



The Product CATALOG

SHANGHAI PERTOGEARS CO.,LTD.

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Company profile

Creating miracles comes from quality

—Into Petrogears

Shanghai Petrogears Co. , Ltd. was established in March 2007 with registered capital of 50.1 million yuan, is a set of oil machinery and equipment product design and development, production and processing, product sales and after-sales service as one of the national high-tech enterprises. Our office is located in Shanghai and factory is located in Dongying Industrial Park, the center of Shengli Oilfield, the second largest oilfield in China with an area of 50,000 square meters and a designed annual output value of 500 million yuan and a net asset value of 150 million yuan.

Petrogears has 96 employees, including 19 senior engineers, 25 engineers, 1 National Certified Public Accountant, 2 accountants, 2 assistant accountants.

Since its inception, the company has adhered to the development philosophy of "innovation-based, quality-based" attaches focus on great importance to R & D Investment, established well trajectory control R & D Center and Enterprise Technology Center of Petrogears Machinery Manufacturing Co. , Ltd. in Dongying.

Taking the research and development of new downhole drilling tools and measuring and controlling instruments as the basic point, the company takes the development of our country's underground resources drilling field to improve efficiency and increase efficiency, and accurately control well trajectory as the strategic Direction and on the basis of digesting and absorbing advanced technology from Europe and the United States, approach to the forefront of the international industry, create a variety of speed-up efficiency tools, safety tools and a variety of downhole instrumentation measurement and control systems. At present, it is a rising star of private enterprises with strong R & D Technology in the field of down hole resource drilling.

Petrogears currently has 23 state-authorized patents, including 11 patents for invention, 8 patents for application model and 4 patents for appearance.

Petrogears has passed ISO9001:2008 Quality System Certification, and the API Certification. With petrochina, Sinopec, CNOOC Network access certificate (is one of qualified suppliers for Petrochina, Sinopec, CNOOC) , petrochina Well Control Network B qualification.

Our factory was awarded the Dongying 2009 Science and Technology Innovation Award and Dongying Science and Technology Award. The company has been awarded the honorary titles of Dongying Technology Enterprise and the most potential technology enterprise. Approved as municipal enterprise technology center in 2015.

We are in the spirit of "unity, progress, innovation, efficiency, " honesty prior and Customer first, service first, for domestic and foreign customers to provide satisfactory products and high-quality service. Let us join hands and go together .



Main business:

A variety of downhole drilling tools and blowout prevention tools design and manufacturing; mwd system design and manufacturing; high-efficiency downhole motor sales. According to the requirements of customer drawings to implement the process development of MWD joints, LWD Shell and accessories, vertical drilling tool accessories, rotary steering tool accessories high-end professional processing.

Leading products:

At present, the company mainly produces ceramic nozzle drill check valve (on-off blowout preventer) , top drive hydraulic, manual cock, Kelly up and down cock, Arrow check valve, etc. , drag-and-torque joints of drill string, splash valves, remote-control leak-plugging joints, hydraulic oscillators, shock absorbers, reamer, high-performance screw drills, completion tools such as window-opening tools, packers, and various MWD/LWD systems and accessories.

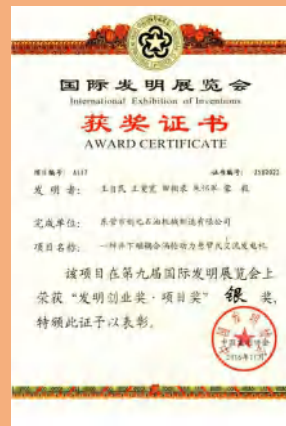
Company history

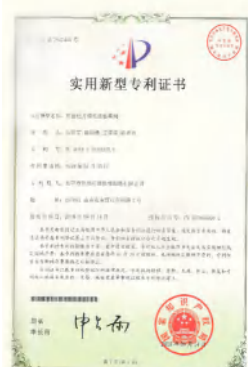
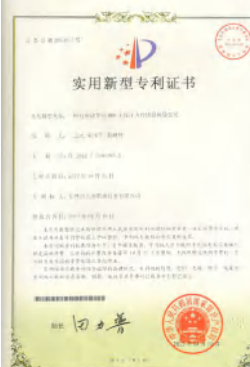
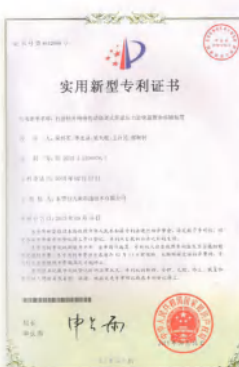
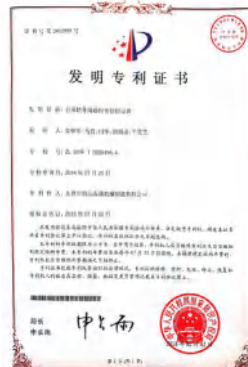
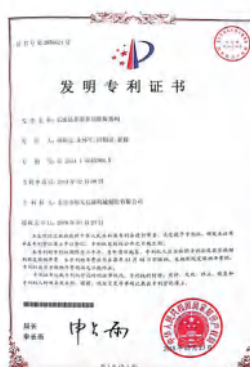
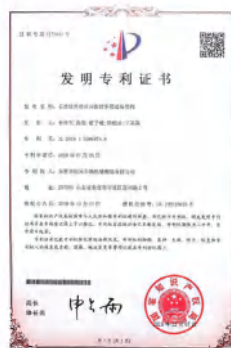
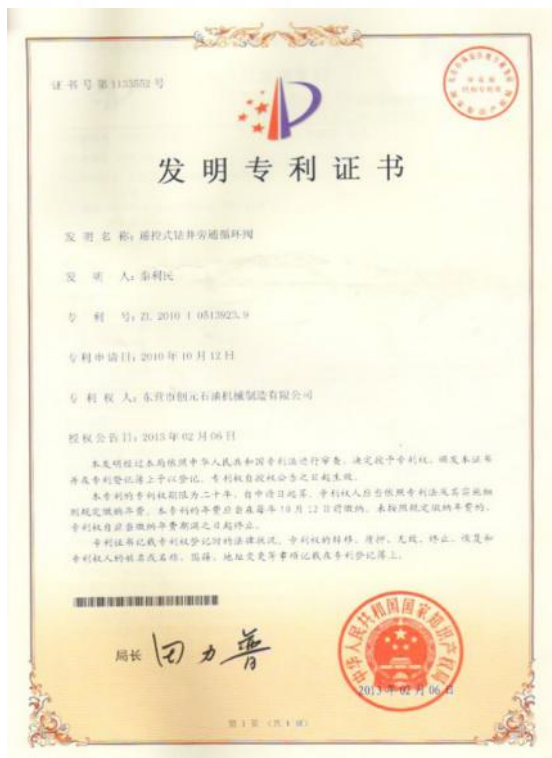
- 2007 The company was founded
- 2009 Dongying Science and Technology Awards
passed ISO9001 certification for the first time
- 2010 Dongying Science and Technology Award
- 2011 API certified
- 2014 Dongying City awarded the most potential enterprise
The underground magnetic coupling turbine generator products
Won the silver award of the 9th International Invention Exhibition
- 2023 The Shanghai Petrogears was founded, focus on
international trade business

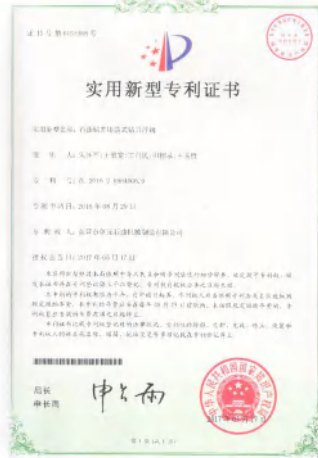


Company qualification









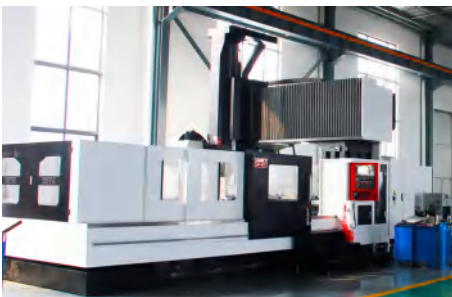
Production equipment

Overview of production workshop

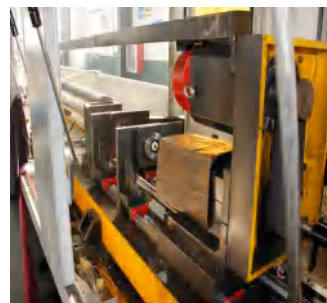




CNC gantry machining center (four axis)



CNC gun drill machine



CNC deep hole boring and milling machine



CNC deep hole boring and
milling machine



V8 CNC machining center



V11 CNC machining center



CNC pipe thread



CNC boring and milling machine



Leading products

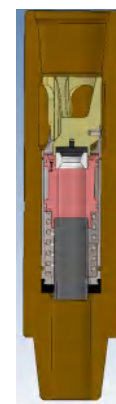
Well control safety

1.Oil drilling ceramic float valve (check valve)

(patent No.: ZL 2019 1 1223886.5)

The product meets the API standard and has obtained the national invention patent certificate, certificate number: ZL 2019 1 1223886.5. This product is a new type of internal blowout preventer. During normal drilling, the valve is open and the drilling fluid can circulate smoothly. In case of kick or blowout, the valve is closed to prevent blowout. During tripping operation, the backflow of drilling fluid is effectively prevented, and the sediment is prevented from entering the drill string to prevent plugging. It is a good special tool for blowout and plugging prevention in drilling operation.

