



## Pipeline Installation Buoys

We offer a number of standard buoyancy modules, cylindrical or square section, available 'off the shelf' however, clients often request project specific designs - which we will gladly accommodate.

**When installing heavy, large diameter pipelines offshore especially in deepwater, the tensions generated on the installation vessel can be extremely high.**

To reduce the weight of the pipeline during installation, discrete buoyancy modules can be strapped to the pipeline on board the vessel or in the case of a shore pull, installed on land.

Our pipeline buoyancy modules have been manufactured for surface as well as deepwater operations including bottom tow methods where the whole pipeline - which may be kilometres long - is towed floating just above the seabed from the fabrication site onshore to the final location offshore.

In many cases each of the pipeline buoyancy modules have to be released and recovered, this task can be carried out by divers, an ROV or an acoustic release mechanism. We design, engineer and manufacture a complete buoyancy system to suit all project requirements.



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### Materials

As with most subsea products, materials vary to suit project specifications. For shallow or surface applications, our pipeline buoyancy modules are manufactured using rotationally moulded tanks designed to suit installation and filled with a high density polyurethane foam. We can also fabricate thin walled steel tanks which are foam filled for extremely hostile environments.

For mid-water and deepwater pipeline buoyancy modules, we use a composite syntactic foam formulated to match the maximum operating depth. Typical water depths would be 500, 1000, 1500 and 2000 metres. Syntactic foams for greater water depths are available if required. The syntactic foam will either be precast and spray coated with a hard wearing polyurethane elastomer skin or injected into a polymer/steel shell.

### Design

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Fast and efficient installation and subsequent release of buoyancy modules is essential to the overall success of any pipeline project. We provide a range of banding systems to secure the modules including mild steel, stainless steel, Inconel, Titanium and Kevlar. The attachment/release mechanisms are project specific but, as illustrated, an ROV releaseable system has been used very successfully on many deepwater projects.