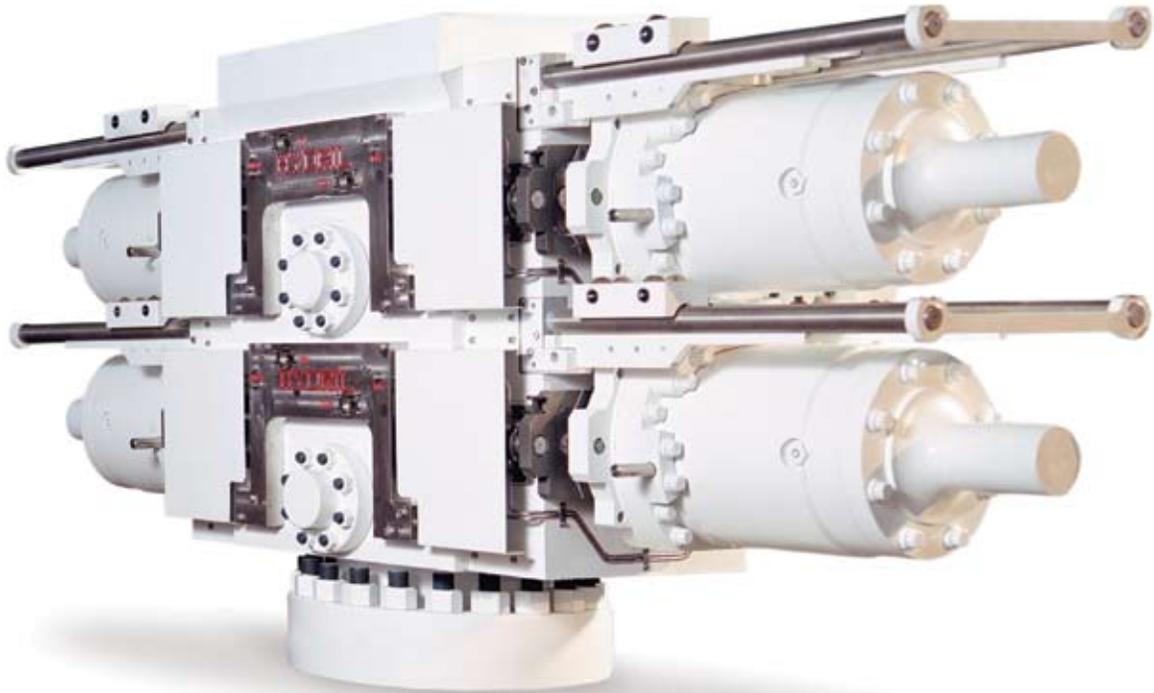


Quik-Loq™ Ram Blowout Preventer

Change Rams and Resume Drilling Fast



Pressure Control Equipment: Blowout Preventers



APPLICATIONS & BENEFITS

Hydril's Boltless™ blowout preventer, the Quik-Loq™, increases drilling efficiency while maximizing the safety of field personnel and protection of the environment. It achieves all these goals by eliminating the need for tools during ram and operator changeouts. With Quik-Loq, changeouts are completed 90% quicker, in minutes rather than hours. Well suited for surface and subsea operations, this state-of-the-art BOP offers all of the performance of our proven Compact™ Ram, and has successfully completed tests including:

- A “mud soaked” drilling environment.
- Life-cycle testing that simulated over a decade of normal operation.
- Successfully held full rated working pressure at 300° F for 8 hours using blind/shear rams. The tested unit then completed 3 additional closing cycles at low and high pressure.
- Passed API temperature testing requirements to 350° F using blind/shear rams.
- Passed API temperature tests to 500° F using fixed-bore rams.
- Passed API pressure tests at temperatures as low as 30° F for 5-1/2"-7-5/8" and 4-1/2"-7" variable rams.
- Sheared large-diameter pipe (16", 109 lb-per-ft, P-110) with closing pressure of 4,000 psi.

KEY FEATURES

The Quik-Loq is designed from the inside out to make all operations easy, fast and safe while increasing uptime. Enabling features include:

- **Boltless™ bonnets.**
- **Tool-free, hydraulic locking and unlocking** of the operators to the ram body.
- **Pivots that permit 360° rotation** of ram blocks for easy access and service.
- **Redundant, bidirectional wellbore seals.**
- **Redundant rod seals.**
- **13-10 and 13-15 models** that use the same ram blocks.
- **Multiple-position lock** uses a reliable, mechanical clutch to automatically lock the rams in a seal-off position.
- **A single set of high-performance elastomers** handles both hot and cold temperature extremes.

THE QUIK-LOQ ADVANTAGE

The Quik-Loq's Boltless™ tool-free maintenance increases

drilling time and reduces workers' exposure to hazardous conditions during BOP maintenance. These enhancements have been enough to prompt customers to call the Quik-Loq, "the first truly significant improvement in ram-type BOP design in about 20 years."

ENGINEERING DATA

Bore (inches)			13-5/8	13-5/8	18-3/4
Working Pressure (psi)			10,000	15,000	15,000
Hydraulic Operating Pressure (psi)			1,500	1,500	1,500
Gal. to Close (U.S. gal.)	Operator	14-1/4" Shear	24.8	24.8	—
	Operator	14-1/4" Standard	13.1	13.1	—
	Operator	15-1/2"	—	—	19.5
	Operator	19"	—	—	29.7
Gal. to Open (U.S. gal.)	Operator	14-1/4" Shear	23.3	23.3	—
	Operator	14-1/4" Standard	11.7	11.7	—
	Operator	15-1/2"	—	—	16.8
	Operator	19"	—	—	28.1
Closing Ratio	Operator	14-1/4" Shear	17.0:1	17.0:1	—
	Operator	14-1/4" Standard	9.0:1	9.0:1	—
	Operator	15-1/2"	—	—	7.27:1
	Operator	19"	—	—	8.22:1
Stud to Flange Height (inches)	Flanged Bottom	Double	62.07	67.95	75.06
		Single	38.57	44.45	46.94
Stud to Flange Weight (pounds)	Flanged Bottom	Double	29,907	33,800	69,100
		Single	16,325	19,041	37,700
Length (inches)		Double	136.5	136.5	180.53
		Single	136.5	136.5	180.53

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