The structure of the product is reasonable, which completely overcomes the fatal defects of the domestic similar products, such as easy erosion failure and short service life, and ensures that the product has good safety protection effect in the whole process of drilling.

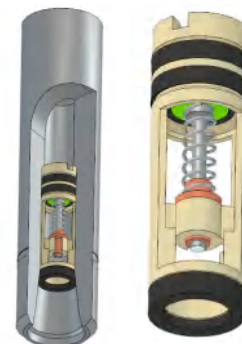


Technical specifications and parameters of BOP in drill string (can be changed according to customer's requirements)

specification (mm)	connecting collar specification	effective length (mm)	bearing pressure (MPa)	connecting buckle type
105	4 1/8"	510	70 ~ 105	NC31
121	4 3/4"	500	70 ~ 105	NC38
165	6 1/2"	700	70 ~ 105	NC46 或 NC50
172	6 3/4"	700	70 ~ 105	NC46 或 NC50
178	7"	700	70 ~ 105	NC50
203	8"	750	70 ~ 105	NC56 或 6 5/8" REG

2.Arrow valve for oil drilling

The product meets the API standard. The float valve is one of the necessary tools for oil drilling. The float valve is composed of drill tool adapter and float valve core assembly. Its main function is to prevent mud from bringing in cuttings and sediment when connecting a single drill pipe, and to block the drill bit water hole. In case of blowout or kick. The valve cover of the float valve assembly automatically closes the water hole to prevent the blowout accident in the pipe. The float valve can bear 5000PSI or 10000psi working pressure.



Main technical parameters:

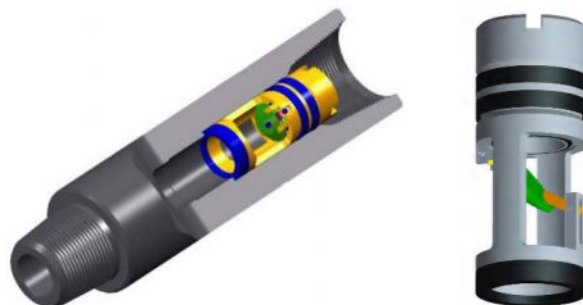
model	outer diameter (mm/inch)	inner diameter (mm/inch)	connection thread API	float valve core model
FJ83	82.6 (3-1/4)	31.8(1 1/4)	NC23 B × 2-3/8REG B	1R
FJF89	88.9(3-1/2)	31.8(1 1/4)	NC26 B × 2-3/8REG B	1R
FJF105	104.8(4-1/8)	31.8(1 1/4)	NC31 B × 2-7/8REG B	1F-2R
FJF121-1 FJF127	121(4 3/4) 127(5)	50.8(2)	3 1/2REG B × NC38 B	2F-3R
FJF121-2	121(4 3/4)	50.8(2)	NC38(B × P)	3-1/2 F
FJF165-1	165(6 1/2)	71.4(2 13/16)	NC46(B × P)	4F
FZF165-2 FJF178	165(6 1/2) 178(7)	71.4(2 13/16)	4 1/2REG B × NC50 B	4R
FJF165-3	165(6 1/2)	71.4(2 13/16)	NC50(B × P)	5R
FJF203	203(8)	71.4(2 13/16)	6 5/8REG B × 6 5/8REG B	5F-6R
FJF229 FJF241	229(9) 241(9 1/2)	76.2(3)	7 5/8REG B × 7 5/8REG B	5F-6R

Main technical parameters of float valve core

model	Valve assembly diameter (mm/inch)	Total valve length(mm/inch)	Diameter of float valve hole (mm/inch)	Joint female thread		Other threads	
				thread	Hole depth (mm/inch)	thread	Hole depth
1R	42.1 (1 21/32)	149.2 (5 7/8)	42.9 (1 11/16)	2 3/8REG	231.8 (9 1/8)	NC23	(mm/inch)
1F-2R	48.42 (1 29/32)	158.8 (6-1/4)	49.21 (1 15/16)	2 7/8REG	25.4 (1)	NC26	241.3 (9 1/2)
2F-3R	61.1 (2 13/32)	165.1 (6 1/2)	61.9 (2 7/16)	3 1/2REG	266.7 (10 1/2)	NC31	260.35 (10 1/4)
3F	71.44 (2 13/16)	254 (10)	72.23 (2 27/32)			3 1/2 FH	355.6 (14)
3 1/2F	79.4 (3 1/8)	254 (10)	80.2 (3 5/32)			NC38	362 (14 1/4)
4R	88.1 (3 15/32)	211.1 (8 5/16)	88.9 (3 1/2)	4 1/2REG	325.4 (12 13/16)	NC44	331.8 (13 1/16)
4F	92.87 (3 21/32)	304.8 (12)	93.66 (3 11/16)			NC46	336.6 (13 1/4)
5R	98.4 (3 7/8)	247.7 (9 3/4)	99.2 (3 29/32)	5 1/2REG	374.7 (14 3/4)	NC50	368.3 (14 1/2)
5F-6R	121.4 (4 25/32)	298.5(11 3/4)	122.2 (4 13/16)	6 5/8REG	431.8 (17)	5 1/2IF	431.8 (17)

3.Oil drilling flap valve

The product conforms to API standard. The float valve is one of the necessary tools for oil drilling. The float valve is composed of drilling tool joint and float valve core assembly. Its main function is to prevent mud from bringing in cuttings and mud from pouring back when connecting a single bit, and to block the water hole of the bit. In case of blowout or kick, the valve core assembly of the float valve will automatically close the water hole to prevent blowout in the pipe. The float valve can bear 5000psi or 10000psi working pressure.



Main technical parameters:

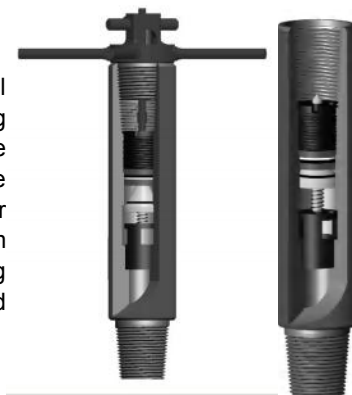
model	outer diameter (mm/inch)	inner diameter (mm/inch)	connection thread API	ifloat valve core model
FJ83	82.6 (3-1/4)	31.8(1 1/4)	NC23 B × 2-3/8REG B	1R
FJF89	88.9(3-1/2)	31.8(1 1/4)	NC26 B × 2-3/8REG B	1R
FJF105	104.8(4-1/8)	31.8(1 1/4)	NC31 B × 2-7/8REG B	1F-2R
FJF121-1 FJF127	121(4 3/4) 127(5)	50.8(2)	3 1/2REG B × NC38 B	2F-3R
FJF121-2	121(4 3/4)	50.8(2)	NC38(B × P)	3-1/2 F
FJF165-1	165(6 1/2)	71.4(2 13/16)	NC46(B × P)	4F
FZF165-2 FJF178	165(6 1/2) 178(7)	71.4(2 13/16)	4 1/2REG B × NC50 B	4R
FJF165-3	165(6 1/2)	71.4(2 13/16)	NC50(B × P)	5R
FJF203	203(8)	71.4(2 13/16)	6 5/8REG B × 6 5/8REG B	5F-6R
FJF229 FJF241	229(9) 241(9 1/2)	76.2(3)	7 5/8REG B × 7 5/8REG B	5F-6R

Main technical parameters of float valve core

model	Valve assembly diameter (mm/inch)	Total valve length (mm/inch)	Diameter of float valve hole (mm/inch)	Joint female thread		Other threads	
				thread	Hole depth (mm/inch)	thread	Hole depth (mm/inch)
1R	42.1 (1 21/32)	149.2 (5 7/8)	42.9 (1 11/16)	2 3/8REG	231.8 (9 1/8)	NC23	231.8 (9 1/8)
1F-2R	48.42 (1 29/32)	158.8 (6-1/4)	49.21 (1 15/16)	2 7/8REG	25.4 (1)	NC26	241.3 (9 1/2)
2F-3R	61.1 (2 13/32)	165.1(6 1/2)	61.9 (2 7/16)	3 1/2REG	266.7 (10 1/2)	NC31	260.35 (10 1/4)
3F	71.44 (2 13/16)	254(10)	72.23 (2 27/32)			3 1/2 FH	355.6 (14)
3 1/2F	79.4 (3 1/8)	254(10)	80.2 (3 5/32)			NC38	362 (14 1/4)
4R	88.1 (3 15/32)	211.1 (8 5/16)	88.9 (3 1/2)	4 1/2REG	325.4 (12 13/16)	NC44	331.8 (13 1/16)
4F	92.87 (3 21/32)	304.8 (12)	93.66 (3 11/16)			NC46	336.6 (13 1/4)
5R	98.4 (3 7/8)	247.7 (9 3/4)	99.2 (3 29/32)	5 1/2REG	374.7 (14 3/4)	NC50	368.3 (14 1/2)
5F-6R	121.4 (4 25/32)	298.5(11 3/4)	122.2 (4 13/16)	6 5/8REG	431.8 (17)	5 1/2IF	431.8 (17)

4.Arrow check valve for oil drilling

Arrow check valve is a kind of one-way valve with large pressure drop. The seal of the valve is arrow valve. Under the action of reverse circulation pressure and spring force in the drilling tool, the arrow valve closes quickly and cuts off the inner passage of the drilling tool, so as to prevent blowout in the drilling tool. It can be placed on the platform for standby, or it can be installed between the drill pipe and the drill bit after removing the jacking device to prevent high-pressure oil and gas from ejecting from the drill pipe. A special release tool keeps the valve in a normally open state, allowing reverse flow through. When the first blowout signal is found when the drill pipe is pulled out from the well, the blowout preventer can be quickly installed on the drill string.



