




Hydraulic Squeeze Off Tool 63-180mm / 2"-6" / 63-200mm

Operating Instructions

REVISION: 01



Helping you make the right connections.

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01. Introduction

General Description

The tool has been designed to limit the flow in PE pipe from 63mm to 180mm and 63mm to 200mm (dependant on model), with a range of SDR squeeze plates for pipe work in accordance with Gas Industry Standards GIS/PL2-7 Part 7 Squeeze-off tools and equipment.

This product (Caldertech Hydraulically Powered Squeeze Tools) has been manufactured, inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Caldervale Technology Ltd, Dewsbury.

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. The 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 Caldervale Technology Ltd should be incorporated in the text. The manual should be passed to any subsequent holder or user of this product.

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.

Before Using

Check the level of oil in the jack to ensure at correct level.

It is important to ensure all component parts are present and in serviceable condition. In addition, the setting of the limit stop (buffer) plates should be checked before every operation to ensure they are correct for the pipe size and wall thickness rating. Wrongly set buffer 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.

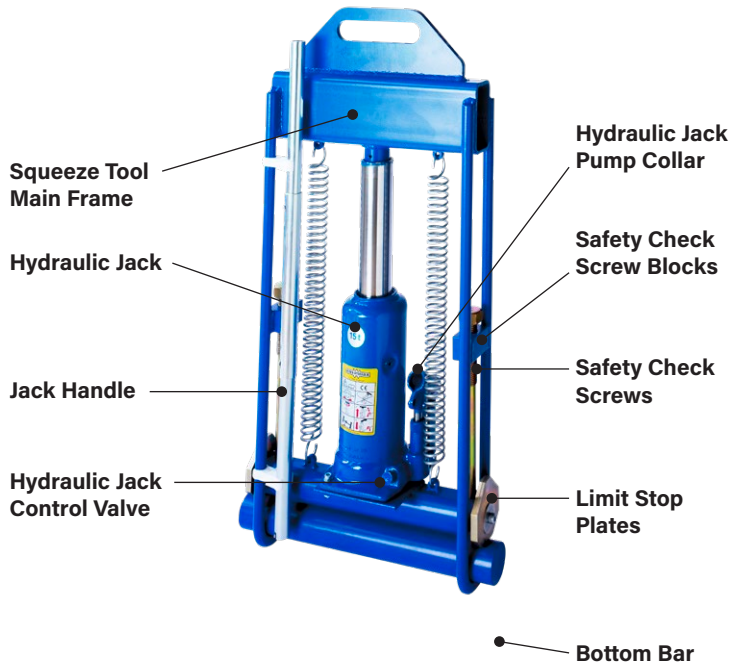
To Purge the System

1. Open the jack control valve using the jack handle, turning it anti-clockwise and then, with the aid of the handle operate the hydraulic jack several times.
2. Close the jack control valve fully using the jack handle. The tool is now ready for use.

02. Safety Instructions

1. Read and understand the whole booklet before using the tool
2. Read **FIRST USE** procedure before using the tool.
3. It is imperative that all possible precautions are made to avoid unexpected movement of the tool during use.
4. Never 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 heavy (36-37Kg) care should be taken when in use.
7. To avoid injury the bottom bars should be locked in position with the jack extended for transportation (see Transport and storage Page 9)
8. Lifting must be by 2 persons.
9. Operatives should wear eye protection, gloves, safety headwear & footwear when using the equipment.
10. 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. Operation



Instructions for Use

1. Unscrew the 2 check screws until the threads are clear of the threaded blocks.
2. Locate the pressure control valve on the hydraulic jack. The tip of the jack handle will connect onto this. Unscrew the control valve until any internal pressure in the jack is released. The jack and squeeze bar assembly will be retracted under the pressure of the return springs.
3. Remove the Bottom bar from the loops in the mainframe.
4. Set the limit stop (buffer) plates to the correct pipe diameter and rating (SDR) of the pipe to be squeezed. If the plates do not have the correct sizes, check the other set exchange if necessary. The plates

are set correctly when the correct end face is pointing downwards and positioned to contact the bottom bar when this is re-fitted.

5. Position the mainframe over the pipe to be squeezed and slide the bottom bar into the loops of the mainframe beneath the pipe, position the pipe centrally between the squeeze bar and bottom bar.
6. Close the Hydraulic Jack control valve by screwing clockwise using the jack handle.
7. Fit the jack handle into the collar of the pump on the jack. Commence pumping the jack to apply the squeeze pressure.
8. Continue the pumping action until the squeeze bar has fully closed the pipe, and the limit stop plates prevent further compression.
9. Screw down both check screws until they are in contact with the upper edge of the squeeze bar. This will prevent any loss of squeeze pressure in the event of hydraulic pressure leakage in the jack.

