

# Hydril Compact™ Ram BOP

## Ram Blowout Preventer

Confidently hold pressure at 15,000 psi from 0 to 350°F with full conformance to API 16A 4th Edition PR2

### Product description

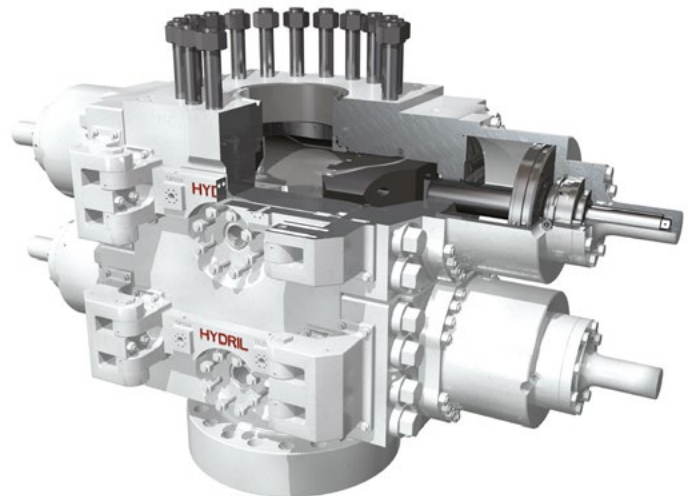
The 18¾", 15,000 psi Hydril Pressure Control Compact Ram BOP delivers proven reliability in the harshest environments. Rated for water depths to 12,500+ ft, the Compact Ram has worked on the seabed continuously for one year during drilling of a 34,000 ft well. It can also add hundreds of hours of drilling 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 350°F for eight hours using blind/shear rams (BSR); the tested unit then completed three additional closing cycles at low and high pressures
- Passed API 16A temperature testing requirements to 350°F using 3k/4k BSR, 250°F using 5k BSR, and 250°F using 5k WBSR
- Passed API 16A, 4th Edition extreme hot testing to 500°F and continuous hot testing to 350°F using fixed-bore rams. In addition, a single set of fixed ram elastomers completed 92 API fatigue cycles at a minimum continuous hot temperature of 210°F
- Passed API 16A pressure tests at temperatures as low as 30°F and as high as 350°F for 5½" to 7 ⅝", 4½" to 7", and 3½" to 5½" variable rams
- Passed API 16A pressure tests at temperatures as low as 30°F and as high as 350°F for 5-½" to 7-5/8", 4½" to 7", and 3-½" to 5-½" variable rams
- Casing shear rams sheared up to a 16" 109 ppf P-110 with 22" 4,000 psi minimum working pressure operators
- 5k BSR sheared and sealed 6-5/8" tool joint

### 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
- Cavities can be reconfigured for pipe rams or shear rams by changing out bonnets
- Wellbore seal areas are Alloy 625 inlaid as standard; additional inlay areas are also available
- 18-15 is API 16A, 4th Edition compliant



## The Hydril Pressure Control Compact Ram Advantage

We push the boundaries of pressure control every day at our state-of-the-art testing facilities. 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 40,000 psi
- Shear testing for large-diameter and heavy-wall pipe
- Pressure testing with hang-off loads up to 1 million lbs
- External Hydrostatic testing to 7,000 psi

## Technical specifications

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	10.9:1	10.9:1
	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	88.00
Stud to flange weight (pounds)			34,000	35,000	53,100	56,000
Length (inches)			142.50	142.50	146.60	146.60

Note: all dimensions refer to double/dual rams

