



Blowout Preventer and Control Equipment

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Contents

ABOUT US	02
BOP STACKS	05
Ram BOP	06
Annular BOP	20
Control System for Surface-mounted Bop Stacks	31
Electric Control Systems for Surface-mounted Bop Stacks Structure	31
Pneumatic Control Systems for Surface-mounted Bop Stacks Structure	34
Choke and Kill Manifold	38



As a listed enterprise developing and manufacturing well control equipment, Shanghai Shenkai Petroleum Equipment Co., Ltd. is always committed to studying and developing new technologies for well control equipment so as to meet the demand of petroleum drilling and exploration development trend towards ultra-high pressure wells, ultra-deep wells and high sulfur resistant wells. Shenkai Petroleum Equipment Co., Ltd. is one of main well control equipment research, development and manufacturing bases in China.

Our products are complied

Our products are complied with API Spec 16A, 16D standards and the national standard as well. While obtaining the quality authentication of ISO9001 and HSE, we has also acquired the API Spec 16A, 16D product authorization.





Our products are complied

Shenkai regards product quality as its life and ensures its products have perfect performance depending upon multiple detection means etc. such as chemical analysis test, performance test, hydrostatic strength test, nondestructive test, metallographic test analysis, air tight test and acoustic emission detection (third party) etc.



Our products are complied

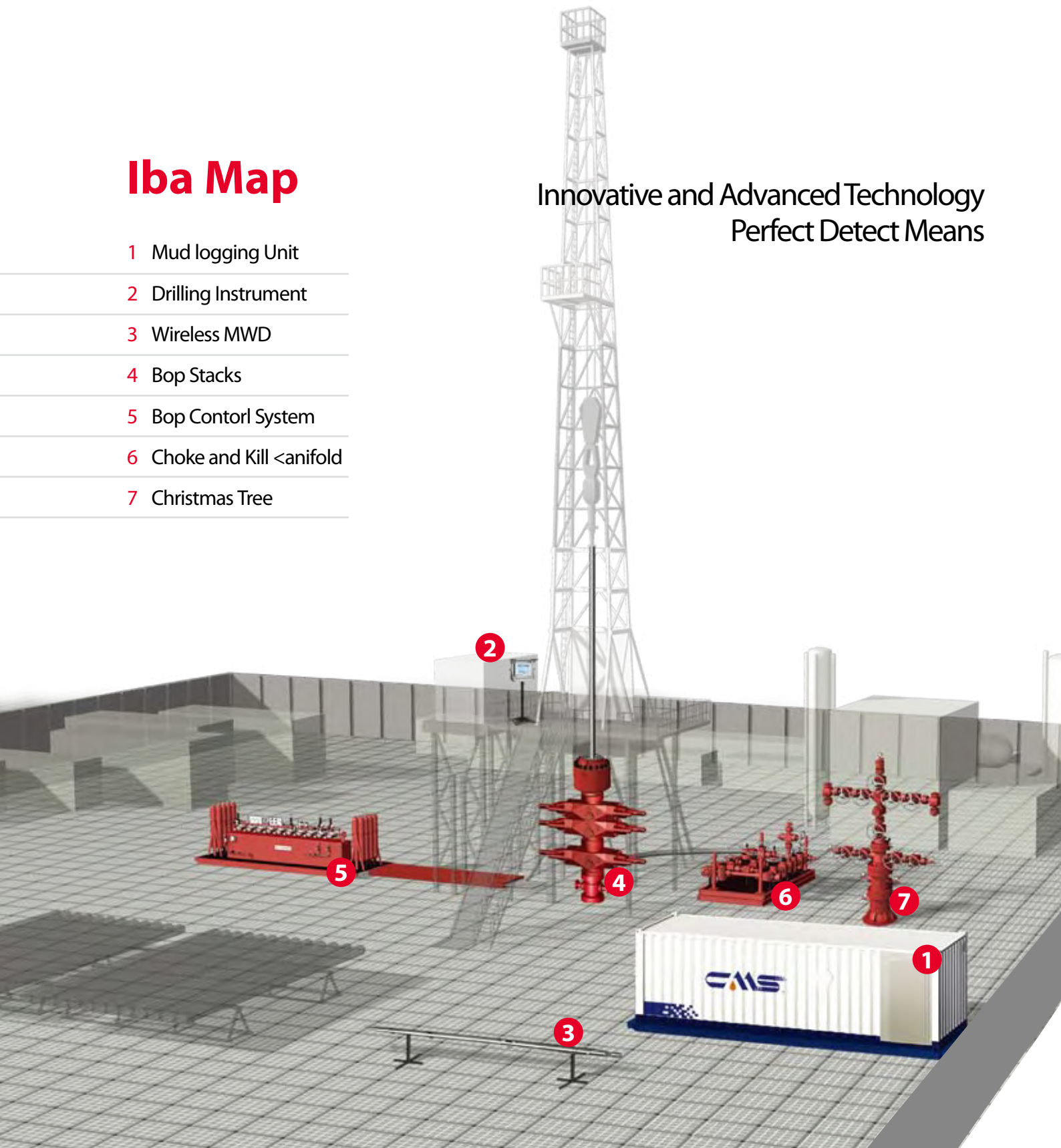
On the strength of its powerful technical force, equipment capacity and innovative spirit, Shenkai aims at internationally advanced level, strives for providing customers with more advanced, applicable and competitive products of high performance price ratio and have developed multiple new products that have independent intelligent properties and reach internationally advanced level. Shenkai already owns hundreds of patent technologies and software copyrights. Shenkai's products are sold on each major domestic market and have entered over 50 countries and regions.



Iba Map

- 1 Mud logging Unit
- 2 Drilling Instrument
- 3 Wireless MWD
- 4 Bop Stacks
- 5 Bop Control System
- 6 Choke and Kill manifold
- 7 Christmas Tree

Innovative and Advanced Technology
Perfect Detect Means



BOP Stacks

Well control equipment are mainly applied in operation of drilling, work-over and well testing etc. to control wellhead pressure, effectively prevent the occurrence of the blowout accident and secure drilling operation.

Since the first successful trial production of F23-35 BOP Stacks in China in 1974, our company has continuously developed several BOP Stacks with various bore size from 7.1/16"~21.1/4" and working pressure ranking from 14MPa to 105MPa. Relying on our rich experience in design and manufacture for dozens of years, we independently developed F105 series BOP stacks with rated working pressure of 15000psi, which can serve for deep well, ultra deep well and high pressure oil and gas well. F105 series BOP stacks are widely used in the domestic oilfields in China and have already been exported to overseas markets such as South America, North America, Russia, Mid Asia, Middle East, South East Asia, Africa etc in recent years.



Testing means:

- Chemical analysis
- Mechanical properties
- Nondestructive testing
- Metering room
- Metallographic test analysis
- Oil way strength test of the oil cylinder and hydraulic cylinder of BOP
- Hydrostatic test of the performance and strength of BOP
- Air tight test
- BOP control pump and valve test room
- Acoustic emission detection equipment, resistance strain and stress test

RAM BOP

TYPE U Ram Bop

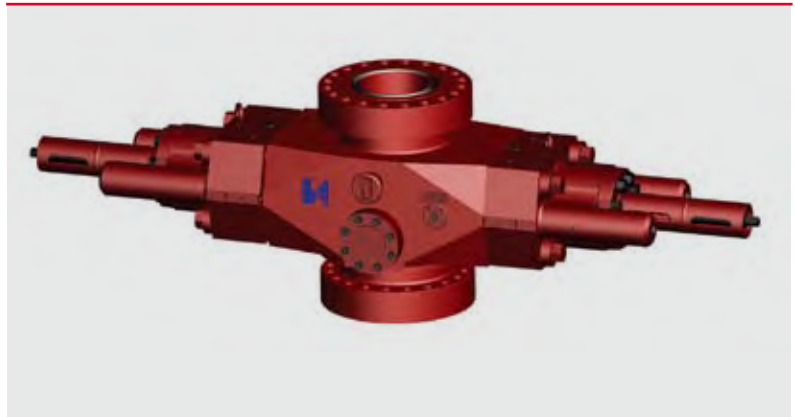
TYPE U Ram BOP is designed and manufactured according to API Spec 16A standard and GB/T20174 Drilling and production equipment-Drill-through equipment, and is equipped with rams of various sizes.

With the best quality front ram rubber, top ram rubber and flange sealing stacks, TYPE U ram BOP can work during the extreme working condition including extremely high or low temperature and extreme chemical environment.

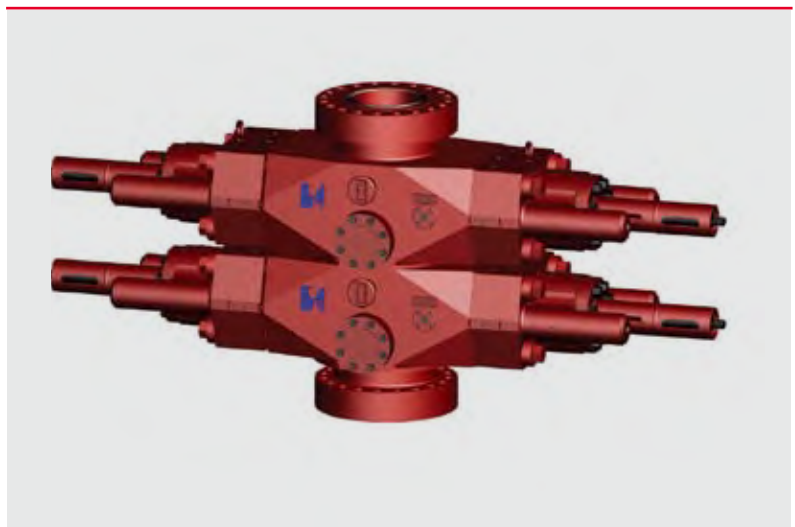
Features:

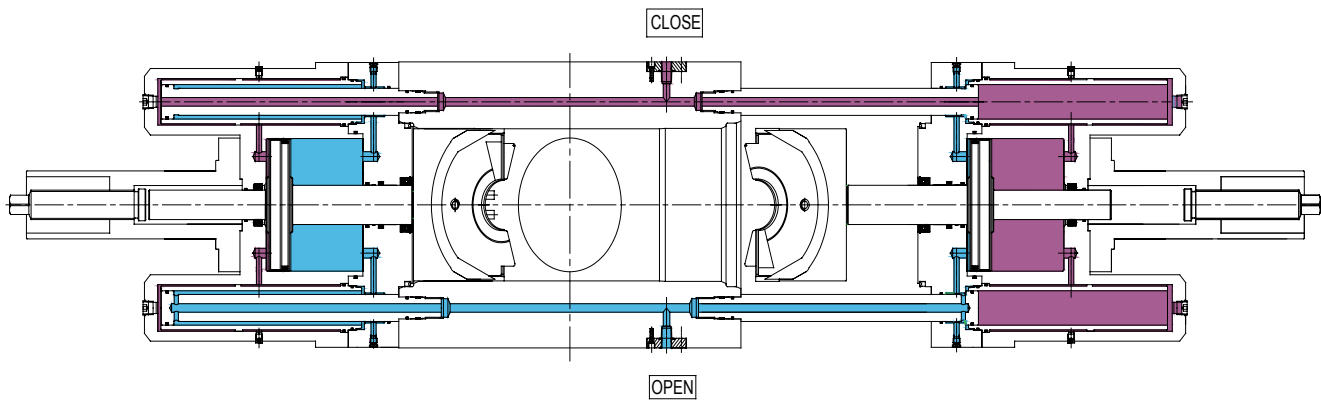
- The pressure-bearing components are forged, so it has better strength and impact toughness
- Floating sealing is applied to the cylinder cover and the open/close of the cover is realized by hydraulic power, so it is quick and convenient for changing rams
- The auxiliary oil cylinder affords a smaller volume with same function
- The ram rubber has massive storage volume, and it adopts self-contained sealing
- The standard configuration includes a manual locking device, which ensures the ram is closed tightly in case there is a hydraulic pressure loss
- Both the manual and hydraulic locking device and the auxiliary oil cylinder can be installed flexibly into different positions according to customers' requirements, and the installation positions can be changed easily
- Ram cavity can be fitted with ram assembly of same type BOP made abroad

TYPE U SINGLE RAM BOP



TYPE U DOUBLE RAM BOP





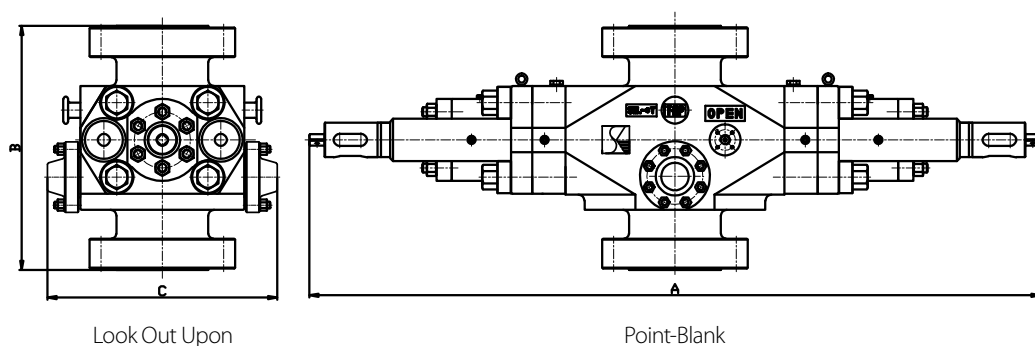
■ Open the ram and close the hydraulic cylinder assembly. ■ Close the ram and open the hydraulic cylinder assembly.

