



# EVO

Compact, offshore, ram-type BOP





# Evolved for the Better

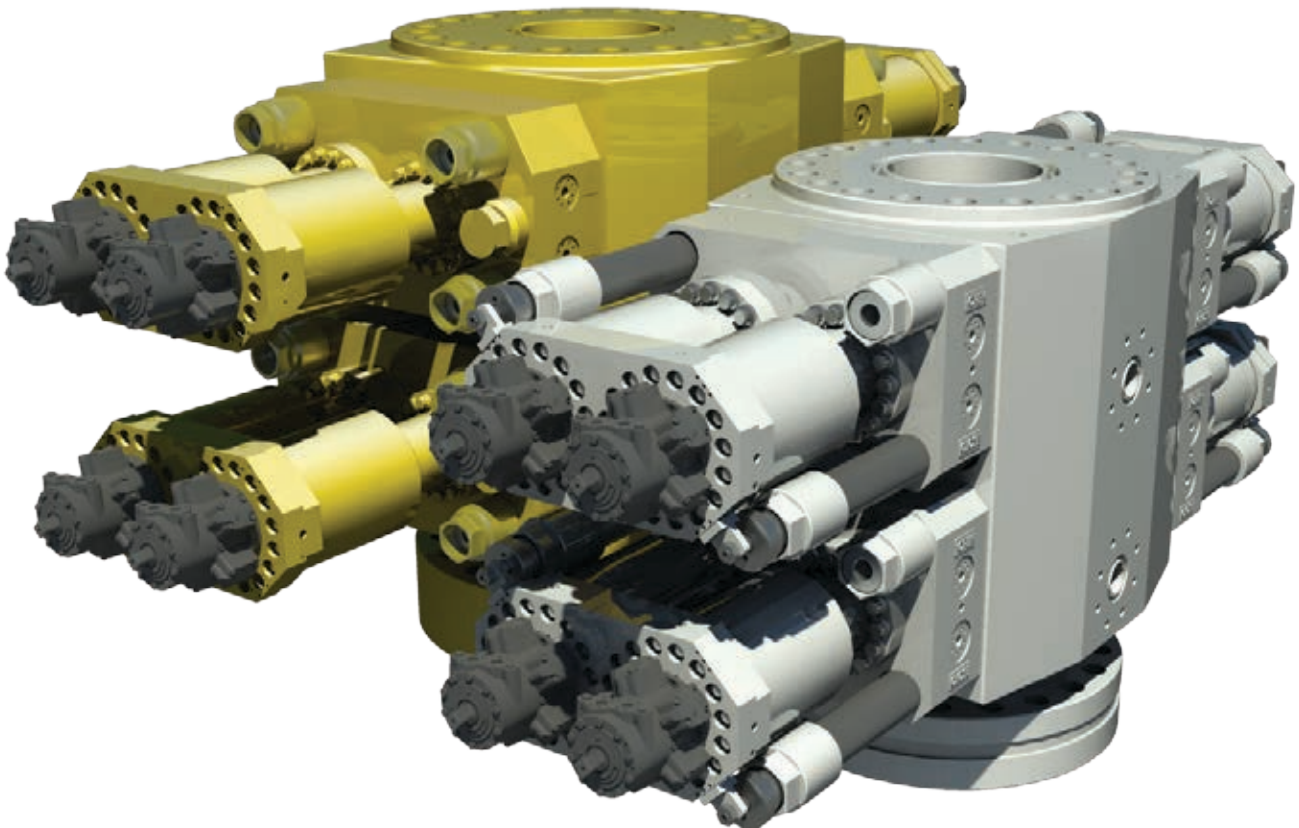
The Cameron EVO\* compact, offshore, ram-type BOP is the latest in a long line of BOP innovations, appropriately brought to you by the people who introduced the first production BOP, the M BOP, in 1922. With a compact design and fewer parts, the EVO BOP represents engineering simplicity, yet is still powerful. With step-changing features of ingenuity at every turn, the EVO BOP product line features an exclusive locking mechanism, a versatile connector, a bi-directional sealing ram and brand-new hydrostatic powered actuation that puts the power of the sea to work with extraordinary results. Go deeper for less, in total confidence, with evolutions you can rely on.

