

PL47-1801

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KERUI OILFIELD DRILLING TOOLS AND EQUIPMENT



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1. Manual Tongs

Manual Tongs are necessary tools applied to make up and break out pipes. Changing lug jaws and latch steps can adjust different handling sizes of the tongs. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.

1.1 Manual Tongs Type B (3-3/8"~12-3/4"-75)

BJ Type "B" Style Drill Pipe & Casing Tong



Main Technical Parameters:

No. of Latch Lug Jaw	Latch Step	Size Range(in)	Rated Torque (kN·m)
5a	1	3.3/8; 3.3/4; 4.1/8	55
	2	4.1/8; 4.1/4; 4.1/2; 4.5/8; 4.3/4; 5; 5.1/8; 5.1/4	75
5b	1	4.1/4; 4.1/2; 4.5/8; 4.3/4; 5; 5.1/8; 5.1/4	75
	2	5; 5.1/8; 5.1/4; 5.3/8; 5.1/2; 5.9/16; 5.5/8; 5.3/4	75
	3	6; 6.1/8; 6.1/4; 6.3/8; 6.1/2; 6.3/4	75
5b1	1	5.1/4; 5.3/8; 5.1/2; 5.9/16; 5.5/8; 5.3/4	75
	2	6; 6.1/8; 6.1/4; 6.3/8; 6.1/2; 6.5/8	75
	3	6.3/4; 7; 7.3/8; 8	55
5c	1	6.5/8; 6.3/4; 7; 7.1/16; 7.1/4; 7.3/8	75
	2	7.3/8; 7.5/8; 7.3/4; 8	75
	3	8.1/2; 8.5/8	55
5d	1	8.1/2; 8.5/8; 9.1/2; 9.5/8	55
	2	10.5/8; 10.3/4	55
5e	1	11.3/4	55
	2	12.3/4	55

1.2 Manual Tongs Type SB (3-1/2”~13-3/8”-75)

BJ Type HT55 Manual Tong



Main Technical Parameters:

No. of Latch Lug Jaw	Latch Step	Size Range(in)	Rated Torque(kN·m)	
1#	1	3.1/2; 3.3/4; 4.1/8	75	
	2	4.1/8; 4.1/4; 4.1/2; 4.5/8; 4.3/4; 5		
2#	1	4.1/2; 4.1/2; 4.5/8; 4.3/4; 5; 5.1/8; 5.1/4		
	2	5; 5.1/8; 5.1/4; 5.3/8; 5.1/2; 5.9/16; 5.5/8; 5.3/4		
	3	6; 6.1/8; 6.1/4; 6.3/8; 6.1/2; 6.3/4		
3#	1	6.5/8; 6.3/4; 7; 7.1/16; 7.1/4		55
	2	7.3/8; 7.5/8; 7.3/4; 8		
	3	8.1/2; 8.5/8; 9		
4#	1	9; 9.1/2; 7; 9.5/8	40	
	2	10.5/8; 10.3/4		
5#	1	11.3/4		
6#	1	12.3/4; 13		
7#	1	13.3/8		

1.3 Manual Tongs Type DB (3-1/2" ~17" –90)

BJ Type "DB" Style Drill Pipe & Casing Tong



Main Technical Parameters:

No. of Latch Lug Jaw	No. of Hinge Pin Hole	Size Range (in)	Rated Torque (kN·m)
1#	I	3.1/2~4.1/2;4.1/2~6	90
	II	5.3/4~7	
	III	6.5/8~8.1/4	
2#	I	8~9.5/8	55
	II	10.5/8~11.1/4	
3#	I	11.3/4~12.3/4	55
	II	13.3/8~14.3/8	
4#	II	16~17	

1.4 Manual Tongs Type SDD (4"~17"-135)

BJ Type "SDD" Drill Pipe and Casing Tong



Main Technical Parameters

No. of Latch Lug Jaw	No. of Hinge Pin Hole	Latch Step	Size Range (in)	Rated Torque (kN·m)
1#	I	1	4~5.1/2	135
		2	5.1/2~5.3/4	
	II	1	5.1/2~6.5/8	
		2	6.1/2~7.1/4	
	III	1	6.5/8~7.5/8	
		2	7.3/4~8.1/2	
2#	I	1	8.1/2~9	100
		2	9.1/2~10.3/4	
3#	I	1	10.3/4~12	
		1	12~12.3/4	
4#	II	1	13.3/8~14	
		2	15	
5#	II	1	15.3/4	
		1	16	
		2	17	80

1.5 Manual Tongs Type LF (2-3/8"~7"-22)

BJ Type "LF" Drill Pipe and Casing Tong



Main Technical Parameters

No. of Latch Lug Jaw	Latch Step	Size Range (in)	Rated Torque (kN·m)
1#	1	2.3/8~2.7/8	22
	2	2.7/8~3.1/2	
2#	1	3.1/2~4.1/4	
	2	4.1/4~5	
3#	1	4.3/4~5.1/2	
	2	5.1/2~6.1/4	
4#	1	5.3/4~6.3/8	
	2	6.3/8~7	

1.6 Manual Tongs Type C (2-3/8”~10-3/4”-48)

BJ Type “C” Style Drill Pipe and Casing Tong



Main Technical Parameters

No. of Latch Lug Jaw	No. of Short Jaw	No. of Hinge Jaw	Size Range (in)	Rated Torque (kN·m)
1#	1#	-	2.3/8~3.1/2	48
2#	1#	-	2.7/8~4.1/4	
3#	1#	-	3.1/2~5.1/4	
4#	1#	-	5.1/2~7	
5#	2#	1#	7~8.5/8	
6#	2#	2#	9.5/8~10.3/4	

1.7 Workover Tongs (2-3/8"~10-3/4-35)**Main Technical Parameters:**

No. of Latch Lug Jaw	Size Range (in)	Rated Torque (kN·m)
1#	2.3/8~4.1/2	35
2#	4.1/2~6.1/2	
3#	6.1/2~8.5/8	
4#	9.5/8~10.3/4	

1.8 Manual Tongs Type WWC (2-3/8"~10-3/4"-27)

Web Wilson Type C Style Tongs



Main Technical Parameters:

No. of Latch Lug Jaw	Size Range (in)	Rated Torque (kN·m)
1#	2.3/8~3.1/2	48
2#	2.7/8~4.1/4	
3#	4~5.3/4	
4#	5.3/4~7	35
5#	7.1/4~8.5/8	
6#	9.5/8~10.3/4	

1.9 Manual Tongs Type WWB (2-3/8"~10-3/4"-48)

Web Wilson Type B Style Tongs



Main Technical Parameters:

No. of Latch Lug Jaw	Size Range (in)	Rated Torque (kN·m)
1#	2.3/8~3.3/4	48
2#	3.1/2~4.5/8	
3#	4.1/2~5.3/4	
4#	5.1/4~7.1/4	
5#	6.7/8~8.5/8	
6#	9~10.3/4	35

1.10 Manual Tongs Type AAX (2-7/8”~13-3/8”-75)

Web Wilson Type AAX Style Tongs



Main Technical Parameters:

No. of Latch Lug Jaw	Size Range (in)	Rated Torque (kN·m)
1#	2.3/8~3.3/4	75
2#	3.1/2~4.1/2	
3#	4~5.1/4	
4#	5~7.1/4	
5#	6.7/8~8.5/8	
6#	9~10.3/4	40
7#	10.3/4~11.3/4	
8#	13.3/8	

1.11 Casing Tongs (13-3/8"-8)



Main Technical Parameters

No. of Latch Lug Jaw	Size Range (in)	Rated Torque (kN·m)
4#	13.3/8	8

1.12 Extended Casing Tongs



Main Technical Parameters

Model	No. of Hinge Jaw	Size Range (in)	Rated Torque (kN·m)
Q13.3/8~25.1/2-35	9 8	13.3/8~14.1/2	35
	8 7	14.1/2~16	
	8 9 9	16~17.1/2	
	8 9 7	17.1/2~19	
	7 8 7	19~20	
	9 8 9 7	20~21.1/2	
	9 7 8 7	21.1/2~23	
	9 9 8 7 7	24~25.1/2	
	9 8 7 7 7	25.1/2~27	
	8 7 7 7 7	27~28.1/2	
9 9 8 7 7 8	28.1/2~30		
9 7 7 7 7 8	30~31.5/8		
Q25.1/2~36-55	9 8 7 7 7	25.1/2~27	55
	8 7 7 7 7	27~28.1/2	
	9 9 7 7 7 8	28.1/2~30	
	9 7 7 7 7 8	30~31.5/8	
	8 9 8 9 7 7 7	31.1/2~33	
	7 9 8 9 9 7 8 9	33~34.1/2	
	8 7 7 9 9 8 8 8	34.1/2~36	

1.13 Torque Sensor



Main Technical Parameters

Model	Description	Torque (kN·m)			
NJY	Torque Sensor	35	48	75	100
NJY-2	Explosion-proof Torque Sensor	35	48	75	100

2. Elevators

2.1 Elevators Type DD

Model DD center latch elevators with square shoulder are suitable for handling drill collars, casings and tubing. The load ranges from 150 tons to 350 tons and the size ranges from 2.3/8 to 5.1/2. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters

Model	Size(in)			Rated Capacity (short tons)
	DP	Casing	Tubing	
DD-100	2.3/8~5.1/2	4.1/2~5.1/2	2.3/8~4.1/2	150
DD-250	2.3/8~5.1/2	4.1/2~5.1/2	2.3/8~4.1/2	250
DD-350	2.3/8~5.1/2	4.1/2~5.1/2	2.3/8~4.1/2	350

2.2 Elevators Type DDZ

Varco BJ "G" type elevators

DDZ series elevators are center latch elevators with 18 degree taper shoulder, applied in handling the drill pipes and drilling tools, etc. The load ranges from 100 tons to 750 tons and the size ranges from 2.3/8 to 6.5/8. The products shall be designed and manufactured according to the requirements in API Spec 8C Specification for drilling and production hoisting equipment.

