

## Ram BOPs

To further control your well pressures and safeguard your crew and equipment, Ram BOPs supplement the spherical BOP on your BOP stack to provide another layer of protection. These BOPs operate differently from the Spherical BOP by applying pressure to the pipe through a set of block rams acting horizontally against each other to control unwanted pressure. Our Ram BOPs have been tested in the field for decades and will tackle whatever drilling pressure control challenges you have.

6012 Ram BOPs

6011i Ram BOPs

LXT Ram BOPs

## 6012 Ram BOP

### Features and Benefits



A. BOP stack: 6012 Single Ram (bottom), 6012 Double Ram (middle), 6012 Spherical (top)

#### Simple, reliable construction so you can trust your BOP to operate independent of working conditions

- Rugged, powerful and capable of operating in harsh environments and extreme temperatures
- Proven trip package is standard and includes Xylan coating in through bore, ram cavities, and all wellbore wetter surfaces
- Stainless steel inlay included in all ring grooves as a standard offering
- Hard coatings on dynamic sealing surfaces

#### Configurable to accommodate a wide variety of possibilities

- Optional large bore bonnets and tandem boosters to provide maximum shearing force
- Optional Model 6000 Shear Ram or Shear Blind Rams (SBRs)
- Design supports single or multiple ram bore configurations
- Simple hydraulic system; only two hydraulic connections required per ram
- Hydraulically actuated doors for ease of service and ram replacement
- Manual locking screws come standard to ensure ram position in event of hydraulic pressure loss
- Full line of replacement parts available

#### Easy operation and servicing for maximized uptime



B. Same BOP stack pictured on left-hand page on rig



C. 6012 Single Ram BOP D. 6012 Double Ram BOP

#### Certifications

- Bodies manufactured from forged materials that meet H<sub>2</sub>S service in accordance with NACE MR0175

#### Specifications

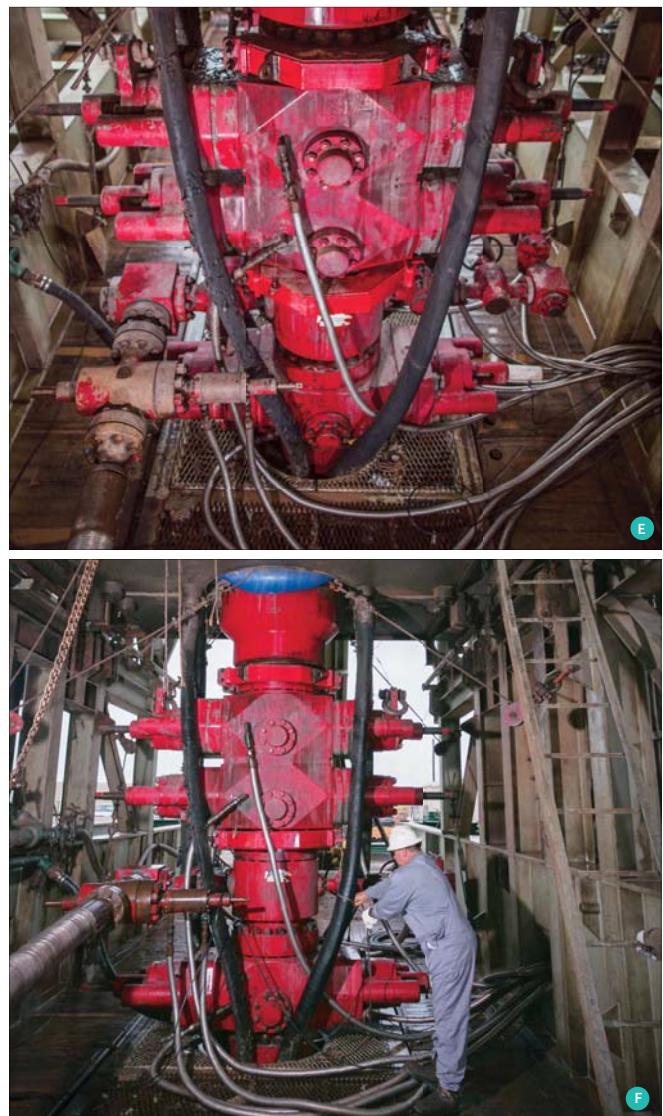
- Available bore sizes: 7 1/16" to 26 3/4"
- Available pressures: 2,000 psi WP to 15,000 psi WP
- Full line of replacement parts available
- Design supports single or multiple ram bore configurations

#### Optional Features

- Shear Blind Rams or Model 6000 Shear Blind Rams
- Large bore shear bonnet
- Tandem boosters to provide maximum shearing force

