



PORTA-DAVIT®



ASSEMBLY VIDEO

Assembly & Operation

www.reidlifting.com

REID
LIFTING
LIGHTWEIGHT | PORTABLE | SAFE

No. 1 in lightweight, portable, safe lifting solutions

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INTRODUCTION

All users must read these operating instructions carefully prior to the initial operation. These instructions are intended to acquaint the user with the *PORTA-DAVIT* and enable him/her to use it to the full extent of its intended capabilities.

The operating instructions contain important information on how to handle the *PORTA-DAVIT* in a safe, correct and economic manner. Acting in accordance with these instructions helps to avoid dangers, reduce repair costs and down time and to increase reliability and lifetime of the davit.

Anyone involved in doing any of the following work with the *PORTA-DAVIT* must read the operation instructions and act accordingly:

- operation, including preparation, trouble shooting during operation and cleaning
- maintenance, inspection, repair
- transport

Apart from the operating guide, health & safety and accident prevention act valid for the respective country and area where the equipment is used, the commonly accepted regulations for safe and professional work must be adhered to.

It is incumbent on the user or instigator of work with the equipment that all users have suitable medical and physical capabilities. Likewise the competent person should ensure there is a rescue plan in place in the event of an emergency that could occur during the work.

N.B. This document should form an element of the overriding Risk Assessment and Method Statement required for each lift.

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CORRECT OPERATION

Inspection prior to initial operation

Each *PORTA-DAVIT* must be inspected prior to initial operation by a competent person. The inspection is visual and functional and shall establish that the structure is safe and has not been damaged by incorrect assembly, transport or storage. Inspections are instigated by the user.

Inspection before starting work

The inspection procedure requires that a valid inspection/test certificate has been submitted to and checked by the user. Before starting work, inspect the davit tubes and all load bearing components for visual defects. Furthermore, test the free rotation of the pin. This inspection requirement covers only the davit.

Ensure that the overall working load limit (WLL) is adhered to – following the necessary Risk Assessment and Method Statement.

Maximum capacity

The *PORTA-DAVIT* is designed to lift and lower loads up to the related capacity. The capacity indicated on the davit is the working load limit (WLL) or safe working load (SWL), which must not be exceeded.

Each lift must be properly planned and the weight of the load to be lifted must be known by the operator:

- We recommend the use of a load-sensing device on all lifts.
- The *PORTA-DAVIT* is approved for both goods lifting and man-ride applications. Units for dedicated man-ride will be labelled to make this clear and will have a maximum WLL of 120kg.
- The *PORTA-DAVIT* radius setting range for use with fixed sockets is 800-1200mm.
- The *PORTA-DAVIT* radius setting for use with *PORTA-BASE* sockets is 800-1000mm.

Notes for correct usage

- Do not throw the davit down or stack items on top of it. Always place it properly on the ground avoiding damage to the tubes.
- Assemble only as instructed.
- Do not assemble davit in non-approved sockets.
- Do not use the davit if the shaft is not seated correctly in the socket.
- Do not use the davit if it does not rotate freely in the bearing, or the bottom flange is fouled in any way, preventing free rotation of the davit.
- Do not knot or shorten the tension strap to reduce operating radius.
- Ensure davit is set at the correct operating radius for the job.
- Do not use the davit with retaining clips removed from radius adjusting pin.
- Attach hoist only to one of the two lifting points.
- Lift only when load chain/rope forms a vertical line between load and lifting shackle used.
- Do not allow load to swing.

Warning

- Do not lift or transport loads while personnel are in the danger zone.
- Do not allow personnel to pass under a suspended load.
- Start raising the load only after it has been attached correctly, and all personnel are clear of the danger zone.
- After lifting, a load must not be left unattended.

Attaching the load

The operator must ensure that the working load limit (WLL) maximum capacity hoist is attached in a manner that does not expose him or other personnel to danger by the hoist, chain(s) or the load.

