

Vulcan®

**PLANT, TOOLS
AND ACCESSORIES**



PLANT HIRE & PURCHASE

Anchor Systems (International) Ltd have developed and hold a large stock of specialist installation tools and equipment that are fit for efficiently installing, proof testing and load locking our range of Vulcan Earth Anchors and Anchor Post foundation systems. All our equipment is available to hire or purchase. If you would like to know more about our equipment, our friendly and knowledgeable team will be happy to help you with your enquiry.

Depending on the size of anchor and its application, the plant will vary from hand held tools to heavy duty machine/excavators. The information in this brochure should give you a clear understanding of the most suitable installation tools for our Vulcan Earth Anchor range.



TRAINING

Anchor Systems (International) Ltd offer bespoke training packages for our entire product range including the Anchor Post and Vulcan Earth Anchor® and their respective applications and uses. Training can be carried out on-site or at our Head Office in West Sussex near Gatwick, and can be tailored to your specific requirements.

At the end of a successful training session, each trainee will be issued with an Anchor Systems training passport detailing the completed competence on the back of the passport – similar to a British driving licence layout. The Training Passports are monitored regularly by Anchor Systems regarding the renewal dates for each com-



ANCHOR POST				
CORE	SYSTEM	DATE ASSESSED	EXPIRY DATE	TRAINER
1	Tied Anchor Post Installation and simple interfacing/locking/plate and column connection	01/18	01/20	Jordan Smith
2	Multi-Point Anchor Post Installation (MIP)	01/18	01/20	Jordan Smith
3	Cable Route Management System (CRMS)	N/A	N/A	Jordan Smith
4	Tensioned Plate - Single Tie Rod/Post	N/A	N/A	Jordan Smith
5	Column/Beam - Tied Tie Rod/Post	N/A	N/A	Jordan Smith
6	Multi-Point - Single Support Anchor Post	01/18	01/20	Jordan Smith
7	MIP - Manual points (MIP) (Single Post)	01/18	01/20	Jordan Smith

More information and FAQ's available at
www.anchor systems.co.uk

INSTALLATION METHOD



MACHINE MOUNTED



Vulcan anchors are designed to be driven into the ground using hydraulic or percussion equipment, with little or no disruption to the structure or surrounding area.

HAND HELD



MACHINE MOUNTED

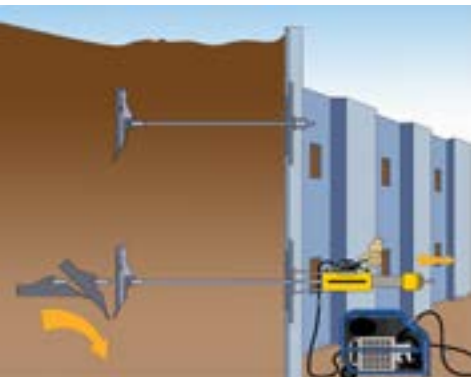


Once the anchor has been driven to the required depth the drive

HAND HELD

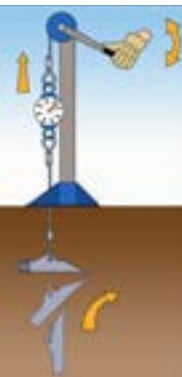


MACHINE MOUNTED



A tensile load is applied to the attached tie bar or tendon. This rotates the anchor into the locked position for maximum load holding capacity. The anchor is then proof tested to the designed loading requirements before the top termination is fitted, as specified by the civil or structural engineer.

HAND HELD



FAQS

How is an Earth Anchor installed?

Depending on the size, depth and soil conditions Vulcan Earth Anchors can be installed using a maul hammer and hand drive rod or a hand held breaker. For larger projects a machine and adapter will be required. Method statements and training are all available from Anchor Systems Enquiry page on our website.

What is the typical Installation depth of an Earth Anchor?

Between 1 and 12 meters.
The drive depth is determined through an understanding of the application, available soil conditions and the loading requirements. For structural anchoring such as slope stabilisation and retaining wall anchoring, designers should take into account the slip plane or angle of repose to ensure the Earth Anchors are installed into stable soil conditions. However, when anchoring structures such as trees, air domes and utility systems the anchors have pre-determined depths.

What is the typical spacing of Earth Anchors?