TYPE U BOP operation data and needed oil quantity						Shear ram chamber operation data and needed oil quantity				
Drift diameter/ pressure	Oil quantity for opening the ram (L/set)	Oil quantity for closing the ram (L/set)	Circle number of locking shaft	Closing ratio	Opening ratio	Oil quantity for opening the ram (L/set)	Oil quantity for closing the ram (L/set)	Circle number of locking shaft	Closing ratio	Opening ratio
7 1/16" /All pressure	4.6	4.6	18	6.9:1	2.2:1	—	—	—	—	—
11" /the pressure except 15000psi	10.6	11	30	7.3:1	2.5:1	25.8	26.5	30	12:1	4.8:1
11" /15000psi	21.6	21.9	31	9.8:1	2.2:1	33.7	34.1	31	15.2:1	3.7:1
13 5/8" /the pressure except 15000psi	20	21	37	7.0:1	2.3:1	39.8	41.3	37	10.8:1	4.5:1
13 5/8" /15000psi	39.4	40.2	45	10.6:1	3.6:1	60.6	61.4	45	16.2:1	6:1
20 3/4" /3000psi	16.7	17.7	48	7.0:1	1.3:1	54.2	56.4	48	10.4:1	4.4:1
21 1/4" /2000psi	16.7	17.7	48	7.0:1	1.3:1	54.2	56.4	48	10.4:1	4.4:1

■ The weight in the above table is based on upper and lower flange form.

TYPE U SINGLE RAM BOP

- A-1 : Length —the ram is closed and the locking shaft is locked up
- A-2 : Length —the ram is opened and the locking shaft is not locked up
- B : Height—flange connection
- C : Width—excluding the bypass outlet



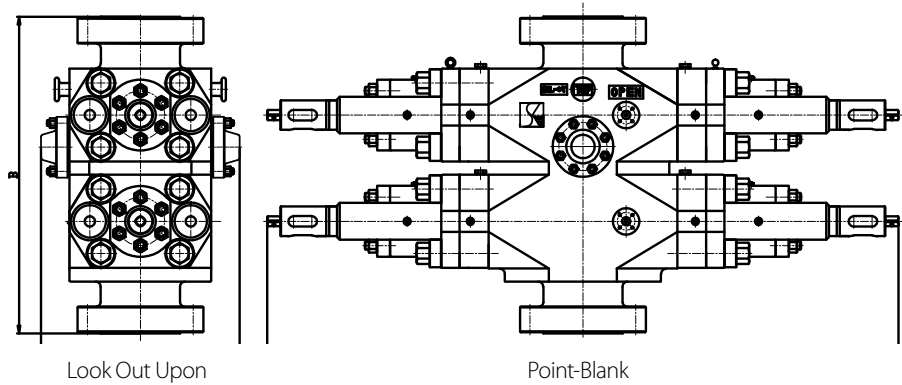
Dimension Schematic of TYPE U Single Ram BOP

Size (in.)	Working pressure(psi)	Vertical Path(in.)	A-1 (mm)	A-2 (mm)	B (mm)	C (mm)	Weight (Kg)
7 1/16	3,000	7 1/16	1880	2780	611	515	1400
7 1/16	5,000	7 1/16	1880	2780	699	515	1500
7 1/16	10,000	7 1/16	2487	3363	1216	757	2150
7 1/16	15,000	7 1/16	2477	3273	832	768.8	2120
11	3,000	11	3105	4165	750	640	2406
11	5,000	11	3105	4165	898	648	4200
11	10,000	11	3200	4250	910	655	4300
11	15,000	11	3325	4413	1205	820	6725
13 5/8	3,000	13 5/8	3200	4356	795	743	3260
13 5/8	5,000	13 5/8	3627	4895	982	840	6540
13 5/8	10,000	13 5/8	3768	5046	1135	850	6640
13 5/8	15,000	13 5/8	3530	5460	1360	1000	10800
20 3/4	3,000	20 3/4	4120	5800	1030	1120	8100
21 1/4	2,000	21 1/4	4120	5800	940	1110	7600

The weight in the above table is based on upper and lower flange form.

TYPE U DOUBLE RAM BOP

- A-1 : Length —the ram is closed and the locking shaft is locked up.
- A-2 : Width—excluding the bypass outlet
- B : Height—flange connection
- C : Valve plate chamber height

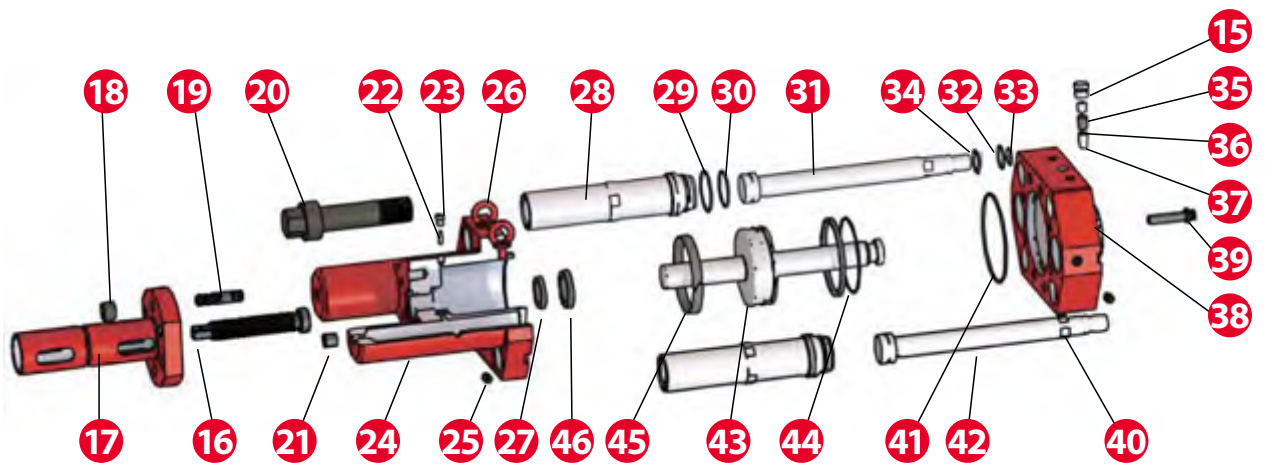
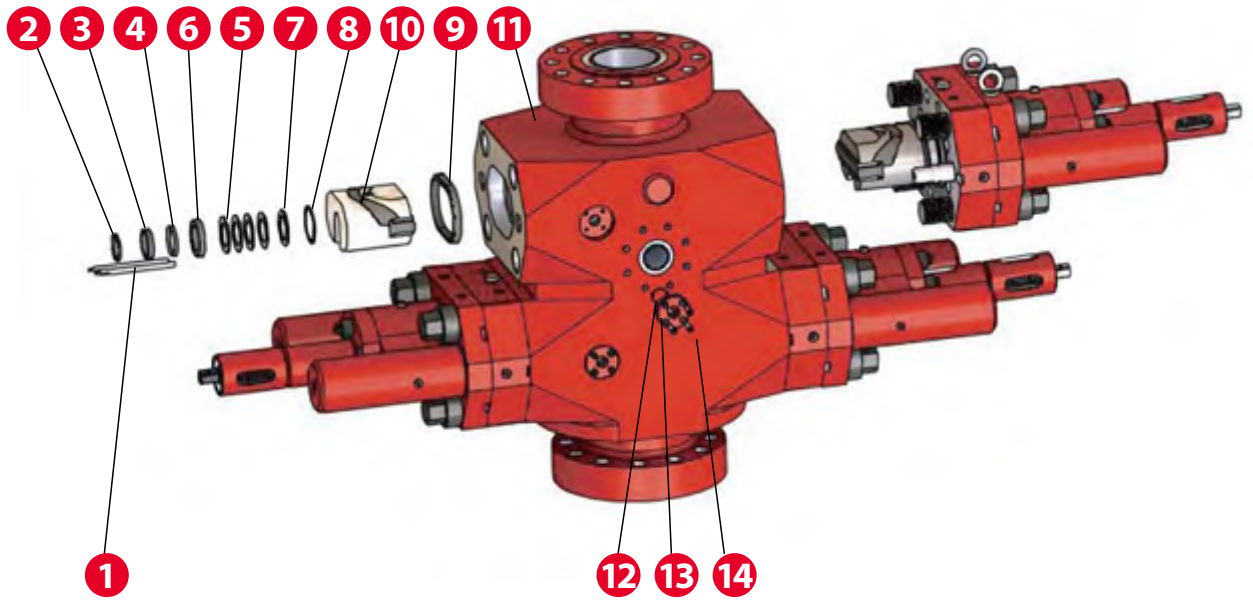


Dimension Schematic of TYPE U Double Ram BOP

Size (in.)	Working pressure (psi)	Vertical Path (in.)	A-1 (mm)	A-2 (mm)	B (mm)	C (mm)	Weight (Kg)
7 1/16	3,000	7 1/16	1880	2780	1041	515	2270
7 1/16	5,000	7 1/16	1880	2780	1122	515	2360
7 1/16	10,000	7 1/16	2487	3363	1216	757	4095
7 1/16	15,000	7 1/16	2477	3273	1242	768.8	4066
11	3,000	11	3105	4165	1250	640	4500
11	5,000	11	3105	4165	1380	648	6200
11	10,000	11	3200	4250	1420	655	7300
11	15,000	11	3325	4413	1840	820	11910
13 5/8	3,000	13 5/8	3200	4356	1356	743	6500
13 5/8	5,000	13 5/8	3627	4895	1542	840	12200
13 5/8	10,000	13 5/8	3768	5046	1770	850	12700
13 5/8	15,000	13 5/8	3530	5460	2076	1000	19600
20 3/4	3,000	20 3/4	4120	5800	1676	1120	15600
21 1/4	2,000	21 1/4	4120	5800	1590	1110	14500

■ The weight in the above table is based on upper and lower flange form.

