

Pressure Control Equipment

- 34. 6012 BOP
- 35. LXT BOP
- 36. SBOP

The 6012 Ram Type BOP is a rugged and powerful BOP capable of operating in a wide range of service conditions. Harsh chemical environments and extreme temperatures have little effect. The 6012 comes standard with a proven trim package that includes Xylan coating in the through bores, ram cavities and all wellbore wetted surfaces, 625 Nickel alloy inlay is included in all ring grooves, and hard plating on dynamic sealing surfaces.

The 6012 can also be outfitted with large bore bonnets and tandem boosters in conjunction with SBRs or the Model 6000 Shear Blind Rams. The unit comes standard with manual locking screws to ensure ram position in event of hydraulic pressure loss.

The 6012 offers a variety of options

- Size range from 7" to 26 3/4"
- Configurable body
- Double and Single body
- Shearing options

Standard Offering

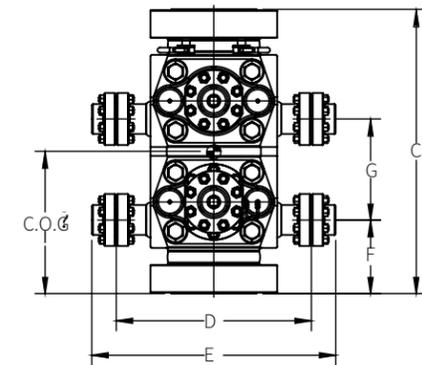
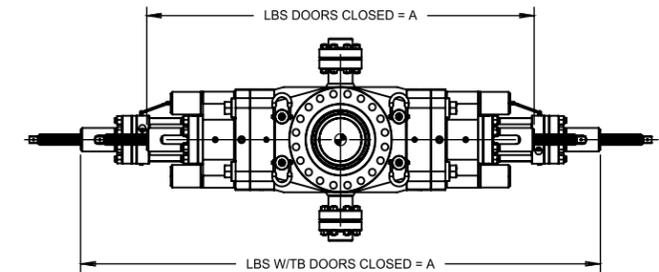
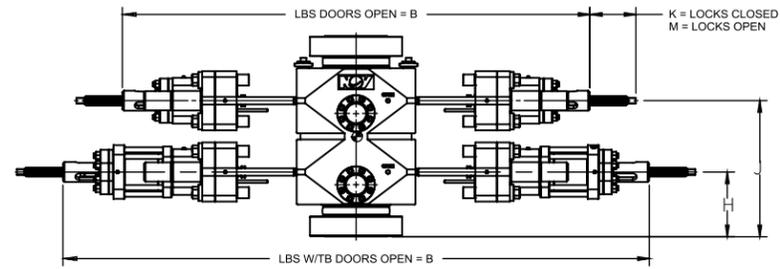
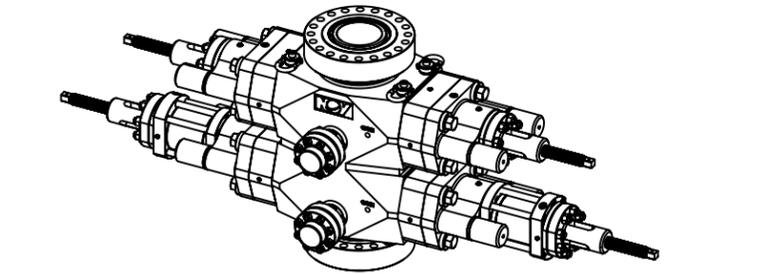
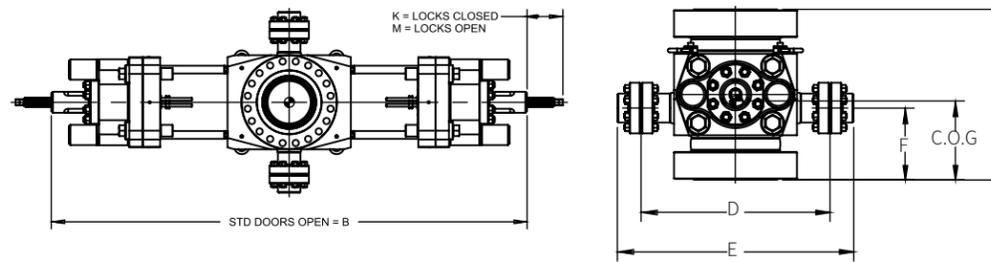
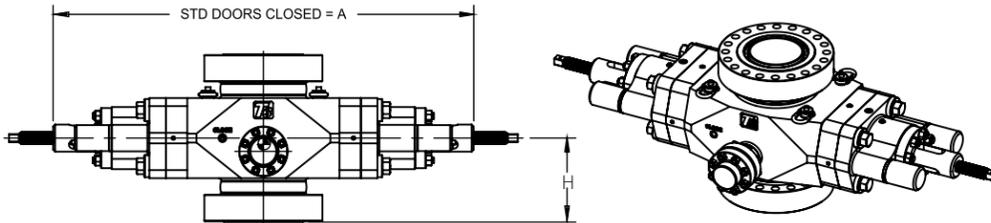
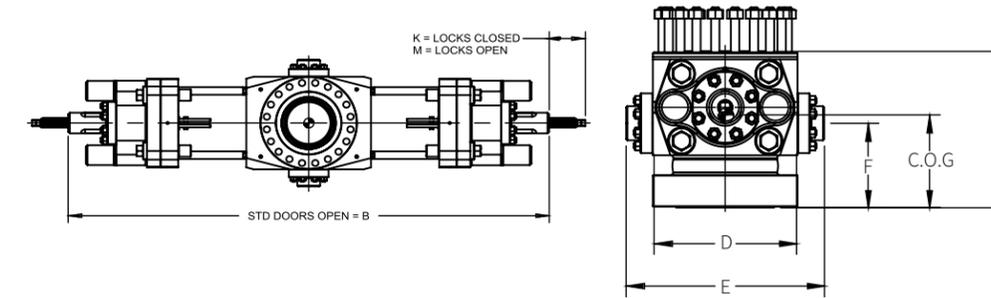
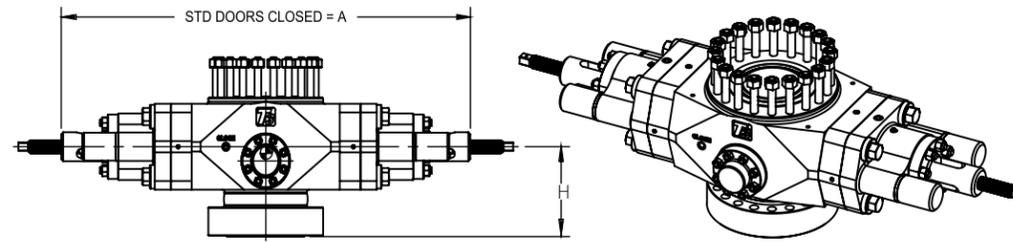
- 625 nickel alloy
- Xylan coating on all wellbore wetted surfaces
- Hard plating on dynamic sealing surfaces
- Hydraulic operation