0.6 – 1.5 metre centres
Earth anchors can typically be installed as close as 0.6m – 1.5m centres however a good rule of thumb is 5 x the anchors width apart to prevent load interference. A consideration with closer centred installations is the installation drive angle, especially when working on retaining walls with an external corner. In this case, the anchor installation drive angles and heights can be adapted to prevent a clash.

What is a proof test?

A proof test is a test proving the load each anchor can achieve once installed. The load is the designed working load plus the FOS (Factor of safety). Each anchor must be tested to this load and then released and locked off to the working load.



Options

HANDHELD TOOLS

Anchor Systems have created a specialist range of handheld installation and loading equipment that is fit for the purpose of efficiently installing and tensioning our lower capacity Vulcan Anchors. We have also tried to keep the individual plant unit weights as low as possible to ensure that our anchoring systems can be installed as easily as possible. Our hand held tools allows for AS01,05 and AS-10 to be easily installed to a depth of 1200mm and load locked with simple portable and robust tools.

HANDHELD BREAKER / TRUNDLE PACK

We offer a range of handheld percussion driving and loading equipment designed for the installation of our Vulcan Earth Anchors (AS-01 (1Kn) – AS-90 (90Kn) as well as our Anchor Post. We have kept the individual plant unit weights as low as possible to ensure that our anchoring systems can be installed as easily as possible. Our focus is to ensure that the plant we provide is both robust as well as quick & easy when using our hand-held installation plant. We have developed the Trundle Pack which contains the installation equipment you need all together on one easy to manoeuvre trolley. The Trundle Pack has been designed for rough terrain and long-distance sites with poor access meaning there is no need to make multiple trips back and forth to your vehicle when unloading.

MACHINE MOUNTED

All installation over 90kN needs to be installed using by machine (max 15 ton) with the correct mounted equipment required for our heavy-duty range of anchors ranging from 90kN to 450kN capacity. We can supply an adaptor pot fit for breaker points up to 110mm, drive adaptor and drive extensions. You may consider using this type of installation equipment on installations when there is high volume number of anchors to be driven regardless of their size.

RIG MOUNTED

Similar to the machine mounted installation plant, this equipment is fit for all anchors from AS-20 – AS-400 and is typically utilised for works on slope stabilisation and erosion control. The rig mounted installation allows the anchors to be installed easily and keeping a uniformed installation whilst working at height.

Uses

ANCHOR	ANCHOR TYPE
	AS01 1 - 4 kN
	AS05 2 - 13 kN
	AS10 4 - 27 kN
	AS20 10 - 63 kN
	AS30 14 - 87 kN
	AS50 19 - 119 kN
	AS90 33 - 169 kN
	AS120 71 - 199 kN
	AS200 45 - 271 kN
	AS300 71 - 405 kN
	AS400 148 - 450 kN

HANDHELD AS01 - AS10



HANDHELD BREAKER AS05 - AS90



MACHINE MOUNTED AS10 - AS400



AS01 - AS10

Handheld Equipment



HDR - Hand Drive Rod, PDR - Power Drive Rod, Maul - Maul Hammer

The Handheld Drive Rods are designed to drive the anchors in to the ground. These come in two forms, hand drive rods for pushing and hammering in to the ground, or power drive rods with can be fitted to a R32 breaker or petrol post driver.

PR2.5 - Post Rammer 2.5inch

The Post Rammer is to be used in conjunction with the Drive Rods to drive the anchors into the ground.



ALJ - Anchor Loading Jack

The Loading Jacks are designed to load lock our smaller anchors that have a wire tendon.



ALH - Anchor Loading Hook



The Loading Hook is designed to load lock our smaller anchors that have a wire tendon with an eye or D-ring termination.

HRR - Hand Rod Remover



The Hand Drive Rod Removers are used to assist with the removing of the drive rods nce the anchor as been driven into place.

RT - Ratchet Tensioners



The Ratchet Tensioner is designed to tension a system that utilises wire or straps that run through a ratchet, (e.g. tree kits).

TREE KIT TOOL BOX

Our all in one Tool Kit provides the perfect solution for when you have multiple trees to install, especially if they are of varying sizes. This tool kit comes in a handy box to carry and protect your equipment which helps prolong its lifespan and reduces the risk of losing items compared to carrying them around separately. This all in one kit provides you with all the tools you need to install our tree kits as well as all the installation methods for each system on one handy USB.