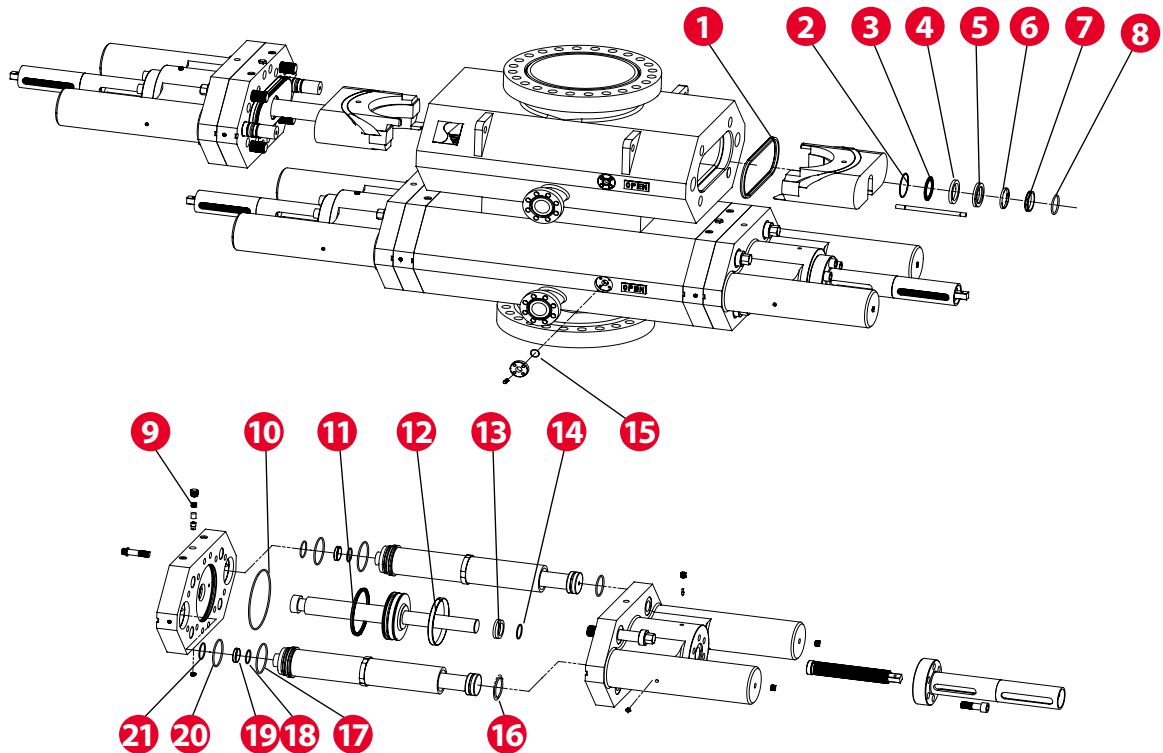
TYPE U BOP Explosion Drawing



No. of Part Drawing of TYPE U Ram BOP

No.	Name	Qty. Single Ram	Qty. Double Ram	7 1/16" -15000psi	11" -5000psi	13 5/8" -5000psi
1	Ram guide rod	4	8	2C07.15	2C06.10	2C02.15
2	O-seal ring (spacer flange)	2	4	GB3452.1-1992	2C01.40	2C02.24
3	Reinforced seal ring	2	4	2C07.25	2C01.42	2C02.25
4	Tightened seal ring	2	4	2C07.26	2C01.41	2C02.26
5	Gasket	8	16	2C07.28	2C06.20	-
6	Front rod seal ring of the main piston	2	4	2C07.27	2C06.18	2C02.27
7	Gasket	2	4	2C07.18	2C06.12	2C02.18
8	Retainer ring	2	4	GB/T893.1-1986	GB/T893.1-1986	2C02.17
9	Flange sealing assembly	2	4	2C08.07.00	2C06.19.00	2C03.07
10	Gate assembly	2	4	2C07.01().00	2C06.08().00	2C02.01().00
11	Shell	1	1	C08.02A.()()	C06.02A.()()	C03.02A.()()
12	O-SEAL RING (nozzle flange)	2	4	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
13	Nozzle flange	2	4	2C05.09	2C05.09	2C01.25
14	Screw	8	16	GB/T70.1-2000	GB/T70.1-2000	2C01.26
15	Z1" external hexagon plug	4	8	2C01.21	2C01.21	2C01.21
16	Locking screw	2	4	2C07.09	2C06.01	2C01.11
17	Locking shaft seat	2	4	2C07.06-01	2C06.03.00	2C03.06
18	Nut	16	32	--	--	2C01.14
19	Bolt	16	32	GB/T70.1-2000	GB/T70.1-2000	2C01.13
20	Cylinder cap screw	8	16	2C08.16	2C06.05	2C03.16
21	Z1" inner hexagon screw plug	4	8	2C01.34	2C01.34	2C01.34
22	Sealing plug	2	4	2C05.04	2C05.04	2C01.15
23	Sealing gland	2	4	2C05.05	2C05.05	2C01.16
24	Large hydraulic cylinder	2	4	2C08.12	2C06.04	2C03.12A
25	Z1/2" inner hexagon screw plug	8	16	2C01.36	2C01.36	2C01.36
26	Forged lifting lug bolt	2	2	GB/T 825-1988	GB/T 825-1988	ANSI/ASME B18.15 1985
27	O-SEAL RING (large hydraulic cylinder)	6	12	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
28	Gate change hydraulic cylinder	4	8	2C08.20	2C06.14	2C02.20
29	O-SEAL RING (replace hydraulic cylinder /large hydraulic cylinder)	4	8	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
30	O-SEAL RING (replace hydraulic cylinder/spacer flange)	4	8	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
31	Gate opening piston	2	4	2C07.21	2C06.15	2C03.21
32	O-SEAL RING (switch piston/shell)	4	8	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
33	O-SEAL RING (switch piston)	4	8	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
34	Guiding ring	4	8	--	2C01.45	2C02.29
35	Cock 1-8UNC	2	4	2C01.20	2C01.20	2C01.20
36	Secondary sealing grease	2	4	EM-09-L/25mm	EM-09-L/25mm	EM-09-L/25mm
37	Non-return valve	2	4	2C01.07	2C01.07	2C01.07
38	Intermediate flange	2	4	2C08.13	2C06.06	2C03.13
39	Intermediate flange screw	24	48	2C08.19	2C06.13	2C03.19
40	Z1/2" inner hexagon perforated screw plug	2	4	2C01.32	2C01.32	2C01.32
41	O-SEAL RING (large hydraulic cylinder/spacer flange)	2	4	GB3452.1-1992	GB3452.1-1992	GB3452.1-1992
42	Gate closing piston	2	4	2C07.22	2C06.16	2C03.22
43	Main piston	2	4	2C08.11.00	2C06.09.01	2C03.11
44	Lip type seal ring of the main piston	2	4	2C07.08-01	2C01.08	2C03.11A
45	Wearing ring of the main piston	2	4	2C07.30	2C01.48	2C02.08
46	Tail rod seal ring of the main piston	2	4	2C07.27	2C01.49	2C02.30

Sealing Package Illustration of TYPE U Ram BOP (Taking 5414U for instance)



No.	Part No.	Name	Qty.
1	2C05.19.00	Sealing assembly of intermediate flange	4
2	2C02.17	Retainer ring 140	4
3	2C02.18	Gasket	4
4	2C02.28	Gasket	8
5	2C02.27	Seal ring of the main piston front rod	4
6	2C02.26	Reinforced seal ring	4
7	2C02.25	Tightened seal ring	4
8	2C02.24	O-SEAL RING 103×7.5	4
9	EM-09-L/25mm	Secondary sealing grease	4
10	GB/T3452.3-2005	O-SEAL RING 345×7	4
11	2C01.08	Lip type seal ring of the main piston	4
12	2C01.48	Wearing ring of the main piston	4
13	2C01.49	Tail rod seal ring of the main piston	4
14	GB/T3452.3-2005	O-SEAL RING 77.5×5.3	4
15	GB/T3452.3-2005	O-SEAL RING 41.2×3.55	4
16	GB/T3452.3-2005	O-SEAL RING 112×7	8
17	GB/T3452.3-2005	O-SEAL RING 165×7	8
18	GB/T3452.3-2005	O-SEAL RING 73×5.3	8
19	2C05.18	Guiding ring	8
20	GB/T3452.3-2005	O-SEAL RING 150×7	8
21	GB/T3452.3-2005	O-SEAL RING 90×5.3	8

RAM BOP

TYPE U Ram

Pipe ram



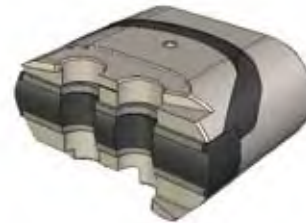
Variable bore ram



Shear ram



Double pipe ram



Ram Assembly for U type BOP

Drill pipe size (in.)	7 1/16 series	11 series	13 5/8 series	21 1/4-2000psi	20 3/4-3000psi
Blind ram	√	√	√	√	√
Shear ram	√	√	√	√	√
2 3/8	√	√	√	-	-
2 7/8	√	√	√	-	-
3 1/2	√	√	√	√	√
4	√	√	√	√	√
4 1/2	√	√	√	√	√
5	√	√	√	√	√
5 1/2	√	√	√	√	√
6 5/8	—	—	√	√	√
7	—	√	√	√	√
9 5/8	—	—	√	√	√
13 3/8	—	—	—	√	√
13 5/8	—	—	—	—	—

■ For details of shear rams, variable bore rams and double pipe rams, consult the local sales representative.

RAM BOP

Type S Ram Bop

The design and manufacture of Type S Ram BOP is according to API Spec 16A standard. Type S Ram BOP can be equipped with rams of various sizes.

Structure Features:

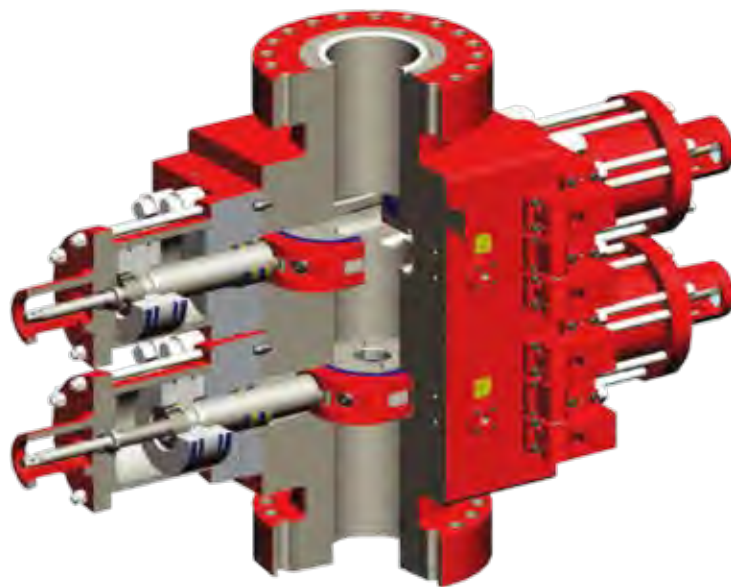
- Body and side door are made of alloy steel
 - Use floating type ram. Front ram rubber is separated from top ram rubber, making it more reliable in sealing and easier to change
- Use buried oil way inside body. Loading hinge is separated from hydraulic hinge
- Compact hinge structure makes it easy to assemble and disassemble
- Use arc-shaped body chamber with four round corners as transition section to reduce stress peak value whenever bearing the pressure
- Ram cavity can be fitted with ram assembly of same type BOP made abroad
- Flange grooves are stainless steel lined

Type S BOP Operation Data

Drift diameter/ pressure	Oil quantity for opening the ram (L/set)	Oil quantity for closing the ram (L/set)	Locking mode	Piston diameter, mm	Remarks
7 1/16" /5000psi	1.6	1.9	Manual	150	
7 1/16" /10000psi	2.22	2.5	Manual	180	
7 1/16" /15000psi	7.48	85	Manual	280	Allowed to be fitted with a shear ram
9" /3000psi	1.55	1.9	Manual	140	
9" /5000psi	4.7	5.3	Manual	220	
11" /3000psi	2.68	3.22	Manual	165	
11" /5000psi	5.2	5.45	Manual	220	
11" /5000psi	14.6	16.3	Manual	355	Allowed to be fitted with a shear ram
11" /10000psi	6.6	7.4	Manual	250	
11" /15000psi	14.4	16.7	Manual	355	Allowed to be fitted with a shear ram
13 5/8" /5000psi	7.4	8.3	Manual	250	Allowed to be fitted with a shear ram
13 5/8" /10000psi	19.9	20	Manual	355	Allowed to be fitted with a shear ram
13 5/8" /15000psi	17.44	19	Manual	355	Allowed to be fitted with a shear ram
20 3/4" /3000psi	12.2	13.6	Manual	250	
21 1/4" /2000psi	13.2	15.4	Manual	250	



Type S SINGLE RAM BOP



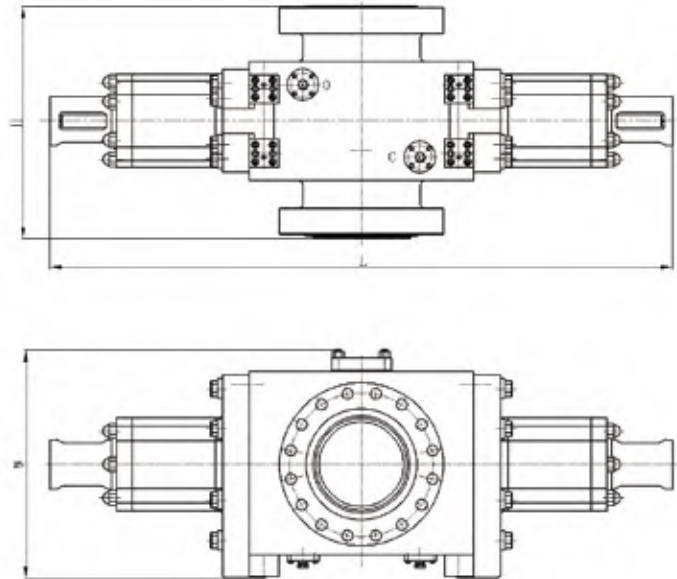
Type S DOUBLE RAM BOP

Dimension Schematic of Type S Single Ram BOP

- L : Length —the ram is closed and the locking shaft is locked up
- W : Width—excluding the bypass outlet
- H : Height—flange connection
- E : Valve plate chamber height

