

Annular Blowout Preventer

Annular Blowout Preventer usually a large gate equipped with a ram-type blowout preventer. During operation, a sealed annular space is formed between the pipe string and the wellbore. When there is no pipe string in the well, it is also The well can be shut-in alone, but it won't work after several uses, and long-term shut-in use is not allowed.

1. What is the function of the annular blowout preventer?

- (1) When there is a pipe string in the well, a rubber core can be used to seal the annular space formed by the pipe string and the wellhead;
- (2)The well head can be completely sealed when the well is empty;
- (3)During the process of drilling, milling, casing grinding, logging, and salvage of falling objects, if overflow or blowout occurs, it can seal the space formed by the kelly, cable, wire rope, tools and wellheads for handling accidents;
- (4)With the cooperation of pressure reducing and regulating valve or small accumulator, it can forcibly lift and lower the 18°butt-welded pipe string joint without fine buckle;
- (5)In case of severe overflow or blowout, it is used to cooperate with ram blowout preventer and choke manifold to achieve soft shut-in.

2, what should be paid attention to when starting and running the drilling tool when shutting in with the annular blowout preventer?

- (1) Only allow 18-degree butt-welded drill pipe joints without fine buckle.
- (2) During the tripping process, there is a small amount of leakage between the rubber core and the drill pipe, which is not only allowed, but also necessary. A small amount of leaking drilling fluid can lubricate and cool the rubber core and improve the life of the rubber core. If necessary, lubricating fluid can be added to the top of the rubber core to lubricate the rubber core.
- (3) The starting and descending speed must be slow, especially when passing the joint.

3, the working principle of the annular blowout preventer

Working principle of tapered rubber core annular blowout preventer

When the conical rubber core annular blowout preventer shuts in, the pressure oil from the hydraulic control system enters the lower oil chamber (closes the oil chamber) and pushes the piston to move up quickly. The rubber core cannot move up due to the restriction of the top

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cover. Under the action of the surface, it is forced to squeeze and shrink the drill tool toward the center of the wellbore, encircling the drilling tool, and seal the annular space of the wellhead. When there is no drilling tool in the well, the rubber core is squeezed toward the center and contracted until the hollow part of the rubber core is filled with rubber, thereby completely sealing the wellhead. At the same time, the hydraulic oil in the upper oil chamber flows back to the oil tank through the hydraulic control system pipeline.

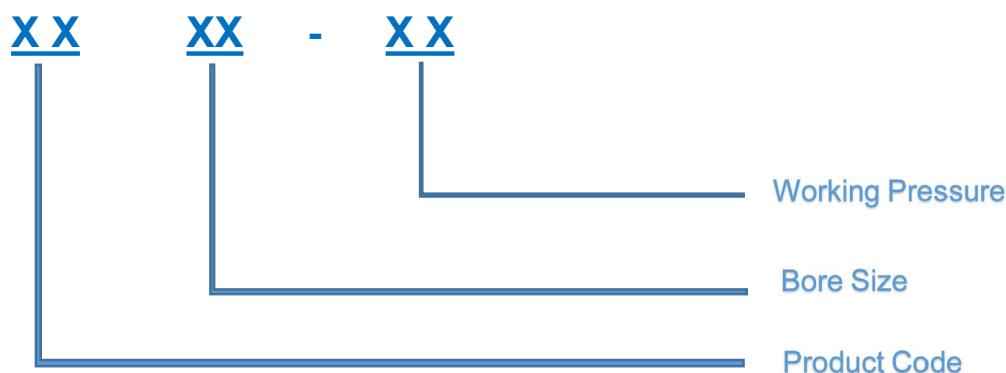
When opening the tapered rubber core annular preventer, the pressure oil from the hydraulic control system enters the upper oil chamber (opening the oil chamber) to push the piston down quickly. The squeezing force of the inner cone of the piston against the rubber core quickly disappears, and the rubber core expands outwards by the elasticity of its own rubber to restore its original shape, and the well head is fully opened. At the same time, the hydraulic oil in the lower oil chamber flows back to the oil tank through the hydraulic control system pipeline.



