



**Caldertech**  
*making the right connections*



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## Hydraulic Squeeze Off Tool 160-250mm


Product Code: 02-31-701, 02-31-702

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### Operating Instructions

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REVISION: 02



# Helping you make the right connections.

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# 01. Introduction

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## General Description

The tool has been designed to limit the flow in PE pipe from 160mm to 250mm pipe work in accordance with Gas Industry Standards GIS/PL2-7 Part 7 Squeeze-off tools and equipment.

Pipe is squeezed using a hydraulic jack and can then be locked off in position with the use of check screws, thus preventing accidental loss of squeeze pressure.

These products 02-31-701 (SDR 11 & 17) and 02-31-702 (SDR 11, 17 & 26) 250 Hydraulic Squeeze Tools have been manufactured, inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Caldervale Technology Ltd, Dewsbury.

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**The unit has rotating pre-sized limiting plates that are used to limit the squeeze gap and prevent over compression of the PE pipe.**



## 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 squeeze off tooling 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.

## Before Using

Check that there is adequate oil in the jack, see section "Checking Oil Level" page 08.

It is important to ensure all component parts are present and in serviceable condition. In addition, the setting of the limit stop plates should be checked before every operation to ensure they are correct for the pipe size and wall thickness rating. Wrongly set limit stop plates may cause insufficient or excessive pipe compression leading to pipe-wall damage, leakage or injury.

## First Use Procedure

Before operating the tool for the first time, the jack must have its hydraulic circuit 'purged' to eliminate any possible air in the system.

### To Purge the System

1. Open the release valve with the jack handle, turning it anti-clockwise and then, with the aid of the handle operate the hydraulic jack several times.
2. Close the release valve fully using the jack handle (it may be necessary to check the oil level in the pump). The tool is now ready for use.

## 02. Safety Instructions

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1. Read and understand this manual before using the tool
2. Follow the **FIRST USE** procedure before using the tool for the first time.
3. It is imperative that all possible precautions are made to avoid unexpected movement of the tool during use.
4. Never attempt to operate the jack beyond its maximum stroke.
5. The jack is fitted with a safety valve to stop overloading. This is factory set and **MUST NOT** be tampered with.
6. The tool is very heavy care should be taken when in use.
7. Lifting must be by 2 persons.
8. Operatives should wear eye protection, gloves, safety headwear & footwear when using the equipment.
9. A single squeeze tool cannot be guaranteed to provide 100% closure, where this is required users are advised to consider using 2 squeeze tools.

## 03. Limit Stop Plates

Limit stop plates should be used for all squeeze off applications in order to prevent over squeezing of the pipe as permanent damage can occur if the pipe is squeezed too far.

Included with your squeeze tool you should find a set of squeeze plates. If these are not the sizes needed more are available.

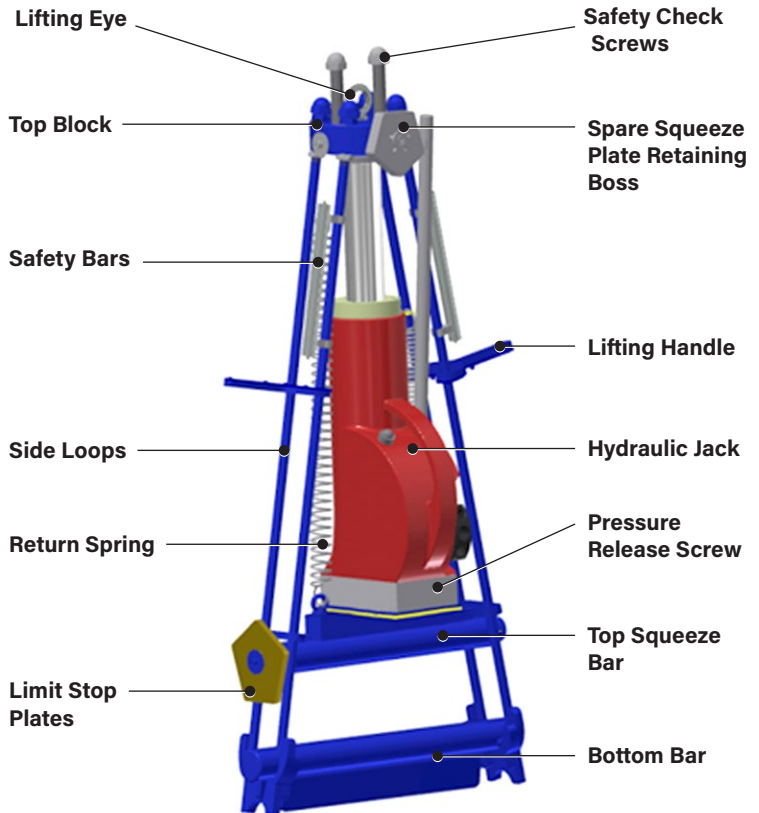
Below is a list incorporating our most commonly requested limit stop plates, if the one you are looking for is not on this list, contact us via [www.caldertech.com](http://www.caldertech.com)