The main drift diameter connection flange form:

- A- upper and lower flanges
- B- upper loading screw and lower flange
- B- upper flange and lower loading screw
- D- upper and lower loading screws



Dimension Schematic of Type S Single Ram BOP

Size (in.)	Operating pressure (psi)	Vertical drift diameter (in.)	Main drift diameter connection flange form	L (mm)	W (mm)	H (mm)	Weight (Kg)	Remarks
7 1/16	5,000	7 1/16	A	1420	633	624	977	
7 1/16	10,000	7 1/16	A	1720	715	829	2291	
7 1/16	15,000	7 1/16	A	1842	934	922	3405	Allowed to be fitted with a shear ram
9	3000	9	A	1700	595	580	1078	
9	5000	9	A	2036	815	820	2033	
11	3,000	11	A	2265	895	802	2640	
11	5,000	11	A	2265	820	943	3646	
11	5,000	11	A	2363	866	980	3800	Allowed to be fitted with a shear ram
11	10,000	11	A	2384	940	1047	4067	
11	15,000	11	A	2640	1167.5	1244	7154	Allowed to be fitted with a shear ram
13 5/8	5,000	13 5/8	A	2468	970	950	4398	
13 5/8	10,000	13 5/8	A	3274	1488	1275	9485	Allowed to be fitted with a shear ram
13 5/8	15,000	13 5/8	A	3074	1305	1420	12035	Allowed to be fitted with a shear ram
20 3/4	3,000	20 3/4	A	3424	1238	1070	5938	
21 1/4	2,000	21 1/4	A	3366	1205	915	6605	

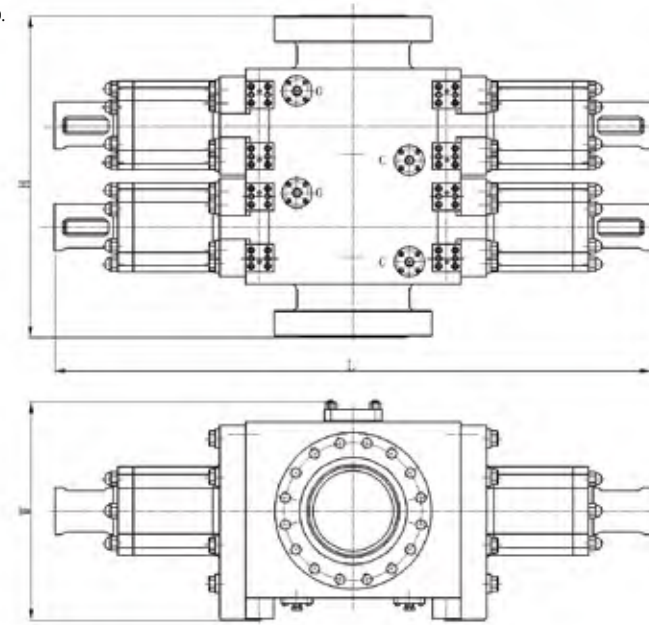
Dimension Schematic of Type S Double Ram BOP

Taking A for instance

- L : Length—the ram is closed and the locking shaft is locked up.
- W : Width—excluding the bypass outlet
- H : Height—flange connection
- E : Valve plate chamber height

The main drift diameter connection flange form:

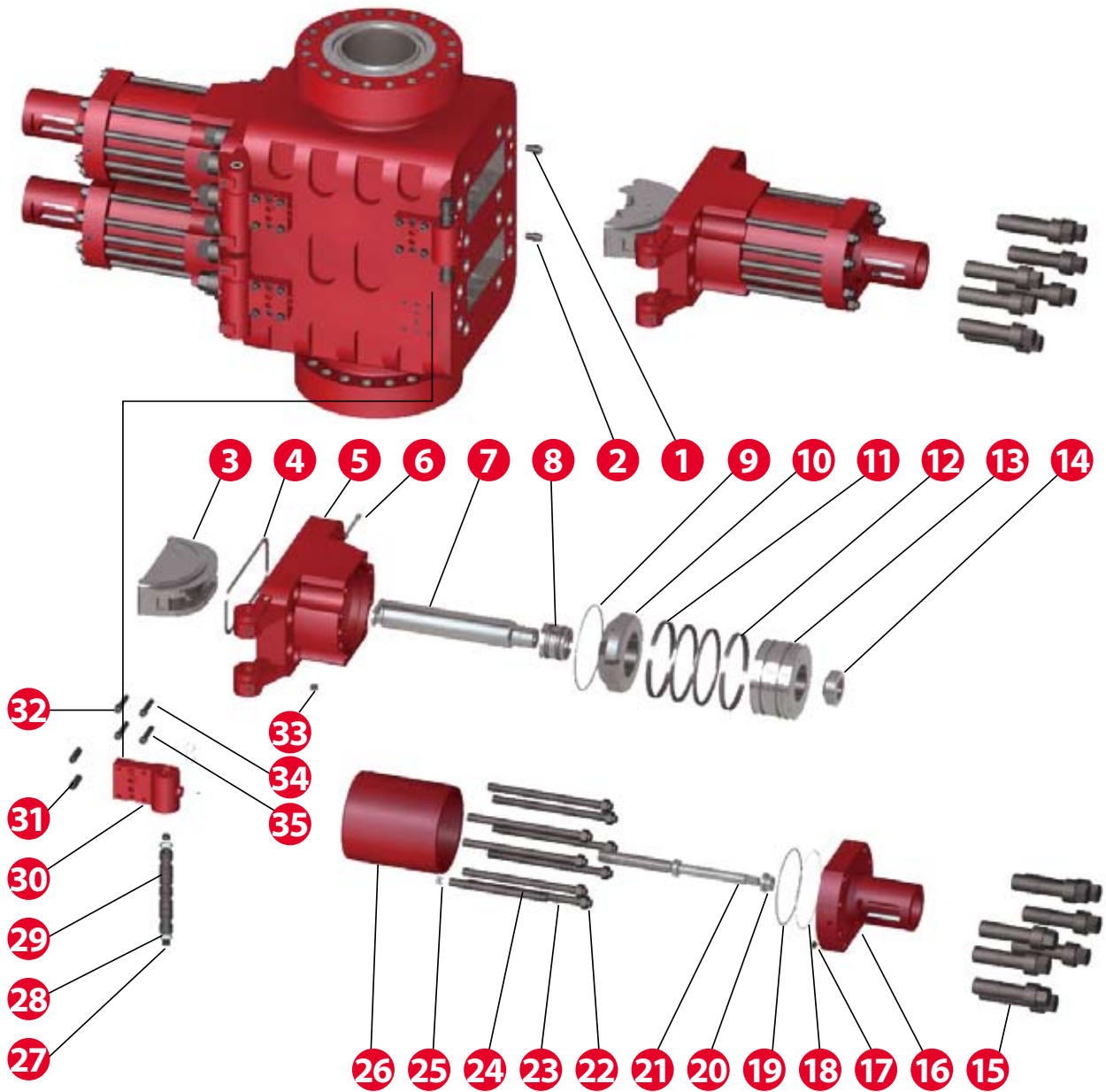
- A- upper and lower flanges
- B- upper loading screw and lower flange
- B- upper flange and lower loading screw
- D- upper and lower loading screws



Dimension Schematic of Type S Double Ram BOP

Size (in.)	Operating pressure (psi)	Vertical drift diameter (in.)	Main drift diameter connection flange form	L (mm)	W (mm)	H (mm)	Weight (Kg)	Remarks
7 1/16	5,000	7 1/16	A	1420	622	910	1724	
7 1/16	10,000	7 1/16	A	1720	715	1262	3520	
7 1/16	15,000	7 1/16	A	1842	934	1372	6291	Allowed to be fitted with a shear ram
9	3000	9	A	1700	595	860	2016	
9	5000	9	A	2036	815	1200	3669	
11	3,000	11	A	2265	895	1228	4661	
11	5,000	11	A	2265	820	1337	7022	
11	5,000	11	A	2363	866	1470	6300	Allowed to be fitted with a shear ram
11	10,000	11	A	2384	940	1582	6940	
11	15,000	11	A	2640	1167.5	1784	12686	Allowed to be fitted with a shear ram
13 5/8	5,000	13 5/8	A	2468	970	1430	7814	
13 5/8	10,000	13 5/8	A	3274	1488	1732	14582	Allowed to be fitted with a shear ram
13 5/8	15,000	13 5/8	A	3074	1305	1985	18439	Allowed to be fitted with a shear ram
20 3/4	3,000	20 3/4	A	3424	1238	1655	14000	
21 1/4	2,000	21 1/4	A	3366	1205	1505	10435	

Explosion Drawing of Type S Double Ram BOP



No. of Part Drawing of Type S Double Ram BOP

Taking 2FZ3570-00A for instance

No.	Part No.	Name	Qty.
1	2FZ3570-01A	Body	1
2	SFZ1310-50	Pin	8
3	DFZ1310.01E-00	Blind ram assembly	2
4	SFZ1310.07-00	Door seal	4
5	SFZ1310-41	Right door	2
	SFZ1310-26	Left door	2
6	SFZ1310-30	Secondary sealing screw plug	4
	SFZ1310-31	Sealing grease	4
	SFZ1310.32-00	Check valve	4
7	SFZ1310-09	Ram shaft	4
8	2FZ3570.10-00	Ram shaft sealing assembly	4
9	SFZ1310-47	O-ring 395×5.7	4
10	SFZ1310-08	Locking nut	4
11	SFZ1310-13	Rubber	8
12	SFZ1310-12	Wearing ring	8
13	SFZ1310-42	Piston	4
14	SFZ1310-15	Locking plate	4
15	SFZ1310-33	Bolt	32
16	SFZ1310-16	Cylinder head	4
17	SFZ1310-01	Screw plug Z3/4"	40
18	SFZ1310-25	Retainer ring	4
19	SFZ1310-24	O-ring	4
20	2FZ3570.11-00	Locking shaft sealing assembly	4
21	SFZ1310-11	Locking shaft	4
22	SFZ1310-35	Nut	32
23	SFZ1310-34	Cylinder bolt	32
24	SFZ1310-43	Cylinder manifold	4
25	GB1235-76	O-ring 38X3.5	16
26	SFZ1310-10	Cylinder	4
27	SFZ1310-04	Screw plug Z1"	24
28	GB1235-76	O-ring 60X5.7	32
29	SFZ1310-03	Hinge pin	4
30	SFZ1310-40	Right hinge bracket	2
	SFZ1310-05	Left hinge bracket	2
31	GB/T118-2000	Pin 20X110	8
32	GB/T70.1-2000	Screw M24X110	16
33	SFZ1310-49	Screw plug Z1" (perforated)	4
34	GB1235-76	O-ring 34×3.5	8
35	GB1152-89	Oil cup M10X1	4

ANNULAR BOP

The design and manufacture of Annular BOP is according to API Spec 16A standard.

