USER GUIDE

SINGLE ACTING MANHOLE BRACE

V1

DISCLAIMER

Do not attempt to handle or operate this equipment before you have received sufficient training. It is imperative that you have read the General Safety Instructions on page 10 and sufficiently familiarised yourself with the Operational Procedures in this document.

Note that this item is compliant only to the standards specified in this User Guide and it is therefore the duty of the responsible person(s) to review and ensure compliance.

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INTRODUCTION

OVERVIEW

The Single Acting Manhole Brace is a four-sided hydraulic bracing system used with sheeting to provide support for small square or rectangular excavations.

It is suitable for manholes, cofferdams and other light to medium-duty applications between two and four metres, sheet to sheet. Four individual braces are secured together with pins in each corner forming a rigid frame around the excavation.

The system is quick and straightforward to assemble and can be used with smaller excavators due to its lightweight design. Each leg is extended hydraulically to suit the excavation dimensions and retracted manually following pressure release.

KEY BENEFITS

QUICK AND EASY INSTALLATION
The lightweight design makes the individual components easier to handle, position and install. Once assembled, the brace can be hydraulically adjusted to the required dimensions.

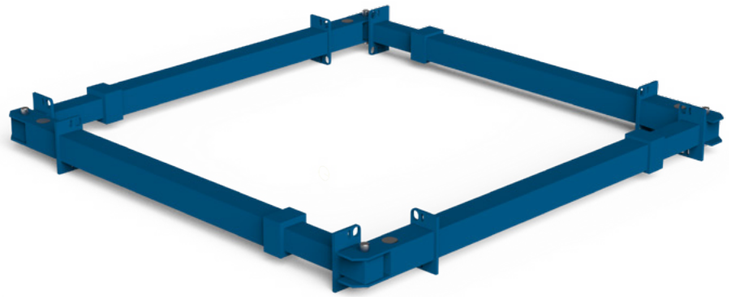
PRECISE LOAD ADJUSTMENT
A single acting ram in each leg makes it easier to apply the exact pressure required against the excavation's walls, improving stability and reducing the risk of over/under-loading.

IMPROVED SAFETY
Consistent and adjustable pressure enhances excavation support, preventing the risk of wall collapse and provides a safe environment for personnel to work in.

VERSATILITY IN CONFINED SPACES
Particularly effective in manholes, cofferdams and other tight areas where traditional support systems may be too rigid or tricky to install.

BETTER ALIGNMENT AND STABILITY
Maintains even pressure distribution across excavation walls, reducing the likelihood of misalignment or localised failure points.

SPECIFICATION



CODE	LEG TYPE	LEG WEIGHT (kg)	STS* (mm)		SECTION SIZE (mm)
			MIN	MAX	
TL900450	A	120	2000	3000	120 x 120
TL900451	B	170	3000	4000	120 x 120

*Sheet To Sheet dimension

OPERATIONAL PROCEDURES

Excavations requiring a Single Acting Manhole Brace should be subject to a Temporary Works Design.

A Single Acting Manhole Brace comprises four individual 'legs' which are assembled on-site to form either a square or a rectangular frame.

If any doubt remains about the generated ground pressure in the excavation, consult a qualified soil engineer.

Single Acting Manhole Braces are intended to be used in conjunction with trench sheets or sheet piles. The position of the Manhole Brace in the excavation is critical and must be determined by a Temporary Works Design to prevent wall collapse, taking account of the type of soil, presence of water or surcharge etc.

UNLOADING (TO BE DETERMINED BY RISK ASSESSMENT ON-SITE)

DISASSEMBLED

By Forklift or Telehandler

01. Ensure the forklift/telehandler has sufficient capacity and adequate fork length to lift the equipment safely. (Reference machine capacity table.)
02. Ensure that each lift occurs at the centre of gravity of the manhole brace leg. Lift only one item at a time.
03. When lifting the manhole brace leg, position the forks in the centre underside of the beam.