Spherical packing element

Conical packing element

Codes Description of Annular BOP



Product Code

FH-D Annular BOP using the Spherical packing element

FH-A Annular BOP using the Conical packing element

Bore Size (mm)	Bore Size (Inch)
180 mm	7 1/16"
230 mm	9"
280 mm	11"
350 mm	13 5/8"
430 mm	16 3/4"
480 mm	18 3/4"
530 mm	20 3/4"
540 mm	21 1/4"
680 mm	26 3/4"
750 mm	29 1/2"
760 mm	30"

Working Pressure (MPa)	Working Pressure (psi)
3.5 MPa	507 psi
6.9 MPa	1,000 psi
10.5 MPa	1,524 psi
13.8 MPa	2,000 psi
20.7 MPa	3,000 psi
34.5 MPa	5,000 psi
69 MPa	10,000 psi
103.5 MPa	15,000 psi
138 MPa	20,000 psi

FH-D 7 1/16"-3,000psi Annular BOP (With Spherical Rubber)



7 1/16"-3,000 psi Annular BOP

Specification

Model	7 1/16"-3,000 psi Annular BOP FH18-21
Part Number (P/N)	
Bore Size	179.4 mm (7 1/16")
Rated Working Pressure	21 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.1 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	15 L (3.92 gal)
Volume to Close Chamber	21 L (5.55 gal)
Closure Range	0~179.4 mm (0~7 1/16")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	745 mm × 769 mm (29.33" × 30.28")
Approx Weight	1432 kg (3157 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 7 1/16"-5,000psi Annular BOP (With Spherical Rubber)



7 1/16"-5,000 psi Annular BOP

Specification

Model	7 1/16"-5,000 psi Annular BOP FH18-35
Part Number (P/N)	
Bore Size	179.4 mm (7 1/16")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	15 L (3.92 gal)
Volume to Close Chamber	21 L (5.55 gal)
Closure Range	0~179.4 mm (0~7 1/16")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	745 mm × 797 mm (29.33" × 31.38")
Approx Weight	1520 kg (3351 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 9"-3,000psi Annular BOP (With Spherical Rubber)



9"-3,000 psi Annular BOP

Specification

Model	9"-3,000 psi Annular BOP FH23-21
Part Number (P/N)	
Bore Size	228.6 mm (9")
Rated Working Pressure	21 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.1 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	27 L (7.13 gal)
Volume to Close Chamber	39 L (10.30 gal)
Closure Range	0~228.6 mm (0~9")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	908 mm × 838 mm (35.75" × 32.99")
Approx Weight	2440 kg (5379 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 9"-5,000psi Annular BOP (With Spherical Rubber)



9"-5,000 psi Annular BOP

Specification

Model	9"-5,000 psi Annular BOP FH23-35
Part Number (P/N)	
Bore Size	228.6 mm (9")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	33 L (8.72 gal)
Volume to Close Chamber	42 L (11.10 gal)
Closure Range	0~228.6 mm (0~9")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1016 mm × 924 mm (40.00" × 36.38")
Approx Weight	3050 kg (6724 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 11"-2,000psi Annular BOP (With Spherical Rubber)



11"-2,000 psi Annular BOP

Specification

Model	11"-2,000 psi Annular BOP FH28-14
Part Number (P/N)	
Bore Size	279.4 mm (11")
Rated Working Pressure	14 MPa (2,000 psi)
Hydrostatic Shell Test Pressure	20.7 MPa (3,000 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	33 L (8.72 gal)
Volume to Close Chamber	46 L (12.15 gal)
Closure Range	0~279.4 mm (0~11")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1013 mm × 855 mm (39.88" × 33.66")
Approx Weight	3547 kg (7820 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 11"-3,000psi Annular BOP (With Spherical Rubber)



11"-3,000 psi Annular BOP

Specification

Model	11"-3,000 psi Annular BOP FH28-21
Part Number (P/N)	
Bore Size	279.4 mm (11")
Rated Working Pressure	21 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.1 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	33 L (8.72 gal)
Volume to Close Chamber	46 L (12.15 gal)
Closure Range	0~279.4 mm (0~11")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121 °C) or as required by contract
Overall Dimension (O.D×Height)	1013 mm × 873 mm (39.88" × 34.37")
Approx Weight	3400 kg (7496 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 11"-5,000psi Annular BOP (With Spherical Rubber)



