Breaking new ground in subsea excavation and trenching.
...and the people to make it happen

AGR Subsea has a wealth of experience in solving subsea challenges, from rock removal to BOP recovery, from trenching in loose sands to flattening the toughest seabed highs. Our people have been there, handled the problems and know how to incorporate hard-won experience into new solutions, so that your projects can benefit from our hard work. We know that no job is ever routine when you are operating subsea and we apply the same commitment, the same innovative spirit to all our projects, wherever they are in the world. When a job simply has to be done right first time, AGR Subsea is here to help.
We’ll supply the equipment your project needs…

Whatever your seabed intervention requirement, you need to know that everything will go smoothly. Whether you are planning trenching, debris removal, freespan correction or a dozen other seabed tasks, you can count on AGR Subsea’s experience and skill to ensure that your project runs without a hitch.

Our SeaVator mass flow excavation equipment will blow away debris, rock dump and backfill without ever touching the seabed or your equipment. Jobs that would take days with divers or ROV-mounted equipment can now be executed in hours, with complete confidence.

Coupled with our unique V-jet system, the SeaVator becomes the obvious choice for trenching pipelines and umbilicals in softer soils, where other methods can get bogged down. Even in deeper water AGR continues to deliver, with unique water-powered equipment that is already proven down to 850m.

With offices and equipment around the globe, AGR is well placed to support your operations wherever they are. And with our unique range of high-pressure pumps, excavators, submersible electric pumps and the incredible ClayCutter X route preparation system we can offer reliable solutions to a huge range of operational challenges.

Whatever your seabed intervention requirement, whatever your water depth, AGR has the solution for you.
ClayCutter X

ClayCutter X is a complete, very high horsepower excavation system for pipeline route preparation, silo cutting and mass excavation of clay and cemented soils on flat or sloping terrain.

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The system consists of a heavy horizontal jetting beam suspended from a drill string manifold on heavy duty chains. High-pressure water is pumped from the surface through the drill string to the manifold and to the jetting beam via flexible hoses. This device effectively decouples the jetting system from the drill string, manifold and support vessel so that the jetting beam may be landed on the seabed without shock-loading the drill string.

The jetting beam has 3 sets of jets each controlled by remote valves so that different excavation activities can be performed. A seawater-powered Seavator mass flow excavator can be installed above the jetting beam to wash away cut spoil if required. Sonar devices are mounted on the base of the manifold to observe and control excavation.

Rated at 9,000 horsepower the system can be operated in up to 3000m from a suitable dynamically positioned support vessel. The system can also be deployed from a drilling rig.

The ClayCutter-X system is suitable for cutting clay and cemented soils up to 500 kPa shear strength at rates up to 500 cubic metres per hour. The tool is designed as a multi-pass system and can be operated at up to 200 bar nozzle pressure. Cut depth per pass depends on soil strength but varies from about 150mm for 400 kPa clay to about 1000mm for weakly cemented sands. Maximum trench depth varies according to the soil characteristics and angle of repose assumed by the soil. Trenches up to 5m deep can be cut in a flat seabed and up to about 10m where steep slopes are present to assist soil runoff.
Competitive Advantages

**Applications include:**
- Pipeline Route Preparation
- Silo Construction - Mud Line Cellars and Glory Holes
- Trench Construction in Clay, Sand and Boulders
- Rock Dump and Boulder Clearance

The ClayCutter X enables pipelines to be installed in areas where seabed irregularities and excessive slope breaks previously rendered installation impossible. AGR’s ClayCutter is ushering in a new era of seabed intervention where direct routes can be planned to save miles of line pipe and millions of tonnes of rock dump. One operator has estimated that each cubic metre of seabed excavated saves 25 cubic metres of rock dump.

The ability to change ClayCutter’s configuration while the tool is deployed subsea means that rapid progress can be made through changing seabed types with minimal time required to change from hard clay jetting to gravel blasting and boulder clearance using the side cannons.

