

ELSA-OW (Open Water) - Lubricator and Retainer Valve

Based on Expro's innovative ball-valve technology, Open Water Lubricator and Retainer Valves are available for both 10K and 15K applications and with temperature ratings of up to 250 degF.

Open Water Lubricator and Retainer Valves are used when running subsea production trees on tubing or drill pipe in open water, ie no marine riser. Positioned between the tree running tool and the rig floor, the valves enable safe deployment of intervention tools, provide a safety barrier should the tree valves become inoperable, and enable cutting of coiled tubing and wireline in event of emergency.

Due to the exposure to the marine environment and lack of external riser, these valves must be able to tolerate higher bending moments than experienced by in riser valves.

The design of Lubricator and Retainer Valve is identical and the different functionality of the Retainer Valves is achieved by deploying the Lubricator Valve upside down. The tool is designed as a 'fail-as-is' valve. To cycle the ball to the open position, control fluid is pumped into the ball open line. To cycle to the close position, control fluid is pumped into the ball close line.

When closed, the Lubricator Valve will hold pressure from below without application of control pressure. The ball valve is capable of holding a pressure test from above by applying control line pressure. Without control line pressure, it is possible to pump through the valve at 200 psi above shut-in pressure, thus allowing equalisation or bullheading of the well.

Turning the valve upside down in Retainer Valve mode provides the capability to hold pressure from above without application of control line pressure and the U-tube ability when the hydrostatic column externally of the valve exceeds the internal pressure by 200 psi.

Applications:

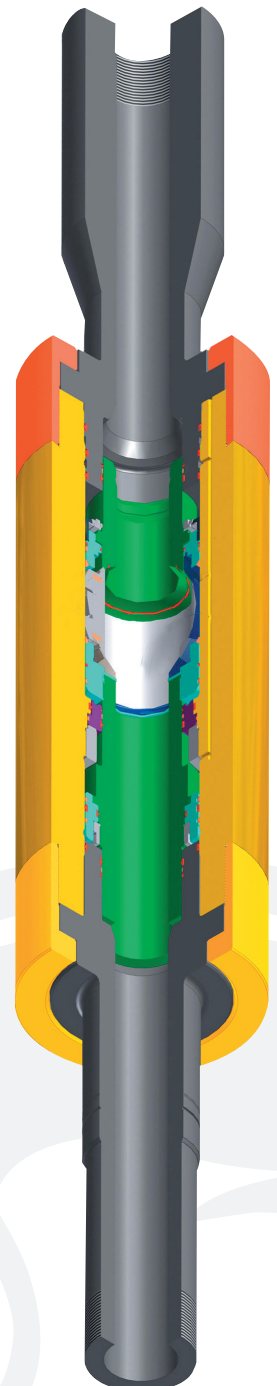
Deployment, recovery and intervention of vertical subsea production trees on drill pipe

Features:

- Ball-valve is 'fail-as-is' design
- Pump-through capability or U-tubing for well equalisation or bullheading
- Collared connections with integral end subs machined to specific drill pipe thread.
- Control either via umbilical or ROV
- Valve can hold pressure from below or above

Benefits:

- Prevents use of tree valves during the well intervention or well clean up
- Provides shut-in capability should tree valves be disabled during interventions
- Retains landing string contents during emergency disconnect
- Valve can cut wire and coiled tubing.
- Drill string can be pressure tested after intervention tooling has been introduced into the well
- Valves capable of tolerating high bending moments



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Technical Specifications:

6.1/8" 15k

Service Standard	H ₂ S NACE MR 0175 + CO ₂
Temperature Range	23°F to 158°F (-5°C to +70°C)
Working Pressure	13,600 psig (938 bar)
Test Pressure	20,400 psig (1407 bar)
Tensile Load @ 0 psig	1,936,000 lbf (8,611 kN)
Tensile Load @ WP	1,640,000 lbf (7,295 kN)
Working Pressure Control Ports	10,000 psig (689 bar)
Working Pressure Chemical Injection	13,600 psig (938 bar)
Bending Moment @ 0 psig	419,700 ft lbs
Bending Moment @ WP	355,400 ft lbs
Maximum Torque	30,000 lbf ft
Pump Through Capacity	3.6 in ² @ 400 psig differential
Overall Length without Adapters	62.87" (1597 mm)
Outside Diameter (Max)	24.2" (615 mm)
Internal Diameter (Min)	6.115" (155.32 mm)
Weight (Approx)	12,100 lbs (5,500 kgs)

Certification

Certified by Bureau Veritas to API 14A, S.I. 289 *

Design Codes API 6A, Section.4.3.3.1 / ISO / DIS 13628-7

* Functionality and Performance have been qualified beyond the general requirements of API 14A. Details available upon request.

5", 10k

Service Standard	H ₂ S NACE MR 0175 + CO ₂
Temperature Range	0°F to 250°F (-18°C to +121°C)
Working Pressure	10,000 psig (689 bar)
Test Pressure	15,000 psig (1,034 bar)
Tensile Load @ 0 psig	927,000 lbf (4,124 kN)
Tensile Load @ WP	720,000 lbf (3,203 kN)
Working Pressure Control Ports	10,000 psig (689 bar)
Bending Moment @ WP	220,400 ft lbs (299 kNm)
Maximum Torque	30,000 lbf ft (40.675 kNm)
Pump Through Capacity	3.5 in ² @ 800 psig differential
Overall Length without Adapters	62.87" (1597 mm)
Outside Diameter (Max)	15.0" (381 mm)
Internal Diameter (Nom)	5.000" (127 mm)
Weight (Approx)	1,514 lbs (687 kgs)
Cutting Capability	2" x 0.109" WT or 1.75" x 0.125" WT, 80 ksi yield

Certification

Certified by Bureau Veritas to API 14A, S.I. 289

Design Codes API 6A