By Crane or Telehandler

01. Ensure the crane/excavator has sufficient capacity and adequate chains to lift the equipment safely. (See capacity table). Use good slinging practice at all times.
02. Ensure the chain(s) are connected to the two lifting points on the manhole brace leg. Lift only one manhole brace leg at a time.

ASSEMBLY

01. Assembly must take place on firm and level ground free of other hazards such as traffic or falling debris.
02. Place the first manhole brace leg on battens so that the valve housing is vertical and the lifting points are clear of the ground.
03. Using an excavator, lift the second brace leg into position and insert the smaller beam into the larger one at right angles and pin it, attaching an 'R-clip' to prevent removal.
04. Repeat steps 2) and 3) until a closed frame is formed.
05. Back off the lock off valves by two turns and attach two hoses to each leg.

06. Attach the male and female hoses to their respective manifold blocks. The manifold blocks are then attached to the pump.
07. The manhole brace is now ready for installation.

STORAGE/STACKING (TO BE DETERMINED BY RISK ASSESSMENT ON-SITE)

Manhole brace frames articulate to allow easy installation but this may cause them to fall over when stored or stacked. Therefore never stack manhole brace frames or individual legs by standing them on their edge or by leaning them against a structure. Manhole brace frames may be stacked on top of each other if they are on level ground with battens between each frame. Never stack manhole brace frames more than two-high. If the ground is not level, they should be dissembled for storage. In all cases, a risk assessment should be undertaken to ensure site safety.

INSTALLATION (TO BE DETERMINED BY RISK ASSESSMENT ON-SITE)

INSTALLATION METHOD 01

Dig and Push

01. Dig the excavation to the required width and length by approximately 1.0m deep or as determined by the Temporary Works Design.
02. Place trench sheets in each corner and drive in.
03. Place the manhole brace into the excavation, ensuring it is level and then pressurise the frame to 1000 PSI. Close the lock off valves and de-pressurise the hoses, then remove them.
04. Attach the manhole brace to the trench sheets by means of the hanging chains.
05. Place and drive the remaining trench sheets into position
06. Drive the trench sheets below the level of the manhole brace by approximately 500mm and excavate approximately 300mm below the level of the manhole brace (never excavate below the level of the trench sheets).
07. If the Temporary Works Design necessitates further manhole brace frames, they are installed by lowering the manhole brace through the in situ manhole brace and repeating steps 3) and 4), and attaching it to the in situ manhole brace by means of hanging chains.
08. Fit wedges to any gaps between the sheets or piles and the manhole brace frame.
09. Excavate to formation allowing for any toe-in on the sheets.
10. It is good practice to 'blind' the base with a concrete pad.

INSTALLATION METHOD 01

Pre-Driven Sheets

01. Using a vibratory hammer drive the sheets or piles to formation level.
02. Excavate to the first brace position as determined by the Temporary Works Design.
03. Place the manhole brace into the excavation, ensuring it is level and then pressurise the frame to 1000 PSI. Close the lock off valves and de-pressurise the hoses, then remove them.
04. Attach the manhole brace to the trench sheets by means of the hanging chains.
05. If the Temporary Works Design necessitates further manhole brace frames they are installed by lowering the manhole brace through the in situ manhole brace and repeating steps 3) and 4), and attaching it to the in situ manhole brace by means of hanging chains.
06. Fit wedges to any gaps between the trench sheets or piles and the manhole brace frame.
07. Excavate to formation allowing for any toe-in on the sheets.
08. It is good practice to 'blind' the base with a concrete pad.