## Simplicity by design

- Reduced height and length
- Reduced weight
- Fewer accumulator bottles
- Low-profile bonnets

## Same great features from Cameron

- Reliability
- Convenience
- Ease of maintenance
- Industry compliance—manufactured in accordance with NACE and capable of being monogrammed to API 16A

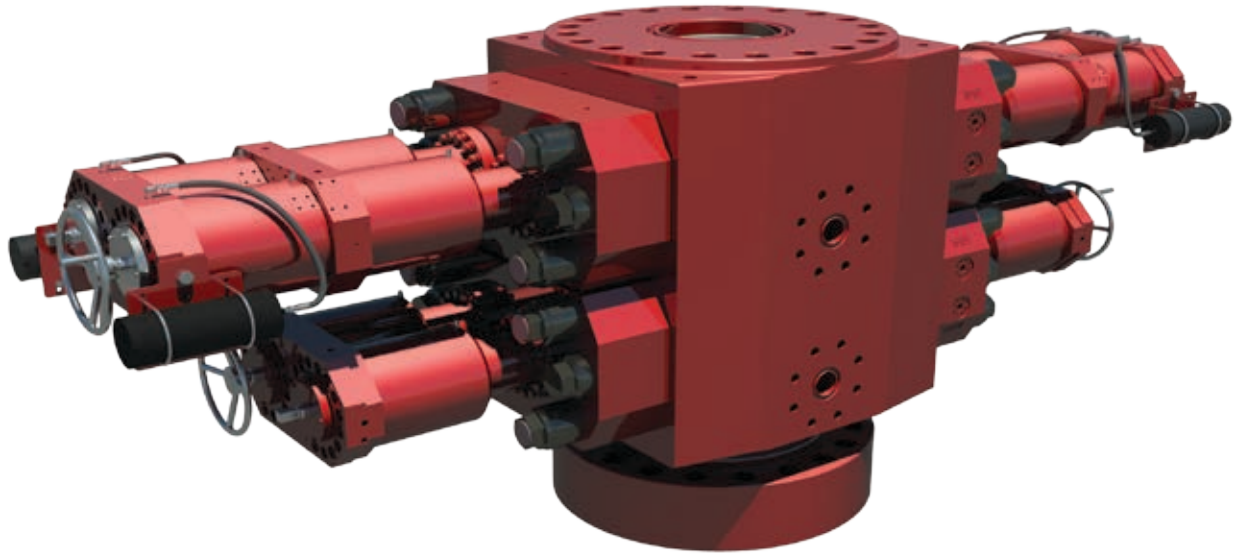




# EVO BOP Performance Features

## The evolutionary refinement of a classic

The Cameron EVO BOP represents evolutionary changes that improve performance over any BOP on the market. It achieves a sleek and elegant new footprint without the slightest compromise in power. Shorter, lighter and requiring fewer accumulator bottles than the Cameron TL\* offshore ram-type BOP, the EVO BOP lets you go ultra deep, while helping to reduce downtime.



### Hydraulic-opening Bonnets

- Reduced rig time for ram change
- Simple hydraulic system is external to BOP operating system



### Removable Side Ram

- Side ram with safe working tray—a Cameron exclusive
- Easier access and maintenance from either side, an HSE plus
- Reduced work area



### Bonnet Studs

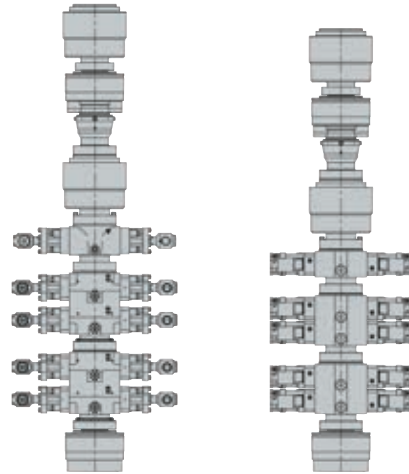
- Simple, more reliable than bolts
- Field-proven
- Isolated from wellbore fluids

### Field-proven Packers, Seals and Seal Carriers

- Field-proven over two decades
- Proprietary elastomers developed for harsh drilling environments
- Radial bonnet seal resists extrusion, lowers torque requirements and resists external pressure

**Shorter. Lighter. Requires fewer accumulator bottles.**

The EVO BOP is an evolutionary refinement of the classic TL BOP. Now, feel free to go farther and deeper with total confidence.



*TL BOP*

*EVO BOP*

<b>Operational Data</b>			
	<b>Standard</b>	<b>Tandem booster</b>	
Volume to close, gal	20 US	36 US	
Volume to open, gal	8 US	8 US	
Closing ratio	10.1:1	Both pistons (shearing) 18.93:1	Front piston (sealing) 8.78:1
Opening ratio	2.6:1	2.6:1	
Piston area, sq in	194	364	