Available Bonnet Options

- Standard fixed pipe and casing rams bonnets
- Shearing bonnets
- Shearing bonnets with tandem boosters
- Shear all bonnet

Available Ram Options

- Pipe and casing rams
- VBR
- SBR
- 6000
- SAR



Hydraulic Operating Data

Bore Size	Working Pressure	Standard Pipe Door			Large Bore Shear W/Tandem Booster Door			
		Gallons to open	Gallons to close	Closing ratio	Gallons to open	Gallons to close	Closing ratio	Shearing Ratio
13-5/8"	3000-10000	5.5	5.8	7.0:1	10.5	17.9	10.8:1	17.8:1

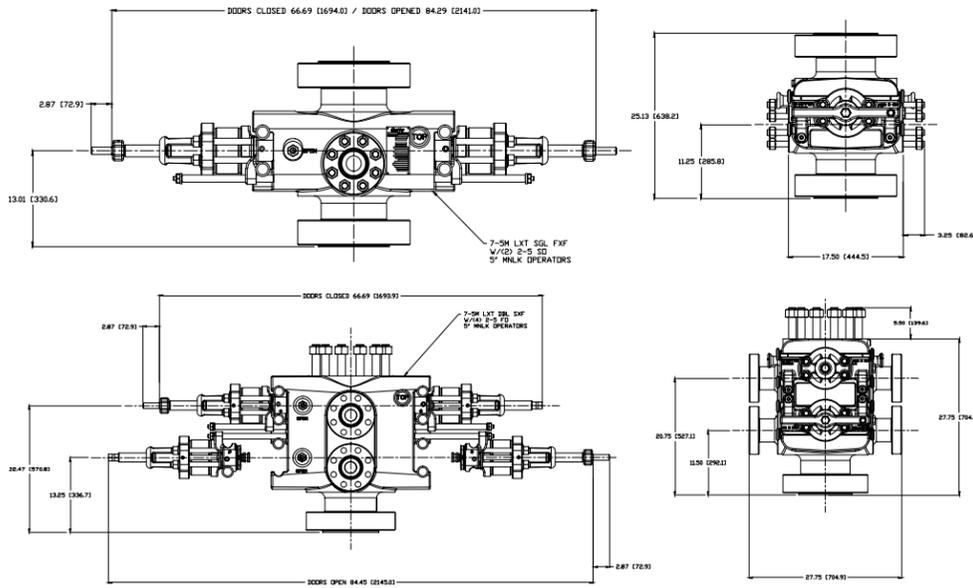
SINGLE - 13-5/8" 10M

	OTLT Size	STD "A"	STD "B"	LBS "A"	LBS "B"	LBS W/TB "A"	LBS W/TB "B"	"C"	"D"	"E"	"F"	"H"	STD "K"	STD "M"	LBS "K"	LBS "M"	LBS W/TB "K"	LBS W/TB "M"
FXF	4-1/16" 10M	107.8 [2738]	150.4 [3820]	114.0 [2897]	153.4 [3897]	151.2 [3839]	191.3 [4859]	32.6 [828]	29.8 [757]	41.5 [1054]	17.5 [445]	20.9 [531]	3.2 [81]	11.3 [287]	5.3 [134]	15.1 [384]	4.0 [101]	15.1 [384]
SXF	4-1/16" 10M	107.8 [2738]	150.4 [3820]	114.0 [2897]	153.4 [3897]	151.2 [3839]	191.3 [4859]	32.6 [828]	29.8 [757]	41.5 [1054]	17.5 [445]	20.9 [531]	3.2 [81]	11.3 [287]	5.3 [134]	15.1 [384]	4.0 [101]	15.1 [384]

DOUBLE - 13-5/8" 10M

	OTLT Size	STD "A"	STD "B"	LBS "A"	LBS "B"	LBS W/TB "A"	LBS W/TB "B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	STD "K"	STD "M"	LBS "K"	LBS "M"	LBS W/TB "K"	LBS W/TB "M"	"C.O.G"	STD Weight (DRY)	LBS Weight (DRY)	LBS W/TB Weight (DRY)
FXF	4-1/16" 10M	107.8 [2738]	150.4 [3820]	114.0 [2897]	153.4 [3897]	151.2 [3839]	191.3 [4859]	67.7 [1720]	46.4 [1179]	58.1 [1476]	17.5 [445]	24.1 [612]	21.8 [554]	45.9 [1166]	3.2 [81]	11.3 [287]	5.3 [134]	15.1 [384]	4.0 [101]	15.1 [384]	33.8 [859]	22446 [10181]	22978 [10423]	23546 [10680]
SXF	4-1/16" 10M	107.8 [2738]	150.4 [3820]	114.0 [2897]	153.4 [3897]	151.2 [3839]	191.3 [4859]	58.7 [1491]	29.8 [757]	41.5 [1054]	17.5 [445]	24.1 [612]	21.8 [554]	45.9 [1166]	3.2 [81]	11.3 [287]	5.3 [134]	15.1 [384]	4.0 [101]	15.1 [384]	32.8 [833]	22082 [10016]	22614 [10257]	23182 [10515]