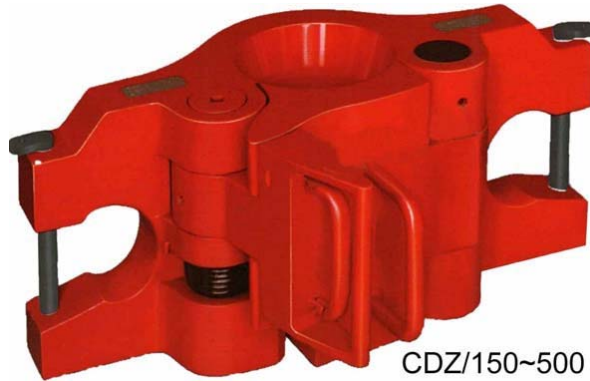


Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)	Remark
DDZ-100	2.3/8~5	100	MG
DDZ-150	2.3/8~5.1/2	150	RG
DDZ-250	2.3/8~5.1/2	250	MGG
DDZ-350	3.1/2~5.7/8	350	GG
DDZ-350TD	3.1/2~5.7/8	350	For Top Drive
DDZ-500	3.1/2~6.5/8	500	HGG
DDZ-500TD	3.1/2~6.5/8	500	For Top Drive
DDZ-750	4~6.5/8	750	-

2.3 Elevators Type CDZ

CDZ drill pipe elevators are mainly used in the handling and hoisting drill pipes with 18 degree taper and tools in oil drilling, natural gas drilling and well construction. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



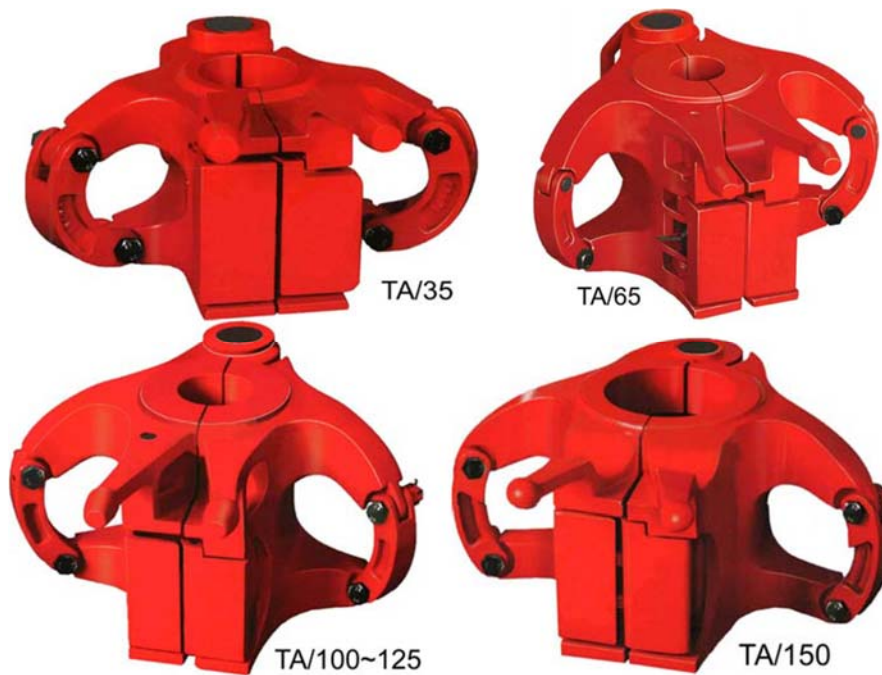
Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
CDZ-150	2.3/8~5.1/2	150
CDZ-250	2.3/8~5.1/2	250
CDZ-350	2.7/8~5.1/2	350
CDZ-500	3.1/2~5.1/2	500

2.4 Elevators Type TA

Varco BJ "A" series elevators

Model TA center latch elevators with square shoulder are suitable for handling drill pipes, drill collars, casings and tubing. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Size(in)			Casing	Rated Capacity(short tons)
	DC	Tubing			
		NU	EU		
TA-35	2.7/8~3.1/8	1.05~2.7/8	1.05~2.7/8	-	35
TA-65	2.7/8~3.1/8	1.66~2.7/8	1.66~2.7/8	-	65
TA-100	3.1/8~5.1/4	2.3/8~5	2.3/8~4.1/2	-	100
TA-125	3.1/8~5.1/4	2.3/8~5	2.3/8~4.1/2	-	125
TA-150	4.1/8~11.1/4	-	-	4.1/2~10.3/4	150

2.5 Elevators Type CD

Model CD side door elevators with square shoulder are suitable for handling tubing, casings, drill pipes and drill collars in oil drilling, natural gas drilling and well construction. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
CD-100	2.3/8~5.1/2	100
CD-150	2.3/8~14	150
CD-200	2.3/8~14	200
CD-250	2.3/8~20	250
CD-350	4.1/2~20	350
CD-500	4.1/2~14	500
CD-750	4.1/2~9.7/8	750

2.6 Elevators Type SX



Model SX side door elevators with square shoulder are suitable for handling casings in oil drilling, natural gas drilling and well construction. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.

Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
SX7-16	7	350-500
	9.5/8	
	9.7/8	
	10.3/4	
	11.3/4	
	12.3/4	
	12.3/4	
	12.7/8	
	13.3/8	
	13.5/8	
SX18.5/8-20	14	
	16	
	18.5/8	
	20	

2.7 Elevators Type SLX

Model SLX side door elevators with square shoulder are suitable for handling tubings, casings, drill pipes and drill collars in oil drilling, natural gas drilling and well construction. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.

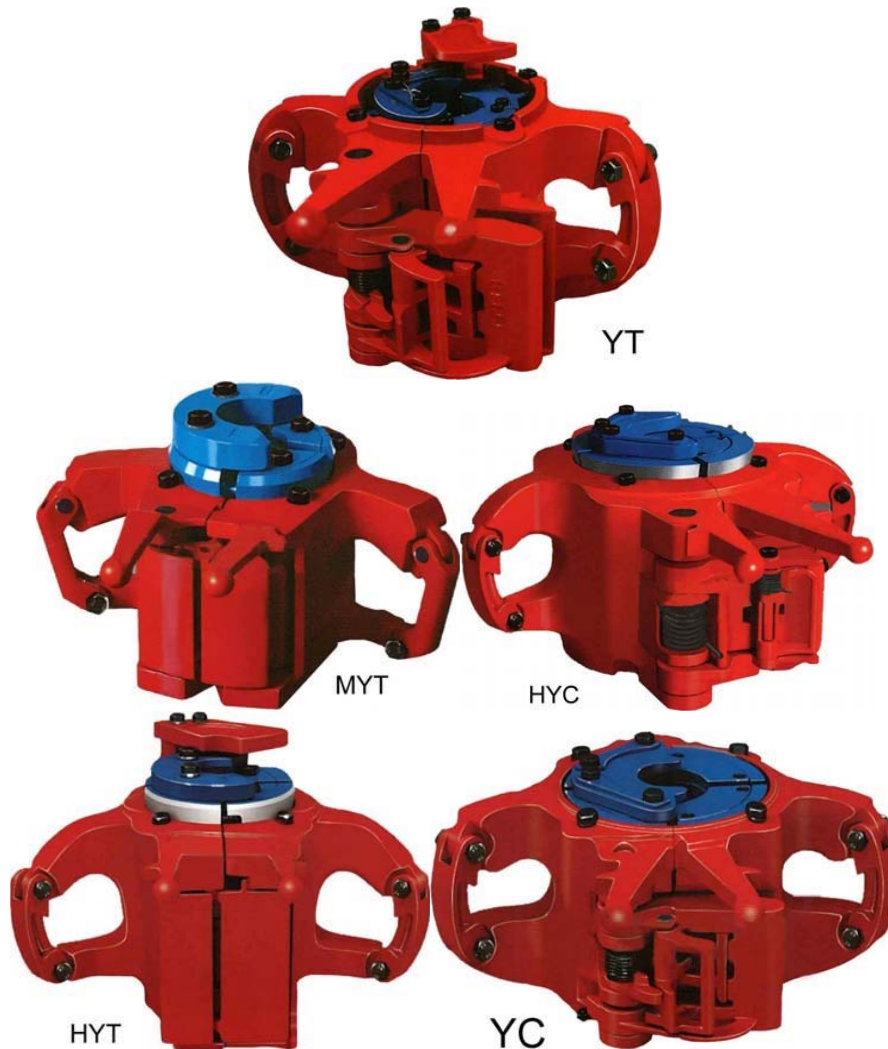


Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
SLX-65	3.1/2~14.1/4	65
SLX-100	2.3/8~5.3/4	100
SLX-150	5.1/2~13.5/8	150
SLX-250	5.1/2~30	250
SLX-350	4.1/2~14	350

2.8 Y Series Slip Type Elevators

Varco BJ "Y" series elevators



The slip type elevators are indispensable tools in handling and hoisting drill pipes, casings and tubing in oil drilling and well tripping operation. It's especially suitable for hoisting integrated tubing sub, integral joint casing and electric submersible pump column. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.

Main Technical Parameters:

Model	Size (in)	Rated Capacity (kN)
HYT	2.3/8~3.1/2	1350
YT	1.315~3.1/2	675
MYT	1.315~2.7/8	360
LYT	1.05~2.1/16	180
HYC	3.1/2~7.5/8	1800
MYC	3.1/2~7	1125
YC	3.1/2~7	675

2.9 Single Joint Elevators Type SJ (Auxiliary Elevators)

SJ series auxiliary elevators are mainly used in handling single casings or tubing in oil drilling natural gas drilling and cementing operation. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Size (in)	Rated Capacity (kn)
2.3/8~2.7/8	45
3.1/2~4.3/4	
5~5.3/4	
6~7.3/4	
8.5/8~10.3/4	
11.3/4~13.3/8	
13.5/8~14	
16~20	60
21.1/2~24.1/2	
26~28	
30~36	

2.10 Single Joint Elevators Type SP (Auxiliary Elevators)

SP series auxiliary elevators are mainly used in handling single tubing, casings and drill pipes with taper shoulder. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
SP5°	2.3/8~10.3/4	
SP12°	2.3/8~4.1/2	5
SP18°	2.7/8~6.5/8	

2.11 Single Joint Elevators Type SJX (Auxiliary Elevators)

SJX series auxiliary elevator are hoisting tools for handling single pipes or working together with the professional tools CRT to move the tubular from gate to well center. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.

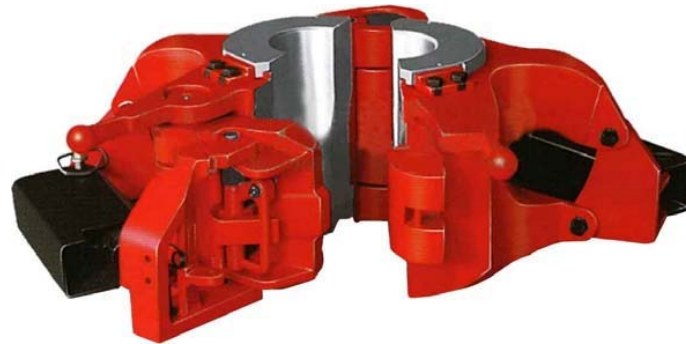


Main Technical Parameters:

Model	Size (in)	Rated Capacity (short tons)
SJX-5	2.3/8~4.1/2	5
SJX-5	4.1/2~7	
SJX-5	7~10	
SJX-5	10~14	

2.12 Hydraulic Elevators Type DDZH

Hydraulic elevator type DDZH is a center latch elevator. Through changing the bushing, it can handle drill pipes, drill collars, casings and tubing. By using the hydraulic-controlled system, it can make the operation more convenient, reduce the workers' labor intensity effectively and improve work efficiency. It can also realize remote controlling and make the using safer and more reliable. The products shall be designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Tubular & Size (in)				Rated Capacity (short tons)
	DP With 18° taper	Casing	DC	Tubing	
DDZH-250	2.3/8~5	4.1/2~5	3.1/8~5.1/4	2.3/8~4.1/2	250
DDZH-350	2.3/8~6.5/8	4.1/2~7	3.1/8~6.3/4	2.3/8~5.1/2	350
DDZH-500	2.3/8~6.5/8	4.1/2~7	3.1/2~6.3/4	/	500

2.13 Hydraulic Elevators Type CDZH

Hydraulic elevator type CDZH is a side door elevator with double-valve structure. Through changing the bushing, it can handle drill pipes, drill collars, casings and tubing. By using the hydraulic-controlled system, it can make the operation more convenient, reduce the workers' labor intensity effectively and improve the work efficiency. It can also realize remote controlling and make the using safer and more reliable. The products shall be designed and manufactured according to the requirements in API Spec 8C Specification for drilling and production hoisting equipment.

