



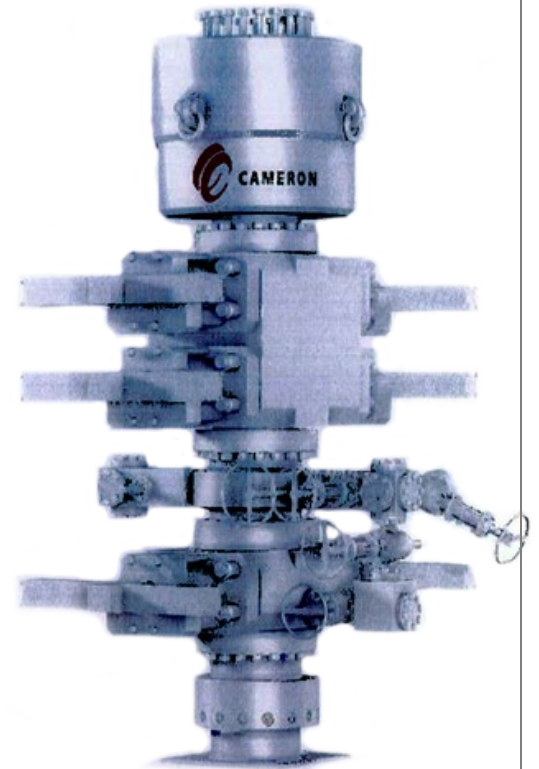
Cameron TL 18 3/4" 5,000 PSI BOP System

Cost effective Rental Solution for Decommissioning & Drilling

The Cameron TL 18 3/4" 5,000 psi BOP system delivers proven reliability for drilling, well testing, completion and intervention operations both on- and offshore and is the ideal solution for well Plug and Abandonment (P&A). The TL system provides a light and compact stack with a thru bore suitable for the majority of casing hangers typically required to be pulled for P&A. The TL also offers outstanding shear capacity for the most demanding drilling operations.

Key Features

- Cameron 18 3/4" 5,000 psi DL annular BOP with surge bottle
- 18 3/4" 5,000 psi Single and Dual TL RAM BOPs with proven shear capacity and Cameron wedgelock system
- 18 3/4" 5,000 psi drilling spool with 2 of 3 1/8" side outlets
- Selection of RAMs available
- Hydrostatic shell pressure tested to 7,500 psi
- Selection of Cameron FLS 3 1/8" x 5,000 psi hydraulic gate valves with API 6B end connections
- All equipment is manufactured and certified by the OEM (Cameron) in accordance with API 6A, API 16A, NACE MR-01-75 and Norsok standards, and certified by DNV until 2022



Benefits

- The unique design of the DL BOP does not require wellbore assist and has a shorter height and lighter weight than comparable annular BOPs
- Large through bore suitable for the majority of casing hangers retrieved in P&A operations
- Compact height allows easy installation and operation in a variety of drilling substructures
- Fully certified BOP available for rent as complete stack or as component parts to reduce CAPEX and avoid costly rig reactivation for decommissioning work scopes
- Bespoke, flexible service offered. Rental solutions available from an extensive inventory of CAPEX intensive equipment including DCR, Pumps, Tubulars and Hoisting Equipment
- In-house well control engineering, training, risk prevention evaluations, well control equipment audits and operational support provided (including health and safety related activities) for each project.



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Engineering Data - Cameron 5,000 psi Annular DL BOP

Application	:	Offshore (subsea and surface) and onshore
Bore size	:	18.75 in / 476 mm
Working Pressure	:	5,000 psi / 345 bar
BOP Type	:	Cameron 5,000 psi DL
Head Type	:	Quick release
Top Connection	:	18.75 in 5,000 API Type 6BX Studded API BX-163 Inconel Groove
Bottom Connection	:	18.75 in 5,000 API Type 6BX flanged API BX-163 Inconel Groove
Height	:	60.8 in / 1,545 mm
Body Diameter	:	62 in / 1,575 mm
Weight	:	30,820 lb / 13,980 kg
Certification	:	DNV & OEM in accordance with API 6A, API 16A, NACE MR-01-75
Hydrostatic Shell Test Pressure	:	7,500 psi / 517 bar
Hydrostatic Chamber Test Pressure	:	4,500 psi / 310 bar
Recommended hydraulic operating pressure	:	3,000 psi / 207 bar
Maximum Hydraulic Operating Pressure	:	3,000 psi / 207 bar
Gal. (US Gal)/L to open	:	29 / 109
Gal. (US. Gal)/L to close	:	35.6 /134

Engineering Data - Drilling Spool

Drilling spool style	:	Flanged top x flanged bottom 18.75 in 5,000 psi API Type 6BX
Spool length	:	33.9 in / 860 mm
Weight	:	5,203 lb / 2,360 kg
Side Outlets	:	3.125 in, 5,000 API Type 6B studded w/rings 180 apart API BX-163 Inconel Groove