## 6012 Ram BOP

### Specifications



<b>INTRODUCTION</b>	<b>1</b>
<b>SPHERICAL BOP</b>	<b>2</b>
Features and Benefits	4
Bolted Cover Configuration	5
Wedge Cover Configuration	6
Sealing Element	7
<b>RAM BOP</b>	<b>8</b>
<b>INTRODUCTION</b>	
<b>6012 RAM BOP</b>	<b>10</b>
Features and Benefits	10
Specifications	11
6000 Shear Ram	13
<b>6011i RAM BOP</b>	<b>14</b>
Features and Benefits	14
Specifications	15
<b>LXT RAM BOP</b>	<b>16</b>
Features and Benefits	16
Low Force Shear (LFS) Ram	17
<b>SAR SYSTEM</b>	<b>18</b>
Features and Benefits	20
Specifications	20
<b>BOP KOOMEY™ CONTROL UNIT</b>	<b>22</b>
Features and Benefits	24
Specifications	25
<b>FACILITIES AND AFTERMARKET SERVICES</b>	<b>26</b>
Research and Development Facility	28
Manufacturing Facility	30
Aftermarket Services	32

## 6012 Ram BOP

## 6012 Ram BOP

### 6000 Shear Ram for the 6012



**Simple, reliable construction so you can trust your BOP to operate independent of working conditions**

- Energized sealing capabilities
- Ability to shear and seal eliminates need for additional cavity and keeps stack height to a minimum
- Ability to be used as a blind ram during normal drilling operations
- Fold over shoulder bends lower section of sheared pipe, allowing clearance for ram to close and seal

**Compact construction for versatile performance and minimized stack height**

- Ability to shear and seal eliminates need for additional cavity and keeps stack height to a minimum
- Ability to be used as a blind ram during normal drilling operations

#### Certifications

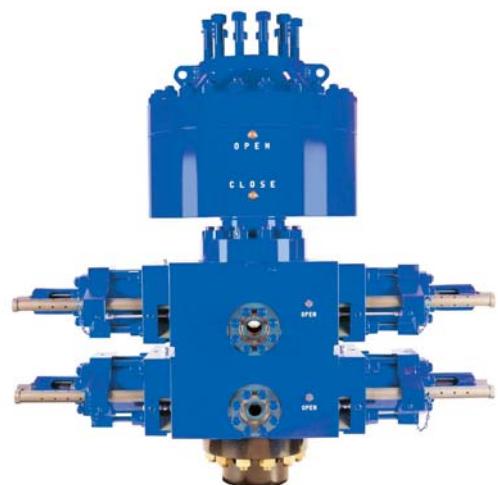
- Conforms to NACE MR0175 requirements for integral blade shearing sealing rams
- Qualified to API 16A fatigue tests

#### Specifications

- Designed to work with the 6012 Ram BOP and replaces the standard Shear Blind Ram (SBR)
- Available sizes: 11" and 13½"
- Available pressures: 3,000 psi WP to 10,000 psi WP

## Features and Benefits

INTRODUCTION	1
SPHERICAL BOP	2
Features and Benefits	4
Bolted Cover Configuration	5
Wedge Cover Configuration	6
Sealing Element	7
RAM BOP INTRODUCTION	8
6012 RAM BOP	10
Features and Benefits	10
Specifications	11
6000 Shear Ram	13
6011i RAM BOP	14
Features and Benefits	14
Specifications	15
LXT RAM BOP	16
Features and Benefits	16
Low Force Shear (LFS) Ram	17
SAR SYSTEM	18
Features and Benefits	20
Specifications	20
BOP KOOMEY™ CONTROL UNIT	22
Features and Benefits	24
Specifications	25
FACILITIES AND AFTERMARKET SERVICES	26
Research and Development Facility	28
Manufacturing Facility	30
Aftermarket Services	32



A. BOP stack: 6011i Double Ram BOP (bottom) and Spherical BOP (top)

**Simple, reliable construction so you can trust your BOP to operate independent of working conditions**

- Rugged, powerful and capable of operating in harsh environments and extreme temperatures
- Wellbore pressure containing components from forged steel
- Unique internal porting reduces overall weight while still allowing for the manual

**Compact construction for versatile performance and minimized stack height**

- Unique internal porting reduces overall weight while still allowing for the manual

opening and closing of bonnet assemblies for ram change out

**Configurable to accommodate a wide variety of possibilities**

- Accepts fixed bore and variable bore rams of 6012 Ram BOP to ensure greater parts support and expanded options
- Design supports single or multiple ram bore configurations

**Easy operating and servicing to maximize uptime**

**Certifications**

- Meets API 16A requirements
- Meets H<sub>2</sub>S sour service requirements in accordance with NACE MR0175

