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Equipped

9001

We are Huisman. We design, manufacture and service heavy construction equipment for the world's leading companies in the renewable energy, oil and gas, civil, naval and entertainment markets. Our products range from Cranes, Pipelay Equipment, Drilling Equipment and Winches, to Vessel Designs and Specials.

The history of Huisman is one of setting new industry standards. Of making impact, since 1929. With step changing technical solutions that vary from stand-alone to highly engineered integrated systems. From concept to installation and lifetime support.

In these times of transition, our passionate workforce and worldwide production, service & sales facilities make us equipped for impact.

Active in 6 Markets



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People

Track record



2500+ employees worldwide





Operating from 7 locations



203 vessels are equipped with our products

GENERAL INTRODUCTION

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Huisman is a worldwide market leader in the turnkey delivery of deepwater pipelay systems. We deliver dedicated systems such as Flex-lay systems, S-lay systems, J-lay systems and Reel-lay systems. We also deliver combined systems such as the Multi-lay systems. In addition to fully integrated pipelay systems, we can also provide a full package of related standalone equipment such as baskets, reel drive systems, etc.

The complexity of our projects and their innovative character require solution-oriented thinking, technical excellence, creativity and a drive for innovation. This is why we not only provide standardised pipelay systems, but also highly customised pipelay systems. By closely cooperating with our clients and their vessel designer of choice, we can meet client specific lay requirements and create the pipelay systems of the future, equipped for deeper waters and higher capacities.

650mt Flex-lay System, Skandi Africa, Technip-DOF



FLEX-LAY SYSTEMS

Over the years Huisman has designed and delivered a large number of Flex-lay systems. The Flex-lay method combines capabilities for the installation of flexible pipelines, risers and in-line structures. The most notable features of a Flex-lay system are its vertical ramp, equipped with one or more tensioners, and a chute or wheel on top.

The ramp is kept upright by two fixed struts to the deck or can be made adjustable with an adjuster system. The flexible pipe is spooled from a reel, carousel or basket, and then bent over the chute and guided through the tensioners into the water and onto the seabed. Flex-lay systems offer an efficient pipelay method with a specific advantage: the installed pipelines are less sensitive to fatigue and therefore require less complex installation and abandonment and recovery procedures. Flex-lay systems are less suitable for the installation of rigid pipe, but can be adapted to perform J-lay or Reel-lay.

The large variety of Flex-lay systems we have delivered has broadened our scope of expertise, from concept design to start-up of operations. This has enabled us to easily customise and further develop Flex-lay systems for larger water depths and the handling of larger PLETs.





FEATURES FLEX-LAY SYSTEM

- Installation of flexible pipelines, risers and inline structures
- Suitable for laying pipe in shallow to deep waters
- High lay rates
- Pipes are flexible and therefore less sensitive to fatigue
- Less complex installation and abandonment and recovery procedure for pipelines and in-line structures
- Not suited for installation of rigid pipe in standard configuration

03



J-LAY SYSTEMS

J-lay is used to install subsea rigid pipelines in deep water. With a J-lay system pipe stalk, consisting of up to six pipes with a total length of 72m, are upended and welded to the seagoing pipe in a near vertical ramp.

The ramp angle is adjusted so that it is in line with the pipe catenary hanging to the seabed. This way bending of the pipe is kept to a minimum. The J-lay method is very suitable for deep water pipelaying because the pipe leaves the lay system in an almost vertical position and the pipeline is only bent once during installation (on the seabed). This reduced amount of bending is beneficial for installing pipelines that are sensitive to fatigue. Compared to other lay methods, J-lay has a relatively low production rate due to the limited number of workstations. The J-lay method is less suitable for shallow waters as this requires a close to horizontal departure angle.

We have solid experience in delivering complete J-lay systems including tower structures, tower angle adjustment systems, pipe handling equipment, line-up systems and the control system.



