Subsea Intervention System

Invention, Unique Design & Extraordinary Craftsmanship

Subsea Intervention Systems
Custom Design & Manufacture
Wellheads & Christmas Trees
Magnum Gate Valves
Blow Out Preventers
Manifold Systems
Ball Valves
Well Test Products

The New Standard in Subsea Intervention
As part of a comprehensive offshore work over system, WOM subsea gate valves and actuators provide significant weight and space advantages. Now, this lightweight and compact intervention system can safely work over wells from much smaller, less expensive vessels.

This “Patented” intervention system isolates wellbore pressure when tools are being changed out and offers two levels of redundancy for safety.

In an emergency shutdown situation, the Magnum valve and actuator cut 2-7/8” coil tubing to shut in the well without leaving a slug in the valve body. After cutting, the fast acting WOM “Sure-Seal” proved positive by sealing after the cut in testing witnessed by DNV.

WOM’s Subsea gate valve and actuators have successfully passed the requirements for API 17D. WOM’s Subsea gate valve and actuators have been subjected to 11,000 feet of water depth in simulated testing with successful results.
The Intervention System is fitted with an Emergency Shut Down (ESD) control system. The system will carry out a controlled closure of the Flowhead, EDP (Emergency Disconnect Package), and LRP (Lower Riser Package) valves in emergency situations. The Intervention System Components, Flowhead, EDP, LRP, and Choke Manifolds will isolate and secure the well. Additional components of the Subsea Intervention System are the HPU (Hydraulic Power Unit) and the Umbilical Reeler.
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Emergency Disconnect Package (EDP) Features:
Mono block construction to reduce height and weight. 7-3/8” 10,000 psi wp hydraulic fail-close gate valve and actuator can cut electric line and seal 10,000 psi. Actuator has a pilot operated quick dump valve, loss of hydraulic pressure closes valve.

Lower Riser Package (LRP) Features:
Mono block construction to reduce height and weight. 13-5/8” 10,000 psi wp hub profile mandrel up to mate with the EDP connector. Upper valve (7-3/8”) can cut electric line and seal 10,000 psi. Lower valve (7-3/8”) with fail as is actuator will cut coil tubing (up to 2-7/8”) or wireline and seal 10,000 psi. Upper actuator has a pilot operated directional control valve fed from an independent subsea accumulator bank to ensure a rapid response time on the ESD command from the surface.
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Lower Riser Package (LRP) Features:

Mono block construction to reduce height and weight. 13-5/8” 10,000 psi wp hub profile mandrel up to mate with the EDP connector.

Upper valve (1) is a 7-3/8” 10,000 psi wp Hydraulic Fail-Safe Magnum Gate Valve that is capable of cutting braided cable and slickline. The Actuator spring is capable of closing the valve after cutting in 18 seconds. The Manual Override for the valve is located on the opposite side of the actuator, reducing overall size and weight. The actuator assembly features a closed cylinder design and the spring chamber is isolated from operating fluid. Spring cartridge design for easy field assembly and a quick disconnect mechanism allows easy removal of actuator from bonnet.

The Lower Valve (2) is a 7-3/8” 10,000 psi wp Hydraulic Double Acting Magnum Gate Valve that cuts 2-7/8” diameter, 80,000 psi yield coil tubing and seals after the cut. (Witnessed by DNV) The Lower Valve is capable of multiple cuts and requires only 2500 psi of hydraulic pressure to cut 2-7/8” coil tubing.

The manual override for the valve is located on the opposite side of the actuator, reducing overall size and weight. The operator can be removed for service without removing the bonnet. Valve position indicator is viewable from all sides. Quick disconnect mechanism is provided for easy operator removal, and an indicator is provided below the operator for easy ROV access.
WOM’s Subsea Intervention System being deployed on Cal Dive’s Q-4000.
Contact Us

Worldwide Oilfield Machine, Inc.
11625 Fairmont St.
Houston, Texas 77035 USA
Phone: +1 (713) 721-5205
Fax: +1 (713) 937-8574

Worldwide Oilfield Machine Pvt. Ltd - India
Gat No. 778, at Post Veju
Pune Satara Rd,
Tal. Bhor, Dist. Pune 412 205, India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Worldwide Oilfield Machine, M.E. - U.A.E
Jebel Ali Free Zone (JAFZA) South,
Pltof S61302, Near Gate#12,
P.O. Box: 32478
Dubai (UAE)
Phone: (971-4) 81 63 600
Fax: (971-4) 81 63 601

Magnum Casting & Machine Works
Gat No. 777, at Post Veju
Pune Satara Rd,
Tal. Bhor, Dist. Pune 412 205, India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Magnum Forge & Machine Works
Gat No. 777, at Post Veju
Pune Satara Rd,
Tal. Bhor, Dist. Pune 412 205, India
Phone 1: +91-8308210300
Phone 2: +91-8308215300

Magnum Technology Center
Jebel Ali Free Zone (JAFZA) South,
Pblo S61302, Near Gate#12,
P.O. Box: 32478
Dubai (UAE)
Phone: (971-4) 81 63 600
Fax: (971-4) 81 63 601

PT Worldwide Oilfield Machine - Indonesia
#11-08 One Pacific Place
Sudirman Central Business District
Jl. Jenderal Sudirman Kav. 52-53,
Jakarta 12190
Phone: + 62-32-372-0674

Worldwide Oilfield Machine Asia Pacific-Singapore
17 4th Way
Singapore 629194
Phone: +65 69601700
Fax: +65 65603859

Worldwide Oilfield Machine Ltd. - UK
7 St Machar Road
Aberdeen
AB24 2JU
Scotland, UK
Phone: +44 (01224) 484400
Fax: +44 (01224) 489740

Worldwide Oilfield Machine Asia Pacific-Singapore
17 4th Way
Singapore 629194
Phone: +65 69601700
Fax: +65 65603859

Worldwide Oilfield Machine- Korea
#1012, 481-10, Byucksan Digital Vally-II,
Gasandong, GumchonGu
Seoul, Korea 153-803
Phone: +82-2-854-6806

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