**Specifications**

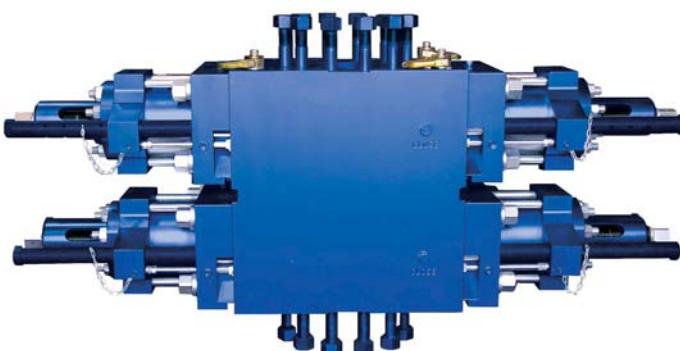
- Available bore sizes: 7 1/16" to 11"
- Available pressures: 3,000 psi WP and 5,000 psi WP
- Design supports single or multiple ram bore configurations
- Full line of replacement parts available

**Optional Features**

- Fixed bore pipe rams
- Variable bore rams
- Flanges or hub end connections if standard studded end connections will not suffice



B. 6011i Single Ram BOP



C. 6011i Double Ram BOP

## Features and Benefits | Specifications



A. BOP stack: LXT Single Ram BOP (bottom) and Spherical BOP (top)

**SAR SYSTEM** **18**  
 Features and Benefits 20  
 Specifications 20

**BOP KOOMEY™ CONTROL UNIT** **22**  
 Features and Benefits 24  
 Specifications 25

**FACILITIES AND AFTERMARKET SERVICES** **26**  
 Research and Development Facility 28  
 Manufacturing Facility 30  
 Aftermarket Services 32

extra personnel, making the process easier than with the conventional door bolts

- Patented quick access "boltless locking door" assembly enables opening and closing of BOP door
- Twin lock bars used to manually lock/unlock the door from the BOP body; for increased safety and quicker ram changes, these bars can be removed without the need of special tools or

**Safe, simplified design**

- Lightweight and compact
- Less manpower needed to service BOP and access rams, reducing injury risk
- Quicker ram changes and easier ram servicing
- No need to hammer bolts - beneficial for confined areas

**Specifications**

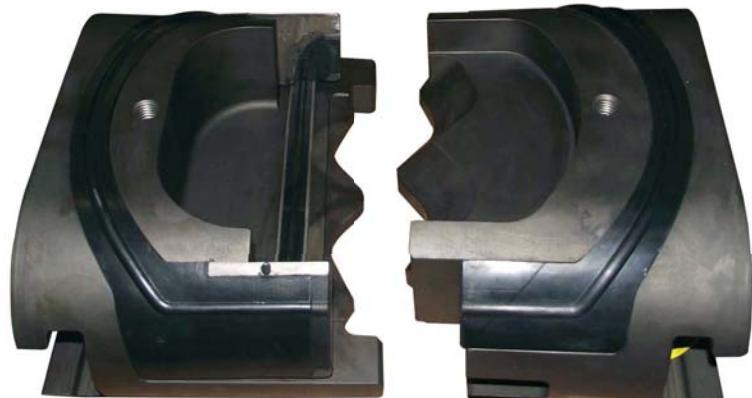
- 13 5/8" bore and 10,000 psi WP

**Certifications**

- Manufactured to API 16A and NACE MR0175-2000 standards
- Standard H<sub>2</sub>S service

<b>INTRODUCTION</b>	<b>1</b>
<b>SPHERICAL BOP</b>	<b>2</b>
Features and Benefits	4
Bolted Cover Configuration	5
Wedge Cover Configuration	6
Sealing Element	7
<b>RAM BOP</b>	<b>8</b>
<b>INTRODUCTION</b>	
<b>6012 RAM BOP</b>	<b>10</b>
Features and Benefits	10
Specifications	11
6000 Shear Ram	13
<b>6011i RAM BOP</b>	<b>14</b>
Features and Benefits	14
Specifications	15
<b>LXT RAM BOP</b>	<b>16</b>
Features and Benefits	16
Low Force Shear (LFS) Ram	17

## Low Force Shear (LFS™) Ram for the LXT



B. Low Force Shear (LFS) Ram

**Reduced shear force needed for more efficient performance**

- Multiple shearing and sealing capabilities enhance shear ram reliability and extend length of BOP stack deployment
- Reduced shear force required - shears drill pipe with an average of 50% of the hydraulic reserve stored pressure needed by V-type shear, leaving additional pressure for an additional boost if needed
- Ability to shear some of the highest grades of pipe

**Fish manipulation for maximized uptime**

- Ability to seal while in hang-off position; while shearing, the lower shear ram holds onto lower segment of pipe to prevent fishing operation
- No additional force required to manipulate fish
- No seal tearing when opening against the fish

**Specifications**

- Designed to work best with the Shaffer™ Shear and LXT BOP family
- Able to shear 5 1/8" - 27 lb/ft drill pipe without booster
- Uses 50% less pressure to shear than that of V-type shear
- Temperature Range: 28°F to 180°F (-2.2°C to 82.2°C)

**Coupled with the large operator 14", the following shearing capabilities are gained:**

- High end shearing requirements
- Greater diameter of pipe can be sheared in the same bore