Product Code	Description
02-31-715	160-250 Limit Stop Plates SDR11 (2 pcs)
02-31-714	160-250 Limit Stop Plates SDR17 (2 pcs)
02-31-728	160-250 Limit Stop Plates SDR21 (2 pcs)
02-31-727	160-250 Limit Stop Plates SDR17.6 (2 pcs)



**Limit Stop Plates**

## 04. Operation



### Instructions for Use

1. Ensure the pressure release screw of the jack is fully closed and pump the jack using the jack handle a few times to replace any minor pressure loss in the system.
2. Fully unscrew the Check screws and remove the safety bars if in the operating position.

3. Using the jack handle, unscrew the pressure release screw until the jack retracts under the pressure of the return springs. Close the pressure release screw when the jack has retracted sufficiently to allow the pipe to be squeezed to fit between the top and bottom squeeze bars.
4. Ensure the Limit Stop Plates are correct for the rating of the pipe to be squeezed, carefully change the plate set if needed. Ensure the buffer plate locating spring & 6mm steel ball is in the hole in the squeeze bar before fixing the exchanged plates. Set the limit stop plates by rotating until the pipe size corresponding to the pipe to be squeezed is closest to the bottom squeeze bars. Remove the bottom bar.
5. Using the lifting eye and a lifting device, position the tool centrally over the pipe to be squeezed, Push the bottom squeeze bars through the loops in the frame, Ensure the round part of the bar is facing up and the square part is facing down and it sits between the side loops evenly.
6. With the jack handle in the jack pump, start to squeeze the pipe by pumping steadily to extend the jack and bring together the top and bottom squeeze bars. Squeeze off is complete when the limit stop plates are in contact with the bottom bars and further movement of the jack is not possible.
7. To prevent squeeze pressure being released by jack failure, fix the points of one end of the safety bars in their locating holes in the collar of the jack, and the other point in the bottom of the check screws. Tighten down the check screws until the pins are held securely in position.

### **Removal After Squeeze Off**

1. On completion of the squeeze off, apply additional strokes of the jack pump to replace any minor pressure loss, and allow the check screws to be released and safety bars removed.
2. Unscrew the pressure release screw slowly to retract the jack, taking care to prevent pressure surges in the pipe-work as the squeeze is released.
3. Remove the Bottom Bar to allow the tool to be lifted from the pipe.



## Transport and Storage

1. Replace the bottom bar into the frame. Turn the release valve fully clockwise using the jacking handle. The jack is now ready for storage preparation. Fit the jacking handle into the handle socket and 'pump' up the jack.
2. Continue jacking until the limit plates just come into contact with the bottom bar. Tighten check screws against the squeeze bars.
3. Using the jacking handle turn the release valve on the hydraulic jack in an anticlockwise direction. This will release the oil pressure in the jack.



## Storage

### **IMPORTANT: When not in use always:**

1. Store the tool in an upright position.
2. Ensure the tool is clean and dry before storage
3. Ensure the pressure in the jack is released.
4. It is recommended that the squeeze tool is annually tested and inspected max yearly intervals.

## Routine Maintenance

Before each operation, ensure that the jack has sufficient oil, remove the filler plug and check that the oil level is correct.

