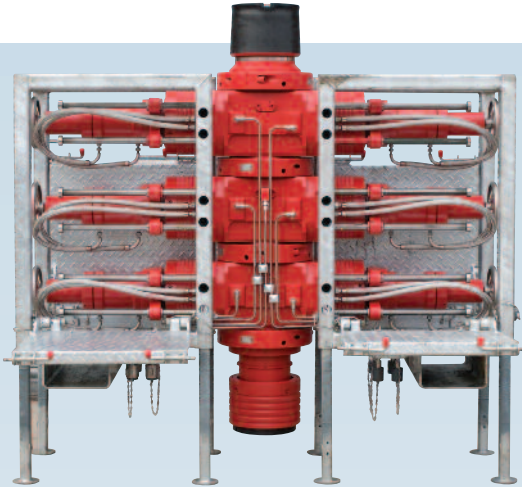


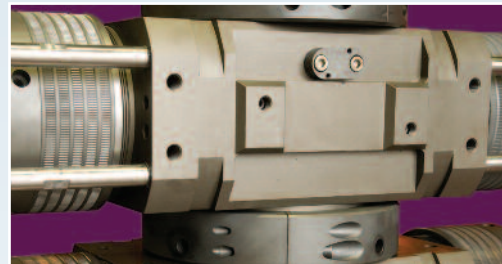
Modular Blow Out Preventor

The Phuel Modular BOP combines the latest manufacturing techniques with innovative design to provide the ultimate in flexibility, practicality and performance. Operators are no longer restricted to traditional BOP configurations but can now configure the stack to suit their operational requirements while reducing the quantity of equipment held in inventory.



hydraulic connection to the rams is achieved with fire-proof flexible hoses that do not need to be removed when changing ram seals. Hydraulic hard piping has been eliminated by incorporating the fluid paths through the BOP body leaving the hydraulic ram connections mounted directly on the body for easy access.

End connections are joined in the same way as the ram modules and can be standard quick union or flanged. A top connection with built-in fast test sub is available to minimise the stack-up height below the split point in the riser, so allowing more tool space. The Modular BOP provides maximum flexibility and avoids the need for heavy crossovers and spool pieces that are time consuming to make up and test.



The joining of the modules is achieved with a low height segment connection that provides safe and reliable connecting without adding any of the extra height that traditional single BOP stacking incurs. Locking plates prevent the modules from rotating. A metal-to-metal seal is also available and can be used between all modules or just at the lower connection to provide metal-to-metal sealing up to the shear ram.

Each ram module, comprising a fully approved and certified single ram assembly, can be combined to form dual, triple, quad or quint configurations. Modules include equalisation valve and grease/glycol injection valve as standard. The

All Phuel Modular BOPs have been extensively tested and qualified. Testing has been completed in accordance with API 16A (witnessed by a third party authority) involving pressure cycles, temperature testing and functional testing for shearing and guiding of all wire sizes. The BOPs are certified to API 16A, 6A and DNV OS-E101 to meet the requirements of Norsok D-002.

Other features incorporated as standard include:

- ▶ Multi-seals that seal to 10,000 psi from blind to 15/32 slammer cable.
- ▶ Guides to centralise the wire as the rams close every time.
- ▶ Replaceable valve seat on all equalising valves.
- ▶ Lightweight when compared to mono-block BOPs.

The Phuel Modular BOP is ideal for service companies who want to maximise the return on their asset investment while saving both money and time.

**A FLEXIBLE
APPROACH,
IMPROVED SAFETY
AND EFFICIENCY
THROUGH DESIGN**

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