Temperature range

The *PORTA-DAVIT* davit assembly can be operated in ambient dry temperatures between -20°C and +50°C (-4°F to 122°F). Consult your supplier in case of extreme working conditions.

If used in sub-zero and wet conditions, the performance may be affected.

Regulations

The *PORTA-DAVIT* complies with the following regulations:

The Supply of Machinery (Safety) Regulations (2008) (S.I. 2008/1597), ATEX Directive 2014/34/EU, The Provision and Use of Work Equipment Regulations 1998 (S.I. 1998 No. 2306), The Lifting Operations and Lifting Equipment Regulations 1998 (S.I. 1998 No. 2307), Machinery Directive 2006/42/EC. The safety regulations of the respective country for using manual lifting equipment must be strictly adhered to.

INSPECTION/MAINTENANCE

Regular inspections

To ensure that the davit remains in safe working order; it must be subjected to regular inspections by a competent person. Inspections are to be 6 monthly for personnel lifting and 12 monthly for goods only, unless adverse working conditions or profile of use dictate shorter periods. The components of the davit are to be inspected for damage, wear, corrosion or other irregularities. To check for worn parts it may be necessary to disassemble the davit.

Repairs should only be carried out by an approved specialist workshop that uses original spare parts.

Inspections are instigated by the user. If detailed information is required on inspection and test criteria, please refer to your supplier's technical department.

If using the davit in explosive atmospheres see additional section titled ATEX.

Please refer to pg 19 for the equipment inspection log.

Maintenance/Repair

In order to ensure correct operation, not only the operating instructions, but also the conditions for inspection and maintenance must be complied with. If defects are found **stop** using the davit immediately.

SOCKETS - Fixed

The *PORTA-DAVIT* structure needs to be anchored to a surface/foundation capable of withstanding the applicable loading. The davit can be supplied with one of the mounts specified below (**only mounts supplied by REID Lifting are approved to be used with the *PORTA-DAVIT***):



- The **top mount** is for use of flat horizontal surfaces. It can be installed onto concrete using resin bonded anchors or into steel work using bolts.
- The **side mount** can be installed using resin bonded anchors or mechanical anchors.
- The **bridge mount** socket is for mounting into steel work and walkways.
- The **cast & resin bonded** sockets are for installation into concrete.

N.B. REID Lifting offer a range of portable sockets (*PORTA-BASE*) for when fixed sockets are not suitable.

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Socket installation

Depending upon the socket type there are multiple ways that installation can be achieved. When using bolts they are to be minimum grade 8.8 BZP or, if stainless, grade A4, or equivalent.

When installing the socket it is important to ensure that the top face is as level as possible, with installation being not more than 3 degrees misaligned from the horizontal.

Socket installation should only be carried out by a competent person. If specifying the anchors, resin, fasteners or any combination of the afore-mentioned, it is essential that the competent person is of ability to specify an installation that is safe for use. If in any doubt about the calculation of loads contact your REID Lifting representative.

Verifying the installation

REID Lifting strongly recommends testing the installation of the socket before initial use; especially when using resin bonded anchors.

When verifying the installation we recommend that it is tested to a maximum force of 6kN at the device's maximum radius, if used for the lifting of personnel. If used for the lifting of goods, we recommend testing to no greater than 125% of the goods WLL at its maximum radius. All tests should be carried out in all anticipated worst case loading directions, sustained for a duration of 3 minutes.

If unable to test the installation as a whole, then each anchor can be isolated and tested individually applying the applicable loading, i.e. tension and/or shear loads. For clarification on the loads contact your equipment supplier.

If an installation differs from the sockets referred to above, or to that specified by your supplier then the competent person must verify by calculation that the installation can withstand the following:

- for personnel, 10kN at the devices maximum radius in all anticipated worst case loading directions but not test to more than 6kN at the devices maximum radius;
- for lifting of goods, 150% of the goods WLL at the devices maximum radius in all anticipated worst case loading directions but not test to more than 125% of the goods WLL at the devices maximum radius.