**Note:** Checking the oil level in any way other than quoted in this manual may severely limit or render the jack inoperative.

Lubricate all moving parts at regular intervals.

Grease check screw threads at regular intervals.

## 05. Checking Oil Level

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The jacks are normally supplied filled and ready for use. However before using the jack for the first time, the oil level should be checked. The oil used should be a high-quality hydraulic oil of HVI ISO32 viscosity.

### Fill Position

With the hydraulic jack removed from the frame, place it upright onto a solid flat surface. This is necessary as filling the jack at an angle or on one side can lead to overfilling which will severely limit the jack or render it inoperable.

Ensure that the piston is fully retracted.



### Checking Oil Level

Unscrew and remove the dipstick and check the oil level. The level should be near to the middle of the dipstick. The dipstick should be screwed fully into position to determine this level. If the oil level is noticeably lower than the centre of the dipstick then a top up may be required.



## 06. Filling Oil

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1. With the Hydraulic Jack in the fill position (page 08) release all pressure in the jack using the pump control valve and allow the piston to fully retract.

**Note:** Checking the oil level or filling with the piston extended can lead to overfilling, this may severely limit or render the jack inoperative.

2. Close pump control valve.
3. Remove the oil filler plug.
4. The level should be near to the middle of the dipstick, If the oil level is lower than This begin to fill the jack checking the level often so as not to overfill the jack.

**Note:** use a high-quality hydraulic oil of HVI ISO32 when filling the jack.

5. Replace the oil filler plug.

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**Note: Care should be taken when filling the jack to not overfill with oil as this can severely limit the jack or render it inoperative.**

## 07. Troubleshooting

Some common problems that occur when using this equipment can be resolved easily, these are:

Problem	Cause	Solution
Pumping the jack has no effect	Pump control valve open	Close pump control valve fully
Pumping jack only closes squeeze bars partially	Pump control valve slightly open	Close pump control valve fully as above
	Not enough oil in the jack	Check oil level in the pump correctly and top up if necessary
Squeeze bars won't retract properly	Too much oil in the jack	Follow instructions to check oil level in the jack correctly
	Check screws still in contact with	Unscrew the check screws until the threads are clear of the check screw block
Pipe not fully round after squeeze off	This is normal for PE pipes	Leave the pipe for a few hours to return to its original shape, if this does not work we have a selection of re-rounding tools on our website
A squeezed pipe hasn't fully blocked off low of gas or liquid in the pipe	Incorrect limit stop plates being used	Check the correct size and SDR limit stop plates are being used before squeezing the pipe
A squeezed pipe hasn't fully blocked off low of gas or liquid in the pipe using the correct limit stop plate sizes	A single squeeze tool cannot be guaranteed to provide 100% closure	Where this is required users are advised to consider using 2 squeeze tools
Frame does not fit on the pipe	Pipe size is too large	A larger model may be required to squeeze the pipe, see our website to find a larger model

If you have a problem that is not listed please contact us, all our contact information is on our website [www.caldertech.com](http://www.caldertech.com)

## 08. Specifications

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<b>Materials:</b>	Mild Steel EN3A, Chrome Plated Tube
<b>Finish:</b>	Powder Coating / Zinc Plated (Steel)
<b>Max Pipe Size:</b>	250mm Diameter, All SDR Ratings
<b>Dimensions (HxWxD):</b>	930mm x 660mm x 240mm
<b>Weight:</b>	70kg
<b>Hydraulic Powered Jack:</b>	25 Ton Jack
<b>Stroke:</b>	270mm
<b>Oil Volume:</b>	410cm <sup>3</sup>
<b>Oil Type:</b>	HVI ISO32
<b>Product Code:</b>	02-31-701 (SDR11 & 17) 02-31-702 (SDR11, 17 & 26)