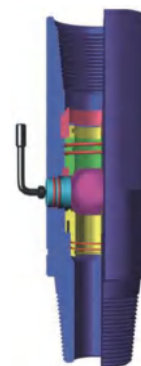
Main technical parameters

model	outer diameter (mm/inch)	inner diameter (mm/inch)	connection thread API	working pressure (MPa)
FPJ105	104.8(4 1/8)	41.3(1 5/8)	NC31	35 (70)
FPJ121	120.7(4-3/4)	54(2 1/8)	NC38	
FPJ127	127(5)	54(2 1/8)	NC38	
FPJ165	165(6-1/2)	70 (2-3/4)	NC50	
FPJ168	168(6-5/8)	70 (2-3/4)	NC50	
FPJ178	178(7)	70 (2-3/4)	5-1/2FH	
FPJ203	203(8)	71.4(2-13/16)	6-5/8REG	

5.Kelly Cock

Kelly cock is also called kelly cock or drill pipe safety valve. It is one of the effective tools to prevent blowout. The Kelly plug valve is divided into upper Kelly plug valve and lower Kelly plug valve. The upper Kelly plug valve is used between the lower end of faucet joint and Kelly. The lower Kelly plug valve is used between the lower end of the Kelly and the upper end of the Kelly or the lower end of the Kelly protective joint. It can be opened and closed by turning 90 ° with a special wrench according to the instructions. In drilling operation, in order to avoid the occurrence of malignant accidents, the Kelly plug valves should be assembled at the upper and lower ends of the Kelly to prevent drilling fluid loss and blowout.

Our company can produce sulfur proof kelly cock with high quality imported sulfur proof material.



Main technical parameters

model	outer diameter (mm/inch)	inner diameter (mm/inch)	connection thread API	working pressure (MPa)
CY-XS86	86(3 3/8)	NC26	30(1-3/16)	35-70
CY-XS105	105(4 1/8)	NC31	40(1-37/64)	35-70
CY-XS111	111(4-3/8)	NC31	40(1-37/64)	35-70
CY-XS121	121(4 3/4)	NC38	44.5(1 3/4)	35-70
CY-XS127	127(5)	NC38	44.5(1 3/4)	35-70
CY-XS146	146(5 3/4)	4-1/2REG LH	44.5(1 3/4)	35-70
CY-XS159	159(6 1/4)	NC46	57.2(2 1/4)	35-70
CY-XS168	168(6 5/8)	NC50	71.4(2-13/16)	35-70
CY-XS178	178(7)	5-1/2FH	71.4(2-13/16)	35-70
CY-XS197	197(7 3/4)	6-5/8REG LH	76.2(3)	35-70
CY-XS203	203(8)	6-5/8REG LH	76.2(3)	35-70

6.Multi-functional kelly cock

(Patent No.: ZL 2014 1 0045368. X)

At present, the plug valve (also known as kelly cock) used for blowout rescue in drilling site is normally open, although the flow area is very large, it can be used for internal shut in. But it can only achieve the cut-off, not the check. When the working condition requires the plug valve to enter below the rotary table surface, it must be in the normally open state. In this way, there is no internal blowout preventer on the drill string. In order to solve this problem, a check valve is often connected to the plug valve on site. In order to solve the shortage of the cock, the invention provides a multi-functional cock valve, which is simple and compact in structure, novel in form, good in reliability, multi-purpose in one valve and strong in compatibility, and is suitable for the drilling technology field of petroleum industry.

This kind of multi-functional plug valve has the following characteristics:

A. It has the functions of pressure relief, blowout prevention and circulation well killing. The unique floating ball valve mechanism can easily open the ball valve and release the pressure; close the ball valve to prevent blowout; float the ball valve to implement circulation killing.

B. It has high strength and vulcanization resistance. The body of the multi-functional plug valve is made of high-strength steel specified in API standard, and the parts are made of special metal materials resistant to sulfide stress crack, with high machining accuracy, which ensures the excellent quality of the safety tools used in oil drilling well control.

C. It has high opening pressure difference and reliable sealing performance. The control components of the multi-functional plug valve adopt high-tech sealing device to ensure the reliability of pressure and sealing. When the pressure difference in the drilling tool is less than 45MPa, it can be closed or opened easily.

D. Wide temperature range. Special sealing materials are used, and the temperature resistance range is $-50^{\circ}\text{C} \sim +190^{\circ}\text{C}$. It can adapt to the field operation under high cold and high temperature conditions.

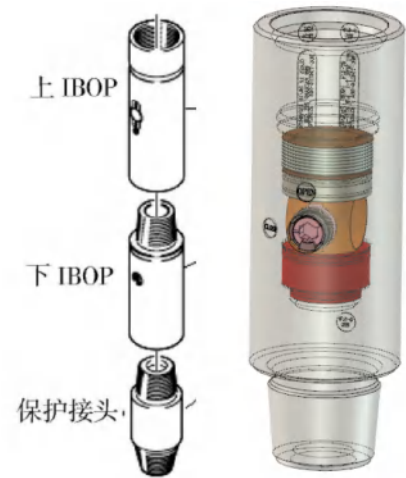


Main technical parameters

Specification and model	outer diameter (mm)	Valve diameter (mm)	Rated working pressure (MPa)	Rated opening differential pressure (MPa)	Maximum opening torque (Nm)	Button type API	length (mm)	quality (kg)	Appearance color
FXSZ121	120.70	48	70	≤ 10	100	NC38 311X310	520	27	orange
			105		100				red
FXSZ168	168.28	60	70	≤ 10	120	NC50 411X410	656	79	orange
			105		120				red
FXSZ178	177.80	62	70	≤ 12	140	51/2" FH 521X520	580	68	orange
			105		140				red

7. Top drive hydraulic cock/top drive manual cock

Top drive plug valve (IBOP) is divided into upper IBOP and lower IBOP. The connection sequence is: top drive spindle, upper IBOP, lower IBOP, protective joint, drilling tool. The structure of upper and lower IBOP valve bodies of top drive is basically the same as that of kelly cock. There is a hydraulic actuator outside the upper IBOP. There is a drive pin connection between the actuator and the valve body. The hydraulic drive is switched by the solenoid valve, and the IBOP manual switch is set.



Series specifications and basic parameters (can be customized according to customer needs)

Model, specification and parameter table of top drive cock								
Top drive manufacturer	Model of top drive cock	outer diameter		inner diameter		length		Connecting thread
		inch	mm	inch	mm	inch	mm	
VARCO	液动 187 IBOP	7-23/64	187	3-1/16	78	22-1/2	572	6-5/8REG BOX *6-5/8REG BOX
	手动 187 IBOP	7-23/64	187	3-1/16	78	22-19/32	523	6-5/8REG BOX *6-5/8REG PIN
CANRLG	液动 195.5 IBOP	7-11/16	195.5	2-13/16	71.4	29-7/16	748.5	6-5/8REG BOX *NC50 PIN
景宏	液动 197 IBOP	7-3/4	197	2-15/16	75	20-1/2	521	6-5/8REG BOX *6-5/8REG PIN
	液动手动一体 197 IBOP	7-3/4	197	2-15/16	75	37-51/64	960	6-5/8REG BOX *6-5/8REG PIN
北石	DQ70 液动 197 IBOP	7-3/4	197	3	76.2	23	584	6-5/8REG BOX *6-5/8REG PIN
	DQ70 手动 197 IBOP	7-3/4	197	3	76.2	20-5/32	512	6-5/8REG BOX *6-5/8REG PIN
	DQ70 液动 216 IBOP	8-1/2	216	3-1/16	78	23-3/4	603	7-5/8REG BOX *7-5/8REG PIN
	DQ70 手动 216 IBOP	8-1/2	216	3-1/26	78	20-63/64	533	7-5/8REG BOX *7-5/8REG PIN
天意	DQ70 液动 197 IBOP	7-3/4	197	3	76.2	22-1/2	572	6-5/8REG BOX *6-5/8REG BOX
	DQ70 手动 197 IBOP	7-3/4	197	3	76.2	20-3/5	523	6-5/8REG BOX *6-5/8REG BOX
	III 型液动 197 IBOP	7-3/4	197	3	76.2	22-1/2	572	6-5/8REG BOX *6-5/8REG BOX
	III 型手动 197 IBOP	7-3/4	197	3	76.2	21-3/32	536	6-5/8REG BOX *6-5/8REG BOX
宏华	DQ70 液动 190 IBOP	7-31/61	190	2-15/16	75	21-1/2	547	6-5/8REG BOX *6-5/8REG PIN
	DQ70 液动 200 IBOP	7-6/7	200	2-15/16	75	21-1/2	547	6-5/8REG BOX *6-5/8REG PIN
	DQ70 手动 190 IBOP	7-31/61	190	2-15/16	75	21-1/2	547	6-5/8REG BOX *6-5/8REG PIN
	DQ70 手动 200 IBOP	7-6/7	200	2-15/16	75	21-1/2	547	6-5/8REG BOX *6-5/8REG PIN
	DQ90 液动 215 IBOP	8-1/2	215	3-1/16	78	32	815	7-5/8REG BOX *6-5/8REG PIN
宝石	DQ70 液动 197 IBOP	7-3/4	197	3	76.2	20-63/64	532	6-5/8REG BOX *NC50 PIN
海瑞克液压顶驱	液动 Ø228	9	228	3-1/2	88.9	23-1/8	587	7-5/8REG BOX *7-5/8REG BOX
	手动 Ø228	9	228	3-1/2	88.9	20-63/64	533	7-5/8REG BOX *7-5/8REG BOX