EXTRACTION (TO BE DETERMINED BY RISK ASSESSMENT ON-SITE)

01. Before removing the manhole brace frame, the excavation must secured by 'toe-ing in' the sheets, backfilling and compacting or by a concrete blinding or by another method approved by the Temporary Works Design.
02. Attach the lifting chain to the lifting points on the lowest manhole brace. Attach the hoses connected to the pump to the quick release fittings, then loosen the lock off valves. This allows the manhole brace to de-pressurise.
03. The manhole brace frame can then be retracted by pumping in the legs. When the manhole brace is approximately 150mm smaller than the frame above it, it can then be lifted through the frame above. Then back fill and compact.
04. Repeat operations 2) and 3) for each frame in turn.
05. When all the frames have been removed and the backfilling completed, remove the trench sheets.

DO'S AND DON'TS

DO:

- ✓ Ensure you read this User Guide and the corresponding Technical Data Sheet.
- ✓ Ensure you use the correct lifting equipment and have a Lift Plan.
- ✓ Ensure the frames are installed in accordance with this User Information and Temporary Works Design.
- ✓ Ensure all equipment is inspected prior to use for damage.
- ✓ Ensure all pins are secured with R-Clips.
- ✓ Ensure the lock off valves are open before attempting to extend the brace legs.
- ✓ Ensure quick release couplers are clean and well seated.
- ✓ Ensure hydraulic rams are holding pressure before closing lock off valves and removing hoses.
- ✓ Ensure you use all the hanging chains supplied and only connect them to the designated points.

DON'T:

- ✗ Enter the excavation until the brace legs are holding pressure and the excavation is declared safe.
- ✗ Over-tighten the lock off valves.
- ✗ Use the hanging chains for lifting.
- ✗ Attempt to remove the frame from the excavation without de-pressurising the brace legs.
- ✗ De-pressurise the brace without the frame being securely supported.

GENERAL SAFETY INSTRUCTIONS

The equipment should be properly operated and maintained to keep it in a safe, efficient operating condition. Be sure that all fixings and components are free of mud or other matter that might cause issues hazardous to the operator, serviceman, or other personnel or equipment. Report all malfunctions to those responsible for maintenance, and do not operate the equipment until corrected. Normal service or maintenance performed as required can prevent unexpected and unnecessary downtime.

This operations manual describes general inspections, servicing and operation with the normal safety precautions required for normal servicing and operating conditions. It is not a guide, however, for abnormal conditions or situations, and therefore, servicemen and operators must be safety conscious and alert to recognise potential servicing or operating safety hazards at all times, and take necessary precautions to assure safe servicing and operation of the equipment.

M002
Refer to instructions manual

M004
Wear eye protection

M008
Wear safety footwear

M009
Wear protective gloves

M010
Wear protective clothing

M014
Wear head protection

M015
Wear high-visibility clothing

GENERAL NOTES

- Read this operations manual and learn the operating characteristics and limitations of the equipment. Know what operating clearances the equipment requires.
- Read and understand all the safety signs prior to operation.
- If the safety signs are obstructed by dirt or debris, clean them using mild soap and water prior to operation.
- If the safety signs are damaged or illegible, replace them immediately, prior to operation.
- Be aware of operating hazards that weather changes can create on the job. Know proper procedures to follow when a severe rain or electrical storm strikes.
- Never attempt to operate or work on machinery when not feeling physically fit.
- Never wear loose clothing, rings, watches, heavy gloves etc., that might catch and result in injury.
- Know what safety equipment is required and use it. Such equipment may be: hard hat, safety glasses, reflector type vests, protective gloves and safety footwear.

TERMS & CONDITIONS

CONQUIP ENGINEERING GROUP STANDARD PRODUCT WARRANTY

01. COMMENCEMENT

1.1 This Warranty shall commence on the Commencement Date and shall continue until the earlier of:

(a) the Expiry Date; or

(b) the date on which it may be voided in accordance with clause 4.1(b)

when it shall terminate automatically without notice.

02. DUTY OF GOOD FAITH

2.1 The Purchaser shall in the exercise of its rights under this Warranty and in the compliance with its obligations under this Warranty be subject to and shall in all respects owe and comply with a duty of good faith to the Warrantor.