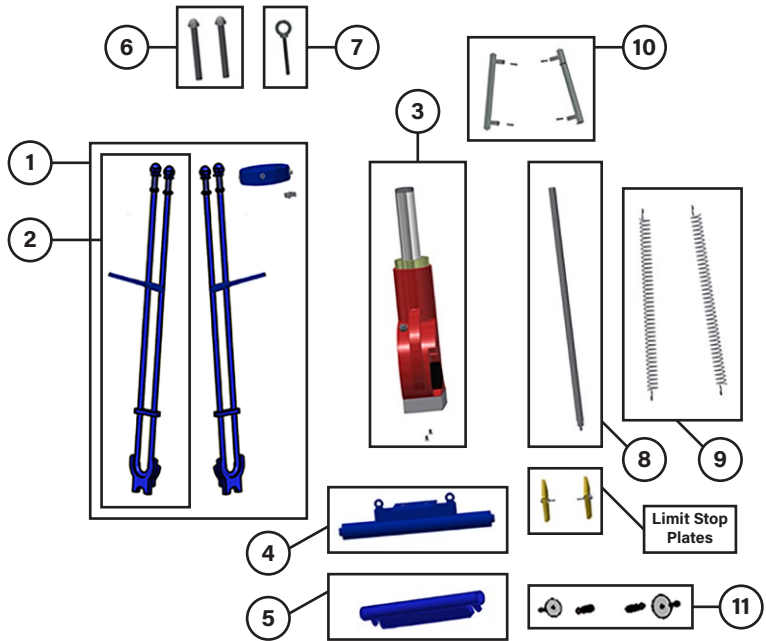
This unit is design and manufactured to meet the requirements of National Grid Gas Industry Standards GIS/PL2-7 Part 7 Squeeze-off tools and equipment.

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.

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**It is the responsibility of the operator to ensure that the PE pipe is suitable for squeeze off application if in doubt contact the PE pipe manufacturer for confirmation.**

## 09. Parts Diagram



Part	Product Code	Description
1	02-31-730	Frame Assembly
2	02-31-734	Single Leg with handle
3	02-31-722	25T Jack
4	02-31-713	Top Squeeze Bar
5	02-31-735	Bottom Squeeze Bar
6	02-31-717	Check Screws
7	02-31-731	Lifting Eye
8	02-31-710	Jack Handle
9	02-31-732	Return Springs (Pair)
10	02-31-716	Safety Bars
11	02-31-733	Squeeze Plate Retainer inc Spring + ball bearing
12	Limit Stop Plates	Selection of different plates available (page 04)

## 10. Warranty Information

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### 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.

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**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: \_\_\_\_\_



## 11. Service and Repair

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This product has no specific calibration period, however periodic safety inspections should be carried out by the operator as specified in this manual, if in any doubt please contact the manufacturer for further information.

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](mailto:sales@caldertech.com)

W. [caldertech.com](http://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](mailto:sales@caldertech.com.au)

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## 12. Decommissioning and Disposal

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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 Squeeze 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.



## 13. EU Declaration of Conformity

### Certificate for Hydraulic Squeeze Tool

**Manufacturer:** Caldervale Technology Limited  
**Manufacturer's Address:** Bretfield Court, Dewsbury,  
 West Yorkshire WF12 9BG, United Kingdom

**Declares that these goods:**

- Product: Hydraulically Powered Squeeze Tool
- Model: 160 – 250mm
- Product Code: 02-31-701 (SDR 11 & 17)  
02-31-702 (SDR 11, 17 & 26)

**This declaration is issued under the sole responsibility of the manufacturer.**

**The object of the declaration is in conformity with the relevant Union harmonisation legislation:**

- 2006/42/EC Machinery Directive

**References to the relevant harmonised standards used or references to the other technical specification in relation to which conformity is declared:**

Ref. No.	Title	Edition / Date
• BS EN 12100	Safety of machinery. General principles for design. Risk assessment and risk reduction.	2010
• BS EN 4413	Hydraulic fluid power. General rules and safety requirements for systems and their components.	2010

**Product Standards**

• GIS/PL2-7	Polyethylene pipes and fittings for natural gas and suitable manufactured gas - Part 7: Squeeze-off tools and equipment.	2013
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## 14. Certificate of Conformity



### Certificate of Conformity

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

**GIS/PL2-7:2013 - Squeeze Off Tools  
and Equipment**

**Hydraulic Squeeze Tool 160-250mm**

March 2019

**I. Smith**  
Managing Director



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