Drilling tools

1.Anti Splash valve

In oil, natural gas and other drilling and workover operations, in order to prevent the mud in the Kelly and its upper string from spraying on the drill floor, polluting the environment, affecting the operation, causing waste and increasing safety risks, the installation of anti splash valve in the lower part of the Kelly or its lower plug valve can avoid the mud in the Kelly and its upper string. The slurry is sprayed onto the turntable.

Series specifications and basic parameters

(can be customized according to customer needs)

Specification(mm)	Specification of connecting drill pipe	Length(mm)	Connecting buckle type
105	4 1/8"	460	NC31
121	4 3/4"	460	NC38
127	5"	460	NC38
165	6 1/2"	6100	NC46 或 NC50
168	6 5/8"	610	NC46 或 NC50
172	6 3/4"	610	NC46 或 NC50
178	7"	610	NC50
178	7"	610	5 1/2 FH
203	8"	610	6 5/8 REG



2.FDF bypass valve

FDF type by-pass valve is used for jet drilling in complex formation and connecting the valve to the drill string near the bit before drilling oil and gas reservoir. In the process of drilling, when it is necessary to replace heavy mud or heavy mud into the well, and special operations, it is difficult to remove the blockage due to the water hole blockage of the bit, the valve can provide a new downhole tool to help remove the blockage.

FDF bypass valve specifications

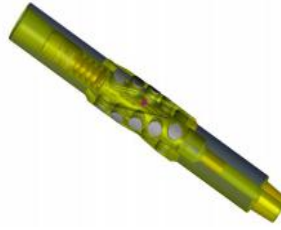
Specification Parameter Project		FDF-9	FDF-8	FDF-7	FDF-6 1/2	FDF-43/4
working pressure(MPa)		<30				
Sealing pressure(MPa)		32				
Working medium		Drilling fluid				
Dimen- sions	D	Φ228	Φ203	Φ178	Φ165	Φ121
	L		640	600	600	480
B u t t o n type(mm)	Upper end	5 1/2IF	6 5/8REG	NC50		NC38
	lower end	Upper end				
Water hole diameter of seal sliding sleeve		lower end		Φ45		Φ35
Diameter of steel ball		Φ55		Φ50		Φ45
Borehole used		12 1/4" ~ 17 3/4"		8 1/2"		6
Drift diameter gauge		φ 57 × 250		φ 52 × 250		φ 47 × 250



3.Drilling oil pressure adjustable diameter stabilizer

(Patent No.: ZL 2008 2 0226375. X)

Compared with the traditional fixed wing centralizer, the product has high safety and reliability, reduces friction and torque, has better protection for the lifting system and torque transmission system, avoids the mud bag centralizer, eliminates the phenomenon of piston pulling in the process of tripping, and improves the tripping speed. In rotary drilling, because of the advantages of its internal structure, it also has the function of lateral damping, which has a protective effect on the next drill string.

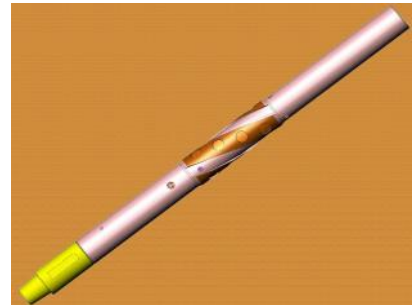
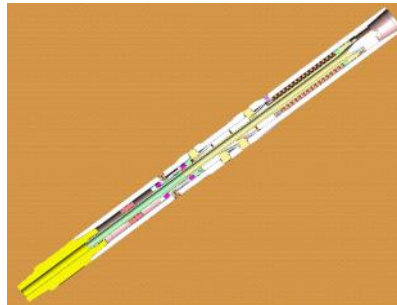


Product specifications, models and technical parameters

Product model	Outer diameter of both ends of adjustable stabilizer(mm)	Effective working length(mm)	Minimum working outer diameter of adjustable stabilizer screw(mm)	Maximum working outer diameter of adjustable stabilizer screw(mm)	Applicable hole size(inch)
PGS-120	88.9	335	111	119.8	4-3/4
PGS-152	121	420	139.7	151.6	6
PGS-214	172	430	203	214.3	8-1/2
PGS-243	190.5	540	222	242.8	9-5/8
PGS-310	229	550	284	309.5	12-1/4

4.Adjustable stabilizer while drilling (Patent No.: ZL 2016 1 0586496.4)

The product can be adjusted while drilling. The adjustable stabilizer can be used to adjust the well deviation without tripping, so as to accurately control the inclination angle of directional well and horizontal well, meet the requirements of directional control, greatly reduce tripping, effectively change the working condition of BHA,



reduce sliding drilling time and increase rotary drilling time. In the rotary drilling state, it can not only keep the well trajectory smooth, effectively promote the bottom hole cleaning, but also effectively improve the ROP.

Technical parameters of adjustable stabilizer while drilling

Product model	Outer diameter of both ends of adjustable stabilizer(mm)	Effective working length(mm)	Minimum working outer diameter of adjustable stabilizer screw(mm)	Maximum working outer diameter of adjustable stabilizer screw(mm)	Applicable hole size(inch)
RAGS-151	121	300	140	151	6
RAGS-164	121	300	140	164	6 -1/2
RAGS-214	172	300	205	214	8 -1/2
RAGS-240	190.5	320	222	240	9 -5/8
RAGS-310	228	350	295	310	12 -1/4

5. Hydraulic pressure shock absorber

The product design structure is scientific and practical, and has obtained the national utility model patent certificate, certificate number: ZL2008 2 0226259.8. The tool is a downhole tool for oil and gas drilling. This tool is a kind of downhole tool which uses the hydraulic force of circulating drilling fluid to exert WOB on the bit during drilling. It has the functions of hydraulic shock absorption, automatic drilling, deviation prevention and straightening. It can improve ROP, reduce driller's labor intensity and protect bit and drilling tool. The product can realize the function of WOB compensation for sliding drilling loss and solve the problem of drilling pressure difficulty. It is especially suitable for extended reach wells, horizontal wells, directional wells and slim holes to solve the problems of pressurization and deviation control and fast drilling in vertical wells. It can also be used for pressure damping of ordinary vertical wells to achieve the purpose of deviation control and fast drilling.



Technical specifications and parameters

本体直径	本体内径	扶正器直径	最大伸缩长度	长度
98 ± 2.0	78 ± 2.0	116 ± 2.0	450 ± 10	3200–9600
121 ± 2.0	97 ± 2.0	150 ± 2.0	450 ± 10	3200–9600
177.8 ± 2.0	110 ± 2.0	214 ± 2.0	450 ± 10	3200–9600
203.2 ± 2.0	163 ± 2.0	238 ± 2.0	500 ± 10	3200–9600
280 ± 2.0	203 ± 2.0	438 ± 2.0	500 ± 10	3200–9600

6. Hydraulic oscillator

This tool mainly consists of three parts: oscillating sub, power part, valve and bearing system. Hydraulic oscillator can improve the effectiveness of WOB transmission and reduce the friction between BHA and borehole through its own longitudinal vibration, which means that hydraulic oscillator can improve WOB transmission in various drilling modes, especially in directional drilling with power drilling tools, reduce the possibility of BHA sticking and torsional vibration.

With the increase of the number of extended reach wells and the continuous extension of horizontal displacement, its drilling mode is facing greater challenges. Hydraulic oscillator puts forward a unique and effective way to solve this problem through a simple and effective way. Stable WOB transmission, even in the complex formation with great azimuth



change, improve the adjustment ability of the bit tool surface, so as to drill further to the target layer. In drilling, it does not need too much work to adjust the tool surface, maintain the stability of the tool surface, and improve the ROP.