11"-5,000 psi Annular BOP

Specification

Model	11"-5,000 psi Annular BOP FH28-35
Part Number (P/N)	
Bore Size	279.4 mm (11")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	56 L (14.79 gal)
Volume to Close Chamber	72 L (19.02 gal)
Closure Range	0~279.4 mm (0~11")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1146 mm × 1104 mm (45.12" × 43.46")
Approx Weight	4643 kg (10236 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 13 5/8"-3,000psi Annular BOP (With Spherical Rubber)



13 5/8"-3,000 psi Annular BOP

Specification

Model	13 5/8"-3,000 psi Annular BOP FH35-21
Part Number (P/N)	
Bore Size	346.1 mm (13 5/8")
Rated Working Pressure	21 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.1 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	72 L (19.02 gal)
Volume to Close Chamber	98 L (25.89 gal)
Closure Range	0~346.1 mm (0~13 5/8")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1271 mm × 1176 mm (50.04" × 46.30")
Approx Weight	5700 kg (12566 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

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FH-D 13 5/8"-5,000psi Annular BOP (With Spherical Rubber)



13 5/8"-5,000 psi Annular BOP

Specification

Model	13 5/8"-5,000 psi Annular BOP FH35-35
Part Number (P/N)	
Bore Size	346.1 mm (13 5/8")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	72 L (19.02 gal)
Volume to Close Chamber	98 L (25.89 gal)
Closure Range	0~346.1 mm (0~13 5/8")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1271 mm × 1176 mm (50.04" × 46.30")
Approx Weight	6448 kg (14215 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 18 3/4"-5,000psi Annular BOP (With Spherical Rubber)



18 3/4"-5,000 psi Annular BOP

Specification

Model	18 3/4"-5,000 psi Annular BOP FH48-35
Part Number (P/N)	
Bore Size	476.3 mm (18 3/4")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	172 L (45.44 gal)
Volume to Close Chamber	220 L (58.12 gal)
Closure Range	0~476.3 mm (0~18 3/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1780 mm × 1710 mm (70.08" × 67.32")
Approx Weight	16320 kg (35979 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 20 3/4"-3,000psi Annular BOP (With Spherical Rubber)



20 3/4"-3,000 psi Annular BOP

Specification

Model	20 3/4"-3,000 psi Annular BOP FH53-21
Part Number (P/N)	
Bore Size	527 mm (20 3/4")
Rated Working Pressure	21 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.5 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	110 L (29.06 gal)
Volume to Close Chamber	173 L (45.70 gal)
Closure Range	0~527 mm (0~20 3/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1375 mm × 1293 mm (54.13" × 50.91")
Approx Weight	7133 kg (15726 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-D 21 1/4"-5,000psi Annular BOP (With Spherical Rubber)



21 1/4"-5,000 psi Annular BOP

Specification

Model	21 1/4"-5,000 psi Annular BOP FH54-35
Part Number (P/N)	
Bore Size	539.7 mm (21 1/4")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	171 L (45.17 gal)
Volume to Close Chamber	227 L (59.97 gal)
Closure Range	0~539.7 mm (0~21 1/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1938 mm × 1742 mm (76.30" × 68.58")
Approx Weight	20220 kg (44577 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-A 7 1/16"-10,000psi Annular BOP (With Tapered Rubber)



7 1/16"-10,000 psi Annular BOP

Specification

Model	7 1/16"-10,000 psi Annular BOP FHZ18-70
Part Number (P/N)	
Bore Size	179.4 mm (7 1/16")
Rated Working Pressure	70 MPa (10,000 psi)
Hydrostatic Shell Test Pressure	105 MPa (15,000 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	27 L (7.13 gal)
Volume to Close Chamber	36 L (9.51 gal)
Closure Range	0~179.4 mm (0~7 1/16")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1200 mm × 1250 mm (47.24" × 49.21")
Approx Weight	6299 kg (13887 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-A 11"-10,000psi Annular BOP (With Tapered Rubber)