- Packing element is spherical or tapered type with massive storage volume, low operation pressure and excellent sealing function
- Bonnet is hemispherical-shaped, so there is no stress concentration on bonnet whenever bearing the pressure. so the pressure is evenly distributed; convenient for disassembly and assembly (except FHZ5414)
- Piston is set in low position to have a shorter moving distance; Use wear ring on piston
- Lip type seal rings are used to realize long service life



Claw Plate Connection Annular BOP



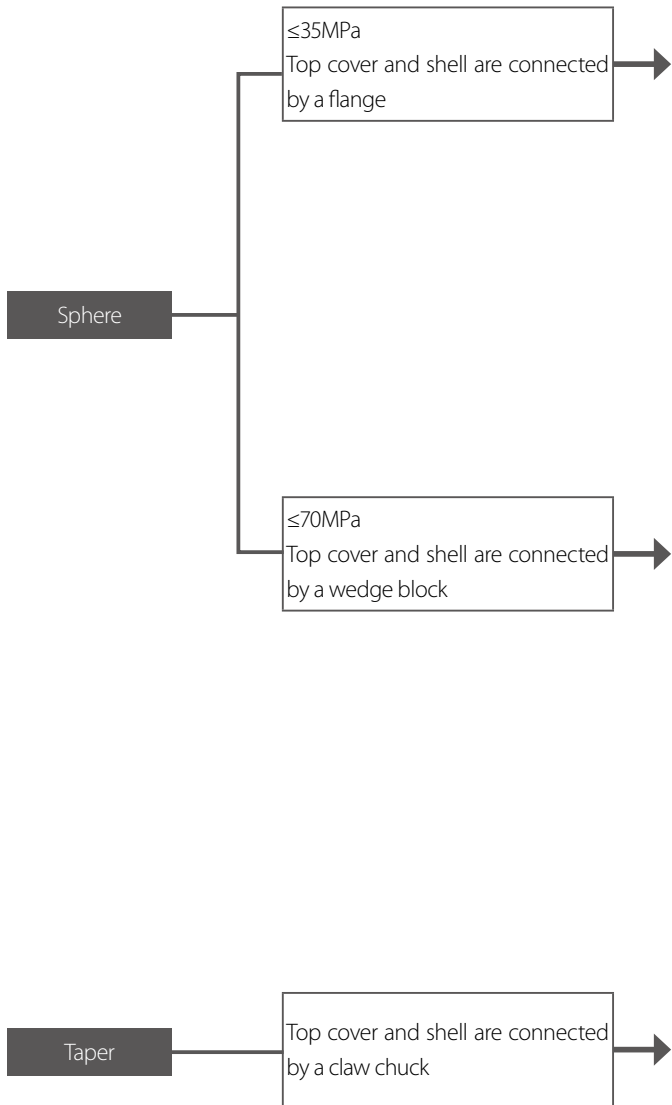
Wedge Block Connection Annular BOP



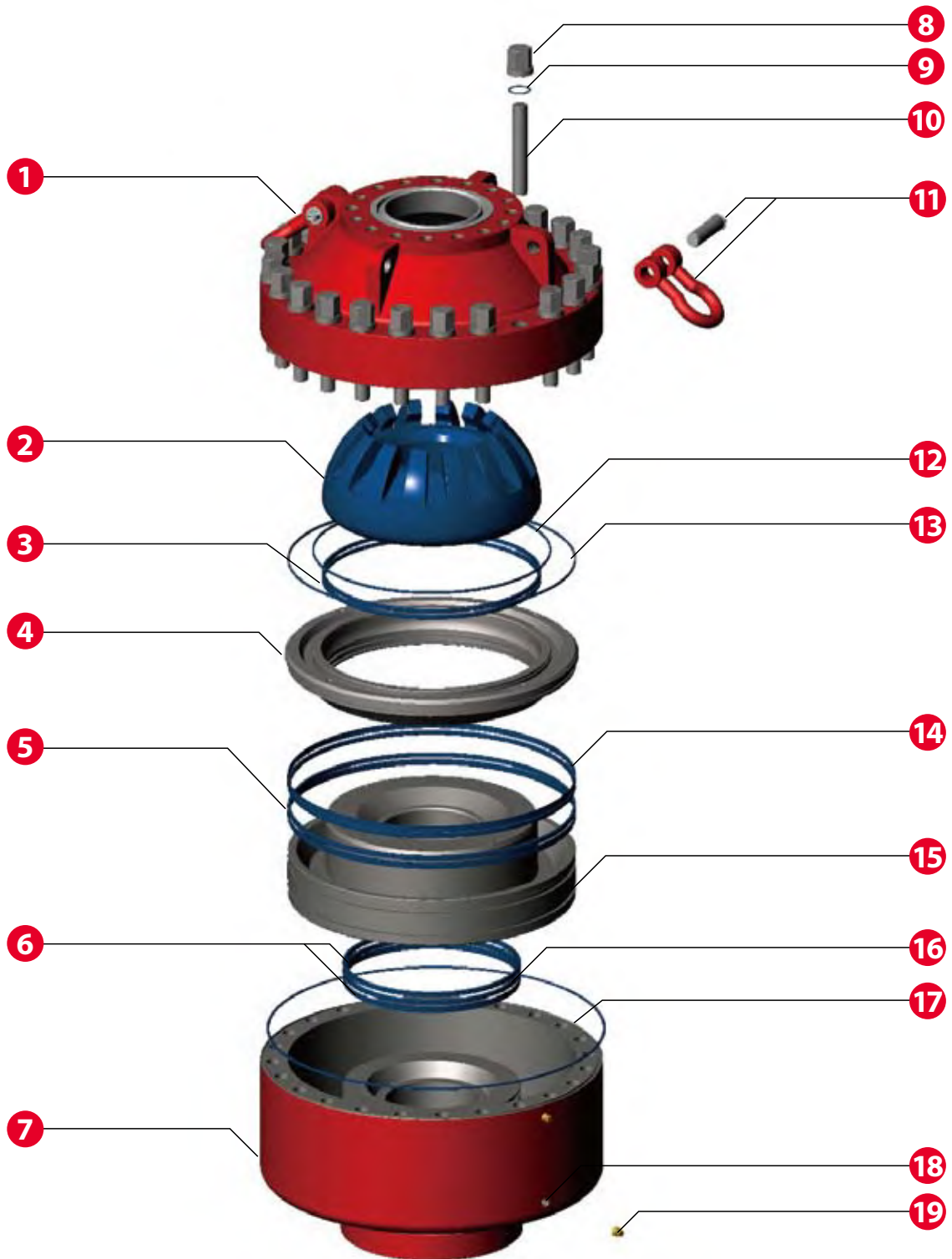
Flange Connection Annular BOP

Annular BOP Classification

Operating pressure (psi)	Drift diameter (in)				
	7 1/16	11	13 5/8	20 3/4	21 1/4
2000	Flange connection (bolted)	Flange connection (bolted)	Flange connection (bolted)	-	Conical
3000	Flange connection (bolted)	Flange connection (bolted)	Flange connection (bolted)	Conical	-
5000	Flange connection (bolted)	Flange connection (bolted)	Flange connection (bolted)	-	-
10000	Flange connection (bolted)	Wedge block connection	Wedge block connection	-	-



Comparison of Name and Code No. of Parts for Annular BOPs (Spherical Rubber Core)



Comparison of Name and Code No. of Parts for Annular BOPs (Spherical Rubber Core)

No.	Name	Qty.	Product model						
			FH18-35/70	FH28-35	FH28-35/70	FH35-35	FH35-35/70	FH1870/ 105	
1	Shell	1	FH1835-03	FH2835-05		FH3535-03A	FW1305-05A	H09.04.00	
2	Sealing elements	1	FH1835-06-00	FH2835-11	FH2835.09-00	FW1305.06-00A		H09.07.00	
3	Inner seal ring of adapter ring	2	FH1835-12 FH1835-13	FH2835-15 FH2835-16		FW1305.11-00		H09.11.00	
4	Adapter ring	1	FH1835-10	FH2835-14	FH2835-11	FW1305-10A		H09.03	
5	Outer seal ring of piston	2	FH1835-19 FH1835-20	FH2835-20 FH2835-21		FW1305.16-00		H09.15.00	
6	Inner seal ring of piston	2	FH1835-14 FH1835-15	FH2835-18 FH2835-19		FW1305.13-00		H09.12.00	
7	Body	1	FH1835-02	FH1835/70-01	FH2835.03-00	FH2835/70.01-00	FH3535.04-00	FW1305-17	H09.01
8	Cap nut	24	FH1835-07	FH2835-04	FH2835-07		FW1305-03		H09.05
9	O-seal ring (cap nut)	24	--			85x5.7		80x3.55	
10	Bolt	24	FH1835-08	FH2835.09-00	FH2835-04		FW1305-04		H09.66
11	Screw off	4	--		Screw off 6.8t		Screw off 9t		Screw off 7t
12	O-seal ring (mud ring)	1	FH1835-09	FH2835-10		FW1305-07		H09.08.00	
13	O-seal ring (external mud ring)	1	FH1835-11	FH2835-12		FW1305-09		H09.09	
14	Wearing ring (outside piston)	2	FH1835-17	FH2835-17		FW1305-15		H09.14	
15	Piston	1	FH1835-18	FH2835-14		FW1305-12A		H09.02	
16	Wearing ring (shell)	1	FH1835-16	FH2835-23		FW1305-14		H09.13	
17	O-seal ring (outside shell)	1	--			FW1305-08		FH2835-13	
18	Joint	2	--		FH2835-13		FH2835-22		
19	Z1" pipe plug	2	FH2835-22						

■ Comparison of Name and Code No. of Parts for Annular BOPs (spherical Rubber Core)

Comparison of Name and Code No. of Parts for FH35-70/105 and FH28-70/105 Annular BOPs

Figure 11 Parts Drawing of FH35-70/105 Annular BOP

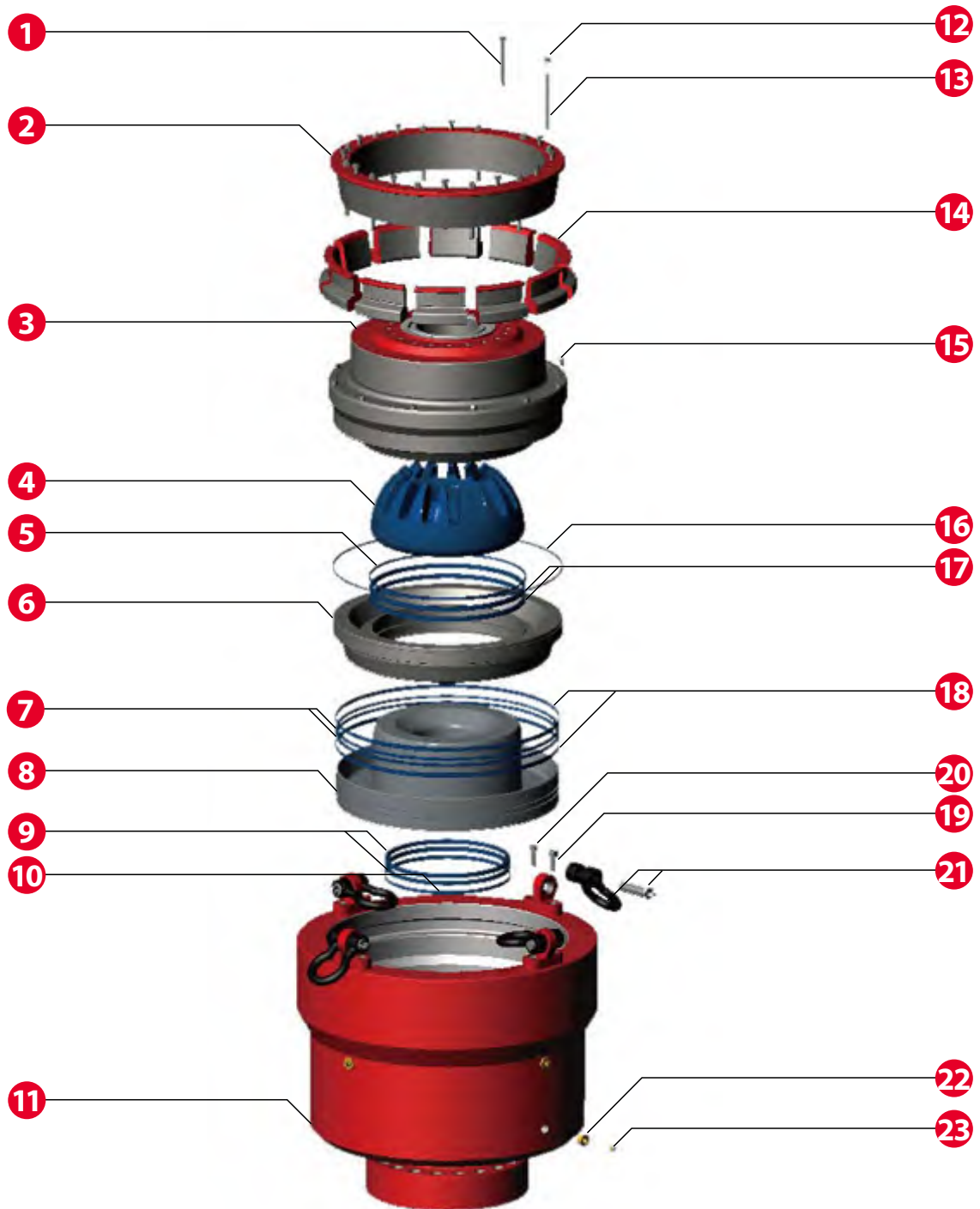


Table 3 Name and Code No. of Parts for FH35-70/105 and FH28-70/105 Annular BOPs

No.	Part name	Qty.	Part Code No.	
			FH35-70/105	FH28-70/105
1	Lifting screw	12	FH3570-19	
2	Pressure ring	1	FH3570-01	FH2870-01
3	Shell	1	FH3570-06	FH2870-04
4	Sealing elements	1	FH3570-07	FH2870-05
5	Composite seal ring mud ring	1	FH3570-09	FH2870-07
6	Adapter ring	1	FH3570-10	FH2870-08
7	Composite seal ring (outside piston)	2	FH3570-14-0	FH2870-11-0
8	Piston	1	FH3570-17	FH2870-14
9	Composite seal ring (outside shell)	2	FH3570-12-0	FH2870-10-0
10	Antifriction ring (outside shell)	1	FH3570-16	FH2870-13
11	Body	1	FH3570-18	FH2870-15
12	Nut/screw	12	FH3570-03	GB30-76
13	Double end bolt/screw	12	FH3570-02	
14	Wedge block	12	FH3570-05	FH2870-03
15	Screw M12×30	12	GB70-76	
16	O-seal ring (outside mud ring)	1	FH3570-08	FH2870-06
17	Composite seal ring (inside mud ring)	2	FH3570-11-0	FH2870-09-0
18	Antifriction ring (outside piston)	2	FH3570-15	FH2870-12
19	Lifting lug	4	FH3570-04	
20	Screw M36×80	8	(grade 12.9)	
21	Screw off	4	JB8112-1999	
22	Joint	4	FH3570-13	
23	Oil plug	4	F02-15	