If required a sacrificial anchor may need to be installed to verify the installation has the ultimate capacities required.

Following initial socket installation verification tests we do not recommend overload tests for the socket or davit and suggest thorough visual examination only. If the client feels that as a result of a visual examination that a load test is appropriate, we would recommend a 100% load test and certainly no greater than 125%.

Disclaimer



All REID sockets & extensions have been designed, developed and tested for safe use with REID's equipment and form a key part of the integrity of the total system.

- All sockets have a working load limit (WLL) based on the maximum radius setting of the davit.
- Sockets are supplied in galvanised mild steel, stainless steel grade 316L (passivated) or Aluminium grade 6082-T6.
- Sockets can be powder coated upon request e.g. Yellow for trip hazard warning.

Should non-standard third party sockets be used, REID Lifting's Declaration of Conformity & Incorporation on the products is negated. i.e. The system becomes the responsibility of the client.

MARKING

The serial labels indicate:

- The product identification number.
- The products unique serial number.
- The goods working load limit (WLL) of the device.
- The year of manufacture.
- The standards to which the device is approved.

- The ATEX rating of the product (if applicable) - see ATEX section.
- CE 0088: Notified body number (currently LRQA) who are responsible for approving REID Lifting's quality control system.



Read the Assembly & Operation instructions.



PORTA-DAVIT 500kg
Assembly & Operation instructions.

ATEX:



This product has been designed for use in explosive atmospheres. If the product is to be used in explosive atmospheres then the following section must be followed. Any different or exceeding use is considered incorrect and REID Lifting Ltd will not accept any responsibility for damages resulting from false application. The risk is solely with the user. If the product has been customised in any way then it may not comply with standards and not be suitable for use in explosive atmospheres. If this is the case then the product will not have any of the below marking. If in doubt contact your REID representative.

ATEX - Classification

Identified with the marking below, the product meets the requirements of Category 3 equipment for use in Zone 2 explosive atmospheres, providing a normal level of protection where mixtures of air and gases, vapours or mists or by air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

Or;

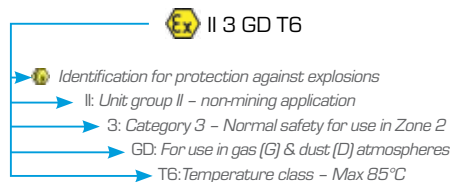
Available as an upgrade the product can be supplied to meet the requirements of category 2 equipment for use in Zone 1 explosive atmospheres, providing a high level of protection where mixtures of air and gases, vapours or mists or by air/dusts mixtures are likely to occur.

N.B. Sockets form an integral part of the davit system and should therefore be suitable for use in the indented environment.

ATEX - Identification

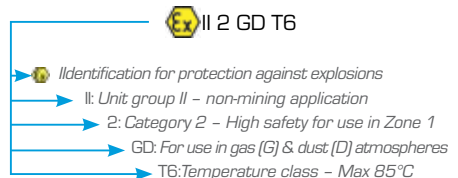
In addition to the previous marking section, if suitable for use in explosive atmospheres, the product will have the following identification on the serial label:

Zone 2 environments:



Or;

As an upgrade for use in Zone 1 environments:



ATEX - Spark formation

Increased danger of ignition may emanate from clashing of special material pairings. These are non-corrosion resistant steel or cast iron against aluminium, magnesium or pertinent alloys. This applies especially in case of rust or surface rust.

When assembling the product and inserting fastening components; they must be clear of rust and debris of any kind. Care must be taken to ensure the product is handled in a suitable manner and is never thrown, and always placed, onto the ground.

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ATEX - Static electricity

For Zone 1 and 2 applications, static electricity has been identified as potential for build-up, leading to an incendive spark. Although the risk of such ignition is unlikely, the structure must have a clear route to earth, which must be considered when installing the sockets for mounting the structure. These sockets should be in direct contact with the ground and there should be no membrane separating the socket from the ground.