11"-10,000 psi Annular BOP

Specification

Model	11"-10,000 psi Annular BOP FHZ28-70
Part Number (P/N)	
Bore Size	279.4 mm (11")
Rated Working Pressure	70 MPa (10,000 psi)
Hydrostatic Shell Test Pressure	105 MPa (15,000 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	66 L (17.44 gal)
Volume to Close Chamber	67 L (17.70 gal)
Closure Range	0 ~ 279.4 mm (0 ~ 11")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121 °C) or as required by contract
Overall Dimension (O.D×Height)	1687 mm × 1653 mm (66.42" × 65.08")
Approx Weight	12290 kg (27095 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-A 11"-15,000psi Annular BOP (With Tapered Rubber)



11"-15,000 psi Annular BOP

Specification

Model	11"-15,000 psi Annular BOP FHZ28-105
Part Number (P/N)	
Bore Size	279.4 mm (11")
Rated Working Pressure	105 MPa (15,000 psi)
Hydrostatic Shell Test Pressure	157.5 MPa (22,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	120 L (31.70 gal)
Volume to Close Chamber	121 L (31.96 gal)
Closure Range	0 ~ 279.4 mm (0~11")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29~121°C) or as required by contract
Overall Dimension (O.D×Height)	1650 mm × 1959 mm (64.96" × 77.13")
Approx Weight	17640 kg (38889 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-A 13 5/8"-5,000psi Annular BOP (With Tapered Rubber)



13 5/8"-5,000 psi Annular BOP

Specification

Model	13 5/8"-5,000 psi Annular BOP FHZ35-35
Part Number (P/N)	
Bore Size	346.1 mm (13 5/8")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	54 L (14.27 gal)
Volume to Close Chamber	68 L (17.96 gal)
Closure Range	0 ~ 346.1 mm (0 ~ 13 5/8")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121 °C) or as required by contract
Overall Dimension (O.D×Height)	1510 mm × 1434 mm (59.45" × 56.46")
Approx Weight	6917 kg (15249 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

FH-A 13 5/8"-10,000psi Annular BOP (With Tapered Rubber)



13 5/8"-10,000 psi Annular BOP

Specification

Model	13 5/8"-10,000 psi Annular BOP FHZ35-70
Part Number (P/N)	
Bore Size	346.1 mm (13 5/8")
Rated Working Pressure	70 MPa (10,000 psi)
Hydrostatic Shell Test Pressure	105 MPa (15,000 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	117 L (30.91 gal)
Volume to Close Chamber	116 L (30.64 gal)
Closure Range	88.9 ~ 177.8 mm (3 1/2" ~ 7")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121°C) or as required by contract
Overall Dimension (O.D×Height)	1780 mm × 1787 mm (70.08" × 70.35")
Approx Weight	15190 kg (33488 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

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FH-A 16 3/4"-3,000psi Annular BOP (With Tapered Rubber)



16 3/4"-3,000 psi Annular BOP

Specification

Model	16 3/4"-3,000 psi Annular BOP FHZ43-21
Part Number (P/N)	
Bore Size	425.5 mm (16 3/4")
Rated Working Pressure	20.7 MPa (3,000 psi)
Hydrostatic Shell Test Pressure	31.1 MPa (4,500 psi)
Operating Chamber Rated Working Pressure	20.7 MPa (3,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	84 L (22.19 gal)
Volume to Close Chamber	118 L (31.17 gal)
Closure Range	0 ~ 425.5 mm (0 ~ 16 3/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121 °C) or as required by contract
Overall Dimension (O.D×Height)	1598 mm × 1553 mm (62.91" × 61.14")
Approx Weight	7258 kg (16001 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

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FH-A 16 3/4"-5,000psi Annular BOP (With Tapered Rubber)