Technical specifications and parameters

Tool size (Φ mm)	Total length (mm)	Weight (kg)	Recommended flow range (m ³ /min)	Temperature (° C)	work efficiency	Working pressure difference (MPa)	Maximum pull (KN)	Connector
86	1981	57	0.4–0.63	150	26Hz@0.55m ³	3.1–4.83	41.36	2–3/8REG/ 标准 2–7/8REG/ 标准
95	3810	109	0.4–0.63	150	26Hz@0.55m ³	3.45–4.83	56.19	2–3/8 内平 2–7/8 内平
121	2743	141	0.68–1.23	150	18–19Hz@1.14m ³	3.79–4.48	79.56	3–1/2IF/ 内平
172	2743	454	1.82–2.73	150	16–17Hz@2.27m ³	4.14–4.83	155.76	4–1/2IF/ 内平
203	3353	726	2.27–4.55	150	16Hz@4.09m ³	4.14–4.83	222.51	6–5/8REG/ 标准
244.5	3810	907	2.73–5	150	12–13Hz@4.1m ³	3.45–4.83	283.2	7–5/8REG/ 标准 6–5/8REG/ 标准

7.Integral screw stabilizer

Drilling tool stabilizer is an important tool to control well deviation parameters in drilling engineering, which is applicable for stabilizing drilling tools in oil, natural gas and geological exploration drilling. It can increase the service life of bit, improve drilling speed and wellbore quality with effective stabilizing effect. Integral stabilizers can be divided into spiral belt stabilizers and straight edge stabilizers.

Hardening mode of stabilizer belt: hf1000, HF2000, hf3000, hf4000.



Product specifications, models and technical parameters

Outer diameter of stabilizer at both ends (mm/inch)	Working outer diameter (mm)	Applicable bit diameter (mm)	Bottom hole joint thread		Drill string joint thread	
			Upper end	lower end	Upper end	lower end
121 (4 ^{-3/4})	158、158.7、157	158.7 (6 ^{-1/4})	NC35	3 ^{-1/2} REG	NC35	NC35
159 (6 ^{-1/4})	190.5、190、189	190.5 (7 ^{-1/2})	NC44	4 ^{-1/2} REG	NC44	NC44
	215.9、215、214	215.9 (8 ^{-1/2})	NC46		NC46	NC46
178 (7)	190.5、190、189	190.5 (7 ^{-1/2})	NC50	4 ^{-1/2} REG	NC50	NC50
	215.9、215、214	215.9 (8 ^{-1/2})				
	244.5、244、243	244.5 (9 ^{-5/8})				
203 (8)	311.1、310、309	311.1 (12 ^{-1/4})	NC56	6 ^{-5/8} REG	NC56	NC56
	444.5、443、441	444.5 (17 ^{-1/2})				
229 (9)	444.5、443、441	444.5 (17 ^{-1/2})	NC61	7 ^{-5/8} REG	NC61	NC61
	660.4、658、655	660.4 (26)				

8.High energy rubber rotary friction reducing and torsion reducing joint (rubber rotary casing anti-wear joint)

(Patent No.: ZL 2015 1 0927810.6)

The product can be directly connected to the drill string to form a support at the joint position to prevent the pipe joint from directly wearing the casing. The relative sliding friction between the high-energy rubber outer sliding sleeve and the mandrel can prevent the casing from wearing. At the same time, the drilling torque can be reduced, which has a good effect on protecting the drill pipe Deep well, sidetracking and other services.

Product model specification and technical parameter table

Specification and model	3 ^{-1/2}	5	5 ^{-1/2}	5 ^{-1/2}
Working outer diameter(mm)	146mm	190mm	212mm	270mm
Applicable casing	7"	9 ^{-5/8} "	10 ^{-3/4} "	13 ^{-3/8} "
Joint thread	3 ^{-1/2} IF	4 ^{-1/2} IF	5 ^{-1/2} FH	5 ^{-1/2} FH
Water eye diameter(mm)	62mm	78mm	91.5mm	91.5mm
Working length(mm)	900mm	900mm	900mm	900mm
Tool life(hour)	2500	2500	3000	3000



9.Alloy rotary friction reducing and torsion reducing joint (alloy rotary casing anti-wear joint)

The product can be directly connected to the drill string to form a support at the joint position to prevent the drill pipe joint from directly wearing the casing. The relative sliding friction between the metal outer sliding sleeve and the carbide support between the mandrel can prevent the casing from wearing. At the same time, the drilling torque can be reduced, which has a good effect on the protection of the drill pipe. According to the needs of the process site, it can be used for highly deviated directional wells, horizontal wells and conventional wells. It is required to provide services for drilling wells, deep wells and sidetracking wells.

Product model specification and technical parameter table

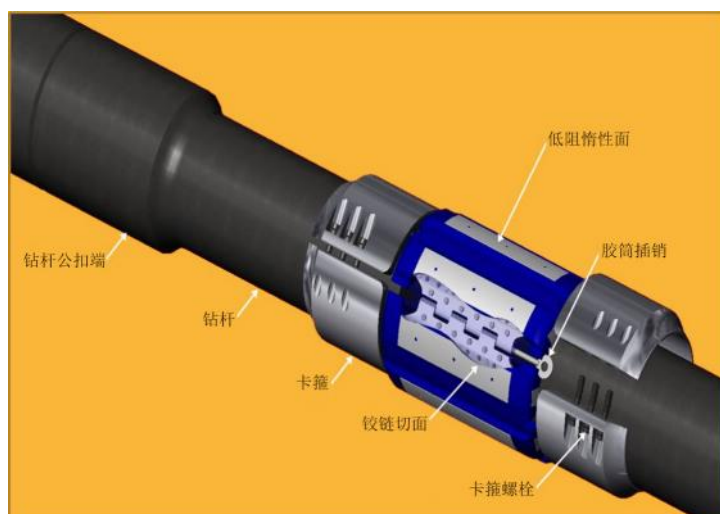
Specification and model	3- ¹ / ₂	5	5- ¹ / ₂	5- ¹ / ₂
Working outer diameter(mm)	146mm	190mm	212mm	270mm
Applicable casing	7"	9- ⁵ / ₈ "	10- ³ / ₄ "	13- ³ / ₈ "
Joint thread	3- ¹ / ₂ IF	4- ¹ / ₂ IF	5- ¹ / ₂ FH	5- ¹ / ₂ FH
Water eye diameter(mm)	62mm	78mm	91.5mm	91.5mm
Working length(mm)	900mm	900mm	900mm	900mm
Tool life(hour)	2500	2500	3000	3000



10.Non rotating drill pipe protector (non rotating casing antiwear joint)

Common drill pipe protectors are fixed on the drill pipe body and rotate with the rotation of the drill pipe. In order to reduce the wear of the upper casing caused by the rotation of the drill pipe in the process of drilling horizontal wells and extended reach wells, and to reduce the friction resistance caused by the rotation wear, a kind of drill pipe protector is developed, that is, the non rotating drill pipe protector.

The non rotating drill pipe protector can reduce the torque of drill string and the wear between drill pipe and casing. The drill pipe protector consists of a central movable sleeve (protective sleeve), a metal reinforcing Bush and a limit clamp.



Technical parameters of standard (s) type anti wear sleeve

NRP model	S-278	S-350	S-400	S-450	S-500	S-550	S-578	S-658
Drill pipe size	2-7/8"	3-1/2"	4"	4-1/4"	5"	5-1/2"	5-7/8"	6-5/8"
Outer diameter of anti-wear rubber sleeve	4-3/8"	5-1/2"	6-1/4"	6-3/4"	7-1/4"	7-3/4"	8"	9"
Outer diameter of anti wear sleeve clamp	3-7/8"	5"	5-1/2"	6"	6-1/2"	7"	7-3/8"	8-1/8"
Length of rubber sleeve	9-1/2"	10"	10"	10"	9-1/2"	10"	10"	12"
Total length of wear sleeve	19-1/2"	20"	20"	20"	19-1/2"	20"	20"	22"
Rated lateral load(pound)	1000	1500	1500	2000	2000	2000	2500	2500
Total flow area								
5-1/2" casing	5.1in ²	N/R	N/R	N/R	N/R	N/R	N/R	N/R
7" casing	19in ²	8.3in ²	N/R	N/R	N/R	N/R	N/R	N/R
9-5/8" casing	48in ²	37in ²	33in ²	27in ²	21in ²	16.3in ²	12.7in ²	N/R
13-3/8" casing	110in ²	99in ²	95in ²	89in ²	83in ²	77in ²	74in ²	63in ²
Clamp material	6061-T651 Aluminum alloy forging							
Sleeve material	High temperature polyimide							
Maximum temperature resistance	230° F(110° C)							

Technical parameters of high temperature resistance (HT) type anti wear sleeve

NRP model	HT-350	HT-500	HT-550
Drill pipe size	3-1/2"	5"	5-1/2"
Outer diameter of anti-wear rubber sleeve	5-1/2"	7-1/4"	7-3/4"
Outer diameter of anti wear sleeve clamp	5"	6-1/2"	7"
Length of rubber sleeve	10"	9-1/2"	10"
Total length of wear sleeve	20"	19-1/2"	20"
Rated lateral load(pound)	1500	2000	2000
Total flow area			
5-1/2" casing	N/R	N/R	N/R
7" casing	8.3 in ²	N/R	N/R
9-5/8" casing	37 in ²	18 in ²	16.3 in ²
13-3/8" casing	99 in ²	78 in ²	77 in ²
Clamp material	6061-T651 Aluminum alloy forging		
Sleeve material	HNBR/NR		
Maximum temperature resistance	300° F(149° C)		