If an isolating membrane is to be used, an earthing path must be provided. If the structure is to be used in a larger socket with a nylon sleeve the davit will have to be earthed using a 4mm earthing cable attached to a convenient location on a metallic part of the structure.

ATEX - Inspection, maintenance & repair

If using the davit in explosive atmospheres, in addition to the regular inspection/maintenance information found on page 5, these additional instructions should be followed.

Inspections shall be instigated by the user and occur at least 6 monthly or sooner if adverse operating conditions or profile of use dictate shorter periods. Inspections and maintenance shall be carried out at a safe distance away from an explosive atmosphere.

Special attention should be given to dust deposits on the structure, especially in areas where the profiles come into contact, and should be wiped clean and care taken not to apply materials that could create electrostatic charging. Additionally the kingpin should be checked to ensure it rotates freely and the lower bearing must be ensured to be fixed to the structure with no possibility of a build-up of debris between the contact surfaces.

The structure is predominantly constructed from aluminium which will not rust. However there are steel components used throughout. These are the fasteners, shackles and sockets. Where there is sign of any rust deposits on the aluminium structure it should be wiped clean as above and where there is sign of rust on a steel component, then that component should be removed from use and the structure not used until a replacement is fitted.

LANGUAGE

It is essential for the safety of the user that if this product is re-sold outside the original country of destination the reseller shall provide instructions for use, maintenance, for periodic examination and for repair in the language of the country in which the product is to be used.

ASSEMBLY INSTRUCTIONS

The *PORTA-DAVIT* system is delivered as a "bagged system" for convenient, clean and safe handling, storage and transportation. A competent person should check for any damage to the davit components before assembling.

N.B. No tools are required for assembly.

PORTA-DAVIT 500 - Standard (diagram)



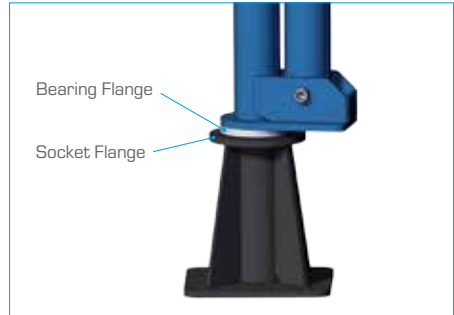
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PORTA-DAVIT 500 - Standard

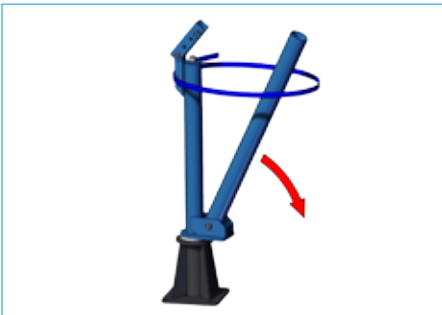


1. Insert the kingpin of the davit base assembly into the socket.

N.B. Fits all REID Lifting socket types: flush mount, top mount, side mount, bridge mount and the *PORTA-BASE*. Demonstrated using a top mount socket.



2. Ensure kingpin is fully inserted and the bearing flange is in full contact with the socket flange.



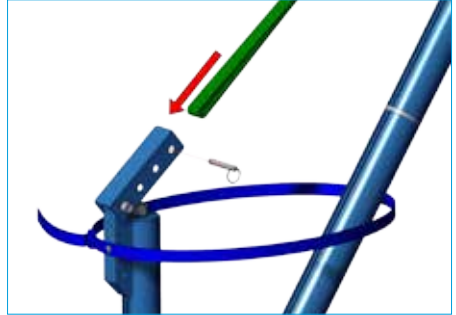
3. Loosen the retaining strap and slowly lower the lower jib tube until it is resting on the strap.