16 3/4"-5,000 psi Annular BOP

Specification

Model	16 3/4"-5,000 psi Annular BOP FHZ43-35
Part Number (P/N)	
Bore Size	425.5 mm (16 3/4")
Rated Working Pressure	35 MPa (5,000 psi)
Hydrostatic Shell Test Pressure	52.5 MPa (7,500 psi)
Operating Chamber Rated Working Pressure	20.7 MPa (3,000 psi)
Strength Working Pressure of Hydraulic Control System	31.5 MPa (4,500 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤10.5 MPa (≤1,500 psi)
Volume to Open Chamber	78 L (20.61 gal)
Volume to Close Chamber	112 L (29.59 gal)
Closure Range	0 ~ 425.5 mm (0 ~ 16 3/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121 °C) or as required by contract
Overall Dimension (O.D×Height)	1728 mm × 1630 mm (68.03" × 64.17")
Approx Weight	10030 kg (22112 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

Yancheng Cyber Oilfield Equipment Co.,Ltd.

FH-A 21 1/4"-2,000psi Annular BOP (With Tapered Rubber)



21 1/4"-2,000 psi Annular BOP

Specification

Model	21 1/4"-2,000 psi Annular BOP FHZ54-14
Part Number (P/N)	
Bore Size	539.7 mm (21 1/4")
Rated Working Pressure	14 MPa (2,000 psi)
Hydrostatic Shell Test Pressure	21 MPa (3,000 psi)
Operating Chamber Rated Working Pressure	14 MPa (2,000 psi)
Strength Working Pressure of Hydraulic Control System	21 MPa (3,000 psi)
Recommended Hydraulic Control Working Pressure for Closed Pipe String	≤ 10.5 MPa (≤ 1,500 psi)
Volume to Open Chamber	78.5 L (20.74 gal)
Volume to Close Chamber	141.6 L (37.40 gal)
Closure Range	0 ~ 539.7 mm (0 ~ 21 1/4")
Hydraulic Connection Ports	NPT 1
Temperature Rating	T-20/250 (-29 ~ 121 °C) or as required by contract
Overall Dimension (O.D×Height)	1672 mm × 1501 mm (65.83" × 59.09")
Approx Weight	7696 kg (16967 lb)

1. All BOPs are designed and manufactured in accordance with API Spec 16A.
2. The resistance to stress corrosion by Hydrogen Sulphide at BOP positions in contact with fluid in the well meets relevant requirements as specified in NACE MR 0175.

API 16A Single Ram BOP and Double Ram BOP

The RAM Blowout Preventer is mainly used in workover and drilling operations with varied technical requirements. With a BOP body, side outlet, ram body, and other pressure bearing parts crafted from defect-free forged metal, and an oval-shaped inner chamber to reduce stress concentration and improve its sealing performance, this BOP can efficiently prevent an oil well blowout. The double ram BOP can be equipped with different types of rams, such as pipe ram, blind ram, shear ram or variable diameter ram, to meet different applications.

The ram seal is a float type, which will decrease the resistance and abrasion of the rubber core. The service life is greatly prolonged. Its anti-H₂S performance conforms to NACE MR 0175 standard.

- Ram BOP seals annular space between tubing and casing or wellbore.
- Ram BOP suspends and stabilizes string.
- Ram BOP with side outlets could be used for choke and blowout.
- Ram BOP can be used in operation under pressure.

RAM BOP (API FULL SERIES)

Working pressure MPa (psi)	Bore size (inch)								
	18 (7 1/16)	23 (9)	28 (11)	35 (13 5/8)	43 (16 3/4)	48 (18 3/4)	53 (20 3/4)	54 (21 1/4)	68 (26 3/4)
140(20000)			√						
105(15000)	√	√	√	√					
70(10000)	√	√	√	√		√		√	
35(5000)	√	√	√	√	√	√		√	
21(3000)	√	√	√	√	√		√		√
14(2000)								√	

Note: Can manufacture customized non-standard product

Yancheng Cyber Oilfield Equipment Co.,Ltd.