Cameron TL 18 3/4" 5,000 PSI BOP System

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Engineering Data - Cameron 18 3/4" 5,000 psi Single TL RAM BOP

Application	:	Offshore (subsea and surface) and onshore
Bore size	:	18.75 in / 476 mm
Working Pressure	:	5,000 psi / 345 Bar
BOP Type	:	Single RAM body
Top Connection	:	18.75 in 5,000 API Type 6BX Studded API BX-163 Inconel Groove
Bottom Connection	:	18.75 in 5,000 API Type 6BX Studded API BX-163 Inconel Groove
Side Outlets	:	3.125 in, 5,000 API Type 6B studded w/rings API BX-163 Inconel Groove
Cylinder Bore (Pipe/Blind/Shear Ram - in)	:	16.5
Lock types	:	Wedglock
Height	:	22 in / 559 mm
Length - Bonnets Closed	:	147.64 in / 3,750 mm
Length - Bonnets Open	:	183.86 in / 4,670 mm
BOP Weight (approximate)	:	18,298 lb / 8,300 kg
Certification	:	DNV & OEM in accordance with API 6A, API 16A, NACE MR-01-75
Shear Rams	:	Double V Shear (DVS)
Pipe Rams	:	Multiple sizes & designs available upon request
Temperature Rating	:	P+U as per API 6A -20°F / -29°C; 250°F / 121° C
Hydrostatic Shell Test Pressure	:	7,500 psi / 517 Bar
Hydrostatic Chamber Test Pressure	:	4,500 psi / 310 Bar
Recommended hydraulic operating pressure	:	1,500 psi / 103 Bar
Maximum Hydraulic Operating Pressure	:	3,000 psi / 207 Bar
Gal. (US Gal)/L to open	:	19.3 / 73
Gal. (US. Gal)/L to close	:	20.1/ 76
Closing ratio	:	10.89
Opening ratio	:	3.13





Cameron TL 18 3/4" 5,000 PSI BOP System

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Engineering Data - Cameron 18 3/4" 5,000 psi Dual TL RAM BOP

Application	:	Offshore (subsea and surface) and onshore
Bore size	:	18.75 in / 476 mm
Working Pressure	:	5,000 psi / 345 Bar
BOP Type	:	Dual TL RAM body
Top Connection	:	18.75 in 5,000 API Type 6BX Studded API BX-163 Inconel Groove
Bottom Connection	:	18.75 in 5,000 API Type 6BX Studded API BX-163 Inconel Groove
Side Outlets	:	3.125 in, 5,000 API Type 6B studded w/rings API BX-163 Inconel Groove
Cylinder Bore (Pipe/Blind/Shear Ram - in)	:	16.5
Lock types	:	Wedgelock
Height	:	47.76 in / 1,213 mm
Length - Bonnets Closed	:	147.64 in / 3,750 mm
Length - Bonnets Open	:	183.86 in / 4,670 mm
BOP Weight (approximate)	:	38,140 lb / 17,300 kg
Certification	:	DNV & OEM in accordance with API 6A, API 16A, NACE MR-01-75
Shear Rams	:	Double V Shear (DVS)
Pipe Rams	:	Multiple sizes & designs available on request
Temperature Rating	:	P+U as per API 6A -20°F / -29°C; 250°F / 121° C
Hydrostatic Shell Test Pressure	:	7,500 psi / 517 Bar
Hydrostatic Chamber Test Pressure	:	4,500 psi / 310 Bar
Recommended hydraulic operating pressure	:	1,500 psi / 103 Bar
Maximum Hydraulic Operating Pressure	:	3,000 psi / 207 Bar
Gal. (US Gal)/L to open	:	19.3 / 73
Gal. (US. Gal)/L to close	:	20.1/ 76
Closing ratio	:	10.89
Opening ratio	:	3.13





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Equipment Inventory

The below tables provide a summary list of the equipment available as part of the 18-3/4" 5K package. The list is not exhaustive.

Equipment	Description	Qty	Size ["]	Pressure [kpsi]
Annular	Annular BOP	1	18-3/4	5
Sgl BOP	Single ram BOP, Studded Top and Bottom, c/w Wedgelock	1	18-3/4	5
Dbl BOP	Dual ram BOP, Studded Top and Bottom, c/w Wedgelock	1	18-3/4	5
Spool	Drilling Spool	1	18-3/4	5
Rams	Variable Bore Ram	2	3-1/2 to 7	5
Rams	DVS Shear Ram	1	18-3/4	5
Rams	Pipe Ram	2	5-1/2	5
Rams	Flex Packer Ram Assembly	2	5 to 7	5
Frame	Annular Lifting Frame	1	n/a	n/a
Valve	Valve, Check	1	3-1/8	5
Valve	Gate Valve, Manual	2	3-1/8	5
Valve	Gate Valve, Hydraulic	2	3-1/8	5

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