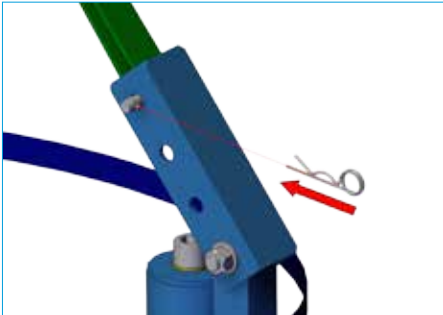
4. Supporting the weight of the upper jib on the shoulder, inset spigot into the lower jib tube.



5. Attach chain block to the shackles.



6. Supporting the weight of the jib with the shoulder, select required operating radius and attach tension strap to adjust channel with the adjustment pin.



7. Insert retaining clip through adjustment pin.



8. Check the davit assembly for ease of rotation.

N.B. The adjustment channel may be colour coded. If the davit is being used with a *PORTA-BASE* mobile socket the pin must be inserted within the yellow zone which gives a maximum operating radius of 1000mm. If used with fixed sockets any adjustment position can be used giving up to 1200mm radius.

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PORTA-DAVIT 500W - Winched

The winched option version of the davit has a rigid adjustment channel, with winch plate mounting, which replaces the tension strap on the standard unit and a sheave block, which is attached to the davit head. The *PORTA-DAVIT 500W* winch version is supplied in two bags.

N.B. Only *PORTA-DAVIT 500W* units with a yellow adjustment channel are suitable for use with a *PORTA-BASE* mobile socket.



1. Follow steps 1-4 of the *PORTA-DAVIT 500* standard version.



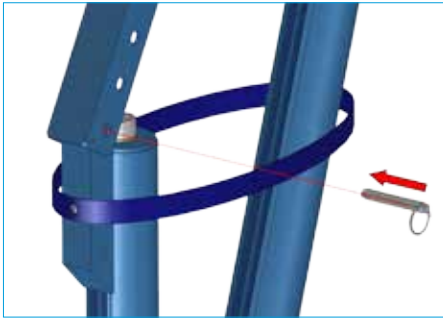
2. Remove retaining pins and clips then feed winch rope (hook end) over sheaves. The winch should **not** be attached at this point.



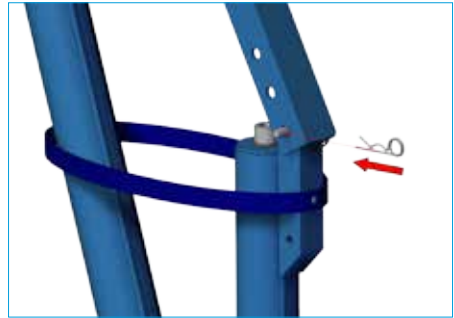
3. Ensure winch rope is located in sheave groove and replace retaining pins and clips.



4. Supporting the weight of the upper jib with the shoulder, raise into required operating position.



5. Attach rigid adjustment channel to davit base with adjustment pin.



6. Insert retaining clip through adjustment pin.



7. Position winch on rigid adjustment channel and attach winch with retaining pins and clips. Ensure winch rope is wound correctly.



N.B. Please read operating instructions for the winch before use.

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ASSEMBLY VARIATIONS

PORTA-DAVIT 350EX - Extended operating radius

The extended operating radius variants of the davit have two different components to the standard *PORTA-DAVIT 500* – a jib extension piece and an extended adjustment channel.

Follow steps 1 -3 and then as follows:

- Attach extended adjustment channel to upright pillar using securing pin and R-clip.
- Insert the spigot of the jib extension piece into the lower jib tube.
- Continue from step 4.

The extended adjustment channel must only be used in conjunction with a jib extension piece.

Please note *PORTA-DAVIT 350EX* or other extended davits must not be used with a *PORTA-BASE* mobile socket.

Man-ride applications - 120kg

The *PORTA-DAVIT 500* is compliant with EN795:1996 and BS EN 364:1993 for Type B Anchor devices giving protection against falls from a height and has been verified by Lloyd's Register, Distinguishing Number 0038, Certificate Number EC06/00002. The unit is rated at WLL 120kg for man-ride applications.