Comparison of Name and Code No. of Parts for FHZ54—14 Annular BOPs

Figure 12 Parts Drawing of FHZ54-14 Annular BOP

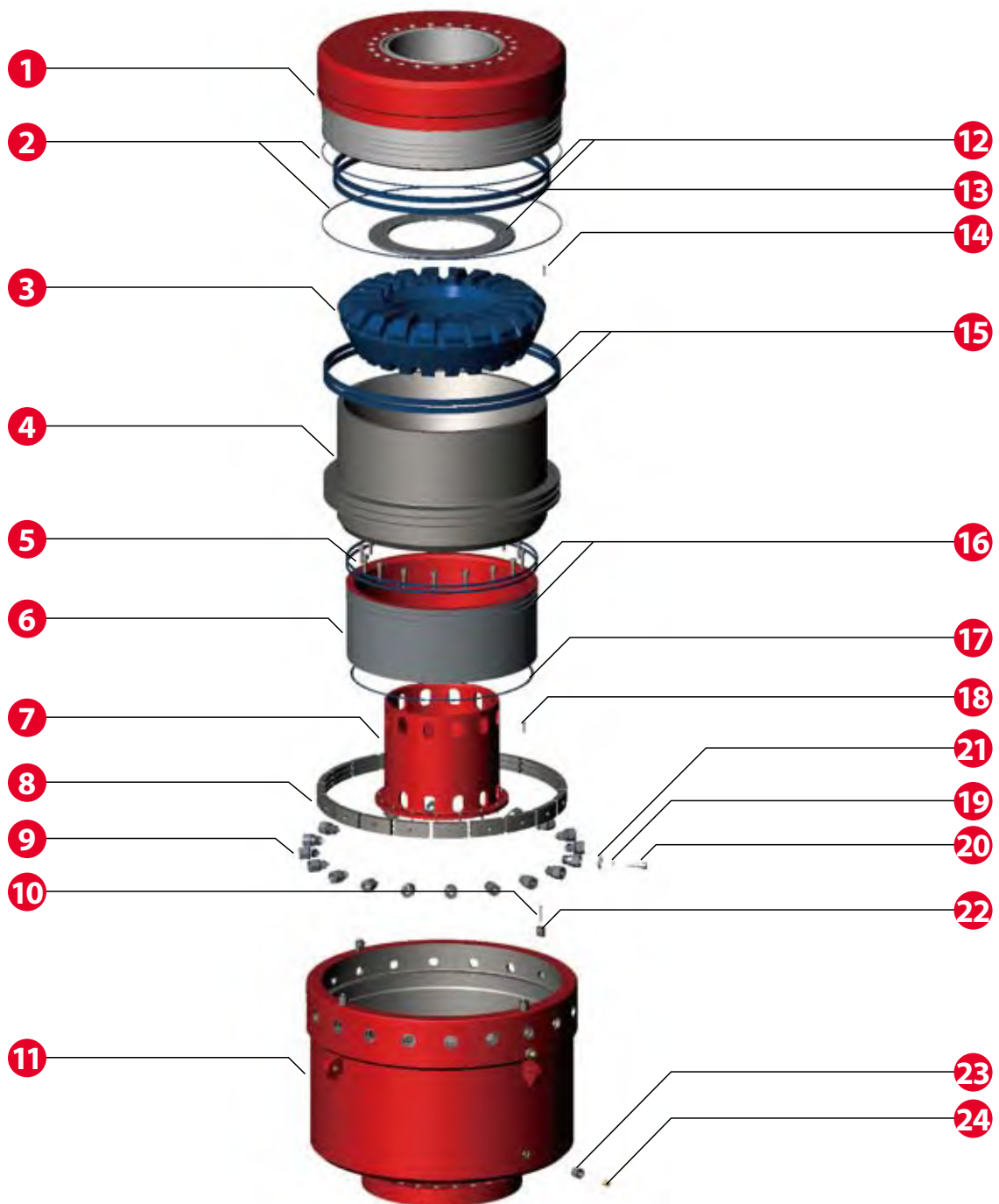


Table 4 Name and Code No. of Parts for FHZ54—14 Annular BOP

No.	Part name	Qty.	Part Code No.
1	Shell	1	FHZ5414-03
2	O-seal ring (top cover)	2	FHZ5414-09
3	Sealing elements	1	FHZ5414.02-00
4	Piston	1	FHZ5414-13
5	Bolt M20×80	16	GB70-85
6	External body sleeve	1	FHZ5414-14
7	Internal body sleeve	1	FHZ5414-16
8	Claw plate	20	FHZ5414-05
9	Claw plate screw	20	FHZ5414-06
10	Screw M12×70	4	GB70-85
11	Body	1	FHZ5414.11-0
12	Seal ring (internal seal ring of top cover)	2	FHZ5414-08
13	Wear plate	1	FHZ5414-01
14	Bolt M12×35	6	GB5783-86
15	Seal ring (seal ring of piston)	2	FHZ5414-15
16	Seal ring (external body sleeve)	2	FHZ5414-12
17	O-seal ring (external body sleeve, lower part)	1	FHZ5414-17
18	Bolt M12×45	16	GB70-85
19	O-ring 25×2.65	20	GB/T 3452.1
20	Supporting screw	20	FHZ5414-07
21	O-ring 53×5.3	20	GB/T 3452.1
22	Shell chuck	4	FHZ5414-04
23	Oil plug	2	F02-15
24	Cross-over sub	2	FHZ5414-10

FFZ75-3.5 Diverter

FFZ75-3.5 diverter is designed and manufactured according to SY/T 5127-2002 «Wellhead equipment & Christmas tree», and ASME B16.47a-1998 standard.

Main Technical Specifications

- Bore size: 749.3mm(29 1/2")
- Rated working pressure: 3.5MPa(500psi)
- Testing pressure: 5.6MPa(800psi)
- Stroke length of Piston: 344mm(13 9/16")
- Hydraulic control pressure: $\leq 12\text{MPa}$ (recommended $\leq 10.5\text{MPa}$)
- Scope of sealing: $\phi 127 \sim \phi 749.3$ (not recommended for sealing open well)
- Maximal oil volume for closing: 240L
- Outline Dimension: $\phi 1910 \times 1798\text{mm}$
- Net Weight: 25773kg



Feature:

- Body and upper housing are connected by a claw chuck
- Compact structure realizes high bearing capacity
- Easy to assemble and disassemble and convenient for wellsite operation
- Use lip seal rings in dynamic seal section to realize self-sealing, reduce abrasion of sealing parts and make sealing more reliable
- Use high quality packing element and sealing parts. Use tapered type packing element, which is made of NBR. It has massive storage volume and excellent sealing function
- Use observation hole to check the life span of the packing element

FFZ75-3.5 Diverter

No.	Part No.	Part Code No.	Qty.
1	Screw M20×55	GB/T5780-2000	12
2	Locking ring	H06.03	1
3	O-seal ring	H06.04	1
4	Z 1/2" inner hexagon screw plug	2C01.36	1
5	Shell	H06.02	1
6	Wear plate	H06.05	1
7	Screw M16×35	GB/T5780-2000	16
8	Upper seal ring of piston	H06.07	1
9	Sealing elements	H06.06	1
10	Inner seal ring of piston	H06.10	2
11	Lower seal ring of piston	H06.12	1
12	Piston	H06.08	1
13	Screw M20×45	GB/T70.1-2000	20
14	Sleeve	H06.09	1
15	O-seal ring	H06.11	1
16	Body	H06.01	1
17	Cross-over sub	H06.13	1
18	Z1" external hexagon screw plug	2C01.21	1

FFZ75-3.5 Diverter Explosion Drawing



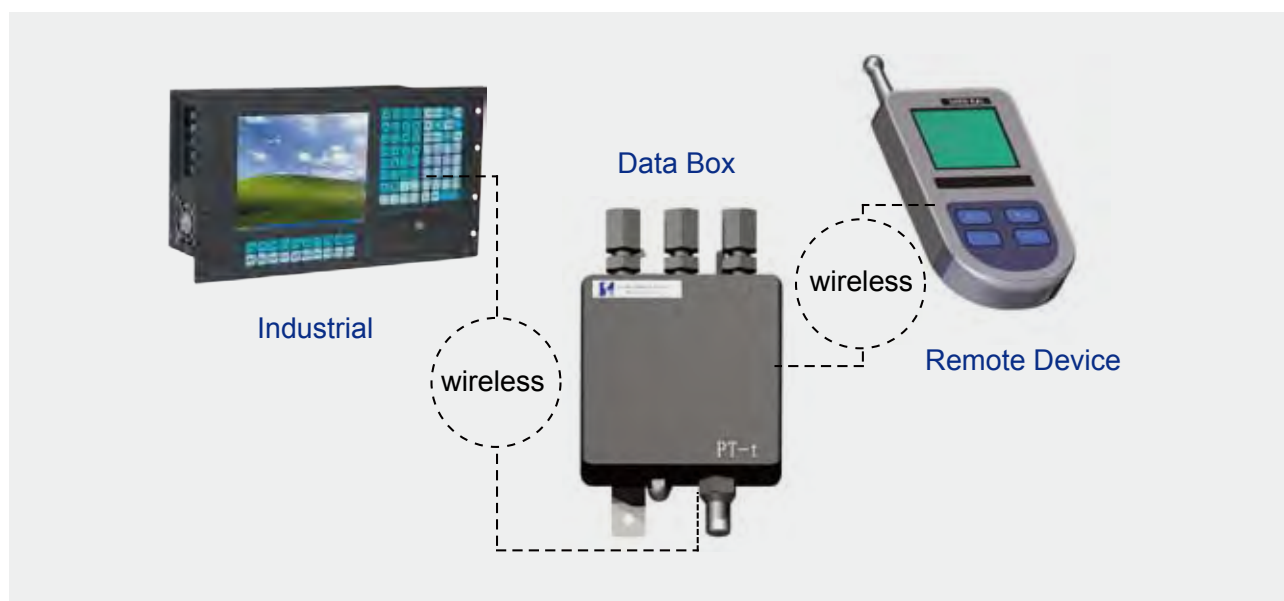
Pt-t Check and Logging Equipment for BOP

(explosion-proof grade: Ex ia IIc T3; area division: class II, area 0)

PT-t check equipment is a new apparatus to supervise the dynamic working conditions of the BOP on the field. It can log on real time such parameters as pressure and temperature when the BOP is running. It can also store the long-time history data.