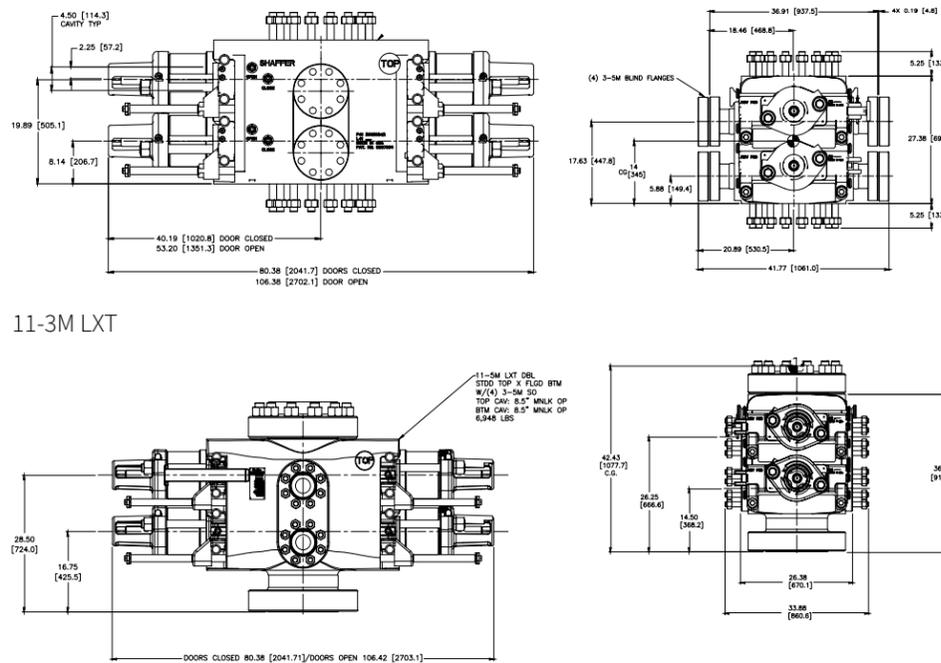
13" Shown, All other sizes (7", 11" 16", 20", 21", 26") available upon request.



7-5M LXT

The LXT Ram is offered as:

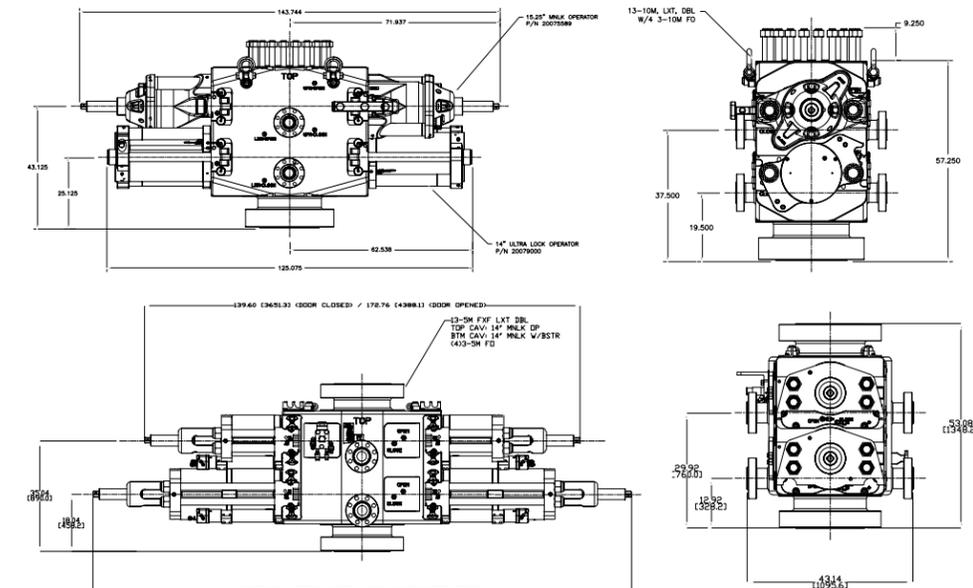
- 7" bore and 3,000/5,000 psi WP
- 11" bore and 3,000/5,000 psi WP
- 13-5/8" bore and 3,000/5,000 psi WP
- 13-5/8" bore and 10,000 psi WP
- 21-1/4" bore and 5,000 psi WP