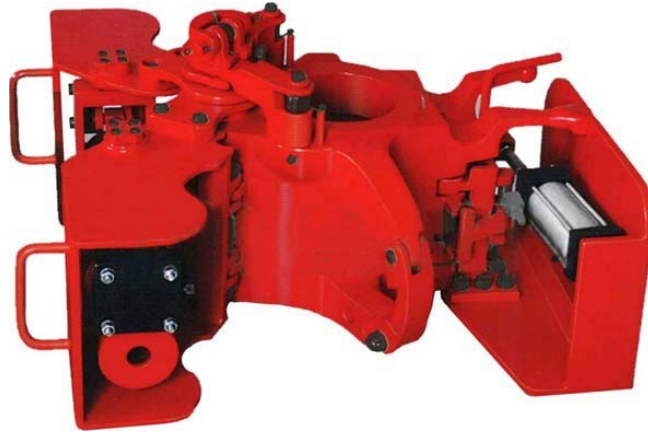


Main Technical Parameters:

Model	Tubular & Size (in)				Rated Capacity (short tons)
	DP With 18° taper	Casing	DC	Tubing	
CDZH-500	3.1/2~6.5/8	4.1/2~9.5/8	4.3/4~9.3/4	2.3/8~4.1/2	500

2.14 Air-operated Elevators

Air operated Elevators are conventional elevators to which power actuation has been added. This feature permits remote opening and closing of the elevators. It can meet normal working requirements in oil drilling & workover and also reduce workload. They are designed and manufactured according to the requirements in API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Applicable diameter of tubular (in)	Rated Capacity (short tons)
DD-150	4.1/8~8.5/8	150
DDZ-500	3.1/2~6.5/8	500

1.15 DC-type Drill Collar Dolly Link Adapter

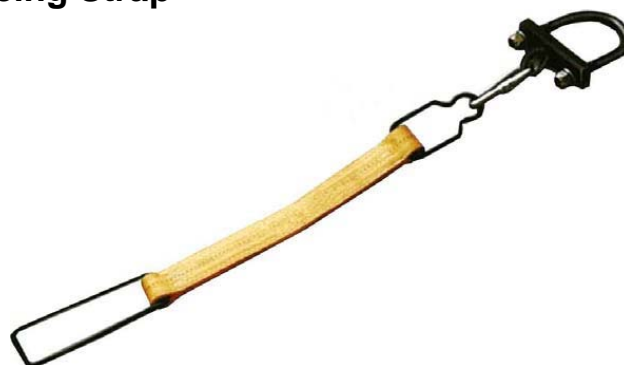
DC-type Drill Collar Raiser is mainly applied for holding and lifting drill collars in petroleum drilling, natural gas drilling and workover operation. This product is designed and manufactured according to API Spec 8C Specification for Drilling and Production Hoisting Equipment. The structure of this drill collar dolly link adapter is logical, safe and reliable, which is safer than traditional device and extends service life for tools. It is a perfect device for drilling and workover operation.



Main Technical Parameters:

Model	DC
Max. Working Load	150 short tons
Spec. of Raising Elevator	3.1/2" 4.1/2" or 5" DDZ Elevators

2.16 Elevator Balancing Strap



3. Links

Links are forged with high-quality alloy steel. They are designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Weldless Links



Perfection Links

Main Technical Parameters:

Type	Specification	Rated Capacity (short tons)	Length (mm)
Weldless Links	DH-150	50	1100
	DH-150	75	1500
	DH-150	150	1800
	DH-250	250	2700
	DH-350	350	3300
	DH-500	450	3600
	DH-750	750	3660
Perfection Links	SH-75	75	1500
	SH-100	100	1500
	SH-150	150	1700

Note: All other length upon requests.

4. Slips

4.1 Drill Pipe Slips Type SD

Drill Pipe Slips Type SD can accommodate drill pipes from 2-3/8 to 7 inch (60.3 to 177.8mm). They are classified as type Short (SDS), Medium (SDML), Extra Long (SDXL) according to gripping length. SDS slips are designed for shallow hole drilling, SDML slips are the perfect choice for all medium depth drilling and SDXL slips are designed for deep drilling. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Type	Size of Slip body, in	O.D. of drill pipe & casing		Corresponding inserts		Weight (kg)
		in	mm	Code	Quantity	
SDS	3½	2¾	60.3	2160	24	71
		2⅞	73	2161	24	68
		3½	88.9	2162	24	66
	4½	3½	88.9	2163	36	83
		4	101.6	2164	36	80
		4½	114.3	2165	36	76
SDML	3½	2¾	60.3	2160	30	98
		2⅞	73	2161	30	95
		3½	88.9	2162	30	92
	4½	3½	88.9	2163	45	105
		4	101.6	2164	45	101
		4½	114.3	2165	45	96
	5	4	101.6	2168	45	103.5
		4½	114.3	2166	45	100
		5	127	2167	45	95
5½	4½	114.3	2168	45	101	

		5	127	2169	45	97
		5½	139.7	2170	45	92
SDXL	4½	3½	88.9	2163	54	118
		4	101.6	2164	54	114
		4½	114.3	2165	54	108
	5	4	101.6	2168	54	116
		4½	114.3	2166	54	112
		5	127	2167	54	106
	5½	4½	114.3	2168	54	116
		5	127	2169	54	111
		5½	139.7	2170	54	105

4.2 Flake Rotary Slips Type W

Flake Rotary Slips have three segments. They can handle various O.D. drill pipes, drill collars and casings by changing inserts or insert bowls. There are two types of such slips: W3 1/2-5/100 and W5-7/100. The products are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model	Size of Tubulars in	Max. Load (kN)
W3-1/2"-5/100	2-7/8	1000
	3-1/2	
	4	
	4-1/8	
	4-1/2	
	4-3/4	
W5"-7/100	5	1000
	5-1/2	
	5-9/16	
	5-3/4	
	6-1/8	
	6-1/4	
	6-1/2	
	6-5/8	
	7	

4.3 Drill Collar Slips Type B

Woolley B Style Drill Pipe Slips

There are three models of Drill pipe slips Type B: B short, B long and X long. The unique torque transmitting design can directly transfer all torque to the slips, thus avoids the abrasion and prolongs their service life. The products are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model	Size of slip bodies		4.1/2					5.1/2				Depth of well (ft.)
			2.3/8	2.7/8	3.1/2	4	4.1/2	-	-	-	-	
B Short	DP	In	2.3/8	2.7/8	3.1/2	4	4.1/2	-	-	-	-	8000
	OD	mm	60.3	73.0	88.9	101.6	114.3	-	-	-	-	
B Long	DP	In	2.3/8	2.7/8	3.1/2	4	4.1/2	4	4.1/2	5	5.1/2	18000
	OD	mm	60.3	73.0	88.9	101.6	114.3	101.6	114.3	127	139.7	

Model	Size of slip bodies		4.1/2					5				Depth of well (ft.)
			-	-	3.1/2	4	4.1/2	4	4.1/2	5	-	
X Long	DP	In	-	-	3.1/2	4	4.1/2	4	4.1/2	5	-	28500
	OD	mm	-	-	88.9	101.6	114.3	101.6	114.3	127	-	

4.4 Drill Collar Slips Type DU

Baash-Ross DU Style Drill Pipe Slips

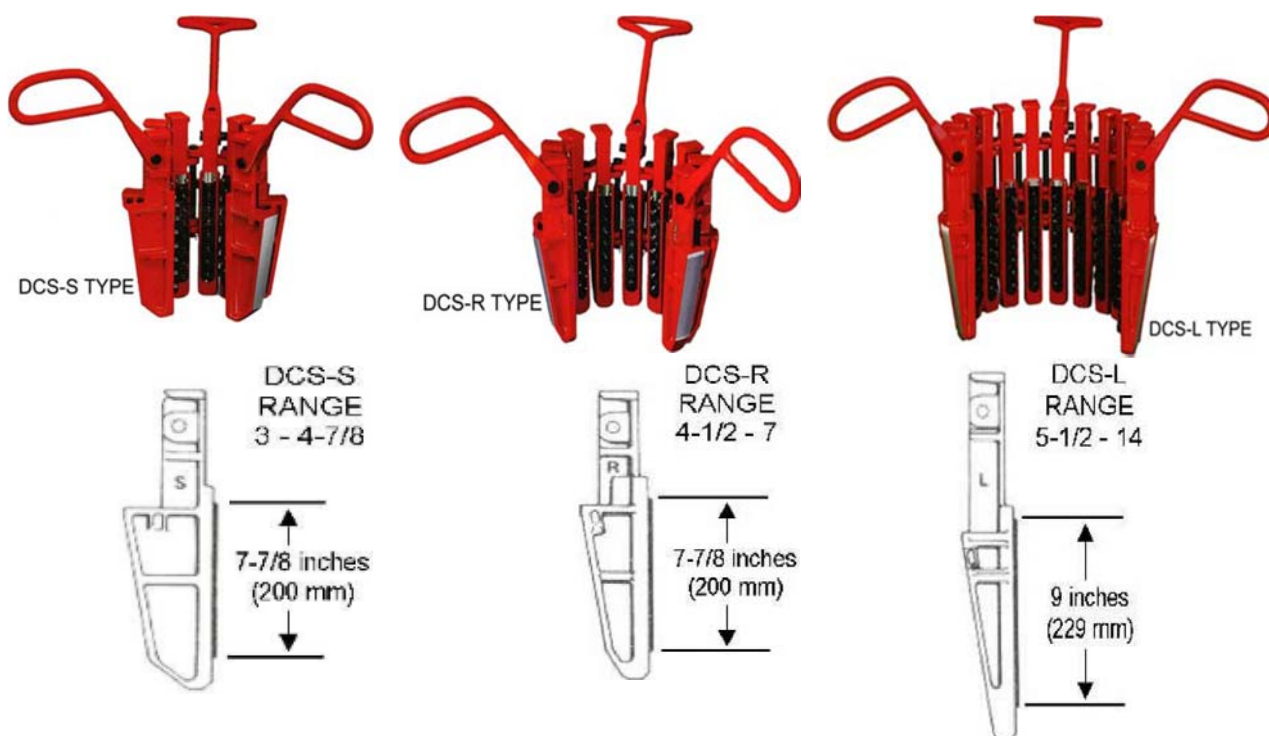
There are three types of DU series rotary slips: DU, DUL and SDU, They are with large handing range and light weight. SDU slips have larger contacting areas on the taper and higher resistance strength. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model	Size of slip bodies	4.1/2			5.1/2			7							
		DP	In	OD	DP	In	OD	DP	In	OD					
DU	DP	2.3/8	2.7/8	3.1/2	4	3.1/2	4	4.1/2	5	5.1/2	4.1/2	5	5.1/2	6.5/8	7
	OD	60.3	73.0	88.9	101.6	114.3	101.6	114.3	127	139.7	114.3	127	139.7	168.3	177.8
DUL	DP	2.3/8	2.7/8	3.1/2	4	3.1/2	4	4.1/2	5	5.1/2	4.1/2	5	5.1/2	6.5/8	7
	OD	60.3	73.0	88.9	101.6	114.3	101.6	114.3	127	139.7	114.3	127	139.7	168.3	177.8
SDU	DP	-	-	-	-	4.1/2	4	4.1/2	5	5.1/2	4.1/2	5	5.1/2	6.5/8	7
	OD	-	-	-	-	114.3	101.6	114.3	127	139.7	114.3	127	139.7	168.3	177.8

4.5 Drill Collar Slips Type DCS

The type DCS drill collar slips are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment. There are three types of DCS drilling collar slips: S, R, and L. They can accommodate drill collars from 3in (76.2mm) to 14in (355.6mm) O.D. The handing sizes can be adjusted by changing the quantity of inserts or slip body.