Technical parameters of Super sliding (SS) type anti wear sleeve

NRP model	SS-350	SS-400	SS-450	SS-500	SS-550	SS-578	SS-658
Drill pipe size	3-1/2"	4"	4-1/2"	5"	5-1/2"	5-7/8"	6-5/8"
Outer diameter of anti-wear rubber sleeve	5-1/2"	5-7/8"	6-3/4"	7-1/4"	7-3/4"	8"	9"
Outer diameter of anti wear sleeve clamp	5"	5-1/2"	6"	6-1/2"	7"	7-3/8"	8-1/8"
Length of rubber sleeve	10"	10"	10"	9-1/2"	10"	10"	12"
Total length of wear sleeve	20"	20"	20"	19-1/2"	20"	20"	22"
Rated lateral load(pound)	2200	2200	3000	3000	3000	3500	3000
Total flow area							
5-1/2" casing	N/R	N/R	N/R	N/R	N/R	N/R	N/R
7" casing	7.8 in ²	N/R	N/R	N/R	N/R	N/R	N/R
9-5/8" casing	36.5 in ²	35 in ²	26 in ²	20 in ²	15.3 in ²	12.7 in ²	N/R
13-3/8" casing	98.5 in ²	97 in ²	88 in ²	in ²	76 in ²	74 in ²	62.5 in ²
Clamp material	6061-T651 Aluminum alloy forging						
Sleeve material	High temperature polyurethane & advanced Low friction polymer backing ring						
Maximum temperature resistance	230° F(110° C)						

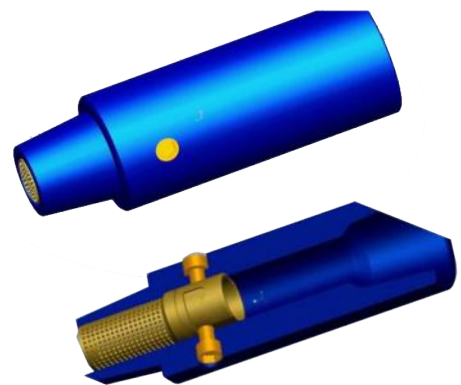
11.Special protective joint for double step drill pipe in top drive drilling

At present, top drive drilling system is widely used in oil drilling because of its advantages of high efficiency, time-saving column drilling, low risk of continuous rotation and circulation, good for well control and high safety. Due to the high price of the cock in the system, the screw thread of the cock can be easily damaged if it is often disassembled, which will lead to drilling accidents and safety accidents. In order to protect the top drive cock, a protective joint is installed in the BHA. The protective joint is located between the lower end of the top drive safety valve and the upper end of the drill pipe. It is an important auxiliary drilling tool to protect the top drive safety valve.

The mud is required to be filtered in the drilling process. Generally, the drilling fluid filter device is placed at the root of the internal thread of the drill pipe and supported in the drill pipe through the chamfer in the drill pipe. But for the double step drill pipe buckle with high torsion resistance, there is no chamfering inside to support the filter cartridge, so the filter cartridge cannot be placed. This special protective joint is specially designed to solve this problem.

The protective joint of the safety valve is an integrated structure, and the filter cartridge is directly installed in the protective joint. The structure is simple and compact, with good reliability, convenient operation and use, strong universality and easy maintenance. The application of the top drive safety valve protection joint for oil drilling avoids adding a filter joint between the lower part of the safety joint and the drill pipe for filtering mud, improves the quality of the filtering mud, reduces the drilling risk, prolongs the service life of the top drive safety valve, and reduces the production cost.

Technical specifications can be reasonably designed according to customer requirements.



12.Casing cutter

The product is mainly used for casing segment milling operation, and is a necessary tool for casing window operation. It has the characteristics of simple structure and easy operation. The matching blade is made of high-grade wear-resistant diamond and special high-tech welding process, which ensures the great casing cutting length of each blade and greatly improves the efficiency of casing cutting and milling operation. Casing milling and sidetracking is a common technology for drilling horizontal well and directional well inside casing.

Product specifications, models and technical parameters

Product specification and model	Joint buckle type	Body outer diameter	Outer diameter of retracted blade	Maximum outer diameter of opened blade (mm)	Total tool length	Outer diameter of centralizer sleeve and nipple	Casing size	
							(mm)	壁厚 (mm)
CYTX-9	NC50 Internal thread 410	210	210	310	1512	220 ⁰ _{-0.5}	244.5	8.94
						220 ⁰ _{-0.5}		10.03
						216 ⁰ _{-0.5}		11.05
						216 ⁰ _{-0.5}		11.99
CYTGX-7	NC38 Internal thread 310	146	146	210	1313	158 ⁰ _{-0.5}	177.8	8.05
						156 ⁰ _{-0.5}		9.19
						154 ⁰ _{-0.5}		10.36
						151 ⁰ _{-0.5}		11.51
						149 ⁰ _{-0.5}		12.65
						147 ⁰ _{-0.5}		13.72
CYTGX-5	NC31 Internal thread 210	114	114	170	1287	121 ⁰ _{-0.5}	139.7	7.72
						118 ⁰ _{-0.5}		9.17
						115 ⁰ _{-0.5}		10.54



13.Casing windowing tool

The products are mainly used for casing windowing in old oil wells and abandoned wells. The tools are advanced in design, and the compound milling cone is used. As long as two trips of tripping, the setting and sealing of deflector and casing windowing can be completed.



Product model and technical parameter table

Tool model diameter	Connecting thread	Body outer (mm)	Total tool length (mm)	Suitable for casing size and outer diameter(mm)	Sealing pressure(MPa)
CYKC-340	NC50	300	4700	339.7	20-25
CYKC-245	NC50	216	4600	244.47	20-25
CYKC-178	NC38	152	4500	177.8	20-25
CYKC-140	NC31	115	3750	139.7	20-25

14.Non magnetic drill collar

The product is made of advanced non-magnetic material, which is mainly used to install the matching drilling tools for monitoring whether the borehole is drilled according to the designed trajectory. It is a special tool for detecting the azimuth angle of the borehole and accurately measuring. The non-magnetic drill collars produced by our company are made of self-developed low carbon stainless steel. They are in accordance with API specification and SY / t5144 standard. They can be cold rolled for threads, and can be used to process double shoulder threads and other special threads.



Performance introduction of non magnetic drill collar steel

P530 mechanical properties

项目	要求	实测
yield strength (Mpa)	≥ 758	890
tensile strength (Mpa)	≥ 827	990
Elongation 84 (%)	≥ 25	35
Charpy impact rate Akv (J)	≥ 98	200
Brinell hardness (HB)	285 — 341	320
Relative permeability	Ut < 1.101	1.005

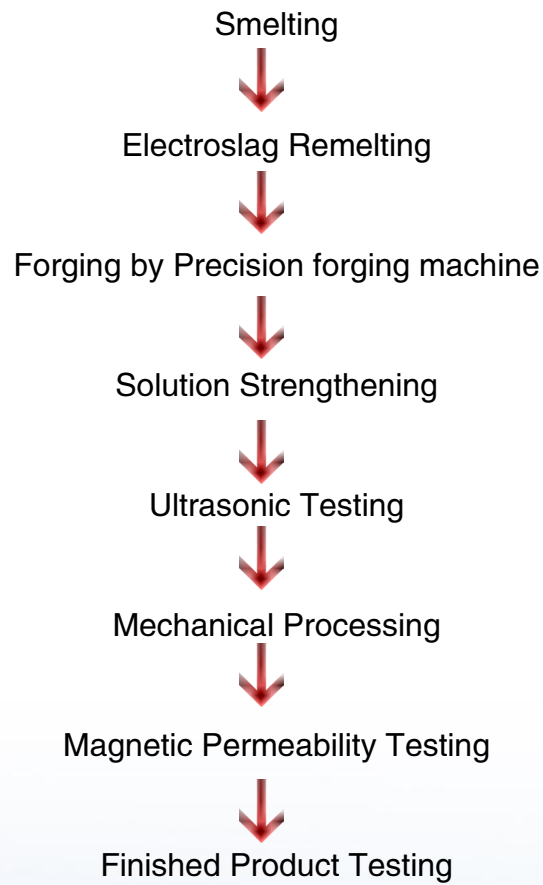
P550 mechanical properties

项目	要求	实测
yield strength (Mpa)	≥ 965	1000
tensile strength (Mpa)	≥ 1060	1100
Elongation 84 (%)	≥ 20	30
Charpy impact rate Akv (J)	≥ 150	150
Brinell hardness (HB)	350 — 400	360
Relative permeability	Ut < 1.005	1.003

15-15HS mechanical properties

项目	要求	实测
yield strength (Mpa)	≥ 950	980
tensile strength (Mpa)	≥ 1050	1080
Elongation 84 (%)	≥ 20	30
Charpy impact rate Akv (J)	≥ 150	150
Brinell hardness (HB)	350 — 400	360
Relative permeability	Ut < 1.005	1.003