The configuration of the unit for man-ride applications may be one of the following:

- *PORTA-DAVIT 500* standard unit with fall-arrest unit attached to davit head shackle.
- *PORTA-DAVIT 500W* winch option fitted to *PORTA-DAVIT 500* with fall-arrest unit complete with integral recovery winch.
- *PORTA-DAVIT 500W* winch option fitted to *PORTA-DAVIT 500* with man-rated winch fitted to the unit.

Assembly of the unit follows the appropriate configuration, as above. The *PORTA-DAVIT* must not be used in any extended configurations at radius greater than 1200mm for man-ride applications.

For man-ride applications the *PORTA-DAVIT* unit would normally be dedicated to man-ride only, and we recommend setting the operating radius at the minimum possible.

Original REID Lifting Ltd sockets designed for use with the *PORTA-DAVIT 500* must only be used for man-ride applications.

A competent person must ensure that the working system is compliant with the requirements of the relevant safety regulations.

SOCKET EXTENSION ASSEMBLY

The assembly process can generally be performed in two ways depending on the height of the socket extension, socket used and whether there are any hazards adjacent to the socket position.

A risk assessment should be performed before starting the process, as the local situation needs to be carefully considered.

Method A - 2 people *(recommended)*

1. Assemble *PORTA-DAVIT 500* or *PORTA-DAVIT 350EX* on the floor horizontally adjacent to the fixed socket position, and attach the chain block and slave chain to the shackles.

2. Move jib arm in line with pillar and tighten the retaining strap.

3. Fit the socket extension to the davit kingpin so that the assembly is complete on the floor.

4. Rotate the davit & socket extension assembly into a vertical position adjacent to the fixed socket.

5. Two people should lift the davit & socket extension assembly, each using the socket handles with one hand and bracing against the davit with the other. Then insert the socket extension kingpin into the fixed socket.

N.B. The davit + socket extension with chain block + slave chain weigh approximately 50kg.

6. With a shoulder against the lower jib tube, the retaining strap is released to its full extent and the davit arm allowed to rotate to full/set radius.

7. The unit is now ready to be rotated into position to connect to the item to be lifted.

N.B. If the fixed sockets are installed flush with ground level then the assembled unit can be "walked up" into position. The kingpin should be positioned and retained above the fixed socket when raising, so it naturally slides into the socket).

Method B - 2 people

(only for Socket Extension 500mm)

1. Insert Socket Extension into socket.

2. Assemble *PORTA-DAVIT 500* or *PORTA-DAVIT 350EX* on the floor horizontally adjacent to the fixed socket position, and attach the chain block and slave chain to the shackles.

3. Move jib arm in line with pillar and tighten the retaining strap.

4. Rotate the davit and into a vertical position adjacent to the socket.

5. Two people should lift the davit assembly 500mm and insert the kingpin into the Socket Extension (the extended davit with chain block weighs 35kg).

6. With a shoulder against the lower jib tube, the retaining strap is released to full extent and the davit arm allowed to rotate to full radius.

7. The unit is now ready to be rotated into position to connect the item to be lifted.

PORTA-DAVIT[®] 500kg

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ACCREDITATIONS

Quality and Safety are key themes throughout this document and the REID Lifting ethos. It is with this in mind that we have undertaken external accreditations to ensure we stay focused on what is important to our clients and users and ahead of market trends and developments in Safety and Quality systems.

REID Lifting has been successfully audited by Lloyds Register (LRQA) for approval of its Integrated Management System combining quality systems management, environmental issues and the Health and Safety practices within the company.

REID Lifting holds the following certifications:

- **ISO 9001** - Specifies requirements for a quality management system for any organisation that needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements and aims to enhance customer satisfaction.
- **ISO 14001** - Specifies the requirements for implementing environmental management systems throughout all areas of the company.
- **OHSAS 18001** - Occupational Health and Safety Managements Systems.
- **LEEA Membership** - REID Lifting Ltd is a full member of the Lifting Equipment Engineers Association (membership 000897). REID Lifting conforms to the main aims of the association which is to achieve the highest standards of quality and integrity in the operations of members. Their entry qualifications are demanding and strictly enforced through technical audits based on the technical requirements for members.