Type	DCS-S		DCS-R	
OD	in	3-4	4-4.7/8	4.1/2-6
	mm	76.2-101.6	101.6-123.8	114.3-152.4
Circular Buttons P/N		2628-49	2620-49	2628-63
Total number of segments		7	7	9
Weight	kg	51	47	54
	Lb.	112	103	120
Use in insert Bowl number		API or No.3		

Type	DCS-L						
OD	in	6.3/4-8.1/4	8-9.1/2	8.1/2-10	9.1/4-11.1/4*	11-12.3/4*	12-14*
	mm	171.4-209.6	203.2-241.3	215.9-254	235-285.7	279.4-323.9	304.8-355.6
Circular Buttons P/N		2630-88	2630-96	2627-104	2630-112	2625-128	2630-136
Total number of segments		11	12	13	14	16	17
Weight	kg	70	78	84	90	90.5	94
	Lb.	154	173	185	198	200	207
Use in insert Bowl number		API or No.3		No.2	No.1		

Note:

- *This size is furnished with 4 handles;
- Once the external diameter of the drill collar slips is smaller than the minimum holding range of it, after worn out, please use the size in upper line in the above mentioned list.

4.6 Drill Collar Slips Type A

Drill Collar Slips Type A is multi-segments slips. They can accommodate the changes of outer diameter after abrasion of drill collar. They are with light weight, large handling scale and reliable quality. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model		Drill Collar Slips Type A								
DC OD	in	3~4.1/2	3.1/4~4.3/4	4.1/4~5.3/4	5.1/2~7	6.3/4~8.1/4	8.1/4~10	10 ~ 11.3/4	~	
	mm	76.2- 114.3	82.55- 120.65	17.95- 146.05	139.7- 177.8	171.5-209.55	209.55- 254	254- 298.45		
Use in insert bowl No.		API or No.3					No.2			

4.7 Drill Collar Slips Type WT

Drill Collar Slips Type WT can accommodate drill collars from 4 1/2in to 9 1/2in O.D. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model		WT4 1/2-6	WT5 1/2-7	WT6 3/4-8 1/4	WT8-9 1/2
DC OD	(in)	4 1/2-6	5 1/2-7	6 3/4-8 1/4	8-9 1/2
	(mm)	114.3-152.4	139.7-177.8	171.4-209.6	203.2-241.3
Weight	(kg)	49	46	42	39
	(lb.)	108	101	92	96
Use in insert bowl No.		API or No.3			
Max. load		40 short tons			

4.8 Casing Slips Type UC-3

Baash-Ross UC Style Casing Slips

Casing Slips Type UC-3 are multi-segments slips with of 3in/ ft. on the diameter taper slips (except size 8 5/8). Every segment of one slip is forced equally while working. Thus the casings could keep a better shape. They should work together with spiders and insert bowls with same taper. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Casing OD in	Specification of body	Total number of segments	Total number of inserts	Taper	Rated capacity (short tons)
7 7 5/8 8 5/8	8 5/8	10	10	1:3	250
9 9 5/8 10 3/4	10 3/4	10	10		
11 3/4 12 3/4 13 3/8	13 3/8	12	12		
16 18 5/8 20 22 1/2 24 26 30 36 42	As same as 13 3/8	14 17 17 19 19 21 24 28 32	14 17 17 19 19 21 24 28 32	1:4	

4.9 Casing Slips Type CMS

Casing Slips Type CMS can accommodate casing from 4 1/2 to 30in. The products are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.

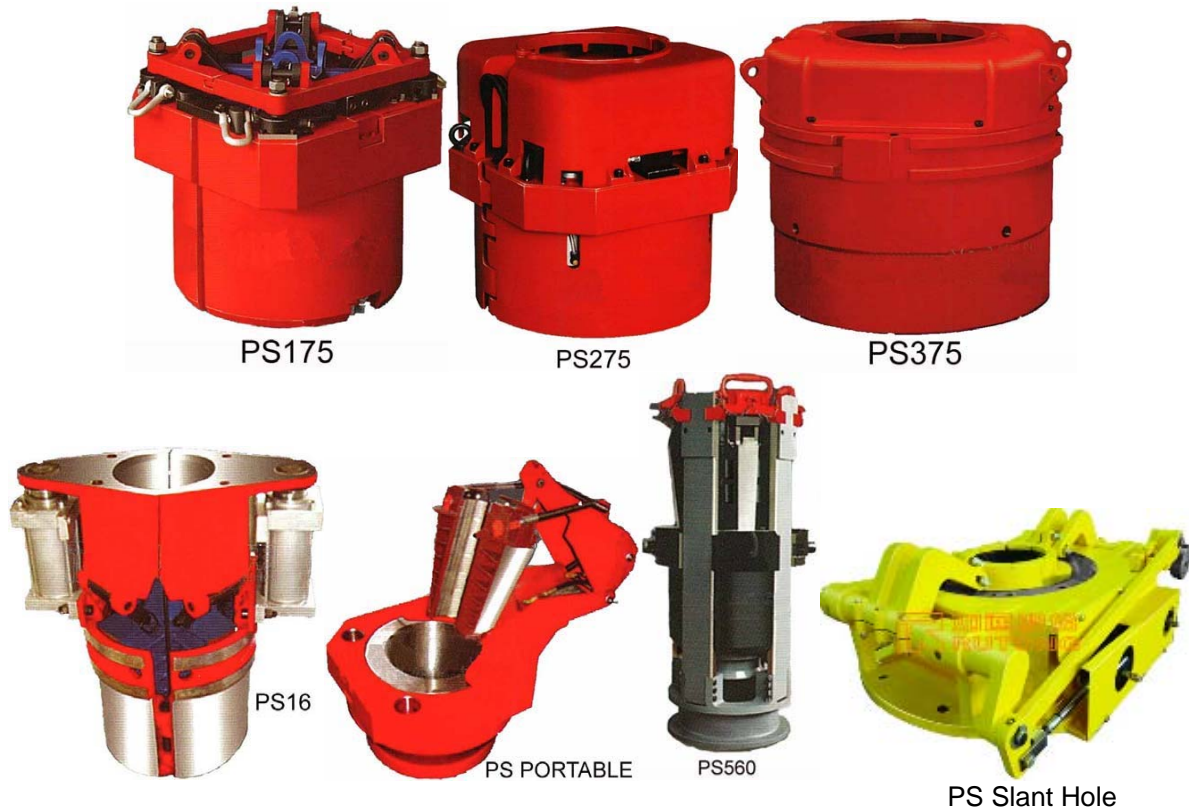


Casing OD	In	4 1/2~5	5 1/2~6	6 5/8	7	7 5/8	8 5/8	9 5/8	10 3/4
	mm	114.3-127	139.7-152.4	168.3	177.8	193.7	219.1	244.5	273.1
Weight	kg	76	71	89	83.5	75	82	87	95
	Lb.	168	157	196	184	166	181	192	209
Total No. of segments		9	9	12	12	12	13	14	15
Use in insert bowl No.		API or No.3						API No.2	

Casing OD	In	11 3/4	13 3/8	16	18 5/8	20	24	26	30
	mm	298.5	339.7	406.4	166.5	174	609.6	660.4	762
Weight	kg	118	117	140	166.5	174	201	220	248
	Lb.	260	258	308	367	383	443	486	546
Total No. of segments		17	18	21	25	26	30	33	37
Use in insert bowl No.		API No.1		Match with relevant casing bushing					

4.10 Pneumatic Slips

PS series pneumatic slips are pneumatic tools which are suitable for all kinds of rotary tables for hoisting drill pipes and handing casings, They are mechanized operating with strong hoisting force and large working range. They are easy to operate and dependable enough, besides, they can not only reduce the work load but also improve the work efficiency. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model	Rotary table size (in)	Applicable diameter of tubular	Rated capacity (short tons)	Working pressure (MPa)	Max. pressure (MPa)
PS175	17 1/2	2 3/8~5 3/4	150	0.6~0.8	1
PS205	20 1/2	2 3/8~5 3/4	250	0.6~0.8	1
PS275	27 1/2	2 3/8~9 7/8	350	0.6~0.8	1
PS375	37 1/2	2 3/8~14	500	0.6~0.8	1
PS16	27 1/2,37 1/2,49 1/2	3 1/2~7 3/4	500	0.6~0.8	1
PS Portable	23, 27 1/2,37 1/2,49 1/2 Pin drive	2 3/8~5 1/2	250	0.6~0.8	1
PS Slant Hole	For slant hole drilling rig	2 7/8~13 3/8	250	0.6~0.8	1
PS560	560mm through hole	1.9~7	350	0.6~0.8	1

5. Safety Clamps

5.1 Safety Clamps Type C and T

Baash-Ross C & T Style Safety Clamp

The safety clamps are designed for coupling and uncoupling in oil natural gas drilling operation. It can prevent the drill tools from slip-ping down .when changing the working range. It is only necessary to adjust the No. of chain links. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



WA-C



WA-T

Model	Size range (in)	Total number of links
WA-C	3 3/4~4 5/8	7
	4 1/2~5 5/8	8
	5 1/2~6 5/8	9
	6 1/2~7 5/8	10
	7 1/2~8 5/8	11
	8 1/2~9 5/8	12
	9 1/2~10 5/8	13
	10 1/2~11 5/8	14
	11 1/2~12 5/8	15
	12 1/2~13 5/8	16
WA-T	1 1/8~2	4
	2 1/8~3 1/4	5
	3 1/2~4 1/2	6

5.2 Safety Clamp Type MP

Safety Clamp Type MP are necessary tools for handling drill collars, flush joint pipes and small shoulder pipes. They could adjust pipes of different sizes by changing the quantity of chain links. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Model	Size range (in)	Total number of links
MP-S	2 7/8~4 1/8	7
	4~5	8
MP-R	4 1/2~5 5/8	7
	5 1/2~7	8
	6 3/4~8 1/4	9
	8~9 1/4	10
	9 1/4~10 1/2	11
MP-M	10 1/2~11 1/2	12
	11 1/2~12 1/2	13
	12 1/2~13 5/8	14
	13 5/8~14 3/4	15
	14 3/4~15 7/8	16
MP-L	15 7/8~17	17
	17~18 1/8	18
	18 1/8~19 3/8	19
MP-XL	19 3/8~20 3/8	19
	20 3/8~21 1/2	20
	21~22 5/8	21
	22 5/8~23 3/4	22
	23 3/4~24 7/8	23
	24 7/8~26	24
	26~27 1/8	25
	29 3/8~30 1/2	28

6. Elevator/Spider

BJ Style Spider / Elevator

Slip type Elevators/Spiders are mechanizes tools with air operating. They can handle casings up to 24 1/2 inch. They are easy to operate and dependable enough. Also they can reduce workload.



