

The Excavation Specialists Since 1994

Our company journey from **Flow Dredging** to **Mass Flow Excavation** through to **Controlled Flow Excavation**.

1994

Rotech began development of its first Mass Flow Excavation tool, the FlowDredger in 1994, and have been at the forefront of research and development in the sector ever since. The original aim was to create a stable tool capable of excavating large amounts of soft seabed material quickly, which was achieved using a very large volume jet of seawater at relatively low pressure.

the FlowDredger employed two counter-rotating impellers operating in series and a seawater-driven hydraulic motor. This first tool was capable of producing up to 8000 litres per second at a pressure of 11kPa, given a powerful 85kW jet.

1998

Rotech built the first T-shaped excavator in 1998, with oil hydraulics replacing the seawater drive. The switch to oil hydraulics greatly improved efficiency and longevity, with the patented T-shape improved stability and at the same time improved access to the internal components for offshore maintenance. The 'T8000' as it was named had the same performance as the original excavator, up to 8000 litres per second at a pressure of 11kPa with a jet power of 85kW. At lower flow rates the jet power could be increased to 130kW.

The target market was still large scale excavations, such as for deburial of large structures in decommissioning work and trenching or deburial of large pipes for the oil & gas industry.

With two sizes of 'T' excavators plus a 'Twin' design for straddling pipe or cable, these excavators were the best Mass Flow Excavation tools available for over a decade and a half.



1994 FlowDredger

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2011

Rotech's excavation business and worldwide fleet of Mass Flow Tools were sold to Norwegian based offshore construction company REEF Subsea in November 2011.

With increased customer focus on narrower trench profiles for subsea cable protection and demand for more capable and more controlled excavation tools, following the sale to Reef, Rotech began the development of a new generation of subsea cables by providing backfill protection.

2015

The Rotech RS1 Controlled Flow Excavator was designed for the demands of the offshore windfarm market. As a result of hydrodynamic design optimisation, the new RS range of tools deliver much greater efficiency and higher cutting capability in a more compact unit than offered by any of our previous excavators. This means that not only can the RS1 be used to create narrower trenches with better depth control, it can also be used to extract excavated material out of the trench and pump it to a different location. Combined with Rotech's new BackFill Box, this allows for simultaneous trenching and burial of cable.

The RS1 is a higher pressure and lower flow device than Rotech's previous generation of excavator designs. The twinned unit, the TRS1, provides 4,000 litres per second at a pressure of 35kPa. High pressure nozzles allow the RS1 to produce up to 100kPa jet pressure. Peak jet power is now up to 215kW.

2016

The Rotech RS2 Controlled Flow Excavator has been developed for larger scale excavations, such as sandwave clearance for freespan correction of cables and pipelines. The twinned unit, the TRS2, produces 8,000 litres per second at 30kPa, giving a jet power of 240kW. The RS2 also comes in a shallow water variant capable of working in 1 to 2m of water. Over 22 years of development we have almost trebled the jet power of our excavators, while at the same time making them more controllable and more stable.

We can't wait to see where the next 20 years of development will take us...



TRS2 Controlled Flow Excavator