Removal After Squeeze Off

On completion of the squeeze off operation, remove the tool as follows:

1. Unscrew the check screws until their threads are clear of the safety check screws threaded blocks. (If it is difficult to release the check screws, pump the jack handle 2 or 3 times to replace any loss of hydraulic pressure).
2. Gently release the hydraulic jack pressure by unscrewing the pressure control valve anti clockwise with the jack handle. This may require carrying out in controlled stages to prevent flow surges and excessive pressure drops in the pipe-work as the system fills up.
3. Allow the jack and squeeze bar to retract fully in the main frame under the force of the return springs, remove the bottom bar and lift the main frame clear of the pipe.
4. Allow the section of squeezed pipe to reform to its original shape, this may take several hours.
5. A selection of post squeeze-off re-rounding tools are available to aid the pipe in regaining its original shape, visit www.caldertech.com

Transport

1. Replace the Bottom Bar into the Frame. Turn the Release Valve fully **clockwise** using the jacking handle.
2. Fit the jacking handle into the handle socket and 'pump' up the jack.
3. Continue jacking until the Limit Plates just come into contact with the Bottom Bar. Refit both check screws and tighten against the Squeeze Bars.
4. 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 pressure in the jack is released.
3. Ensure the tool is clean and dry before storing.

Routine Maintenance

1. Before each operation, ensure that the jack has sufficient oil, remove the filler plug and check that the oil level is correct.
2. Lubricate all moving parts at regular intervals.
3. Grease check screw threads at regular intervals.

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

04. Checking and Filling Oil Level

Fill Position

Squeeze tool frame in an upright, squeeze bars fully open jack piston completely retracted. These conditions are necessary for checking and filling the hydraulic oil level.

Note: Checking the oil level or filling with the piston extended (squeeze bars closed) or with the tool horizontal can lead to overfilling, this may severely limit the tool or render the jack inoperative.



Checking Oil Level

Jack filler plug to be removed so oil level is visible through the small hole.

If the oil level is lower than this hole or not visible through the hole when the squeeze tool is retracted and tool in the upright position, then a top up may be necessary.



Filling with Oil

In order to top up the oil, remove the filler plug (as above) and fill with clean hydraulic oil (type HL or HM 30cSt at 40°C) until the oil level is just below the filler plug.

Replace the filler plug after filling.



05. 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	Turn jack control valve fully clockwise to close.
Pumping jack only closes squeeze bars partially	Pump control valve slightly open	Close pump control valve fully as above
	Not enough oil in the pump	Check oil level in the jack 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 the squeeze bar	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 to help make any size pipe round again, see www.caldertech.com
A squeezed pipe hasn't fully blocked off flow of gas or liquid in the pipe	Incorrect limit stop plates being used	Check the correct size and SDR squeeze plates are being used before squeezing the pipe
A squeezed pipe hasn't fully blocked off flow of gas or liquid in the pipe using the correct squeeze 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, contact us at www.caldertech.com to find a larger model

If you have a problem that is not listed please contact us at www.caldertech.com

06. Specifications: Hydraulic Squeeze Tool 63-180mm / 2"-6" IPS

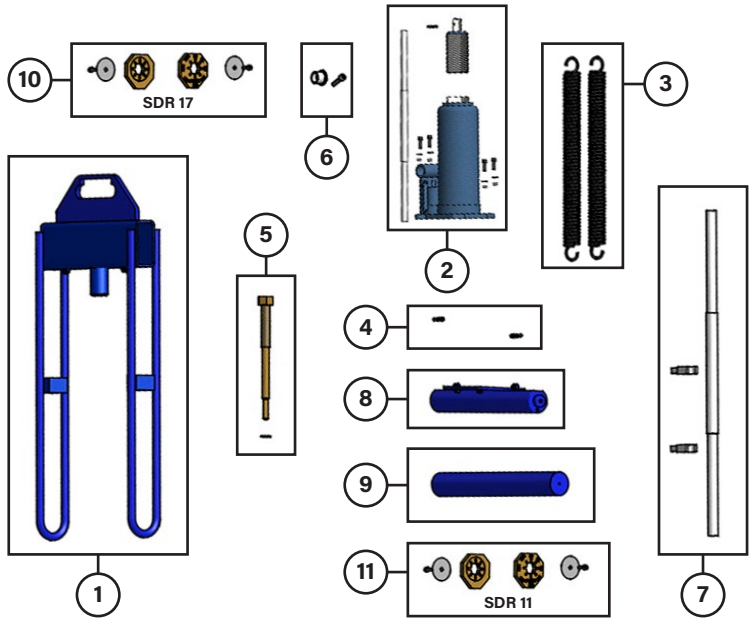
Materials:	Mild Steel EN3A, Chrome Plated Tube
Finish:	Powder Coating / Zinc Plated (Steel)
Pipe Diameter:	63mm - 180mm All SDR Ratings
Dimensions (HxWxD):	750mm x 370mm x 100mm
Weight:	36kg
Hydraulic Jack:	Rated for 15 Ton
Oil Type:	Hydraulic Jack Mineral (type HL or HM 30cSt at 40°C)
Product Code:	02-31-601 63, 90, 125 & 180mm SDR 11/17.6 02-31-602 63, 90, 110, 125, 140, 160 & 180mm SDR 11/17 02-31-603 2", 3", 4" & 6" IPS 02-31-604 63, 90, 110, 125, 140, 160 & 180mm SDR 11/17 02-31-605 63, 90, 110, 125, 140, 160 & 180mm SDR 17 02-31-606 63, 90, 110, 125, 140, 160 & 180mm SDR 11/17/21

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.