Production technology of non magnetic drill collar



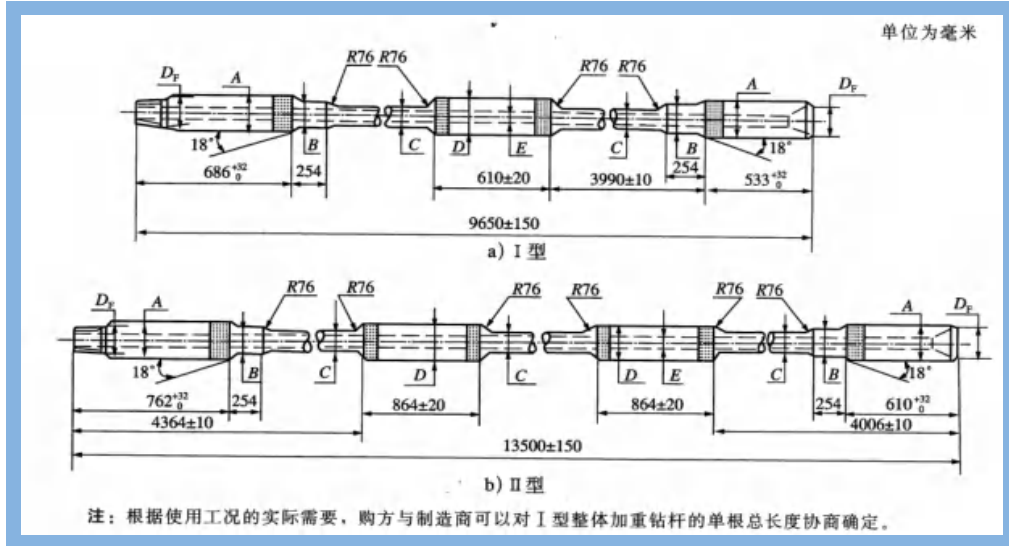
Product specifications, models and technical parameters

Dimensions of drill collar

Drill collar thread model	outer diameter D		inner diameter d		Length L		Shoulder chamfer diameter Df		Reference bending strength ratio
	mm	in	mm	in	mm	ft	mm	in	
NC23-31	79.4	3 ¹ / ₈	31.8	1 ¹ / ₄	9150	30	76.2	3	2.57:1
NC26-35(2 ³ / ₈ IF)	88.9	3 ¹ / ₂	38.1	1 ¹ / ₂	9150	30	82.9	3 ¹⁷ / ₆₄	2.42:1
NC31-41(2 ⁷ / ₈ IF)	104.8	4 ¹ / ₈	50.8	2	9150	30 or 31	100.4	3 ⁶¹ / ₆₄	2.43:1
NC35-47	120.6	4 ³ / ₄	50.8	2	9150	30 or 31	114.7	4 ³³ / ₆₄	2.58:1
NC38-50(3 ¹ / ₂ IF)	127.0	5	57.2	2 ¹ / ₄	9150	30 or 31	121.0	4 ⁴⁹ / ₆₄	2.38:1
NC44-60	152.4	6	57.2	2 ¹ / ₄	9150 or 9450	30 or 31	144.5	5 ¹¹ / ₁₆	2.49:1
NC44-60	152.4	6	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	144.5	5 ¹¹ / ₁₆	2.84:1
NC44-62	158.8	6 ¹ / ₄	57.2	2 ¹ / ₄	9150 or 9450	30 or 31	149.2	5 ⁷ / ₈	2.91:1
NC46-62(4IF)	158.8	6 ¹ / ₄	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	150.0	5 ²⁹ / ₃₂	2.63:1
NC46-65(4IF)	165.1	6 ¹ / ₂	57.2	2 ¹ / ₄	9150 or 9450	30 or 31	154.8	6 ³ / ₃₂	2.76:1
NC46-65(4IF)	165.1	6 ¹ / ₂	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	154.8	6 ³ / ₃₂	3.05:1
NC46-67(4IF)	171.4	6 ³ / ₄	57.2	2 ¹ / ₄	9150 or 9450	30 or 31	159.5	6 ⁹ / ₃₂	3.18:1
NC50-67(4 ¹ / ₂ IF)	171.4	6 ³ / ₄	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	159.5	6 ⁹ / ₃₂	2.37:1
NC50-70(4 ¹ / ₂ IF)	177.8	7	57.2	2 ¹ / ₄	9150 or 9450	30 or 31	164.7	6 ³¹ / ₆₄	2.54:1
NC50-70(4 ¹ / ₂ IF)	177.8	7	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	164.7	6 ³¹ / ₆₄	2.73:1
NC50-72(4 ¹ / ₂ IF)	184.2	7 ¹ / ₄	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	169.5	6 ⁴³ / ₆₄	3.12:1
NC56-77	196.8	7 ³ / ₄	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	185.3	7 ¹⁹ / ₆₄	2.70:1
NC56-80	203.2	8	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	190.1	7 ³¹ / ₆₄	3.02:1
6 ⁵ / ₈ REG	209.6	8 ¹ / ₄	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	195.6	7 ⁴⁵ / ₆₄	2.93:1
NC61-90	228.6	9	71.4	2 ¹³ / ₁₆	9150 or 9450	30 or 31	212.7	8 ³ / ₈	3.17:1
7 ⁵ / ₈ REG	241.3	9 ¹ / ₂	76.2	3	9150 or 9450	30 or 31	223.8	8 ¹³ / ₁₆	2.81:1
NC70-97	247.6	9 ³ / ₄	76.2	3	9150 or 9450	30 or 31	232.6	9 ⁵ / ₃₂	2.57:1
NC70-100	254.0	10	76.2	3	9150 or 9450	30 or 31	237.3	9 ¹¹ / ₃₂	2.81:1

15.Non magnetic weighted drill pipe

The product is made of advanced non-magnetic material, which is mainly used to install the matching drilling tools for monitoring whether the borehole is drilled according to the designed trajectory. It is a special tool for detecting the azimuth angle of the borehole and accurately measuring. The non-magnetic drill pipe produced by our company are made of self-developed low carbon stainless steel. They are in accordance with API specification and SY / t5144 standard. They can be cold rolled for threads, and can be used to process double shoulder threads and other special threads.

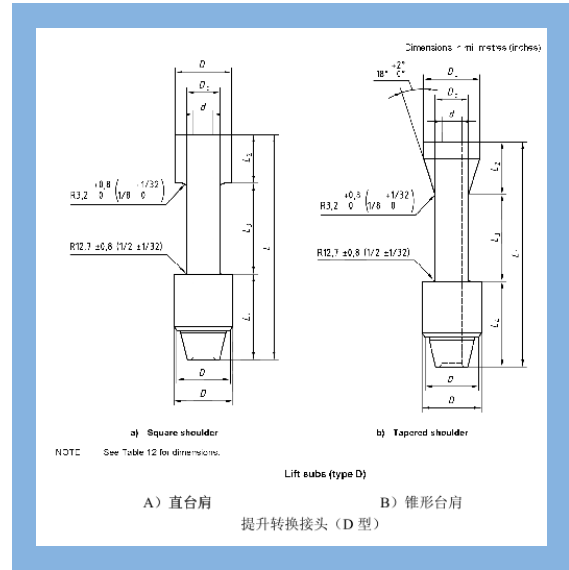


Dimensions of integral weight drill pipe

Specifications	outer diameter C		inner diameter E		Connector				Tube body	
	mm	inch	mm	inch	type	outer diameter A		Inner diameter thread shoulder chamfer DF mm	Size of thickened part	
						mm	inch		central section D mm	End section B mm
I (The length of single piece is 9650mm)										
ZH-JZ66-65/8FH- I	168.3	65/8	114.3	41/ 2	65/8FH	209.6	81/4	195.7	184.2	176.21
ZH-JZ55-51/2FH- I	139.7	51/2	92.1	35/8	51/2FH	177.8	7	170.7	152.4	144.5
ZH-JZ50-NC50- I	127.0	5	76.2	3	NC50	168.3	65/8	154.0	139.7	130.2
ZH-JZ45-NC46- I	114.3	41/2	71.4	213/16	NC46	158.8	61/4	145.3	127.0	119.06
ZH-JZ40-NC40- I	101.6	4	65.1	29/16	NC40	133.4	51/4	127.4	114.3	106.4
ZH-JZ35-NC38- I	88.9	31/2	52.4	21/16	NC38	120.7	43/4	116.3	101.6	98.43
ZH-JZ29-NC31- I	73.03	27/8	50.8	2	NC31	104.8	41/8	100.4	84.1	81.0
II (The length of single piece is 13500mm)										
ZH-JZ50-NC50- II	127.0	5	76.2	3	NC50	168.3	65/8	154.0	139.7	130.2
ZH-JZ45-NC46- II	114.3	41/2	71.4	213/16	NC46	158.8	61/4	145.3	127.0	117.5

16.Lifting sub

The lifting sub is made of high-strength alloy structural steel after heat treatment. Its mechanical properties meet the requirements of drill collar. Thread tyoes meets requirements of API specification. The lifting sub can be divided straight shoulder and inclined shoulder according to the shape upper shoulder.



