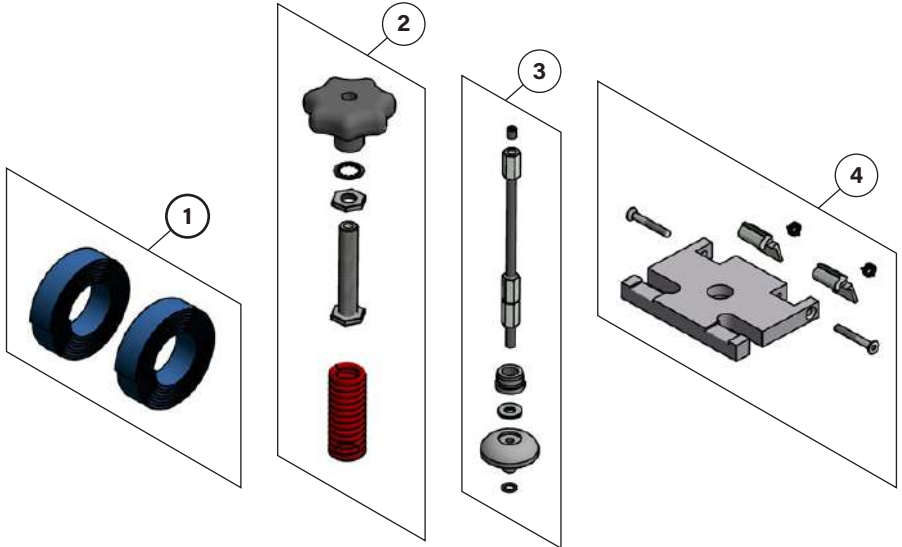
Ensure it is clean and dry before storage.

Routine Maintenance

Check for correct movement and operation and lubricate moving parts at regular intervals before using

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

06. Parts Diagram



Part	Product Code	Description
1	01-13-020	Straps (pair)
2	01-13-021	Loading Handle and Spring Assembly
3	01-13-022	Load Base Assembly
4	01-13-023	Aluminium Body

07. Warranty Information

1. Extent of Warranty

- a) Subject to clauses 2 and 3, Caldervale Technology 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 Caldervale Technology Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty; Caldervale Technology 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 Caldervale Technology Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Caldervale Technology Ltd service facilities world-wide.
- d) Customers shall prepay shipping charges for products returned to Caldervale Technology Ltd for warranty service, and Caldervale Technology 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

Caldervale Technology Ltd's 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; and
- b) 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;
- vi) Faulty pipes.

3. Limitations of Warranty

- a) Caldervale Technology Ltd does not warrant the operation of any product to be uninterrupted or error free.
- b) Caldervale Technology Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Caldervale Technology 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 pipes available at the time of its design and development. Caldervale Technology Ltd can accept NO liability for the unit's ability or otherwise to work with new or different pipes 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 of purchaser: _____

Address of purchaser: _____

Type of tool: _____

Serial number: _____

08. Certificate of Conformity



Certificate of Conformity

This document certifies that the product detailed below fully conforms to the following standard without derogation.

GIS/PL2-5:2018 Electrofusion Ancillary Tools

Loading Clamp - Strap Type

MARCH 2019

I. Smith
Managing Director



Caldertech Technology Ltd
Bretfield Court, Dewsbury, West Yorkshire WF12 9BG, UK
CRN 2765288 | ISO 9001:2015 Certified FM 30989

09. Service and Repair

The unit should be periodically re-calibrated at least once every year. You (the owner/user) are responsible for re-calibration at or before the calibration expiry date shown on the label attached to the tool or if the unit is damaged, suspected damaged, or fails to give consistent weld's due to normal wear and tear.

For service and repair please contact:

INTERNATIONAL

Caldervale Technology Ltd

Bretfield Court, Dewsbury,
West Yorkshire WF12 9BG, UK

T. +44 (0)1924 469571

E. sales@caldertech.com

W. caldertech.com

AUSTRALIA / NZ

Caldertech Australia Pty Ltd

Unit 3/30 Juna Drive,
Malaga WA 6090, Australia

T. +61 (0)8 9209 1132

E. sales@caldertech.com.au

W. caldertech.com.au

10. Decommissioning and Disposal

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 Environmental, Health and Safety Requirements.

- If a Caldertech Strap Loading Tool has reached the end of its useful working life and cannot be refurbished it must be sent to a licensed recycling facility for treatment. That will ensure the waste hierarchy requirements are met.
- End of life treatment is the responsibility of the Customer. This can also be achieved by returning the product back to the manufacturer if required.

INTERNATIONAL

Caldervale Technology Ltd

Bretfield Court, Dewsbury,
West Yorkshire WF12 9BG, UK

T. +44 (0)1924 469571

E. sales@caldertech.com

W. caldertech.com

AUSTRALIA / NZ

Caldertech Australia Pty Ltd

Unit 3/30 Juna Drive,
Malaga WA 6090, Australia

T. +61 (0)8 9209 1132

E. sales@caldertech.com.au

W. caldertech.com.au



Caldertech
.com