Features

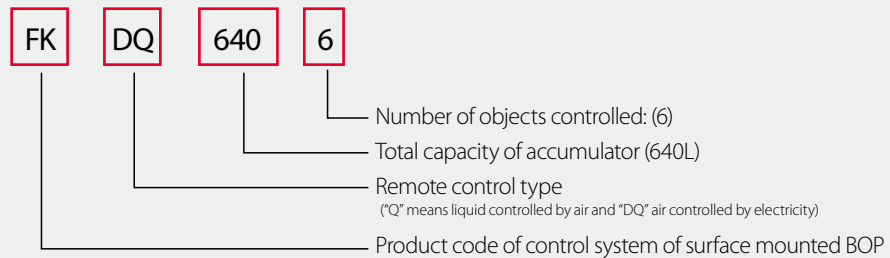
- Data box is provided with good anti-jamming ability, which is qualified for tough conditions on the fields
- Low power consumption and reliable design afford long-term safe operation
- Real-time data of BOP running can be read on remote control
- Upper-computer software can analyze BOP working condition



CONTROL SYSTEM FOR SURFACE-MOUNTED BOP STACKS

Model illustration

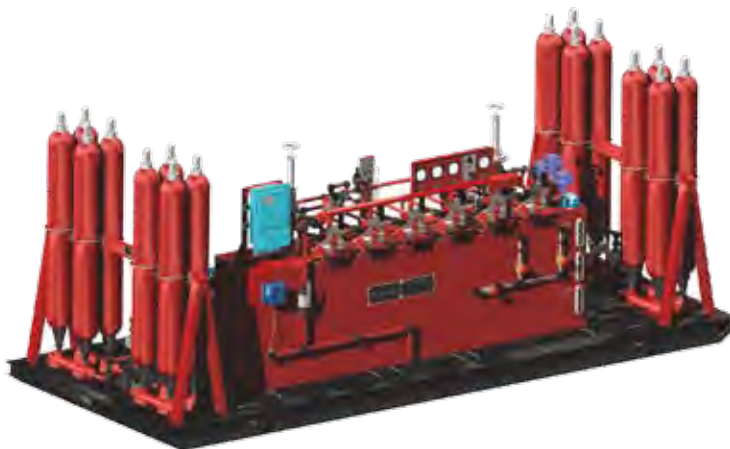
The model of the control system for surface BOP stacks is expressed as follows (taking FKDQ640-6 as an example):



Electric Control Systems for Surface-mounted Bop Stacks Structure

Features

- Use the advanced PLC control technology and Profibus control technology to achieve simplification and automation of the operation
- The product design and manufacture are strictly complied with SY/T5053.2 (Control Systems for Surface-mounted BOP Stacks) and API Spec 16D (Drilling control equipment and systems) standard. Upon customers' special request, we use ATEX explosion-proof standard and technology to meet the requirement of the European Security Standard CE
- With the backup battery, the control system can work normally for more than 120 minutes when there is a sudden power cut, ensuring safety and continuation of the work
- Flexibility offers more stable working performance even under extreme working condition
- The driller's panel has functions for operation status notice and misoperation protection, which makes the operation more convenient and reliable
- The speedy plug-in facility makes easier installation



Two operation modes, touch screen and button operations, are available

Configuration Parameters of Electric Hydraulic Control System

Model	Number of controlled objects	Accumulator unit			Explosion-proof motor Power (Kw)	Pump system displacement		Rated operating pressure of the system (Mpa)	Maximum operating pressure of the system (Mpa)
		Total volume (L)	Available liquid volume (L)	Installation mode		Triplex pump (mL/r)	Pneumatic pump (mL/stroke)		
FKDQ1600-14	14	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKDQ1600-12	12	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKDQ1600-10	10	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKDQ1440-14	14	60×24	720	Side/rear	18.5×2	80×2	120×4	21	31.5
FKDQ1280-10	10	80×16	640	Side/rear	18.5×2	80×2	120×3	21	31.5
FKDQ1280-9	9	80×16	640	Side/rear	18.5×2	80×2	120×3	21	31.5
FKDQ1280-8	8	80×16	640	Side/rear	18.5×2	80×2	120×2	21	31.5
FKDQ1280-7	7	80×16	640	Side/rear	18.5×2	80×2	120×2	21	31.5
FKDQ1200-9	9	60×20	600	Side/rear	18.5×2	80×2	120×3	21	31.5
FKDQ1200-8	8	60×20	600	Side/rear	18.5×2	80×2	120×2	21	31.5
FKDQ960-8	8	60×16	480	Side/rear	18.5×2	80×2	120×2	21	31.5
FKDQ960-7	7	60×16	480	Side/rear	18.5×2	80×2	120×2	21	31.5
FKDQ800-8	8	40×20	400	Side/rear	18.5	80	120	21	31.5
FKDQ 800-7	7	40×20	400	Side/rear	18.5	80	120	21	31.5
FKDQ 800-6	6	40×20	400	Side/rear	18.5	80	120	21	31.5
FKDQ720-7	7	60×12	360	Side/rear	18.5	80	120	21	31.5
FKDQ 720-6	6	60×12	360	Side/rear	18.5	80	120	21	31.5
FKDQ 640-6	6	40×16	320	Side/rear	18.5	80	120	21	31.5
FKDQ 640-5	5	40×16	320	Side/rear	18.5	80	120	21	31.5
FKDQ 480-5	5	40×12	240	Side/rear	18.5	80	120	21	31.5
FKDQ 480-4	4	40×12	240	Side/rear	18.5	80	120	21	31.5
FKDQ320-5	5	40×8	160	Side/rear	15	60	120	21	31.5
FKDQ320-4	4	40×8	160	Side/rear	15	60	120	21	31.5
FKDQ320-3	3	40×8	160	Side/rear	15	60	120	21	31.5
FKDQ240-3	3	40×6	120	Side/rear	15	60	120	21	31.5
FKDQ200-4	4	25×8	100	Side/rear	15	60	120	21	31.5
FKDQ160-3	3	40×4	80	Side/rear	15	60	120	21	31.5
FKDQ150-2	2	50×3	75	Side/rear	15	60	120	21	31.5
FKDQ125-3	3	25×5	62.5	Side/rear	7.5/11	28	×	21	21
FKDQ80-3	3	40×2	40	Side/rear	7.5	28	×	21	21
FKDQ80-2	2	40×2	40	Side/rear	7.5	28	×	21	21
FKDQ75-2	2	25×3	62.5	Side/rear	7.5	28	×	21	21
FKDQ63-2	2	63×1	31.5	Side/rear	7.5	28	×	21	21
FKDQ50-2	2	25×2	25	Side/rear	7.5	28	×	21	21
FKDQ40-2	2	40×1	20	Side/rear	7.5	28	×	21	21
FKDQ25-2	2	25×2	12.5	Side/rear	7.5	28	×	21	21
FKDQ25-1	1	25×2	12.5	Side/rear	7.5	28	×	21	21

Main Technical Parameters of Electric Hydraulic Control System

Normal pressure of the system:	21 Mpa	3000 psi
Pressure regulating range of the system:	0~14 Mpa	3000 psi
Nitrogen charging pressure of accumulator:	7±0.7 Mpa	3000 psi
Pressure switch setting range:	18.9~21 Mpa	2700~3000psi
Hydraulic/pneumatic switch setting range:	18.9~21 Mpa	2700~3000psi
Air supply pressure:	0.65~0.8 Mpa	93~115psi
Power supply:	380±19V / 50Hz Optional as required by customers	
Control power supply:	24V DC	
Battery capacity:	10Ah	
Communication interface:	Profibus-Dp	

Functional Configuration of Electric Hydraulic Control System

Model	Electric oil pump	Pneumatic oil pump	Manual oil pump	Alarm device	Standby nitrogen system	Protection house	Insulated House	Driller's console	Auxiliary console	Pipe rack and hose	PN-T automatic recording system	Zero pressure starting system
FKDQ1600-14	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1600-12	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1600-10	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1440-14	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1280-10	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1280-9	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 1280-8	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1280-7	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1200-9	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ1200-8	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ960-8	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ960-7	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ800-8	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 800-7	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 800-6	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ720-7	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 720-6	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 640-6	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 640-5	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 480-5	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ 480-4	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ320-5	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ320-4	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ320-3	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ240-3	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ200-4	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ160-3	●	●	○	●	○	●	○	●	○	○	○	○

Model	Electric oil pump	Pneumatic oil pump	Manual oil pump	Alarm device	Standby nitrogen system	Protection house	Insulated House	Driller's console	Auxiliary console	Pipe rack and hose	PN-T automatic recording system	Zero pressure starting system
FKDQ150-2	●	●	○	●	○	●	○	●	○	○	○	○
FKDQ125-3	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ80-3	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ80-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ75-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ63-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ50-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ40-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ25-2	●	×	○	●	○	●	○	●	○	○	○	○
FKDQ25-1	●	×	○	●	○	●	○	●	○	○	○	○

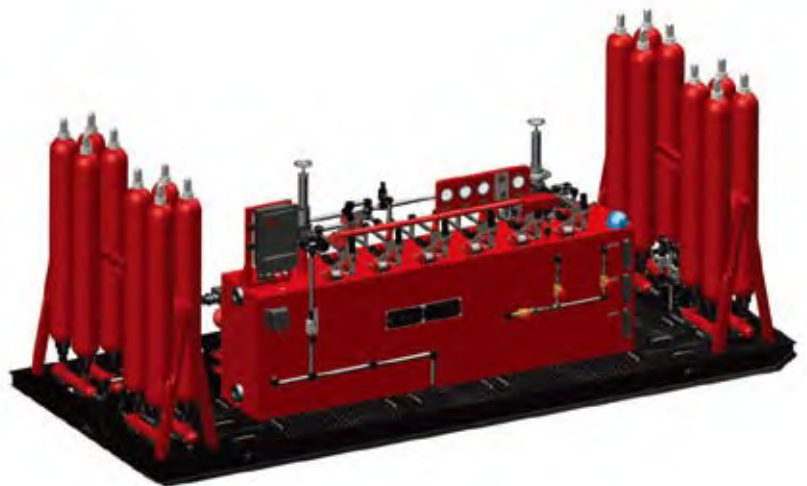
Note:

1. Listed above are basic configurations of our products, where, "●" represents basic configuration and "○" optional.
2. The optional configuration here doesn't mean that it is available in any model, which should be discussed at time of contract conclusion.
3. Protection room width: 2100mm for common room and 2300mm for room with thermal insulation.
4. Listed above are basic configurations, but special design and manufacturing can be provided upon request.
5. The auxiliary driller's console can be based on buttons or touch screen
6. Pneumatic pump is not available to FKDQ series liquid control equipment. The remote console must be provided with air supply interface for pneumatic control.

Pneumatic Control Systems for Surface-mounted Bop Stacks Structure

Features

- The Remote Control Panel is equipped with both electric and pneumatic power. A backup inlet for pressing oil ensure the system working regularly despite some unexpected situations
- The power system is equipped with automatic control system and double protective device against overload pressure for hydraulic system. The operation is easy, safe and reliable
- With four sets of accumulators, the system can work regularly with the rest 75% volume when one of them go wrong. A relief valve is split-type installed to increase the strength of the accumulator, which makes it easy for uninstillation and maintenance
- With clear identification, and giving signals for current working condition, misoperation could be avoided, which makes driller control panel easy to operate



Configuration Parameters of Pneumatic Hydraulic Control System

Model	Number of controlled objects	Accumulator unit			Explosion-proof motor Power (Kw)	Pump system displacement		Rated operating pressure of the system (Mpa)	Maximum operating pressure of the system (Mpa)
		Total volume (L)	Available liquid volume (L)	Installation mode		Triplex pump (mL/r)	Pneumatic pump (mL/stroke)		
FKQ1600-14	14	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKQ1600-12	12	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKQ1600-10	10	80×20	800	Side/rear	18.5×2	80×2	120×4	21	31.5
FKQ1440-14	14	60×24	720	Side/rear	18.5×2	80×2	120×4	21	31.5
FKQ1280-10	10	80×16	640	Side/rear	18.5×2	80×2	120×3	21	31.5
FKQ1280-9	9	80×16	640	Side/rear	18.5×2	80×2	120×3	21	31.5
FKQ1280-8	8	80×16	640	Side/rear	18.5×2	80×2	120×2	21	31.5
FKQ1280-7	7	80×16	640	Side/rear	18.5×2	80×2	120×2	21	31.5
FKQ1200-9	9	60×20	600	Side/rear	18.5×2	80×2	120×3	21	31.5
FKQ1200-8	8	60×20	600	Side/rear	18.5×2	80×2	120×2	21	31.5
FKQ960-8	8	60×16	480	Side/rear	18.5×2	80×2	120×2	21	31.5
FKQ960-7	7	60×16	480	Side/rear	18.5×2	80×2	120×2	21	31.5
FKQ800-8	8	40×20	400	Side/rear	18.5	80	120	21	31.5
FKQ 800-7	7	40×20	400	Side/rear	18.5	80	120	21	31.5
FKQ 800-6	6	40×20	400	Side/rear	18.5	80	120	21	31.5
FKQ720-7	7	60×12	360	Side/rear	18.5	80	120	21	31.5
FKQ 720-6	6	60×12	360	Side/rear	18.5	80	120	21	31.5
FKQ 640-6	6	40×16	320	Side/rear	18.5	80	120	21	31.5
FKQ 640-5	5	40×16	320	Side/rear	18.5	80	120	21	31.5
FKQ 480-5	5	40×12	240	Side/rear	18.5	80	120	21	31.5
FKQ 480-4	4	40×12	240	Side/rear	18.5	80	120	21	31.5
FKQ320-5	5	40×8	160	Side/rear	15	60	120	21	31.5
FKQ320-4	4	40×8	160	Side/rear	15	60	120	21	31.5
FKQ320-3	3	40×8	160	Side/rear	15	60	120	21	31.5
FKQ240-3	3	40×6	120	Side/rear	15	60	120	21	31.5
FKQ200-4	4	25×8	100	Side/rear	15	60	120	21	31.5
FKQ160-3	3	40×4	80	Side/rear	15	60	120	21	31.5
FKQ150-2	2	50×3	75	Side/rear	15	60	120	21	31.5
FK125-3	3	25×5	62.5	Side/rear	7.5/11	28	×	21	21
FK80-3	3	40×2	40	Side/rear	7.5	28	×	21	21
FK80-2	2	40×2	40	Side/rear	7.5	28	×	21	21
FK75-2	2	25×3	62.5	Side/rear	7.5	28	×	21	21
FK63-2	2	63×1	31.5	Side/rear	7.5	28	×	21	21
FK50-2	2	25×2	25	Side/rear	7.5	28	×	21	21
FK40-2	2	40×1	20	Side/rear	7.5	28	×	21	21
FK25-2	2	25×2	12.5	Side/rear	7.5	28	×	21	21
FK25-1	1	25×2	12.5	Side/rear	7.5	28	×	21	21

