

m-pipe® IDP extends light well intervention limits

Magma has developed a 3in 15ksi m-pipe® IDP (Integrated Deployment Package) system for hydraulic light well intervention, as a solution for deep water that requires higher pump pressures and intervention fluid flow rates.

m-pipe® is an enabling technology that combats the well-known operational challenges of coiled tubing, allowing for efficient light well intervention to maximise any well's commercial life and to rectify downhole issues rapidly.

Coiled tubing limitations for well intervention

Since the 1990s coiled tubing has evolved as a low cost relatively 'throwaway' solution for light well intervention, driven by a need for fast, mobile delivery. However, in the last 10 years, intervention depth, pressure and corrosive fluid demands have increased dramatically, taking coiled tubing to its capability limits.

Coiled tubing reels are large and coiled tubing is prone to handling damage, fatigue and chemical attack, making it necessary to replace it within a few intervention campaigns, meaning higher costs and reduced efficiency.



Low cost multi-campaign well intervention



Effective packaged light well intervention solutions have been limited, by both a lack of suitable technology and little drive to seek new, practical resolutions during past times of higher oil price.

A low cost well intervention package is required to bring every well back to maximum efficiency at minimum cost.

m-pipe® and the IDP system offers reliable low cost hydraulic well intervention:

- Deepwater capability down to 3,000m (10,000ft) and up to 15ksi pressure
- One tenth of the weight of equivalent steel or non-bonded flexible pipe
- High resistance to aggressive well completion and stimulation fluids
- Smooth bore allows high intervention fluid flow rate up to 45 bpm
- Low minimum bend radius for high capacity reeler deployment
- Reliable delivery of hundreds of well intervention operations




m-pipe® technology

Magma m-pipe® combines superior materials selection with robust pipe design, creating a high strength carbon fibre composite pipe that does not corrode, and is one tenth the weight of coiled tube in water.

m-pipe is manufactured in a high precision fully automated 3D laser printing process, combining Victrex PEEK polymer, high grade carbon fibre and S-2 glass fibres.

The carbon fibre and S-2 Glass fibres are laser-fused with PEEK to form the wall laminate. These superior grade materials offer exceptional performance in deep water and for demanding light well intervention applications.

The use of carbon fibre and S-2 Glass® fibres allows m-pipe® to be reeled to the small diameters required for light well intervention, where minimum bend radius (MBR) is important.

Magma has an oil field standard approach to m-pipe® termination enabling the transition from composite pipe to steel pipe, or to steel fittings such as flanges, hubs or threaded connections.

The solution for demanding light well intervention

Magma has developed the m-pipe® and IDP light well intervention rental system as an enabling technology to deliver against a need for fast intervention and future deep water, HPHT and corrosive intervention fluid demands.

Integrated Deployment Package (IDP) for light well intervention

The Magma IDP system has a modular reeler with level wind, m-pipe® riser and handling system, built-in tensioner, controls cabin, power unit, installation deck and retrieval winch for rapid deployment and retrieval in deep water.



The m-pipe® and IDP system can be rented as a complete intervention package from Magma, on a short-term campaign or annual contract basis, reducing Capex and avoiding multiple intervention campaign contracts.

Magma's m-pipe® is light, flexible, fatigue and chemical resistant and has the high performance specification required to ensure safe, rapid and lower cost intervention in demanding offshore environments.

The Magma 'integrated package' approach to intervention riser and deployment also provides the ability to intervene subsea completions continuously and efficiently, to maximise their ongoing productivity.

The m-pipe® and IDP system allows for flexible HPHT and high flow rate applications in deep water and local offshore environments, maximising vessel utilisation and reducing intervention Capex.

m-pipe® and IDP system	Pipe total length	Pipe OD	Reel hub diameter	Reel flange diameter	IDP frame dimensions (L x W x H)	IDP system weight	IDP and m-pipe® weight
3 inch 15ksi	2,963m (9,722ft)	111mm (4.37in)	8.20m (26.9ft)	9.51m (31.2ft)	11.6 x 6.0 x 11.2m (38 x 20 x 37ft)	145 Te	175 Te

For more detail on the Magma m-pipe® packaged IDP light well intervention system email sales@magmaglobal.com

Light well intervention web page: <http://bit.ly/magmaLWI>

Intervention animation: <http://bit.ly/magmaWlanim>

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