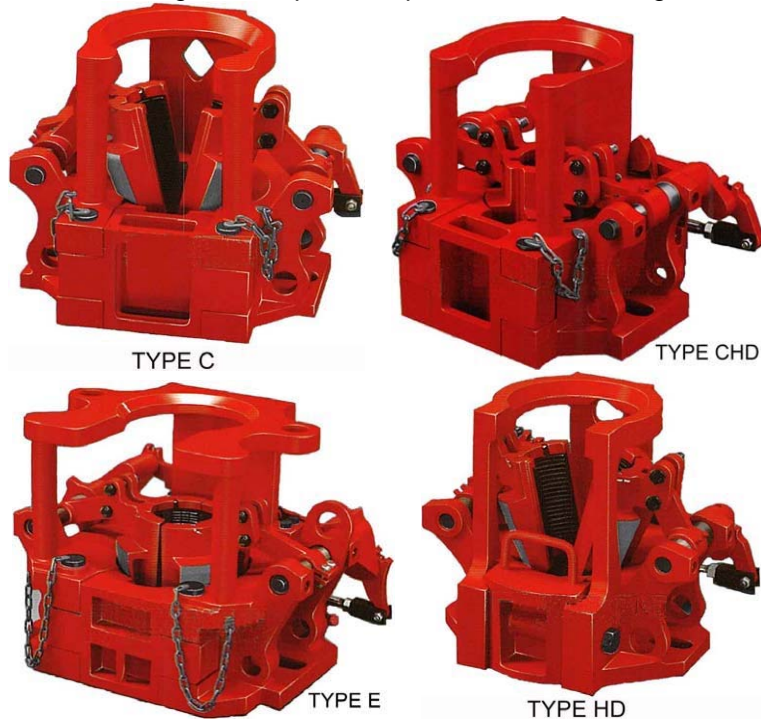
Main Technical Parameters:

Model	Applicable diameter of tubular (in)	Rated capacity (short tons)	Work pressure (MPa)	Max. pressure (MPa)
SE150	2 3/8 ~ 5 1/2	150	0.6 ~ 0.8	1
SE350(14)	4 ~ 14	350	0.6 ~ 0.8	1
SE350(20)	16 ~ 20	350	0.6 ~ 0.8	1
SE500(14)	4 ~ 14	500	0.6 ~ 0.8	1
SE500(24.1/2)	16 ~ 24 1/2	500	0.6 ~ 0.8	1
SE750	4 1/2 ~ 14	750	0.6 ~ 0.8	1
SEB350	4 1/2 ~ 13 3/8	350	0.6 ~ 0.8	1

7. Pneumatic Spiders

7.1 Pneumatic Spiders Type C, E

Pneumatic Spiders are utilized to grip drill pipes, tubing and casings in oil well drilling and repairing. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Model	OD of Tubular (in)	Specification of Slip Bodies	Rated Capacity (short tons)
C	1.315~3.1/2	3.1/2	80
	3.1/2~4.1/4	4.1/2	
	4.3/4	4.3/4(Integral)	
	5	5(Integral)	
	5.1/2	5.1/2(Integral)	
CHD	1.315~3.1/2	3.1/2	120
	3.1/2~4.1/2	4.1/2	
	4.3/4	4.3/4(Integral)	
	5	5(Integral)	
	5.1/2	5.1/2(Integral)	
HD	1.315~3.1/2	3.1/2	125
	3.1/2~4.1/4	4.1/2	
	4.3/4	4.3/4(Integral)	
	5	5(Integral)	
	5.1/2	5.1/2(Integral)	
E	2.3/8~3.1/2	3.1/2	175
	4~5.1/2	4.1/2	
	5.1/2~7	7	
	7.5/8	7.5/8(Integral)	

7.2 Pneumatic Spider Type QQP

Pneumatic Spiders Type QQP are utilized to grip drill pipes and tubing in oil well repairing. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Model	Applicable Diameter of Tubulars (in)	Rated Capacity (short tons)
QQP/60	2.3/8~3.1/2	60
QQP/75	2.3/8~3.1/2	75
QQP/100	2.3/8~5	100

7.3 TS Tubing Spiders

TS-100 Tubing/Casing Spiders are tools for handling drill collars, casings, tubing and slick pipes. Both the spider body and slips are made of high-quality alloy steel and heat-treated especially. The spiders are not so weighty and easy to operate. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.

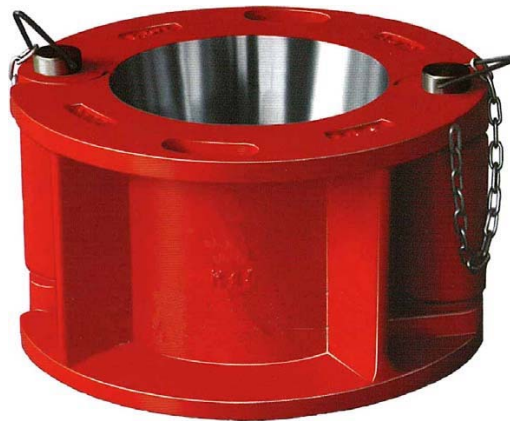


Main Technical Parameters:

Model	Applicable Diameter of Tubular (in)	Rated Capacity (short tons)
TS3.1/2-100	1.05~3.1/2	100
TS5.1/2-100	2.3/8~5.3/4	

7.4 API Spiders

Both API Spider and API split master bushing have the same inner diameter with of 4in/ft on the diameter taper. The spider body is made of high-quality alloy steel and heat-treated especially. The spiders are not so weighty and easy to operate. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Model	Applicable Diameter of Tubular (in)	Rated Capacity (short tons)
8.5/8 API Spider	2.3/8~8.5/8	100
9.5/8 API Spider	9.5/8~10.3/4	150

8. Casing Spiders and Insert Bowls

The Hinged Casing Spider has a hinged spider body with a split insert bowl. It is put above rotary table and is suitable for most casings of different sizes. It is designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Model	Applicable Diameter of Tubular (in)	Taper	Rated Capacity (short tons)
JOY13.3/8-200	7~8.5/8	1:3	200
	9~13.3/8	1:4	
JOY20-200	7~8.5/8	1:3	200
	9~20	1:4	
JOY30-200	16~30	1:4	200
JOY36-200	18.5/8~36	1:4	
JOY30-500	16~30	1:3	500
JOY36-500	18.5/8~36	1:3	
HCS20-500	2.3/8~20	1:3	500



9. Bushing

9.1 Casing bushing and insert bowls

Our CU, CUL, CB and etc. Casing bushing can handle casing from 2.3/8 to 30 inch O.D. Type CU and CUL are solid bushings and type CB are split bushings. They are designed and manufactured according to API Spec 7K specification for drilling and well servicing equipment.



Main Technical Parameters:

RT* size (in)	Model	Tubular OD (in)							
		2.3/8~8.5/8	9.5/8~10.3/4	11.3/4~13.3/8	16	18.5/8~20	24	26	30
17.1/2 ~ 20.1/2	CU	Bushing3102 +insert Bowl1809	Bushing3102 +insert Bowl1809	Bushing3102	-	-	-	-	-
27.1/2	CUL	Bushing3103 +Insert Bowl3105 +1809	Bushing3103 +Insert Bowl3105+1902	Bushing3103 +Insert Bowl3105	Bushing3103 +Insert Bowl3104	Bushing 3103	-	-	-
27.1/2	CB	Bushing6695 +Insert Bowl6126A +6115	Bushing6695 +Insert Bowl6126A +6114	Bushing6695 +Insert Bowl6126A	Bushing6695 +Insert Bowl6127	Bushing 6695	-	-	-
37.1/2		Bushing(18.5/8~20in)+Insert Bowl6126A +6115	Bushing(18.5/8~20in)+Insert Bowl6126A +6114	Bushing(18.5/8~20in)+Insert Bowl6126A	Bushing(18.5/8~20in)+Insert Bowl6127	Bushing (18.5/8~20in)	Bushing 11253	Bushing 16454	Bushing 11763

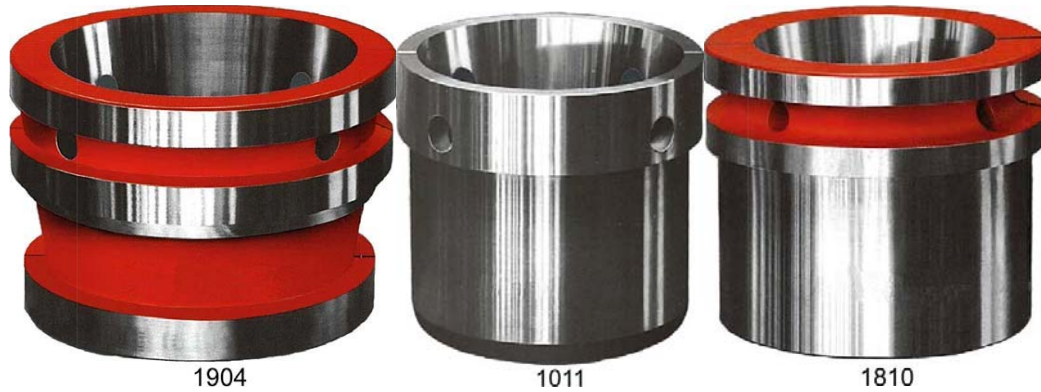
NOTE: RT* =Rotary table



9.2 Master Bushings and Insert Bowls

Our company can manufacture master bushings and insert bowls sizing from 17.1/2 to 49.1/2 inch. They are cast with high-quality alloy steel and the sizes conform to API Spec 7K Specification for drilling and well servicing equipment. There are two types, pin drive and square drive. API standard rotary slips, drill collar slips, casing slips and roller kelly bushings can be contained in them.





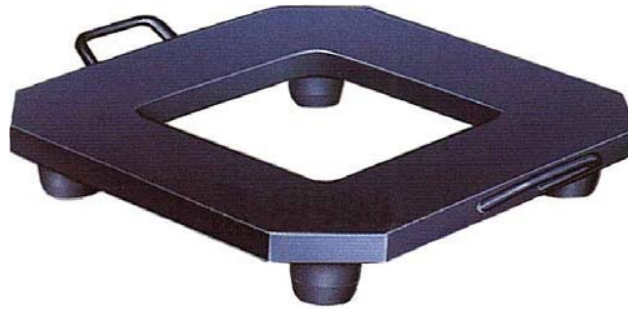
Main Technical Parameters:

Model	Rotary table size (in)	Insert bowl	Tubulars OD (in)
MSS(Solid)	17.1/2~23	Insert bowl 1011	2.3/8~7.5/8
		Extended insert bowl 1024	2.3/8~8.5/8
	27.1/2	Insert bowl 1022	2.3/8~7.5/8
		Extended insert bowl 1025	2.3/8~8.5/8
		Insert bowl 1026	9.5/8~10.3/4
MSS(Split)	17.1/2~27.1/2	-	11.3/4~13.3/8
MSPC(Solid)	20.1/2~22.1/2	Insert bowl 1809	2.3/8~8.5/8
		Insert bowl 1902	9.5/8~10.3/4
		Master bushing 1805-1	11.3/4~13.3/8
	Master bushing 19333	11.3/4~13.3/8	
	23~27.1/2	Insert bowl 1810	2.3/8~8.5/8
		Insert bowl 1904	9.3/8~10.3/4
		Insert bowl 1903	11.3/4~13.3/8
MDSP(Split)	17.1/2~20.1/2	-	2.3/8~8.5/8
MSP(Split)	27.1/2	-	2.3/8~8.5/8
MPCH	37.1/2	Insert bowl 6608	2.3/8~8.5/8
		Insert bowl 6609	9.5/8~10.3/4
	49.1/2	Insert bowl 6610	11.3/4~13.3/8
		MPCH37.1/2	2.3/8~13.3/8

9.3 Master Bushing Accessories

9.3.1 Bit Breaker Adapter Plate

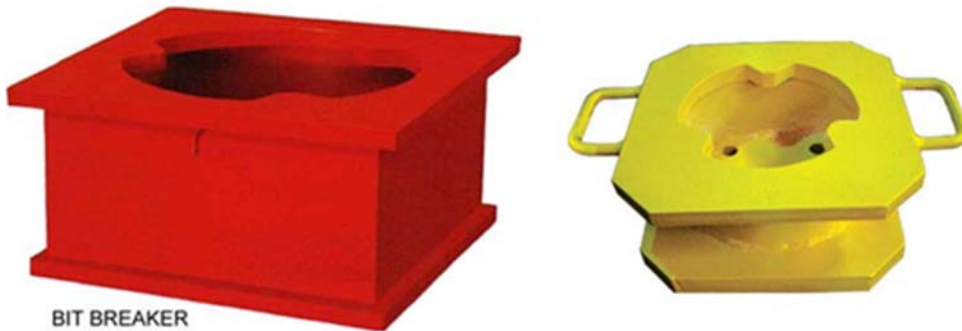
Bit Breaker Adapter Plates are located in the Master Bushing drive pin holes and provide a 13-9/16" square to accommodate Bit Breaker. They are used for MPCH, MSPC, MDSP and MSP. P/N 1816 used for 23"~49-1/2" master bushing. P/N 1815 used for 17-1/2"~21" master bushing.