AS05 - AS90



- 30 - 40L Power pack (electric start available) c/w hose set
- LL-10DOA Load locker for loads up to 110kN
- Modified BR-67M Breaker with Anti Vibration Handles

Installation drive steels:

- R-32 shank, R-32 probe, R-32 extension available to install to 6m
- Or
- R-32 Power Drive Steel (PDR) to install an anchor

All drive rods are available in different lengths to assist with manual handling and access.

Handheld Equipment

AS05 - AS90

TRUNDLE PACK

Our focus is to ensure that the plant that we provide is both robust and simple to use for hand held plant installation. With this in mind we, have developed the Trundle Pack which contains the installation equipment you need altogether on one easy to manoeuvre trolley. The Trundle Pack has been designed for rough terrain and long-distance sites with poor access meaning there is no need to make multiple trips back and forth to your vehicle when unloading.

- All in one installation pack
- Easy start power pack
- Easy lift points for in and out of vans
- Powerful and lightweight
- Compact for tight and restricted areas
- Unleaded fuel, no 2 stroke fuel required
- Reliable and robust
- Dismantles easily to fit into small vehicles
- Anti-vibration breaker
- Suitable for installing AS-05 to AS-90 anchors



Machine & Rig Mounted

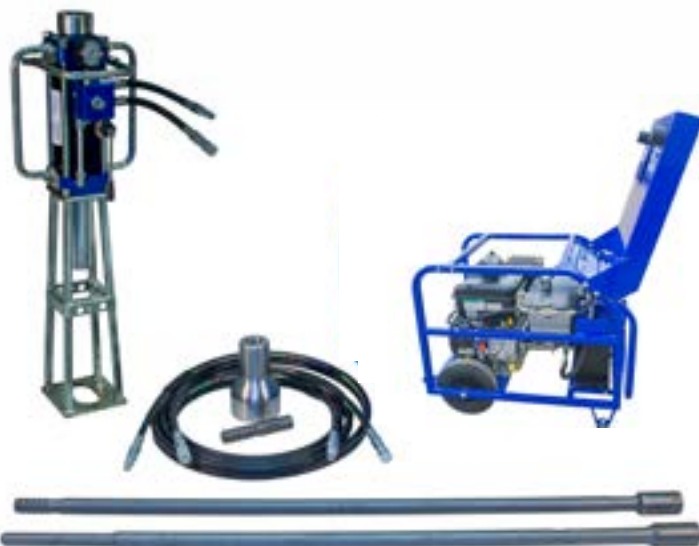
AS10 - AS400

3 - 7 TONNE

- 3 - 7 Tonne machine (change to 1.5 – 7 Tonne AS-10 – 120)
- 30 - 40L Power pack (electric start available) c/w Hose set
- LL-10DOA Load locker for loads up to 110kN

Installation drive steels:

- T-38 Drive probe
- T-32 Drive extensions
- T-38 Adapter pot (available in sizes to fit breaker point 75mm or 90mm)
- T-38 Extraction eye



T-45 drive steels are available for larger anchors AS-120/200/300/400 see page 13. All drive rods are available in different lengths to assist with manual handling and access. For loads in excess of 110kN high pressure equipment is required, please refer to page 10 & 11.

7 - 14+ TONNE

- 30 - 40L Power pack (electric start available) c/w hose set
- LL-10DOA Load locker for loads up to 110kN

Installation drive steels:

- T-38 Drive probe
- T-38 Drive extensions
- T-38 Adapter pot (available in sizes to fit breaker point 75mm or 90mm)
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T-45 drive steels are available for larger anchors AS-120/200/300/400 see page 13. All drive rods are available in different lengths to assist with manual handling and access. For loads in excess of 110kN high pressure equipment is required, please refer to page 10 & 11

AS10 - AS400

High Pressure Load Locking

MANUAL HAND PUMP WITH HOLLOW 120kN HYDRAULIC RAM



- 10,000psi Hand pump capable of powering a single acting ram up to 200kN.
- 120kN Hollow ram complete with calibrated gauge, suitable for tendons up to 16mm with a 120mm stoke per extension.
- Suitable for low quantity anchoring projects and remote access where power packs and fuel are restricted.
- Loads up to 120kN