Conformité Européenne (CE)

REID Lifting's products have been designed, tested and approved (as appropriate) by the Conformité Européenne. This certifies that REID Lifting's products meet the demands of the European Directives regarding health and safety requirements.

The Queen's Award for Enterprise Innovation

REID Lifting has been awarded this prestigious award twice for innovative design and development of lightweight, portable and safe lifting solutions.



TESTING

Testing and Technical File review are integral parts of our design and manufacturing process – to externally verify the products, where appropriate, using government approved Notified Bodies.

All REID Lifting products are type tested at laboratories that are accredited by the United Kingdom Accreditation Service (UKAS). In addition products are proof load tested either individually (or on a batch sampling basis).

Full product design & development Technical Files are available for inspection.

QUALITY & SAFETY

INTELLECTUAL PROPERTY RIGHTS

Product IPR

Intellectual property rights apply to all REID Lifting Ltd products. There are patents in place, or pending, for:

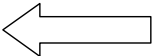
- *PORTA-GANTRY*
- *PORTA-GANTRY RAPIDE*
- *PORTA-DAVIT QUANTUM*
- *PORTA-DAVIT*
- *T-DAVIT*
- *SNAPPER*

All product names are Trade Marks of REID Lifting Ltd:

- *PORTA-GANTRY*
- *PORTA-GANTRY RAPIDE*
- *PORTA-DAVIT QUANTUM*
- *PORTA-DAVIT*
- *PORTA-BASE*
- *T-DAVIT*
- *PORTA-QUAD*
- *SNAPPER*
- *PORTA-LIFTER* Manhole Lifter



INSPECTION RECORD



* Insert data from serial numbers found on product into table below.

Product number[s]* A			
Serial number[s]* B			
WLL* C			
Year of manufacture* D			
Name of user			
Date of purchase			
Date of first use			
Periodic Examination and Repair History			
Date	Inspected by	Pass/Fail	Comments



t +44 (0)1291 620796

e sales@reidlifting.com

w www.reidlifting.com

UK

REID Lifting
Unit 1 Wyview, Newhouse Farm Ind. Estate,
Chepstow, Monmouthshire, NP16 6UD, UK

t +44 (0)1291 620 796

f +44 (0)1291 626 490

e enquiries@reidlifting.com

w www.reidlifting.com

SWEDEN

2LIFT AB
C / O JJ-Group AB
Tryckarevägen 10
434 37 Kungsbacka SWEDEN

t +46 (0)7342 26155

e info.2lift@jjgruppen.se

w www.jjgruppen.se

FRANCE

REID Lifting France
P.A. de Kerboulard, Rue Gutenberg
56250 Saint-Nolf FRANCE

t +33 (0)297 53 32 99

f +33 (0)297 53 04 86

e contact@reidlifting.fr

w www.reidlifting.fr

AUSTRALIA

Vector Lifting
43 Spencer Street
Jandakot, WA 6164 AUSTRALIA

t +61 (0)8 9417 9128

f +61 (0)8 9417 4105

e info@vectorlifting.com.au

w www.vectorlifting.com.au

DE & AUT & CH

REID Lifting D-A-CH
Finkenstrasse 26
8280 Kreuzlingen SWITZERLAND

t +41 (0)71 686 90 40

f +41 (0)71 688 51 69

e jesser@reidlifting.de

w www.ecolistec.ch
www.reidlifting.de

USA & CANADA

Thern, Inc.
5712 Industrial Park Road
PO Box 347, Winona, MN 55987, USA

t +1 507 454 2996

f +1 507 454 5282

e info@thern.com

w www.thern.com



WEBSITE