BIT BREAKER ADAPTER PLATE

9.3.2 Bit Breaker

Bit Breakers are mostly used for screwing standard tri-cone drill bit.



BIT BREAKER

9.3.3 Lifting Sling

Lifting Sling for removing and installing bushings and bowls.

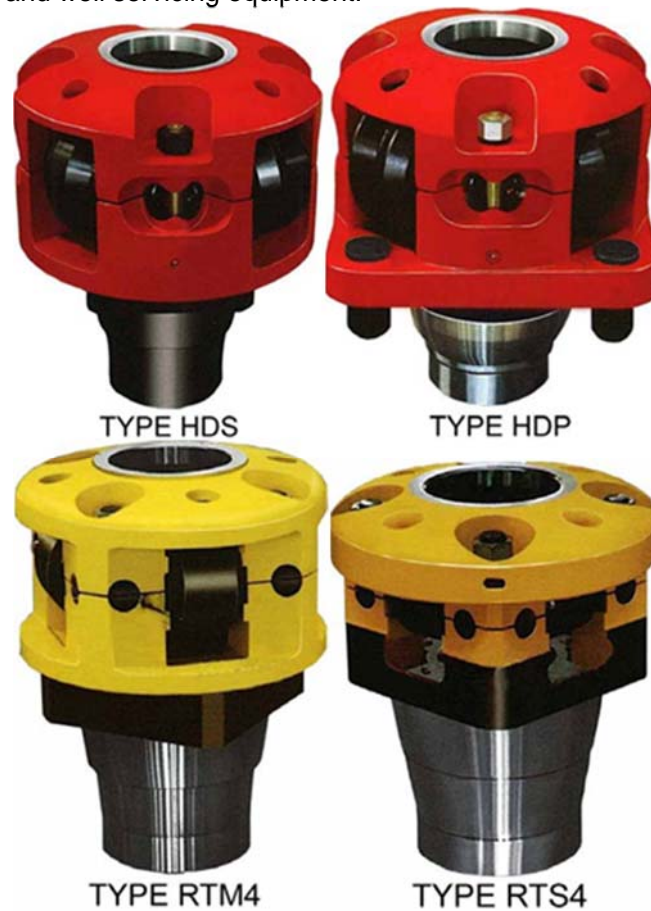
With 2 hooks P/N 1021 for removing and installing bowls.

With 4 hooks P/N 6699 for removing and installing bushing.



10. Roller Kelly Bushings

Roller Kelly Bushings can be classified as two types based on different ways of drive, square drive and pin drive. Also they can be classified as three types based on different styles, heavy, medium and light-duty. They are used for 17.1/2 to 49.1/2 inch rotary tables. They are designed and manufactured according to API Spec 7K Specification for drilling and well servicing equipment.



Main Technical Parameters:

Model	Type	Drive Way	Applicable Size of Kelly(in)	
			Square	Hex
HDS	Heavy Duty	Square Drive	2.1/2~6	3~6
27-HDP		Pin Drive	2.1/2~6	3~6
20-HDP			2.1/2~6	3~6
RTM4	Medium Duty	Square Drive	2.1/2~5.1/4	3~4.1/4
RTS4	Light Duty		2.1/2~4.1/4	3~4.1/4

11. Spinning Wrenches

SSW40 spinning wrench is applicable to drill pipes and drill collars of 3.1/2-9.1/2in. It is mainly composed of two symmetrical components, each of which drives the gear transmission through air motor and drives the wheel rotation. Operate the air valve with air spring to make the wheel compress the drill pipe; control the air motor valve handle, and start the left and right motors. The motors drive respective drive wheel through left and right reduction units. Due to the friction torque, the drill pipe rotates, and the pipe screw thread rotates in or out. The opening of wrench can adapt pipes of different diameters through adjustment without need for exchange of wheel, which makes manufacturing, application and maintenance more convenient. The spinning wrench is a kind of wheel-type spinning tool. Compared with traditional chain wrench, the spinning wrench boasts the advantages of large speed, no slippery and no damage to drill pipe, and can be used in oil and mud environment, with the advantages of safety and reliability.

The brake torque of SSW40 wrench is 1100ft-lbs (1490 N·m), and the in and out spinning speeds are large. During the tripping operation, SSW40 wrench substitutes the spinning rope (spinning chain), so as to make the spinning operation safe and reliable, reduce the labor intensity of drillers, and promote the tripping speed. The air motor in the spinner can rotate clockwise and anticlockwise, which makes coring and treatment of drilling troubles more convenient.



Main Technical Parameters:

1. Applicable pipe diameter: drill pipes and drill collars of 3.1/2-9.1/2in (89-241mm)
2. Operating pressure: 90-120psi (0.62-0.83Mpa);
3. Air consumption: 250cfm (32m³/min);
4. Spinning speed: 0-120r/min (5in drill pipe);
5. Brake torque: 1100ft-lbs (1493N·m) (5in drill pipe);
6. Weight: 8501bs (385kg);
7. Overall dimension: 1315 x 570 x 570mm;

12. Iron Roughnecks

ST-80 is a kind of iron roughneck with fully-hydraulic drive, compact structure and solid bottom part. It can realize all functions including fastening, loosening, making up and breaking out the drill pipe.

ST-110 iron roughneck is our newly designed product. It is a convenient and modularized product. The tool is used for make-up and break-out operations of drill pipes, drill collars, casings and other type couplings from 3 1/2" to 8 1/2". It is an upgrade product. This product suits for hot or cool environment, onshore or offshore locations. The iron roughneck can be remote controlled. It is designed and manufactured according to API Spec 7k specifications.



ST80



ST-110

Main Technical Parameters:

ITEM	Description	Parameters	
		ST-110	ST-80
1	Model No.	ST-110	ST-80
2	Catch Range	3-1/2"~8-1/2"	4-1/4" ~ 8-1/2"
3	Max. Breakout Torque	80000ft.lbs	80000ft.lbs
4	Max. Makeup Torque	60000ft.lbs	60000ft.lbs
5	Spinning Speed	80rpm	100rpm
6	Max. Horizontal Moving Distance of Wrench Port	55.4"	46"
7	Max. Vertical Moving Distance of Wrench Port	36"	35"
10	Rotating Angle of Main Clamp for Makeup and Breakout	30°	
11	Max. Spinning Torque	2250ft.lbs	1750ft.lbs
12	External Dimension after Withdrawal (L×W×H)	68-3/4X57-9/16X76-7/16	
13	Weight of Whole Machine	7600 lbs.	
14	Pressure of Hydraulic System	3000psi	
15	Flow of Hydraulic System	30~40 Gallon/min	

13. Hydraulic Power Tong

13.1 ZQ Series Drill Pipe Tong

ZQ drill pipe power tong is ideal tool for oil & gas drilling, widely applied for makeup and breakout in offshore and onshore drilling operations and workover operations. Open head design of the ZQ series allows the tongs to disengage from drill string with high mobility. The tong is a combination of spinning tong and torque tong. The tongs are designed and manufactured according to API SPEC 7K "Specification for Drilling Equipment".



ZQ203-100III/ ZQ203-125III

ZQ203-100

Main Technical Parameters:

Model		ZQ127-25	ZQ162-50	ZQ203-100	ZQ203-125	ZQ127-25II
Pipe Size in	Drill Pipe	2-3/8~3-1/2	2-3/8~5	3-1/2~8	3-1/2~8	2-3/8~3-1/2
	Casing	2-3/8~3-1/2	4-1/2~5-1/2	-	-	3-1/2
	Tubing	2-3/8~3-1/2	3-1/2~4-1/2			3-1/2
Max. Torque ft.lbs		18440	36880	73750	92200	18440
Speed rpm	High Gear	65	60	40	40	65
	Low Gear	10.5	4.1	2.7	2.7	10.5
Air Pressure psi		72~130				
Pressure Rating psi		1740	2030	2400	3000	2030
Flow Rating gpm		31.7	31.7	30	30	31.7
Shifting distance		39.4	39.4	59	59	39.4
Travel Distance in		/	/	/	/	/
Lifting Distance		/	/	/	/	0~24.4
Overall Dimension in		44x31x32	62x31x32	69x39x32	69x40.5x53	40x31x35.4
Weight lbs		1360	3310	5290	5840	1540

Cont.:

Model		ZQ162-50II	ZQ203-100II	ZQ203-125II	ZQ203-100III	ZQ203-125III
Pipe Size in	Drill Pipe	2-3/8~8	3-1/2~8	3-1/2~8	3-1/2~8	3-1/2~8
	Casing	4-1/2~5-1/2	-	-	-	-
	Tubing	3-1/2~4-1/2	-	-	-	-
Max. Torque ft.lbs		36880	73750	92200	173750	92200
Speed rpm	High Gear	60	40	40	40	40
	Low Gear	4.1	2.7	2.7	2.7	2.7
Air Pressure psi		72~130				
Pressure Rating psi		2320	2400	3000	2400	3000
Flow Rating gpm		31.7	30	30	30	30
Shifting distance		39.4	59	59	-	-
Travel Distance in		-	-	-	0~118	0~118
Lifting Distance		0~17.3	0~17	0~17	0~31.5	0~31.5
Overall Dimension in		62x31x54	69x39x64	69x42.5x64	69x71.7x81	69x71.7x81
Weight lbs		3748	5510	6063	7165	8100

13.2 TQ Series Casing Tong

TQ series of casing tongs are widely used for makeup and breakout of casings or other pipes. The casing tong features high-efficiency, safety, reliability, labor saving, and ensures connection quality. Tong head is designed as open type and equipped with advanced swing-type double jaw assembly, which can secure reliable clamping. This series of casing tongs can be configured with torque device to perform computer monitoring and managing on pressure, torque and rounds. The tongs are designed and manufactured according to API SPEC 7K "Specification for Drilling Equipment".