FEATURES J-LAY SYSTEM

- Installation of deep water rigid subsea pipelines
- Installation of large diameter and concrete coated pipelines
- Beneficial for installation of fatigue sensitive pipes such as risers
- Equipped to install special items such as PLETs
- Relatively low production rate due to the single welding position
- Very high pipelay tension
- Less suitable for shallow water pipeline installation





04

S-LAY SYSTEMS

With the S-lay installation method, pipe joints are welded onboard, leave the vessel horizontally and are guided by a stinger; a pipe supporting structure that is supported behind the vessel and controls the bend radius of the seagoing pipe string to prevent excessive bending.

Due to the high production rate and the possibility to install concrete coated pipe, S-lay is extremely suitable for pipe installation in shallow and intermediate water depths. Larger water depths are also possible, but require a relatively long stinger and a large vessel to support it.

An example of a Huisman designed and delivered S-lay system can be found onboard Subsea 7's 'Seven Borealis'. This vessel combines a 600mt S-lay system with a J-lay tower for pipelaying purposes and a 5,000mt Offshore Mast Crane for heavy lifting and deep water construction.





FEATURES OF A S-LAY SYSTEM

- Suitable for installation in shallow and intermediate water depths
- High production rate due to multiple workstations
- Suitable for installing concrete coated pipe
- Deeper water requires a relatively long stinger





REEL-LAY SYSTEMS

Another method for the installation of rigid subsea pipelines is by Reel-lay. Long pipe segments are welded, tested and coated onshore and then spooled onto a large, usually vertically oriented pipe reel, in one continuous length. Once the Reel-lay vessel is in position, the pipe is unspooled, straightened and then lowered to the seabed as the vessel moves forward.

FEATURES REEL-LAY SYSTEM

- Suitable for shallow to ultra-deep waters
- Very high production rate
- Pipe welding in non-critical vessel time (onshore)
- Dedicated spoolbase required for pipe preparation
- Diameter of the pipe is restricted by the size of the reel
- Not suitable for installation of concrete coated pipe
- Used for pipelines with thermal outer coatings or inner linings
- Due to the plastic bending less suitable for fatigue sensitive pipes

The major advantages of Reel-lay are the high production rate as well as the controlled welding and inspection conditions onshore. These advantages make Reel-lay an extremely efficient method for the installation of pipelines in all water depths. To make Reel-lay efficient, a spoolbase is required nearby the Reel-lay vessel to reduce transit time to and from the pipe installation location.

We can deliver complex Reel-lay systems including main and piggy-back reels, traction and storage winches, tensioners and supporting cranes.

An example of Huisman's innovative drive is the development of a modular skidding reel. This type of system can carry several reels with pipe on deck, which can be lifted onboard the vessel using her own main crane and can then be skidded over deck rails to unspool over the ramp. With this setup it is possible to exchange the empty reels with full reels without the pipelay vessel having to shuttle between the pipelay location and the spoolbase. This results in a more efficient use of the pipelay vessel and a higher effective lay rate. Reel-lay can be easily combined with Flex-lay capabilities.





400mt Reel-lay System



MULTI-LAY SYSTEMS

Pipelay contractors more and more often decide to combine pipelay methods onboard one vessel as the infrastructure of an oil and gas field often consists of different types of pipe that require different lay methods. This allows for large flexibility and cost efficiency as one vessel is capable of operations in most water depths and is equipped with the most cost efficient installation method for the specific pipe.

One of our Multi-lay systems, onboard Subsea 7's 'Seven Seas', features a single firing line - combining Flex-lay, J-lay and Reel-lay - and has been awarded the Maritime Innovation Award 2008. Our innovative and compact design of retractable tensioners and J-lay and Reel-lay modules that allow for installation onboard relatively small-sized vessels, is mentioned as a remarkable feature, as it offers more flexibility and efficiency.







MORE OPTIONS

Pipelay systems can be enhanced with other capabilities such as deep water lowering and handling of subsea modules for well servicing. The functionalities can be combined without compromise because the Huisman tensioners, either retractable or fully opening, can clear the firing line to make way for other operations.



SMALL SYSTEMS

Huisman has developed a range of small pipelay systems that can be easily transported and mobilised on relatively small vessels that are available on the local market. The systems can be disassembled in parts that can be transported by road. The systems can also be delivered as fully containerised versions. The range comprises S-lay, Reel-lay, J-lay and Flex-lay systems.



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