Main Technical Parameters of Pneumatic Hydraulic Control System

Normal pressure of the system:	21 Mpa	3000 psi
Pressure regulating range of the system:	0~14 Mpa	3000 psi
Nitrogen charging pressure of accumulator:	7±0.7 Mpa	3000 psi
Pressure switch setting range:	18.9~21 Mpa	2700~3000psi
Hydraulic/pneumatic switch setting range:	18.9~21 Mpa	2700~3000psi
Air supply pressure:	0.65~0.8 Mpa	93~115psi
Power supply:	380±19V / 50Hz choose and deliver according to the customers' request	
Driller's alarm control power supply	24V DC	

Functional Configuration of Pneumatic Hydraulic Control System

Model	Electric oil pump	Pneumatic oil pump	Manual oil pump	Alarm device	Standby nitrogen system	Protection house	Insulated House	Driller's console	Auxiliary console	Pipe rack and hose	Zero pressure starting system
FKQ1600-14	●	●	○	○	○	●	○	●	○	○	○
FKQ1600-12	●	●	○	○	○	●	○	●	○	○	○
FKQ1600-10	●	●	○	○	○	●	○	●	○	○	○
FKQ1440-14	●	●	○	○	○	●	○	●	○	○	○
FKQ1280-10	●	●	○	○	○	●	○	●	○	○	○
FKQ1280-9	●	●	○	○	○	●	○	●	○	○	○
FKQ 1280-8	●	●	○	○	○	●	○	●	○	○	○
FKQ1280-7	●	●	○	○	○	●	○	●	○	○	○
FKQ1200-9	●	●	○	○	○	●	○	●	○	○	○
FKQ1200-8	●	●	○	○	○	●	○	●	○	○	○
FKQ960-8	●	●	○	○	○	●	○	●	○	○	○
FKQ960-7	●	●	○	○	○	●	○	●	○	○	○
FKQ800-8	●	●	○	○	○	●	○	●	○	○	○
FKQ 800-7	●	●	○	○	○	●	○	●	○	○	○
FKQ 800-6	●	●	○	○	○	●	○	●	○	○	○
FKQ720-7	●	●	○	○	○	●	○	●	○	○	○
FKQ 720-6	●	●	○	○	○	●	○	●	○	○	○
FKQ 640-6	●	●	○	○	○	●	○	●	○	○	○
FKQ 640-5	●	●	○	○	○	●	○	●	○	○	○

Model	Electric oil pump	Pneumatic oil pump	Manual oil pump	Alarm device	Standby nitrogen system	Protection house	Insulated House	Driller's console	Auxiliary console	Pipe rack and hose	Zero pressure starting system
FKQ 480-5	●	●	○	○	○	●	○	●	○	○	○
FKQ 480-4	●	●	○	○	○	●	○	●	×	○	○
FKQ320-5	●	●	○	○	○	●	○	●	○	○	○
FKQ320-4	●	●	○	○	○	●	○	●	×	○	○
FKQ320-3	●	●	○	○	○	●	○	●	×	○	○
FKQ240-3	●	●	○	○	○	●	○	●	×	○	○
FKQ200-4	●	●	○	○	○	●	○	●	×	○	○
FKQ160-3	●	●	○	○	○	●	○	●	×	○	○
FKQ150-2	●	●	○	○	○	●	○	●	×	○	○
FK125-3	●	×	○	○	○	●	○	×	×	○	○
FK80-3	●	×	○	○	○	●	○	×	×	○	○
FK80-2	●	×	○	○	○	●	○	×	×	○	○
FK75-2	●	×	○	○	○	●	○	×	×	○	○
FK63-2	●	×	○	○	○	●	○	×	×	○	○
FK50-2	●	×	○	○	○	●	○	×	×	○	○
FK40-2	●	×	○	○	○	●	○	×	×	○	○
FK25-2	●	×	○	○	○	●	○	×	×	○	○
FK25-1	●	×	○	○	○	●	○	×	×	○	○

Note:

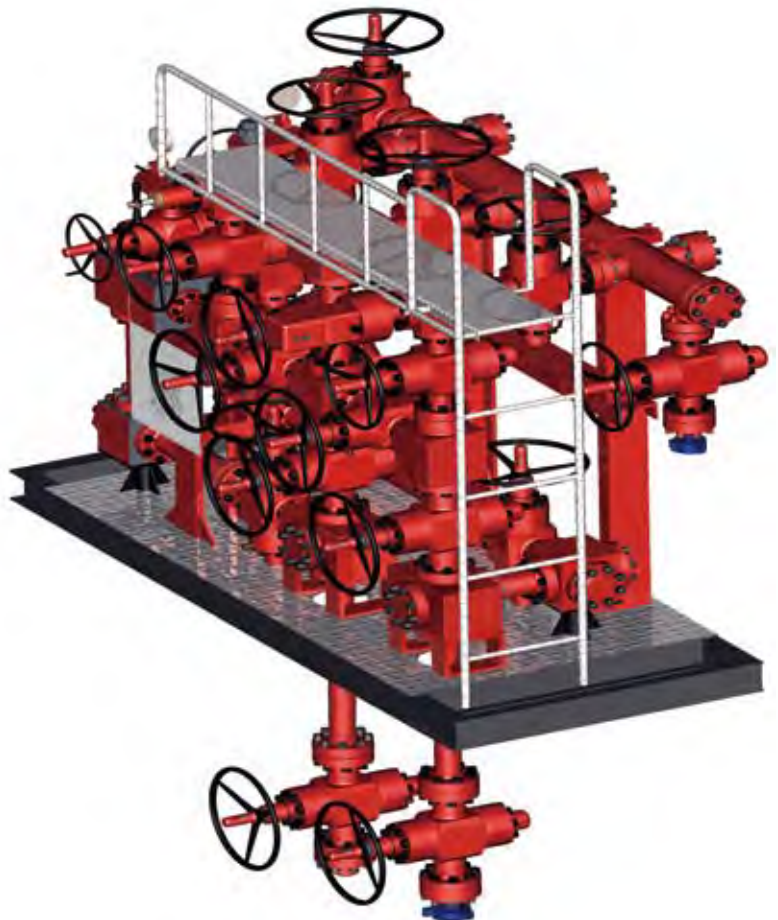
- Listed above are basic configurations of our products, where, "●" represents basic configuration and "○" optional.
- The optional configuration here doesn't mean that it is available in any model, which should be discussed at time of contract conclusion.
- Protection room width: 2100mm for common room and 2300mm for room with thermal insulation.
- Listed above are basic configurations, but special design and manufacturing can be provided upon request.
- The auxiliary driller's console can be based on buttons or touch screen
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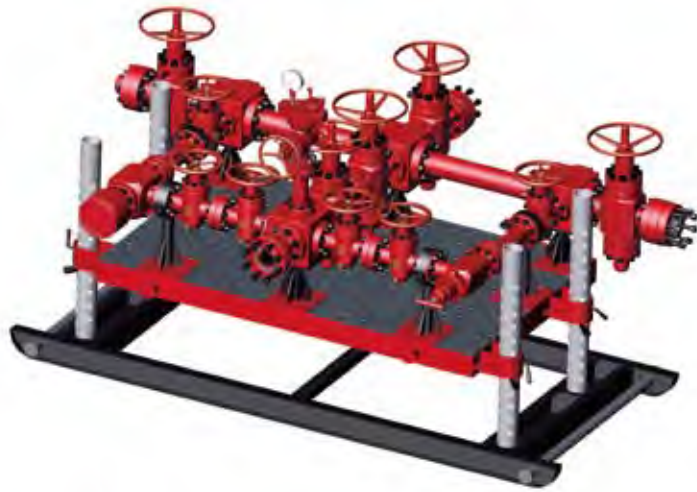
Choke and Kill Manifold

Shanghai Shenkai supplies choke and kill manifold in different pressure class. These products are used in many oil fields of China such as Sichuan Puguang, Xinjiang, Jiangsu, Zhongyuan, Shengli, Jiaghan, Changqin.

Main Technical Specification:

- Working pressure: 3000Psi ~ 15000Psi
- Working medium: oil(gas), mud, drilling fluid, gas containing H₂S
- Main flowline size: 2 9/16" ~ 4 1/16"
- Choke flowline size: 2 9/16" ~ 3 1/16"
- Killline size: 2 1/16" ~ 3 1/16"
- Temperature class: L U
- Material class: EE FF HH
- Manufacturing class: PSL3, PSL3G
- Manufacturing standard: API SPEC 6A, API SPEC 16C, NACE MR-0175





Choke manifold
Lifting type choke manifold

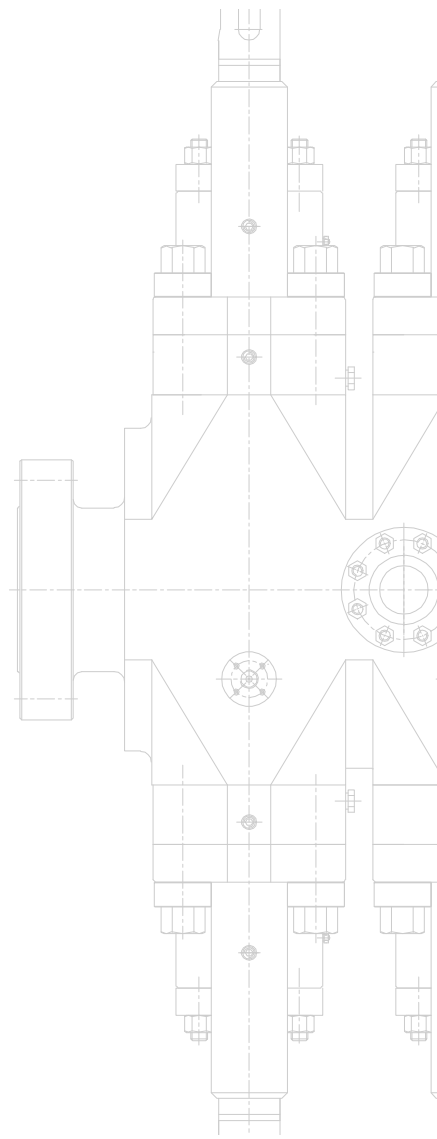


Kill manifold
Lifting type kill manifold

Control box of hydraulic choke manifold

In view of the advanced technology home and abroad, we succeed in developing the control box according to the real working condition of fields. There are six series including 21Mpa, 35Mpa, 70Mpa, 105Mpa single and double hydraulic control.(If required by customers, the counter for pump strokes can be installed.)

On the panel of the control box, the pressure of stand pipe and casing can be displayed. Adopting pressure transmitter to sense, which has the properties of high sensing precision, good shock-resistant performance, easy installation and natural anti-explosion. If counter for pump strokes is installed, the stroke number, frequency and total stroke of mud pump can be displayed respectively.



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