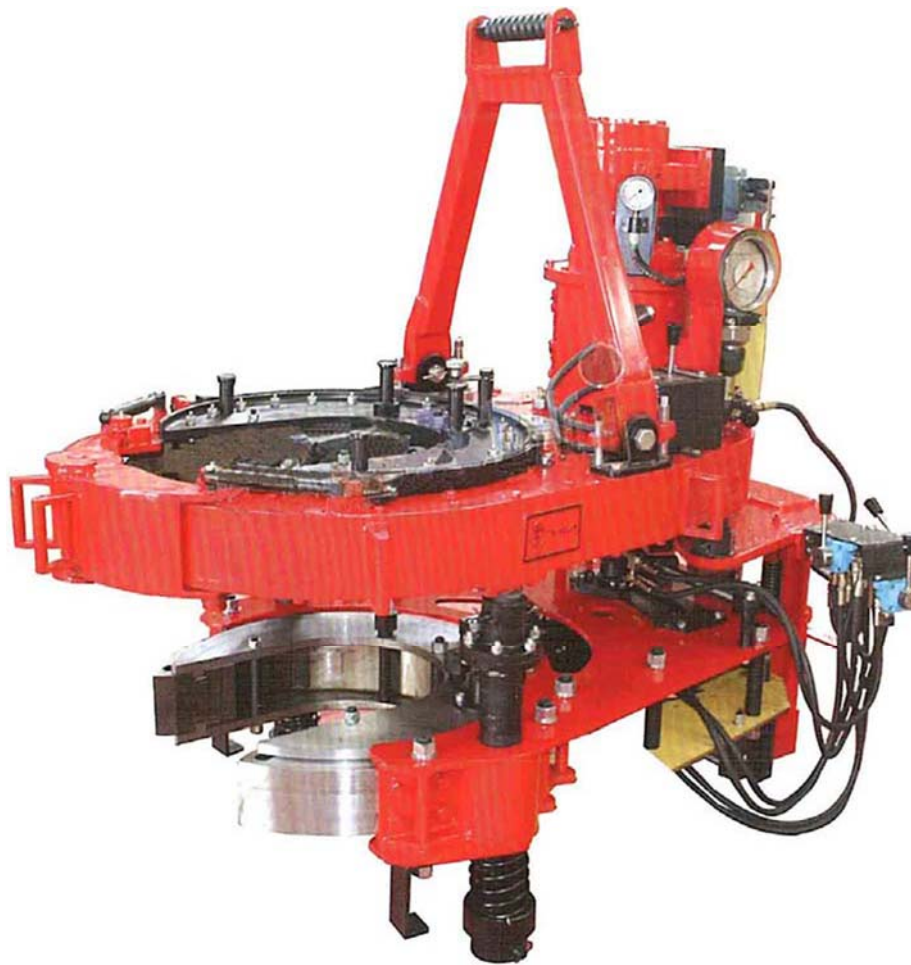
Main Technical Parameters:

Model	TQ178-16	TQ178-16Y	TQ340-35	TQ340-35Y	TQ356-55Y	TQ356-55Y	TQ508-70Y	TQ340-85Y	
Pipe Size in	4~7	4~7	4-1/2~13-3/8	4-1/2~13-3/8	4-1/2~14	4-1/2~14	9-5/8~20	4-1/2~13-3/8	
Max. Pressure psi	2610	2320	2610	2900	2400	2900	2900	2610	
Flow Rate gpm	29.3~42.7	29.3~42.7	29.3~42.7	29.3~45.4	29.3~37.3	29.3~45.4	29.3~45.4	29.3~45.4	
Air Pressure psi	72~130	-	72~130	-	72~130	-	-	-	
Max. Torque	High Gear	1770~2210	1770~2210	1844~2210	2580~4450	2800~3100	5160	6190~7890	9220~10325

ft.lbs	Mid. Gear	-	-	4425~5530	-	-	-	-	-
	Low Gear	10694~12900	11060~13270	23600~29500	16225~27285	39080~42775	42030	37244~52000	62690~66375
Speed rpm	High Gear	54~79	50~72	60~86	50~90	56~70	39.4~60.9	26~43.6	30~45
	Mid. Gear	-	-	21~30	-	-	-	-	-
	Low Gear	9~13.1	9~13	3.6~5.3	8~14	4~5	4.8~7.4	4~6.6	3.2~5
Lifting Distance in	-	-	-	24.2	-	-	24.2	24.5	24.5
OVL DIM. in	57x30x29.1	59x30x34.6	62x35.4x41.7	62.2x35.4x34.6	69.7x37.8x33.5	69.7x37.8x30.7	82x50.4x30	78.5x45.3x26.8	
Weight LBS	1280	1230	1720	1670	2530	2420	3410	3740	

13.3 TB Series Casing Backup Tong

TB Series backup tong is used to perform casing operation by combining with casing tong and can ensure connection quality and eliminate deformation of main tong under large torque. The backup tong features safety, reliability, labor-saving, and high efficiency. There are two control systems: Pneumatic and Hydraulic types. The backup tong is supplied with a torque sensor to measure precisely connection torque. The tong is designed and manufactured according to API SPEC 7K "Specification for Drilling Equipment".

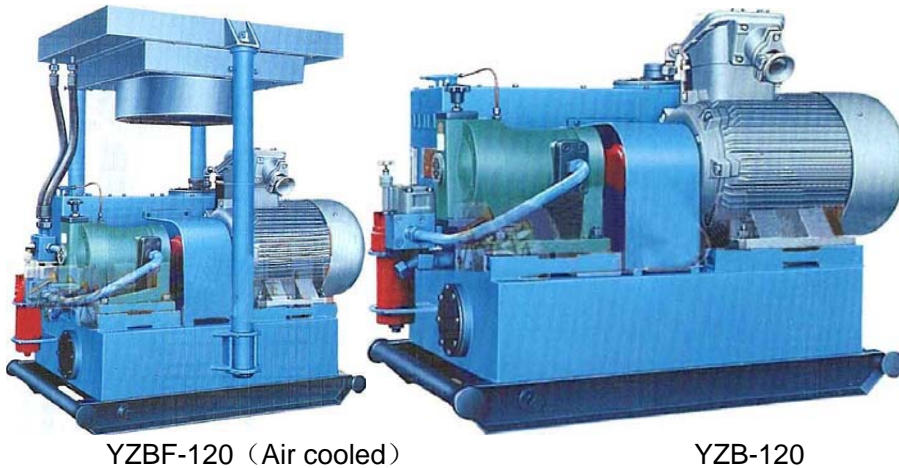


Main Technical Parameters:

Model	TB194-16	TB365-35	TB178-16S	TB365-35Y
Pipe Size in	4~7 coupling	4-1/2~13-3/8 coupling	5-1/2	4-1/2~13-3/8 coupling
Air Pressure, psi	72-130	72-130	72-130	-
Pressure Rating, psi	-	-	-	2610
Max. Bearing Torque, ft.lbs	11800	25810	11800	25810
Overall Dim. In	51.6x30.7x15.4	59.4x37.2x16	42.5x42.5x13.8	53.1x37.4x13.8
Weight lbs.	790	1060	2910	1140

14. Hydraulic Power Unit

YZB/YZC series of hydraulic power units are used to supply hydraulic power for onshore and offshore drilling operations. This kind of product has the advantages of wide adjustment range, easy operation, and high generality. Series of air/water cooled hydraulic power units are especially suitable for desert and continuous working situation. The product features compact structure, easy operation, wide adjustable range, good heating or radiating, etc. YZB stands for Electric Motor driven. YZC stands for diesel engine driven. F stands for Fan Cooling. Symbol of Water cooling is neglected.



Main Technical Parameters:

Model	YZB-120II	YZBF-120II-2	YZBF-120LD	YZBF-120LD/2-4	YZBF-120LD/2-5III	YZBS-120	YZBS-120LD-2
Rated Flow rate, (gpm)	31.7	31.7	21/31.7	30	31.7	31.7	31.7
Rated Press. (psi)	2400	2320	2400	2900	2400	2400	2320
Max. Press. (psi)	3120	2900	3120/2030	3120	2900	2900	2900
Effective Capacity gal	155	155	158.5	238	238	238	238
Drive Power(hp)	49.6	49.6	49.6	60.3x2	60.3x2	49.6	49.6
Heating Power(hp)	-	4x2	4x2	4x2	4x2	4x2	4x2
Fan Motor Power, (hp)	-	1	0.5x2	0.5x2	0.5x2	-	-
Radiation area(ft2)	-	344	430.6	430.6	430.6	64.6 Water Cooling	107.6 Water Cooling
Overall Dim., in	61x42x45	68x51x50	65x51x65	76.7x63x69	76.7x63x69	61x48.4x44.5	69x53x69

Weight (lbs.)	2866	3307	3960	6062	6062	3086	5290
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YZC-120 II (diesel engine)

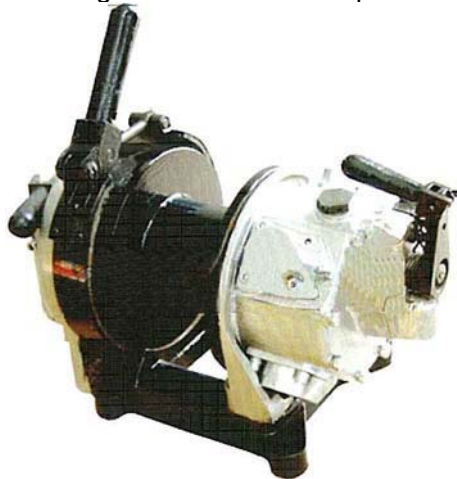
Main Technical Parameters:

Model	YZC-120II	YZC-120II-2	YZC-60/21M	YZCF-120L
Rated Flow, gpm	31.7	31.7	13.2	31.7
Rated Press, Psi	2400	2610	3050	2540
Max. Press , Psi	2900	2900	3050	2900
Oil tank volume gal	204	204	50	200
Diesel engine power	80	93.3	60	93.3
Diesel engine speed	1500	1800	1500	1800
Diesel engine starting	Electric Starting	Air Starting	Electric Starting	Electric Starting
Diesel tank Volume	34.2	60.5	28	31.7
Radiation Area ft.	-	-	-	430.6
Ovl Dim., In	85x51x65	97x51x68	67x51x59	97x55x70
Weight, lbs.	2866	2866	3200	3968

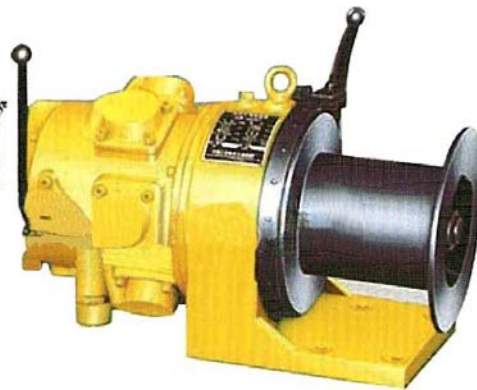
15. Winches

15.1 QJ Series Air Winch

QJ Series Air Winch are powered by piston type air motor. They have the advantage of compact structure, light weight, safe and easy to operate and they are used for general lifting, hauling and other works in onshore oilfields, offshore drilling platforms and marine fields. The winches are designed and manufactured according to API SPEC 7K "Specification for Drilling Equipment".