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.

07. Parts Diagram: Hydraulic Squeeze Tool 63-180mm / 2"-6" IPS



Part	Product Code	Description
1	02-31-610	Squeeze tool (180mm) Main Frame
2	02-31-616	Spare Jack Kit
3	02-31-672	Spare Spring Kit
4	02-31-673	Spare Spring and Ball Bearing Kit
5	02-31-TBC	Squeeze tool (200mm) Spare Check Screw Kit
6	02-31-615	Spare Squeeze Plate Retaining Boss Kit
7	02-31-676	Spare Jack Handle Kit
8	02-31-613	Spare Squeeze Bar Kit
9	02-31-612	Spare Bottom Bar Kit
10	02-31-TBC	Spare Squeeze Plates SDR 17
11	02-31-TBC	Spare Squeeze Plates SDR 11

08. Specifications: Hydraulic Squeeze Tool 63-200mm

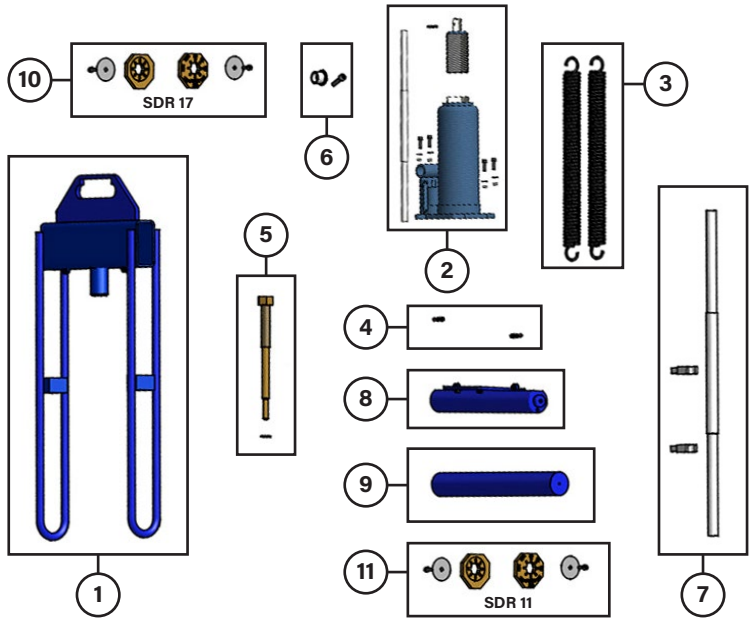
Materials:	Mild Steel EN3A, Chrome Plated Tube
Finish:	Powder Coating / Zinc Plated (Steel)
Pipe Diameter:	63mm - 200mm All SDR Ratings
Dimensions (HxWxD):	750mm x 370mm x 100mm
Weight:	37kg
Hydraulic Jack:	Rated for 15 Ton
Oil Type:	Hydraulic Jack Mineral (type HL or HM 30cSt at 40°C)
Product Code:	02-31-650 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 11 02-31-651 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 17 02-31-652 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 11/17

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09. Parts Diagram: Hydraulic Squeeze Tool 63-200mm



Part	Product Code	Description
1	02-31-670	Squeeze tool (200mm) Main Frame
2	02-31-671	Spare Jack Kit
3	02-31-672	Spare Spring Kit
4	02-31-673	Spare Spring and Ball Bearing Kit
5	02-31-674	Squeeze tool (200mm) Spare Check Screw Kit
6	02-31-675	Spare Squeeze Plate Retaining Boss Kit
7	02-31-676	Spare Jack Handle Kit
8	02-31-677	Spare Squeeze Bar Kit
9	02-31-679	Spare Bottom Bar Kit
10	02-31-TBC	Spare Squeeze Plates SDR 17
11	02-31-TBC	Spare Squeeze Plates SDR 11

10. 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: _____

11. Service and Repair

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

12. 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 Hydraulically Powered 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.



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: 63 – 180mm
- Product Code: 02-31-601 63, 90, 125 & 180mm SDR 11/17.6
 02-31-602 63, 90, 110, 125, 140, 160 & 180mm SDR 11/17
 02-31-603 2, 3, 4 & 6 IPS
 02-31-604 63, 90, 110, 125, 140, 160 & 180mm SDR 11
 02-31-605 63, 90, 110, 125, 140, 160 & 180mm SDR 17
 02-31-606 63, 90, 110, 125, 140, 160 & 180mm SDR 11/17/21
- Model: 63 – 200mm
- Product Code: 02-31-650 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 11
 02-31-651 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 17
 02-31-652 75, 90, 110, 125, 140, 160, 180 & 200mm SDR 11/17

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 |
|-------------|--|------|



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 Tool and Equipment

**Product: Hydraulic Squeeze Tool
63-180mm / 2"-6" IPS / 63-200mm**

MARCH 2019



I. Smith
Managing Director



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