**Specifications (18-3/4" 15,000 psi)**

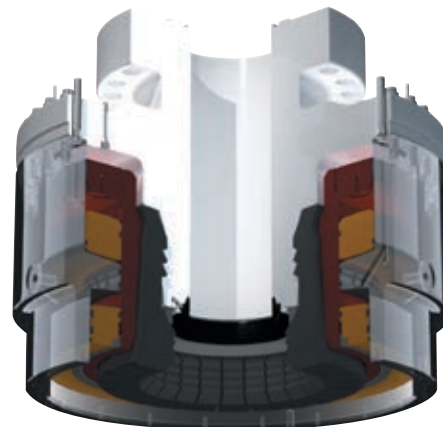
<b>Configuration</b>	<b>Single BOP</b>		<b>Double BOP</b>	
	<b>Studded top × flanged bottom</b>		<b>Studded top × flanged bottom</b>	
	<b>Without tandem boosters</b>	<b>With tandem boosters</b>	<b>Without tandem boosters</b>	<b>With tandem boosters</b>
Height, in	47.3	47.3	72.5	72.5
Width (including bonnets), in	50.6	50.6	50.6	50.6
Length (bonnets closed), in	182.5	225.6	182.5	225.6
Length (bonnets open), in	222.1	264.6	222.1	264.6
Weight, excl. rams, lb	32,900	36,500	58,200	62,800

# EVO-Con

The EVO-Con\* adaptable collet connector gives you ultimate versatility and capacity. With the ability to work on any wellhead, the EVO-Con connector's fingers can be changed out, enabling the use of different connector brands. The EVO-Con connector also features a simple design with only one hydraulic circuit.

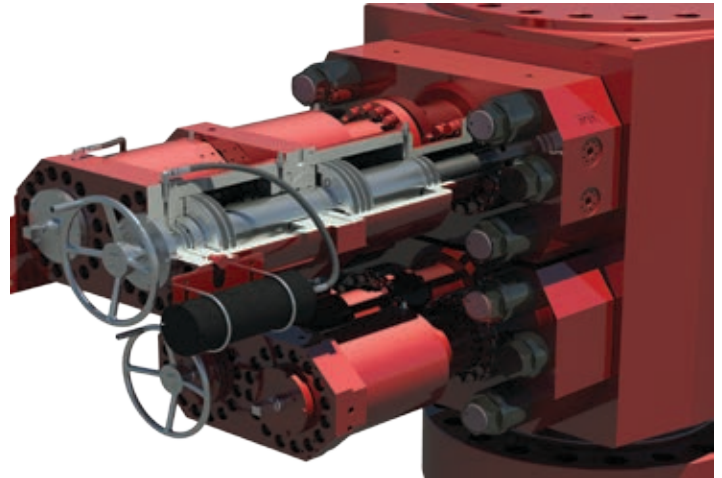
Specifications	EVO-Con 27"	EVO-Con 30"
Pressure rating, psi	15,000	15,000
Bending @ 0 psi, 0MM tension, ft-lb	6.20	10.60
Bending @ 0 psi, 2MM tension, ft-lb	4.8	7.5
Bending @ 15M psi, 2MM tension, ft-lb	4.35	6.5
Preload, lb	2,180,000	3,250,000
Load shoulder angle, deg	45/0	45/0
Water depth rating, ft	10,000	10,000
Connector style	Collet w/hub	Collet w/hub
Swallow, in	13.24	13.24
Outside diameter, in	72.00	72.00
Overall height (flanged top), in	63.06	63.06
Weight (flanged top), lb	37,126	37,350
Overall height (studded top), in	51.00	51.00
Weight (studded top), lb	37,126	37,350
Operating pressure, psi	1,500/2,000 max <sup>†</sup>	1,500/3,000
Hydraulic volume, lock, gal	28.37	28.37
Hydraulic volume, unlock, gal	36.12	36.12

<sup>†</sup>Exceeding 2000 psi maximum lock pressure may result in damage or collapse of the 27" wellhead.



# EVO-Loc

EVO-Loc\* BOP locking system evolves the principle of the reliable manual-locking screw by taking it subsea, where unnecessary trips waste operational dollars. EVO-Loc system is revolutionary in many ways. It is simpler, for one. The unique design has eliminated more than half the number of components required to get the job done. As a result, you will have less maintenance and with 70% fewer leak paths, it is the ultimate in continuous performance. EVO-Loc system provides the capability to close, lock and unlock. It is also the only lock in the industry capable of ROV intervention, and it is only from Cameron.



