

Hydril Pressure Control Compact™ Ram Blowout Preventer

Hold pressure at 15,000 psi
from 30 to 500° F

Pressure Control Equipment: Blowout Preventers

Applications & Benefits

The 18¾", 15,000 psi Hydril Pressure Control Compact™ ram BOP delivers proven reliability for safe operation in the harshest environments. Rated for water depths to 15,000+ ft, the Compact ram has worked on the seabed continuously for one year during drilling of a 34,000-ft well. It can also add hundreds of hours of drilling time annually when configured to seal upside-down as a Subsea Stack Test Valve (SSTV) so that required pressure tests can be completed with the drill pipe in place.

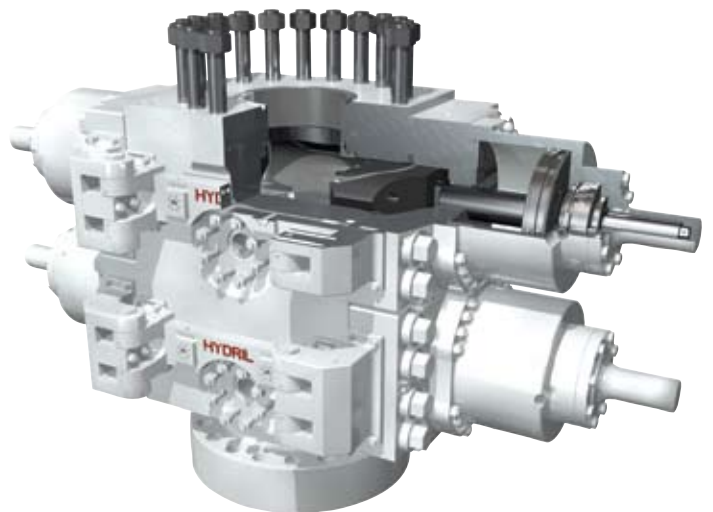
This BOP has:

- Successfully held full rated working pressure at 300° F for eight hours using blind/shear rams; the tested unit then completed three 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
- All fixed-bore ram sizes on the 18-15 Compact ram are rated for this temperature
- Passed API pressure tests at temperatures as low as 30° F for 5½" to 7⅝" and 4½" to 7" variable rams
- Sheared large-diameter pipe (16", 109 lb-per-ft, P-110) with closing pressure of 4,000 psi

Key Features

- Field-replaceable upper seal seats, bottom wear plates and hydraulic manifold virtually eliminate the need to move the unit to an authorized repair facility for service

- The bonnet seal carrier ring has a pressure-assisted design that enables the BOP to withstand external pressure differentials as high as 7,000 psi, equivalent to a depth of 15,000+ ft; this can occur in deep water in the event of a large pressure drop in the well bore
- A single set of high-performance elastomers handles both hot and cold temperature extremes
- Multiple-position lock uses a reliable, mechanical clutch to automatically lock the rams in a seal-off position
- Hydraulic manifold increases operating flexibility; it can be installed on either side of the BOP with the bonnets opening on the opposite side to fit various stack configurations
- Corrosion-resistant alloy is used in ring grooves, bonnet sealing area, seat bores and piston rod bore seal area for long life



The Hydril Pressure Control Compact Ram Advantage

Since our engineers invented the annular BOP, world leaders in oil and gas drilling have depended on Hydril Pressure Control equipment for reliable performance in applications with extreme pressures, temperatures and other unusual challenges.

We push the boundaries of pressure control every day at our state-of-the-art testing facilities. Even when testing pushes Hydril Pressure Control equipment beyond its capabilities, we learn what failed, why and how. This knowledge forms a growing base for new and improved products. From it, we identify new design goals to take pressure control even further.

Because testing requirements are becoming increasingly severe, we have upgraded test center capabilities well beyond the HPHT limits sought by the industry today. Current capabilities include:

- High-temperature testing to 500° F
- Low-temperature testing to -80° F
- High-pressure testing to 50,000 psi
- Shear testing for large-diameter and heavy-wall pipe
- Pressure testing with hang-off loads up to 600,000 lbs
- External Hydrostatic testing to 7,000 psi

Engineering Data

Bore (inches)			18.75	18.75	18.75	Extended Double 18.75
Working Pressure (psi)			5,000	10,000	15,000	15,000
Recommended Hydraulic Operating Pressure (psi)			1,500	1,500	1,500	1,500
Gal. to Close (U.S. gal.)	Operator	22.00"	-	-	39.3	39.3
	Operator	19.00"	29.7	29.7	29.2	29.2
	Operator	15.50"	-	-	19.5	19.5
	Operator	14.25"	16.4	16.4	-	-
Gal. to Open (U.S. gal.)	Operator	22.00"	-	-	36.6	36.6
	Operator	19.00"	28.1	28.1	26.5	26.5
	Operator	15.50"	-	-	16.8	16.8
	Operator	14.25"	14.9	14.9	-	-
Closing Ratio	Operator	22.00"	-	-	14:64:1	14:64:1
	Operator	19.00"	18:9:1	18:9:1	10:49:1	10:49:1
	Operator	15.50"	-	-	7:27:1	7:27:1
	Operator	14.25"	10:6:1	10:6:1	-	-
Stud to Flange Height (inches)			59.00	63.00	75.00	60.00
Stud to Flange Weight (pounds)			34,000	35,000	53,100	31,000
Length (inches)			142.50	142.50	146.60	146.60

Note: all dimensions refer to double/dual rams

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GE imagination at work