Specifications And Technical Parameters Of Ram BOP (Casting Body)

Model	Bore(in)	Working pressure (MPa/psi)	Whether Shear	Open Volume (L)	Close Volume (L)	Locking Type	Weight (Kgs)
FZ18-21	7 1/16	21/3000	N	2*1.6	2*2	Manual	798
2FZ18-21				4*1.6	4*2		1,660
FZ18-35	7 1/16	35/5000	N	2*1.6	2*2	Manual	798
2FZ18-35				4*1.6	4*2		1,660
FZ18-35	7 1/16	35/5000	Y	2*5.8	2*6.2	Manual	1,065
2FZ18-35				4*5.8	4*6.2		2,140
FZ18-70	7 1/16	70/10000	Y	2*8.8	2*9.6	Manual	
2FZ18-70				4*8.8	4*9.6		3,866
FZ23-21	9	21/3000	N	2*2	2*2.4	Manual	792
2FZ23-21				4*2	4*2.4		1,800
FZ23-35	9	35/5000	N	2*4.4	2*5	Manual	1,735
2FZ23-35				4*4.4	4*5		3,980
FZ23-35	9	35/5000	Y	2*9.2	2*10	Manual	
2FZ23-35				4*9.2	4*10		4,394
FZ23-70	9	70/10000	N	2*5.7	2*6.3	Manual	3,025
2FZ23-70				4*5.7	4*6.3		5,480
FZ28-21	11	21/3000	N	2*5.2	2*6	Manual	1,840
2FZ28-21				4*5.2	4*6		3,560
FZ28-21	11	21/3000	Y	2*13	2*12.1	Manual	2,155
2FZ28-21				2*13	2*12.1		3,865
FZ28-35	11	35/5000	N	2*5.2	2*5.9	Manual	2,260
2FZ28-35				4*5.2	4*5.9		4,255
FZ28-35	11	35/5000	Y	2*11	2*12	Manual	2,660
2FZ28-35				4*11	4*12		4,935
FZ28-35	11	35/5000	Y	2*11	2*12	Manual	
2FZ28-35				4*11	4*12		5,003
FZ28-70	11	70/10000	N	2*6.5	2*7.4	Manual	4,870
2FZ28-70				4*6.5	4*7.4		7,730
FZ28-70	11	70/10000	Y	2*15	2*16.5	Manual	3,955
2FZ28-70				4*15	4*16.5		7,500
FZ35-14	13 5/8	14/2000	N	2*2.8	2*3.6	Manual	1,360
FZ35-21	13 5/8	21/3000	N	2*5.9	2*6.7	Manual	2,020
2FZ35-21				4*5.9	4*6.7		3,516
FZ35-21	13 5/8	21/3000	Y	2*17.5	2*20	Manual	2,865
2FZ35-21				4*17.5	4*20		5,481