BATTERY PUMP WITH HOLLOW 200kN HYDRAULIC RAM

- 10,000psi Battery pump capable of powering a 120kN ram up to a 300kN ram, provided with two battery's and a charger.
- 200kN Hollow ram complete with calibrated gauge, suitable for tendons up to 20mm with a 150mm stoke per extension.
- Suitable for poor access projects etc. Slopes, sheet pile walls and retaining walls.
- Loads up to 200kN



BATTERY PUMP WITH HOLLOW 300kN HYDRAULIC RAM



- Battery pump with hollow 300kN hydraulic ram
- 10,000psi Battery pump capable of powering a 120kN ram up to a 300kN ram, provided with two battery's and a charger.
- 300kN Hollow ram complete with calibrated gauge, suitable for tendons up to 25mm with a 250mm stoke per extension.
- Suitable for poor access projects etc. Slopes, sheet pile walls and retaining walls.
- Loads up to 300kN

HIGH PRESSURE POWER PACK COMPLETE WITH HOLLOW 300kN RAM



- 10,000psi Petrol powered power pack capable of powering a double acting ram from 200kN ram up to a 600kN ram.
- 300kN Double Acting Hollow ram complete with calibrated gauge, suitable for tendons up to 25mm with a 250mm stoke per extension.
- Suitable for high load requirements with a rapid loading capability.
- Loads up to 300kN

HIGH PRESSURE POWER PACK COMPLETE WITH HOLLOW 600kN RAM

- 10,000psi Petrol powered power pack capable of powering a double acting ram from 200kN ram up to a 600kN ram.
- 600kN Double Acting Hollow ram complete with calibrated gauge, suitable for tendons up to 25mm with a 300mm stoke per extension.
- Suitable for high load requirements with a rapid loading capability
- Loads up to 600kN

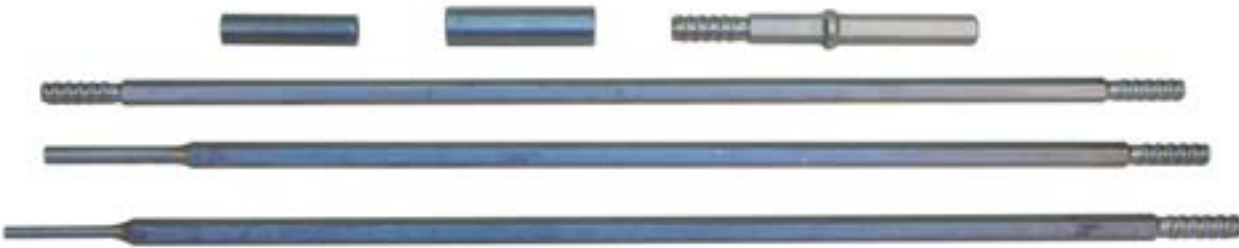


All high pressure sets are available with a lock off valve for time lapse and creep testing.

Drive Rod Sets

R-25

- Suitable for AS-05 and AS-10 anchors for depths between 1m – 5m
- To be used in conjunction with the BR-67 breakers and Trundle Pack
- Probes and extensions come in lengths of 1.2m
- R-25 Shank or R-32 shank with R-25/32 coupler
- R-25 Drive probe extension 1200mm
- R-25 Drive extension 1200mm
- R-25 Coupler



R-32

- Suitable for AS-20/30/50/90 anchors for depths between 1.5m – 6m
- To be used in conjunction with the BR-67 breakers and Trundle Pack
- Probes and extensions come in lengths of 600mm, 900mm and 1.2m
- R-32 Shank 170mm
- R-32 Probe 600/900/1200
- R-32 Extension 600/900/1200



Drive Rod Sets

T-38

- Suitable for AS-20/30/50/90/120 anchors for depths between 3 – 15m
- To be used in conjunction with machine/rig 1.5T – 14T
- Probes and extensions come in lengths of 1.5m
- T-38 Drive adapter pot 75/90/110mm
- T-38 Drive adapter
- T-38 Drive probe 1500/1800
- T-38 Drive extension 1500/1800



T-45

- Suitable for AS-120/200/300 anchors for depths between 3-15m
- To be used in conjunction with machine/rig 1.5T – 14T
- Probes and extensions come in lengths of 1.5m
- T-45 Drive adapter pot 110mm
- T-45 Drive adapter
- T-45 Drive probe 1500/1800
- T-45 Drive extension 1500/1800





FOR TECHNICAL ADVICE OR
FURTHER INFORMATION PLEASE CONTACT:

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PLAN-10082021