11-5M LXT

Benefits:

- Smaller dimension (length and height)
- Lighter weight
- Improved safety (no hammering bolts in confined areas)
- Quicker ram changes
- Easy ram access for faster and easier ram servicing
- Standard H2S service
- Most models compatible with Low Force Shears



13-10M LXT

Special Features:

- Boltless BOP doors: The LXT incorporates the boltless BOP door locking system design, which enables opening and closing of the BOP door.
- Improved Safety: Less manpower is needed to service the BOP and risks of injuries related to BOP ram access are reduced.
- Reduced Time for Ram Changes: Simple extraction of the two lock rods is accomplished without special tools, in significantly less time than it takes to break out and re-torque conventional door bolts.

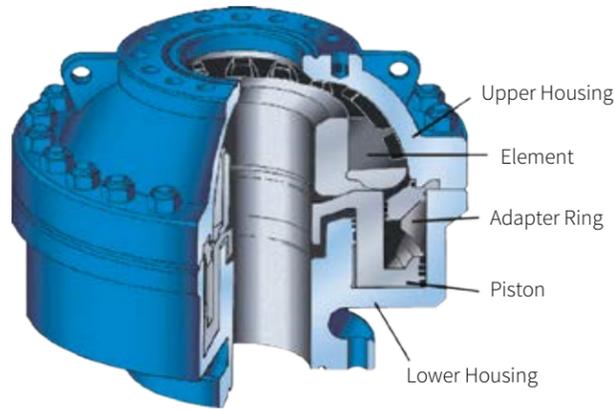
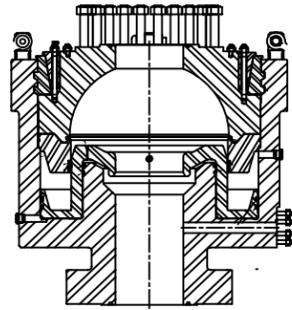
7" 3/5K LXT Ram BOP Specifications		
Technical Specifications	Single	Double
Bore Size	7"	7"
Working Pressure	5,000 psi	5,000 psi
Piston Size	5"	5"
Height		
FXF	25.125"	34.875"
SXF	18.25"	27.750"
SXS	11.5"	20.750"
Width	17.50"	17.5"
Length (handle to handle)	71.58"	71.58"
Gallons to Open (1 set)	.64 gallons	.64 gallons
Gallons to Close (1 set)	.63 gallons	.63 gallons
Maximum Hydraulic Opening Pressure	3,000 psi	3,000 psi
Closing Ratio	8.45	8.45
Maximum Pipe Size	5-1/2"	5-1/2"

11" 3/5K LXT Ram BOP Specifications		
Technical Specifications	Single	Double
Bore Size	11"	11"
Working Pressure	5,000 psi	5,000 psi
Piston Size	8.5"	8.5"
Height		
FXF	34.12"	44.87"
SXF	25.38"	36.13"
SXS	16.63"	27.38"
Width	26.88"	26.38"
Length (handle to handle)	80.38"	80.38"
Gallons to Open (1 set)	2.46 gallons	2.46 gallons
Gallons to Close (1 set)	2.80 gallons	2.80 gallons
Maximum Hydraulic Opening Pressure	3,000 psi	3,000 psi
Closing Ratio	5.86	5.86
Maximum Pipe Size	10.75"	10.75"