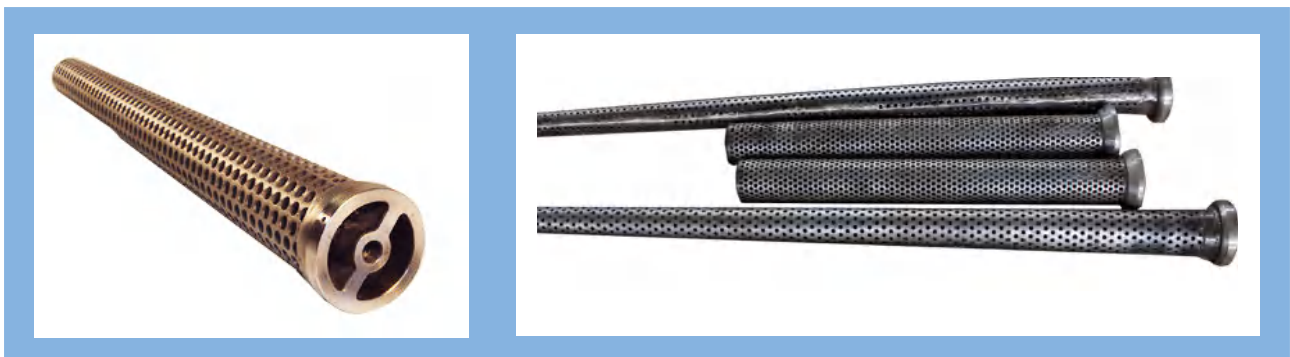
the
into
of

Dimension number of lifting piece diameter at upper end of lifting adapter

Diameter of elevator socket Dp	Diameter of lifting shoulder (Square or round) DL	Total length L1	Upper length L2	Length of elevator socket L3	Length of lower end L4
60.3	85.7	915	102	457	356
73	104.8	915	102	457	356
88.9	120.6	915	102	457	356
101.6	152.4	915	102	457	356
114.3	158.8	915	102	457	356
127	165.1	915	102	457	356
139.7	177.8	915	102	457	356
168.3	203.2	915	102	457	356

17.Drill pipe filter

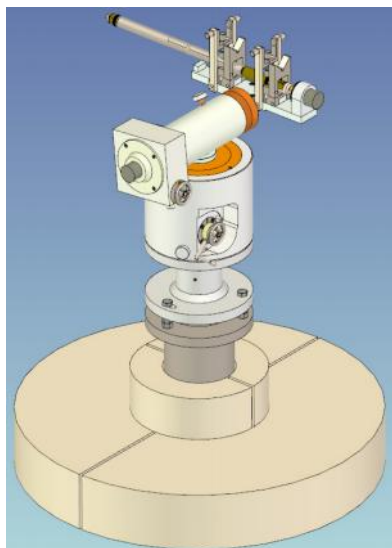
This product uses high-quality stainless steel thick wall tube for special processing. The wall thickness is thicker than that on the market, which greatly improves the service life of the product.



Directional instrument accessories

1.MWD calibration platform

The product is a large-scale intelligent calibration platform, which is mainly used for all kinds of probe tube measurement or calibration, such as MWD, wire probe, electronic multipoint, electronic single point and other kinds of probe inclinometer measurement calibration.



This product collects data through three 18 Bit high-precision sensors, and transmits data to the computer for display through the serial port line, which can quickly and accurately test the probe tube parameters.

Compared with the traditional mechanical calibration table:

- A. It has high precision, and the measured azimuth angle, well deviation angle and tool face angle can reach the accuracy of 0.0013 degree.
- B. The tool surface measurement function is available
- C. Easy to operate, intelligent control, intuitive display, all measurement parameters can be input through the computer interface.
- D. All materials of the calibration table are made of non-magnetic materials. High reliability, compact structure, total weight of 260 kg.
- E. Strong adaptability, can adapt to different diameter, different specifications of inclinometer.

Technical index:

- ◆ Length, width and height: 1000 * 1000 * 1530
- ◆ Weight: 260kg
- ◆ Calibration accuracy: azimuth 0.0013 ° , inclination 0.0013 ° , tool face 0.0013 °
- ◆ Computer interface: USB
- ◆ Input voltage of interface box: AC 220 V
- ◆ Data output port of interface box: serial port 232

2.Pulse generator test bench

The product is a pulse generator test bench, which is mainly used to detect the parameters of the pump, main valve and control valve. After the pump is tested and adjusted to a certain pressure, the pump displacement is up to > 1.45l/min; the control valve is tested to reach the voltage of 9V, the valve is opened to pass the oil, and the voltage of 14V, the valve is closed to block the oil flow; under the set conditions, the time for the main valve to pass the oil to 50ml is between 6-10s, and the time for 1L is between 14-21s.



Technical parameters:

- A. The flow rate is 0-15l / min
- B. pressure 0-6MPa
- C. Pressure difference 0-16bar
- D. Dimensions: l 1080 * W 800 * h 1800 5, tank volume: 40-50l

3.350 650 1200 series pulse generator



4.Rotary valve series pulse generator



5.Geolink pulse generator



6.ODT pulse generator



3.350 650 1200 series pulse generator



4.Rotary valve series pulse generator



5.Geolink pulse generator



6.ODT pulse generator



7. Electronic parts of directional instruments



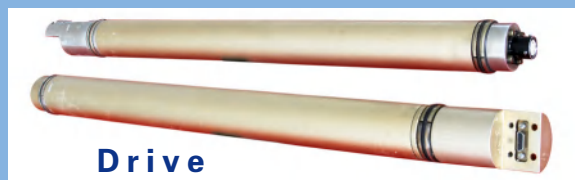
Pressure sensor



Interface box



Si Xian



Drive



Generator



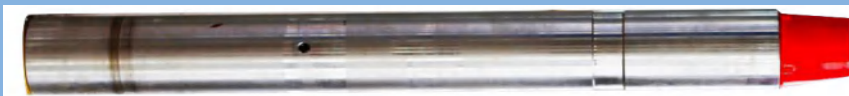
Test box



Directional probe

8. Directional sub

Under the seat key way of a variety of specifications of directional joints, specifications can be designed according to customer needs to change.



9. Halliburton instrument non magnetic suspension sub (350, 650, 1200)

This product is made of high-grade non-magnetic steel, and can be designed according to customers' requirements for Halliburton 350, 650 and 1200 instruments.



10. APS suspension short

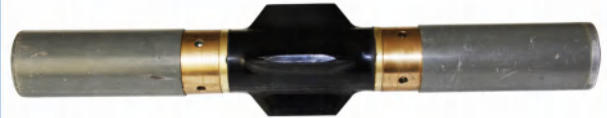
This product is made of high-grade non-magnetic steel, and can be designed according to the requirements of customers for various sizes of APS instruments.



QDT instrument accessories



1.MWD fishing head



2.MWD centralizer



3.MWD centralizer spindle



4.Centralizer ring (rubber wing)



5.Centralizer semicircle retaining ring



6.Signal main valve stem



7.Signal valve barrel



8.Compression cylinder



9.Circuit board framework



10.Lower battery connector



11.Ten core sleeve

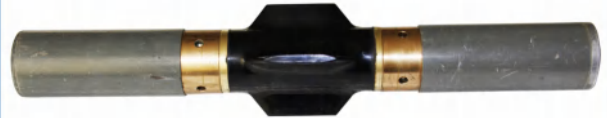


12.Centralizer end

QDT instrument accessories



1.MWD fishing head



2.MWD centralizer



3.MWD centralizer spindle



4.Centralizer ring (rubber wing)



5.Centralizer semicircle retaining ring



6.Signal main valve stem



7.Signal valve barrel



8.Compression cylinder



9.Circuit board framework



10.Lower battery connector



11.Ten core sleeve



12.Centralizer end



13. Hydraulic piston



14. Ten core seat



15. Shock absorption



16. Support ring



17. Current limiting ring



18. Piston cap



19. Main valve core



20. Diversion joint



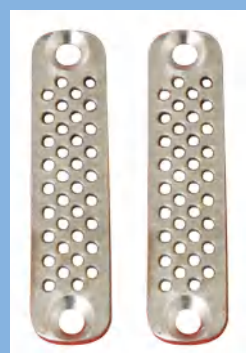
21. Directional key



22. Shock absorber



23. Piston barrel (ceramic)



24. Screen



25.Solenoid valve housing



26.Guide shoe assembly



27.Compensation
membrane
framework



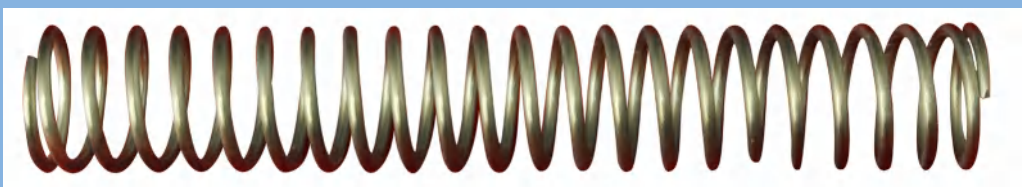
28.Lower key
circulation sleeve



29.Oil filling joint



30.Screen
cylinder



31.Main spring

Halliburton MWD instrument accessories (350, 650, 1200)



1.Spring string



2.Upper bearing



3.Lower bearing



4.Mushroom head



5.Nasal cap



6.Hub



7.Stator



8.Oil sac



9.Positioning sleeve



**10.Current limiting
ring seat**



11.Fishneck lock nut



12.Fluid diverte



13.Rotor



14.Stator support tube



15.Septal ring



16.Flushing pipe



17.Lower deflector



18.Bottom ring



19.Fish neck



**Quality
Integrity
Innovation**

SHANGHAI PETROGEARS CO., LTD

Address: 1157 Hongqiao Road, Changning District, Shanghai

Tel: Shawn Zhu +86 13262294796

EMAIL: shawnwzhu@163.com