03. NATURE AND EXTENT OF COVER

3.1 Subject to clause 3.2 the Warrantor agrees and undertakes to the Purchaser that it shall be liable to the Purchaser under and in accordance with the terms of this Warranty in the event that:

(a) prior to the Expiry Date the Purchaser shall notify a Warranty Claim to the Warrantor; and

(b) the Equipment or any relevant part of the Equipment shall have become unusable as the result of defective material or defective workmanship prior to the Expiry Date.

3.2 The Warrantor's obligation under clause 3.1 shall be expressly subject to the provisions of clauses 4, 5 and 6 and conditional upon the Purchaser's compliance in full with the provisions of clause 7.

04. RESTRICTIONS

4.1 The following restrictions apply to this Warranty:

(a) This Warranty is personal to the Purchaser and neither the legal benefit nor legal burden of this warranty may be assigned or novated or otherwise transferred by the Purchaser to any other party. Any purported assignment, novation or transfer shall not be binding upon the Warrantor.

(b) This Warranty shall be void in the event that the Purchaser:

(i) cannot provide authentic and original documentary evidence that the Purchaser has during the period between the Commencement Date and the Expiry Date complied with the Maintenance and Servicing Requirements; and/or

(ii) has, during the period between the Commencement Date and the Expiry Date, exceeded the Purchaser's Usage Cycle Parameters; and/or

(iii) has, during the period between the Commencement Date and the Expiry Date, exceeded the Purchaser's Use Parameters; and/or

(iv) has carried out, or procured the carrying out by any third party of, any repair to the Equipment or any part of the Equipment which is not an Authorised Repair; and/or

(v) has operated the Equipment after having replaced any part of the Equipment with a part which has not been supplied and fitted by the Warrantor; and/or

(vi) has modified the Equipment in any way prior to use.

05. EXCLUSIONS

5.1 The following are excluded from the scope of this Warranty:

(a) Loss of and/ or damage to the Equipment or any part of it resulting from any collision between the Equipment and any other fixed or stationary or mobile object whatsoever, irrespective of whether that collision was or was not caused by the Purchaser; and/or

(b) Loss of and/or damage to any personal property and/or possessions or other equipment not forming part of the Equipment but which is present in or about the Equipment; and/or

(c) loss and/or damage which is covered by any other insurance policy taken out and maintained by the Purchaser or in respect of which the Purchaser has a contractual obligation to do so; and/or

(d) loss and/or damage to the equipment which is consistent with the use by the Purchaser of the Equipment:

(i) in compliance with the Maintenance and Servicing Requirements; and

(ii) in compliance with the Usage Cycle Parameters; and

(iii) in compliance with the Use Parameters; and

(iv) having only carried out Authorised Repairs to the Equipment; and

(v) having all and any replacement parts fitted by the Warrantor; and

(vi) in unmodified form.

06. LIMITATION OF LIABILITY

6.1 The Warrantor's liability to the Purchaser shall be limited as follows:

(a) The Warrantor shall not in any circumstances be liable to the Purchaser for indirect and/or consequential and/or economic loss suffered and/or incurred as the case may be by the Purchaser; and

(b) The Warrantor shall only be liable to the Purchaser for the reasonable and proper costs reasonably and properly incurred by the Purchaser directly in connection with the repair and/or replacement (at the Warrantor's absolute discretion) of the Equipment or any part of the Equipment; and

(c) The Warrantor's liability to the Purchaser shall notwithstanding any other provision of this Warranty, not in any circumstances exceed the Purchase Price of the Equipment.

07. WARRANTY CLAIMS

7.1 The Purchaser shall in respect of any claim against the Warrantor under this Warranty and within 24 hours of the occurrence of the subject matter of the Warranty Claim:

(a) Complete in full and submit to the Warrantor a Warranty Claim in the form annexed to Schedule 4;

(b) Provide date stamped or date identifiable photographs evidencing the claim; and

(c) Make the Equipment or the relevant part of the Equipment available to the Warrantor for inspection within 48 hours of notification of the relevant Warranty Claim.