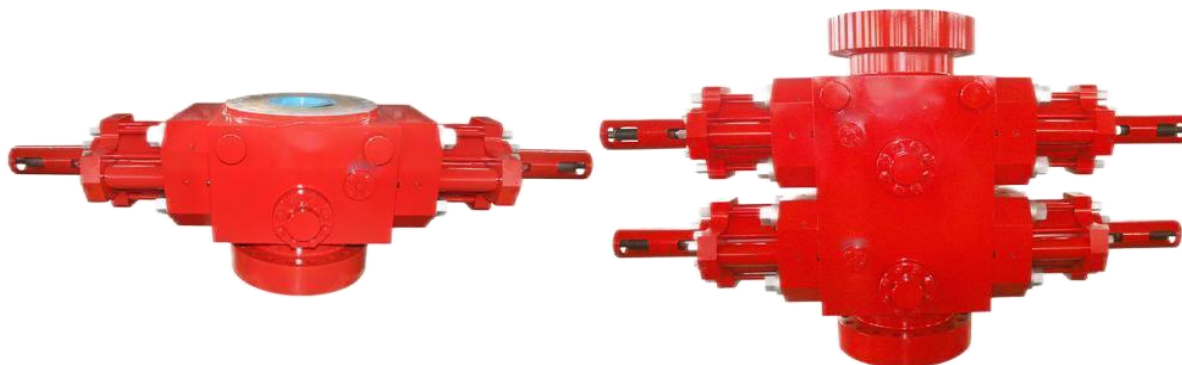
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FZ35-35	13 5/8	35/5000	N	2*8.3	2*9	Manual	3,300
2FZ35-35				4*8.3	4*8.3		6,150
FZ35-35	13 5/8	35/5000	Y	2*17.9	2*19.6	Manual	3,620
2FZ35-35				4*17.9	4*19.6		6,420
FZ35-70	13 5/8	70/10000	Y	2*14.7	2*16.6	Manual	6,445
2FZ35-70				4*14.7	4*16.6		11,950
FZ35-70	13 5/8	70/10000	Y	2*18.3	2*20.9	Manual	6,450
2FZ35-70				4*18.3	4*20.9		11,660
FZ43-35	16 3/4	35/5000	Y	2*22	2*25.5	Manual	6,860
2FZ43-35				4*22	4*25.5		12,496
FZ48-35	18 3/4	35/5000		2*26.5	2*31	Manual	9,420
2FZ48-35				4*26.5	4*31		17,020
FZ53-21	20 3/4	21/3000	N	2*11.7	2*13.7	Manual	5,365
2FZ53-21				4*11.7	4*13.7		9,530
FZ53-21	20 3/4	21/3000	Y	2*24	2*27	Manual	5,908
2FZ53-21				4*24	4*27		10,098
FZ54-14	21 1/4	14/2000	N	2*11.7	2*13.7	Manual	4,725
2FZ54-14				4*11.7	4*13.7		8,980
FZ54-14	21 1/4	14/2000	Y	2*24	2*27	Manual	5,268
2FZ54-14				4*24	4*27		10,116
FZ54-35	21 1/4	35/5000	Y	2*29.7	2*31.1	Manual	9,730
2FZ54-35				4*29.7	4*31.1		17,625
FZ54-70	21 1/4	70/10000	Y	2*28	2*29	Manual	17,873
2FZ54-70				4*28	4*29		28,075
FZ68-21	26 3/4	21/3000	Y	2*33.5	2*35	Manual	10,177
2FZ68-21				4*33.5	4*35		19,318



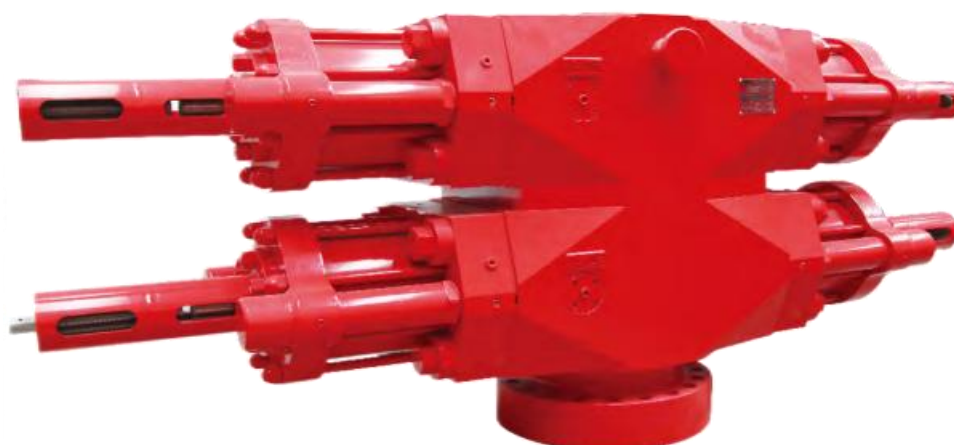
Specifications And Technical Parameters Of Ram BOP (Forging Body)