Depending on application, ClayCutter can easily be modified to be deployed by A-frame or drill pipe, with or without a SeaVator and with or without submersible pumps for spoil clearance in deep excavations.
SeaVator’s dedicated LARS means that recovery remains a controlled process even as the weather gets up. Our dual sonar setup gives better views of the worksite, and guide wires give accurate alignment of the SeaVator with the vessel.

AGR’s SeaVator mass flow excavators offer a flexible solution for a wide range of excavation and trenching applications. Used alone, SeaVator is the ideal tool for rock dump removal and debris clearance. Combined with one of our 3,000 hp trenching pumps driving our unique V-jet system, we can offer reliable trenching with unparalleled power.

The development of our AquaDrive and PropDrive SeaVators means that water depth no longer poses a hurdle to using all the benefits of mass flow. PropDrive has been specifically designed with rig-based drill pipe deployment in mind, for BOP recovery and template clearance operations. AquaDrive uses a water-powered motor to maximise efficiency and enables the benefits of deep-water mass flow to be achieved from a vessel, using a hose for water transfer.

Using SeaVator alone means that you can blow away rock dump and clear seabed equipment of debris faster than any competing method. If you add our V-Jet system you can rely on high pressure water to work with the mass flow to excavate tough soils, trench pipelines and umbilicals, correct freespans and lower pipelines in preparation for new crossings – all without touching or damaging your pipelines. SeaVator is the ideal tool for transitions, trenching curves and working near existing infrastructure. SeaVator’s non-contact approach means that you can even work on live pipelines with confidence.
Applications:
- Rock dump removal
- Template clearance
- Pile excavation
- Seabed levelling
- Trenching of pipelines and umbilicals
- Freespan correction
- Pipeline lowering for crossings
- BOP recovery
- Wreck clearance
- Unlimited depth with AquaDrive & PropDrive SeaVators

As well as having the best deployment systems and most reliable equipment, we're proud of our people too. Offshore crews are chosen for a blend of talents, led by highly experienced supervisors who understand exactly how to get the best from the equipment. They know how to work quickly and safely and don't leave anything to chance. Our engineers understand your issues and will work with your team to deliver the best solution – or tell you straight if we can't help.

The SeaVator spread has a small footprint and can be deployed from a range of vessels. It can be mobilised at short notice from a range of locations worldwide.

Whether you are involved in decommissioning, IRM, salvage or trenching, deep water or nearshore, you should add SeaVator to your subsea toolkit.
AGR's high pressure pumps each pack 3,000 hp into a thirty foot container, making them the most powerful transportable pumps in the world. Despite all that power the pumps meet stringent emissions requirements and have acoustic enclosures to keep noise down to less than 88 dBA at 1 metre even when working flat out.

AGR has a fleet of three high pressure, high volume diesel-driven pumps that can be rented individually or as a set. The 3,000 hp marine diesel engines, coupled with multi-stage centrifugal fluid ends, offer up to 200 bar outlet pressure (2,900 psi) and up to 500 m³/hr flow (8,333 lpm/2,200 US gpm). The multi-stage centrifugal pumps are a well-proven design that give years of trouble-free service in a variety of demanding applications, including platform water injection and power station cooling. The three pumps have been designed to work together when required, with computer control to manage power and pressure while optimising economy.

With portable pumps providing 3,000 horsepower AGR can deliver under pressure.
Delivering up to 9,000 hp, 25,000 lpm and 200 bar.

AGR's pumps were designed to power the ClayCutter X route preparation system and they have proven themselves to be superb workhorses in this application. However, the pumps can also be utilised individually or together on a number of other applications, where the combination of high power and compact design offers previously unattainable flexibility.

- Temporary water injection – during maintenance of existing equipment or prior to installation of new capacity
- Flushing/cleaning pipelines prior to decommissioning
- Pipeline flooding during commissioning
- Delivering power to subsea equipment such as trenchers