08. ENTIRE AGREEMENT

8.1 This Warranty constitutes the entire agreement between the parties and supersedes and extinguishes all previous promises, assurances, warranties, representations and understandings between them, whether written or oral, relating to its subject matter.

8.2 Each party agrees that it shall have no remedies in respect of any statement, representation, assurance or warranty (whether made innocently or negligently) that is not set out in this Warranty. Each party agrees that it shall have no claim for innocent or negligent misrepresentation or negligent misstatement based on any statement in this Warranty.

No variation of this Warranty shall be effective unless it is in writing and signed by the parties (or their authorised representatives).

09. WAIVER

No failure or delay by a party to exercise any right or remedy provided under this Warranty or by law shall constitute a waiver of that or any other right or remedy, nor shall it prevent or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall prevent or restrict the further exercise of that or any other right or remedy.

10. SEVERANCE

10.1 If any provision or part-provision of this Warranty is or becomes invalid, illegal or unenforceable, it shall be deemed deleted, but that shall not affect the validity and enforceability of the rest of this Warranty.

10.2 If any provision or part-provision of this Warranty is deemed deleted under clause 10.1 the parties shall negotiate in good faith to agree a replacement provision that, to the greatest extent possible, achieves the intended commercial result of the original provision.

11. THIRD PARTY RIGHTS

11.1 This Warranty does not give rise to any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Warranty.

12. GOVERNING LAW

12.1 This Warranty and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation shall be governed by and construed in accordance with the law of England and Wales.

13. JURISDICTION

13.1 Each party irrevocably agrees that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with this Warranty or its subject matter or formation.

DESIGN CONFORMITY (EC & UK)

(01) This certificate meets the requirements of the Machinery Directive 2023/42/EC of the European Parliament and Council.

(02) This certificate meets the requirements of the Supply of Machinery (Safety) Regulations 2008.

DETAILS

NAME & ADDRESS OF MANUFACTURER:
Conquip Engineering Group Ltd, Unit 4, Waterbrook Estate, Alton, Hampshire. GU34 2UD

NAME & ADDRESS OF PERSON TO COMPILE TECHNICAL FILE:
Name: Daniel Critchley Address: Conquip Engineering Group, Unit 4, Waterbrook Estate, Alton, Hampshire. GU34 2UD

NAME & ADDRESS OF AUTHORISED REPRESENTATIVE IF ONE HAS BEEN MANDATED BY THE MANUFACTURER:
N/A

NAME, ADDRESS, AND IDENTIFICATION NUMBER OF THE NOTIFIED BODY (01) OR APPROVED BODY (02), WHERE APPLICABLE:
N/A

HARMONISED STANDARDS & REGULATIONS

ITEM	CODE	DESCRIPTION
EC DIRECTIVE/ REGULATION	2023/42/EC	Directive 2023/42/EC - new machinery directive
HLEGONISED STANDARDS	BS EN ISO 12100:2010	Safety of machinery General principles for design Risk assessment and risk reduction
OTHER REGULATIONS	LOLER 1998	Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
	PUWER 1998	Provision and Use of Work Equipment Regulations 1998 (PUWER)

DECLARATION

PLACE OF DECLARATION:
Alton

DATE OF DECLARATION:
August 2026

I declare that the above equipment meets the Essential Health and Safety requirements of the

(01) Machinery Directive 2023/42/EC of the European Parliament and Council.

(02) Supply of Machinery (Safety) Regulations 2008 and Section 6 of the Health and Safety at Work Etc. Act 1974.

NAME:	POSITION:	SIGNATURE:
Daniel Critchley	Chief Executive Officer	

TALKING TO US IS EASY

WE'RE HERE TO HELP

Call us on 0333 300 3470
Email us at sales@cqegroup.com
www.cqegroup.com

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