Model	Bore(in)	Working pressure (MPa/psi)	Whether Shear	Open Volume (L)	Close Volume (L)	Locking Type	Weight (Kgs)
FZ18-21	7 1/16	21/3000	N	2*2.9	2*3.3	Manual	420
2FZ18-21				4*2.9	4*3.3		770
FZ18-35	7 1/16	35/5000	N	2*2.9	2*3.3	Manual	493
2FZ18-35				4*2.9	4*3.3		885
FZ18-70	7 1/16	70/10000	N	2*2.8	2*2.8	Manual	1,179
2FZ18-70				4*2.8	4*2.8		2,175
FZ18-105	7 1/16	105/15000	Y	2*7	2*7.5	Manual	2,520
2FZ18-105				4*7	4*7.5		4,590
FZ28-105	11	105/15000	Y	1*38	33.4	Hydraulic	7,815
2FZ28-105				2*38	2*33.4		13,990
FZ28-105	11	105/15000	Y	1*30	32	Manual	6,450
2FZ28-105				2*30	2*32		12,283
FZ35-35	13 5/8	35/5000	Y	2*20	2*21	Hydraulic	5,325
2FZ35-35				4*20	4*21		10,155
FZ35-70	13 5/8	70/10000	Y	2*20	2*21	Hydraulic	6,265
2FZ35-70				4*40	4*21		11,905
FZ35-70	13 5/8	70/10000	Y	2*21	2*21	Hydraulic	6,855
2FZ35-70				4*21	4*21		12,640
FZ35-70	13 5/8	70/10000	Y	2*19	2*21	Manual	6,425
2FZ35-70				4*19	4*21		11,780
FZ35-105	13 5/8	105/15000	Y	1*37	42	Manual	8,400
2FZ35-105				2*37	2*42		14,930



Specification of Rams Available

Ram Type	Ram Size
Pipe Rams	2 3/8", 2 7/8", 3 1/2", 4", 4 1/2", 5", 5 1/2", 7", 7 5/8", 9 5/8", 9 7/8", 10 3/4", 11 3/4", 11 7/8", 13 3/8", 16", 18 5/8", etc
Variable Bore Rams	2 3/8"~3 1/2" ,2 7/8"~5", 3 1/2"~5 1/2", 4 1/2"~7", etc.
Blind Ram	Available
Blind Shear Ram	Available



Yancheng Cyber Oilfield Equipment Co.,Ltd.

29 1/2"-500psi Diverter

Diverter are primarily used for well control while drilling in surface layer in exploration of oil and gas. Diverter are used together with hydraulic control system, spool and valve gates. The streams (liquid, gas) under control are transmitted to safe zones along a given route so as to ensure the security of well operators and equipments. It may be used to seal kelly, drill pipes, drill pipe joint, drill collar and casings of any shape and size, at the same time it can divert or discharge the streams in well.

Specifications:

Bore Size : $\Phi 749.3$ mm (29 1/2")

Rated Working Pressure : 3.5 MPa (500 psi)

Operating Chamber Rated working Pressure : ≤ 12 MPa (1,700 psi)

Recommended operating Chamber Working Pressure : ≤ 10.5 MPa (1,500 psi)

Closure Range : $\Phi 127 \sim 749.3$ mm (5" ~ 29 1/2")



29 1/2"-500psi Diverter



Structural Characters:

1. Body is connected to head by jaws, which is easy to disassemble with impact structure and good bearing capacity.
2. The cylinder is in a single acting type, and the closing action is realized by hydraulic forces while the opening action is realized by the deadweight of piston or by elasticity of the packing unit
3. All moving surfaces are processed by anti-corrosion measures in order to protect the parts from corrosion by drilling fluid and electrochemical corrosion to rubber parts.
4. It improves the operational performance and extends the service life of products.
5. A wear plate is installed on the head, to avoid abrasion to the bearing steel due to friction between the bearing steel of packing unit and the head.
6. The body is integer one.

Yancheng Cyber Oilfield Equipment Co.,Ltd.

30"-1,000psi Diverter

Specification:

Bore Size : $\Phi 762$ mm (30")

Rated Working Pressure : 7 MPa (1,000 psi)

operating Chamber Rated Working Pressure : \leq 14 MPa (2,000 psi)

Recommended Operating Chamber Working Pressure : \leq 10.5 MPa (1,500 psi)

Structural Characters:

1. It is composed of head, body, piston, spherical packing unit and opening chamber head with a compact structure.
2. All moving surfaces are processed by anti-corrosion measures in order to protect the parts from corrosion by drilling fluid and electrochemical corrosion to rubber parts.
3. It improves the operational performance and extends the service life of products.