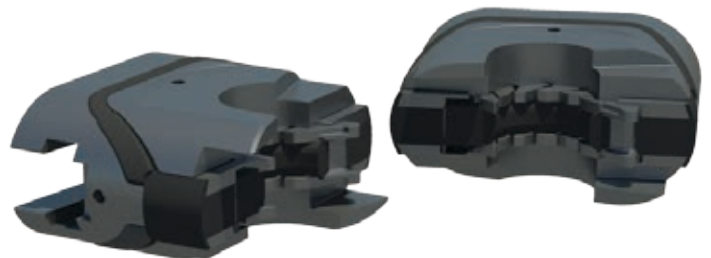
Lock Comparison	EVO-Loc	ST Lock
Number of parts	93	171
Unlock capability	●	●
Lock capability	●	●
Close capability	●	–
ROV capability	●	–

- Motor-driven lockscrew†
- Step-changing locking mechanism
- Simple, reliable, efficient, easier to maintain
- The only ROV-operable† lock in the industry
- Only from Cameron

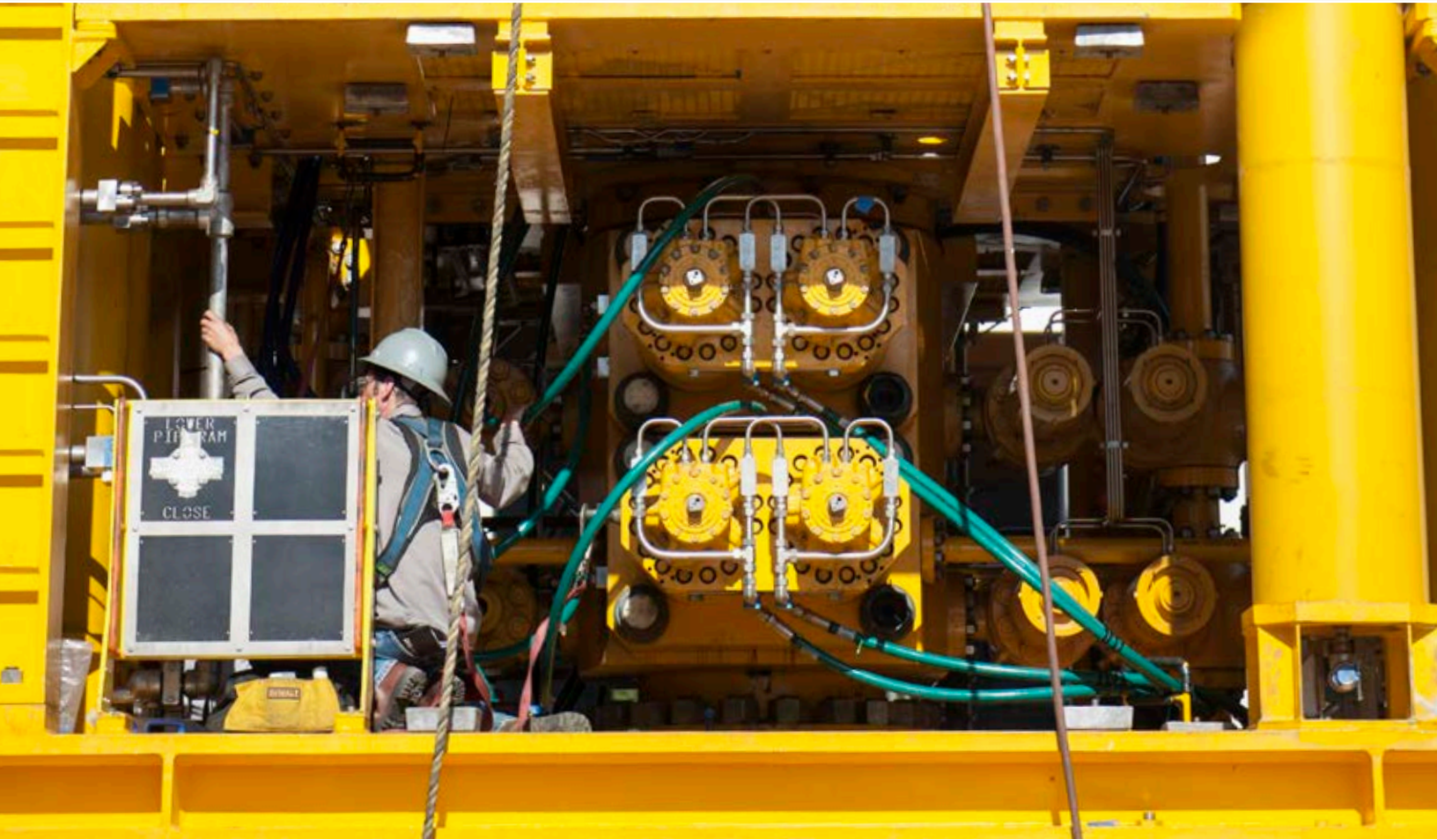
† Patent 7,300,033

## Bi-directional ram features

The Cameron patented bi-directional ram continues to make its mark on the industry, allowing the option to test above the ram without compromising the ability to retain pressure from below. It saves stack height and weight, with no additional cavities required. It requires no modifications to the stack frame and control system.



# EVO



[cameron.slb.com/EVO](http://cameron.slb.com/EVO)

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