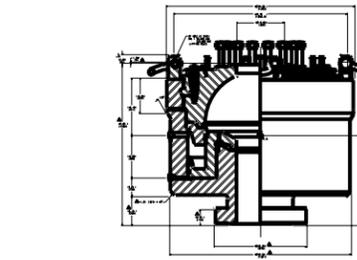
13-5/8" 3/5K & 10K LXT Ram BOP Specifications				
Technical Specifications	Single	Double	Single	Double
Bore Size	13-5/8"	13-5/8"	13-5/8"	13-4/8"
Working Pressure	5,000 psi	5,000 psi	10,000 psi	10,000 psi
Piston Size	10"	10"	15.25"	15.25"
Height				
FXF	34.625"	44"	50.25"	68.25"
SXF	26.25"	39"	39.625"	57.625"
SXS	18"	29"	29"	47"
Width	42"	42"	44.43"	44.43"
Length (handle to handle)	128.25"	128.25"	115.83"	115.83"
Gallons to Open (1 set)	4.86 gallons	4.86 gallons	12.63 gallons	12.63 gallons
Gallons to Close (1 set)	5.12 gallons	5.14 gallons	12.88 gallons	12.88 gallons
Maximum Hydraulic Opening Pressure	3,000 psi	3,000 psi	3,000 psi	3,000 psi
Closing Ratio	6.47	6.47	10.69	10.69
Maximum Pipe Size	10.75"	10.75"	10.75"	10.75"
Weights (lbs.)				
FXF	5,300	14,185	17,000	26,700
SXF	4,700	13,600	15,700	25,400
SXS	4,100	13,000	14,400	24,100

To accommodate a wide range of sizes and pressures, the Shaffer™ Spherical BOP comes in two different configurations - bolted cover and wedge cover.

- Rugged, reliable sealing element provides positive seal after hundreds of tests to full working pressure.
- Strong, simple construction — only five major parts.
- Compact body saves space. Height is 15 to 20% less than height of some other annular BOPs.
- Simple hydraulic system. Only two hydraulic connections are needed.
- Wear rings on moving parts prevent metal-to-metal contact. This feature prolongs preventer life.
- Suitable for H2S service. Standard models are suitable for internal H2S service, and simple bolt and lifting shackle changes convert them for external H2S service.
- Servicing is easy. Element can be changed without getting mud or grit into the hydraulic system.
- Steel segments reinforce sealing element but do not protrude into well bore when element is open.
- Element design provides long stripping life.



Bolted Cover Configuration



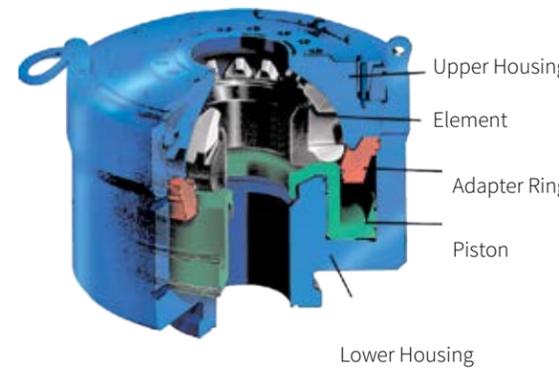
13 - 5/8" 5M SXF

Connections				
	Size (in.)	Bore (in.)	W.P. (PSI)	RG. GRV.
Top	13 - 5/8"	12 - 5/8"	5,000	BX - 160
Bottom	13 - 5/8"	13 - 5/8"	5,000	BX - 160
Outlet	As required	As required	As required	As required

Estimated Weight W/ Element	
Configuration	Weight
Stud X Flange	17,518 Lbs (7,946 kg)

Wellbore Characteristics	
Working Pressure	5,000 PSI (345 Bar)
Test Pressure	7,5000 PSI (518 Bar)

Hydraulic Operator Characteristics	
Working Pressure	1,500 PSI (103 Bar)
Test Pressure	2,250 PSI (155 Bar)
Volume to open	14.59 Gallons (55.2 Lts)
Volume to close	25.56 Gallons (96.8 Lts)
Hydraulic Connections	(2) 1 - 1/2" Female NPT



Wedge Cover Configuration



Working Pressure (psi)	4 1/16	7 1/16	9	11	13 5/8	16 3/4	18 3/4	20 3/4	21 3/4	30 (notAPI)
10,000	X	X								
5,000		X	X	X	X					
3,000		X	X	X				X		
2,000									X	
1,000										X

Working Pressure (psi)	4 1/16	7 1/16	9	11	13 5/8	16 3/4	18 3/4	20 3/4	21 3/4	30 (notAPI)
10,000				X	X		XX			
5,000					X	XX	XX		XX	

XX - Wedge and Dual Wedge Configurations Available

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