QJL0.5/40



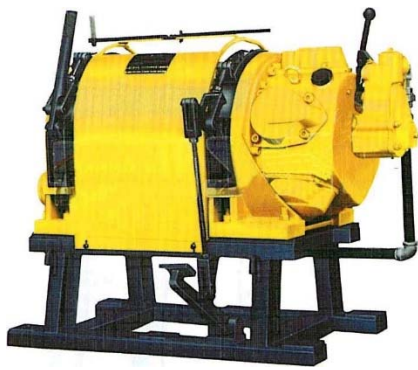
QJ0.5/120



QJ1/120 (A)



QJ5/120(B)-F



QJ5



QJ5/220B

Main Technical Parameters:

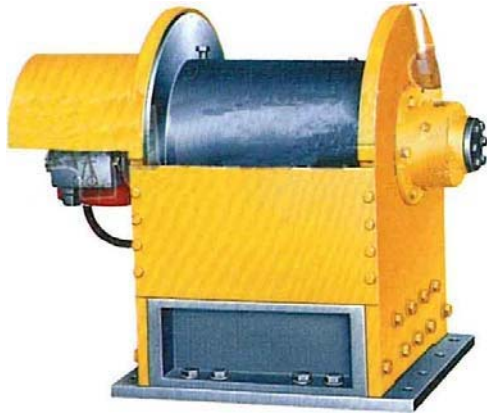
Model		QJL0.5/40(A)	QJ0.5/120(A)	QJ1/100(A)	QJ3/200(B)	QJ5/120(B)-*	QJ5/220(B)
Air Pressure	MPa psi				0.5-0.9 72-130		
Max. Pull	kN US ton	5 0.55	5 0.55	10 1.1	30 3.3	50 5.5	50 5.5
Max. Line Speed	m/min ft./min	12 39.3	24 78.6	12 39.3	35 114.8	20 65.6	12 34.3
Rope Storage	m ft.	40 131	120 393	100 328	200 656	120 393	220 720
Wire Rope Diameter	mm in	8 5/16	8 5/16	11 43297	15.875 43228	15.875 43228	19 43163
Size	mm in	495×365×380 19.5×14.3×15	675×343×460 26.5×13.5×18	825×343×450 32.5×13.5×18	1340×940×985 53×37×39	1300×940×985 51×37×39	1360×890×750 53. 5×35×29.5
Weight	Kg lbs.	45 100	117 258	162 357	600 1320	580 1280	800 1760

Remarks:

- 1) A means the winch may be equipped with remote control device. B means the winch may be equipped with auto-brake device.
- 2) The above table shows the specifications for normal winches.
- 3) F- means the flange connection, L-means the screw connection, without L means plate connection

15.2 YJ Series Hydraulic Winch

The hydraulic winch is a lifting equipment driven and braked by hydraulic devices. It has the advantage of compact structure, light weight, convenient operation and stable lifting. It is used to lift heavy objects in drilling operations. The winch is designed and manufactured according to API SPEC 7K "Specification for Drilling Equipment".



YJ Series Hydraulic Winches



YJ3-110 hydraulic winches

Main Technical Parameters:

Model		YJ3/110	YJ5/100	YJ16/60	YJ16/100
Flow Rating	L/min	120	120	120	120
	gpm	31.7	31.7	31.7	31.7
Pressure Rating	MPa	16.6	16.6	16.6	16.6
	psi	2400	2400	2400	2400
Max.Pull	kN	30	50	160	160
	US ton	3.3	5.5	17.6	17.6
Max.Line Speed	m/min	23	11	5.8	5.8
	ft/min	73	36	19	19
Wire Rope Diameter	mm	12.7	20.5	28	28
	in	1/2	3/4	13/32	13/32
Rope storage	m	110	100	60	100
	ft	360	328	197	328
Size	mm	810×490×500	880×520×710	1340×930×900	1520×930×900
	in	32×19×20	35×21×28	52.8×36.6×35.4	59.5×36.6×35.4
Weight	kg	490	490	1150	1250
	lb	1080	1080	2530	2750

16. Miscellaneous Tools

16.1 Sucker Rod Elevators

Sucker Rod Elevators are hoisting tools for handling sucker rods. They are designed and manufactured according to API 8A/8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Applicable Diameter of Tubulars								Rated Capacity (short tons)
SRE20	1/2	5/8	3/4	7/8	1	1.1/8	1.1/4	1.1/2	20
SRE25	5/8	3/4	7/8	1					25

16.2 Sucker Rod Elevating Sockets

Sucker Rod Elevating Socket is used to handle single sucker rods. It is hung on the nacelle of workover rig with maximum working load 400lb. It is used for 1/2 to 1.1/8 inch sucker rods.



Main Technical Parameters:

Specification of Applicable Sucker Rod (in)	5/8	3/4	7/8	7/8HY	1	1.1/8

16.3 Sucker Rod Hooks

Sucker Rod Hook is one of the hoisting equipment for sucker rods. It is suitable for all depths and operating conditions complete with single-hand latch construction and safety ring. It is safe and dependable enough. The sucker rod hook is designed and manufactured according to API Spec 8C Specification for drilling and production hoisting equipment.



Main Technical Parameters:

Model	Rated Capacity (short tons)	Length (mm)
RH20	20	488
RH25	25	494
RH25L	25	798
RH35	35	960

16.4 Sucker Rod Wrenches

Sucker Rod Wrench is made of high-quality alloy steel, and boasts the advantages of hardness and abrasion resistance. Its opening is applicable to the square shape of the steel-made sucker rod. The balanced design of wrench can reduce the fatigue of users, which is an outstanding tool for manual mounting and demounting sucker rod.



Main Technical Parameters:

Specification of Applicable Sucker Rod (in)	5/8	3/4	7/8	7/8HY	1	1.1/8
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16.5 Inserts and Dies



16.6 Mud Bucket

FP series mud box is widely used to prevent mud spraying and contaminating the drill platform during breakout and makeup of drilling tools. It is simple, safe, reliable with long service life.



Size range	3-1/2"~5-1/2"				
Drill pipe size	5-1/2" body-body	5" body-body	4" body-body	4" body-body	3-1/2" body-body
	5-1/2" body-coupling	5" body-coupling	4" body-coupling	4" body-coupling	3-1/2" body-coupling
Flow Sub	R4" (R3")				

16.7 Rabbit / Drift (for Casing, Tubing, Drill Pipe, Riser)



16.8 Fill and Circulate Tool (FAC Tool)

FILL and Circulate Tool (FAC Tool) is a surface tool used during the casing running operation. The FAC Tool is designed to both fill the casing with drilling fluid while running it in the hole and to enable quick circulation of the casing string at any time without installation of a casing swage. The FAC Tool has features with easy-to-use, safe and reliable, no leakage and so on, which lighten labor intensity of workers greatly and improves operation environment of well.

FAC Tool is available for top drive. Connection is 4-1/2"IF, but it may adapt to different top drive connection with changing subs. Special connection shall be stated when ordering. The FAC Tool may come in two tool sizes, Large (L-FAC) and Medium (M-FAC), so as to adapt different pipe diameters, and different sizes may adapt pipe diameter at any size through changing seal assembly.

In principle, a kind of sealing element matches with a size and weight of casing. However, it may be used to casings with different sizes unless the difference of inner diameter of the casing is not over 5mm. For example, 9-5/8"-53.5 sealing element in principle is suitable to 9-5/8" casing of single weight 53.5 (with Inner Diameter of 216.79mm). However, it is also suitable to the 9-5/8" casing of single weight 47 (with Inner Diameter of 220.5mm).

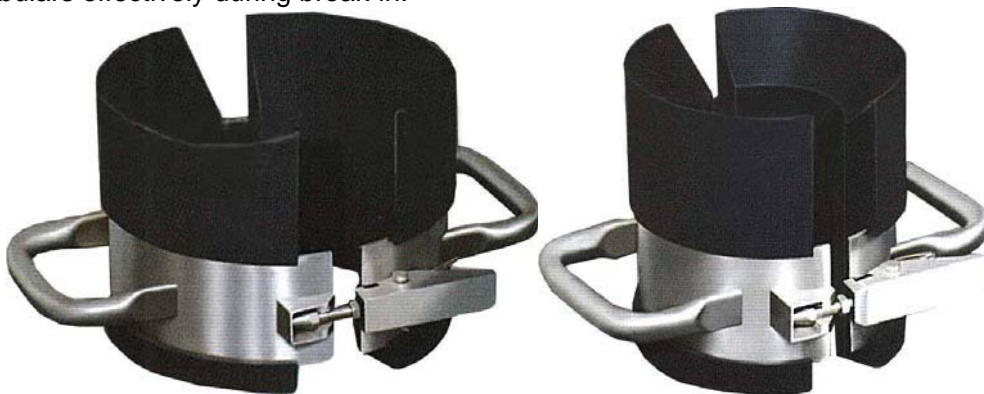


SPEC Model	Casing in			Seal Assembly (Mark)		
	Size	Weight	Inner Dia.	Seal Retainer	Sealing Elements	Gauge Ring
L-FAC 7~20	7	23	161.70	L-7	L-7~23#	L-7
	9-5/8	53.5	216.79	L-9-5/8	L-9-5/8~53.5#	L-9-5/8
	10-3/8	55.5	247.90	L-10-3/4	L-10-3/8~55.5#	L-10-3/4
	13-3/8	72	313.61	L-13-3/8	L-13-3/8~72#	L-13-3/8
	20	106.5	482.60	L-20	L-20~106.5#	L-20
M-FAC 5-1/2~7	5-1/2	23	118.62	M-5-1/2	M-5-1/2~23#	M-5-1/2
	6-5/8	32	144.15	M-6-5/8	M-6-5/8~32#	M-6-5/8
	7	26	159.41	M-7	M-7~26#	M-7

Remarks: Other sizes upon requests.

16.9 Stabbing Guide

Stabbing Guide Model SG is easy to operate for fast stabbing of Tubing and Casing, and can protect the threads of tubulars effectively during break-in.



Model	Applicable Tubular Dia. in	Model	Applicable Tubular Dia. in
SG2-3/8T	2-3/8 Tubing	SG7-5/8C	7-5/8 Casing
SG2-7/8T	2-7/8 Tubing	SG8-5/8C	8-5/8 Casing
SG3-1/2T	3-1/2 Tubing	SG9-5/8C	9-5/8 Casing

SG4T	4 Tubing	SG10-3/4C	10-3/4 Casing
SG4-1/2T	4-1/2 Tubing	SG11-3/4C	11-3/4 Casing
SG4-1/2C	4-1/2 Casing	SG13-3/8C	13-3/8 Casing
SG5C	5 Casing	SG13-5/8C	13-5/8 Casing
SG5-1/2C	5-1/2 Casing	SG14C	14 Casing
SG6C	6 Casing	SG16C	16 Casing
SG6-5/8C	6-5/8 Casing	SG18-5/8C	18-5/8 Casing
SG7C	7Casing	SG20C	20 Casing

16.10 Casing/Tubing Thread Protector

Quick Protector is used to protect the thread of casing and tubing during transportation and operation. The protector can be easily locked or opened by operate the handle.



Model	Applicable Tubular Dia. in	Model	Applicable Tubular Dia. in
QP2-3/8	2-3/8 Tubing	QP7-5/8	7-5/8 Casing
QP2-7/8	2-7/8 Tubing	QP8-5/8	8-5/8 Casing
QP3-1/2	3-1/2 Tubing	QP9-5/8	9-5/8 Casing
QP4-1/2	4-1/2 Casing	QP10-3/4	10-3/4 Casing
QP5	5 Casing	QP13-3/8	13-3/8 Casing
QP5-1/2	5-1/2 Casing	QP16	16 Casing
QP6-5/8	6-5/8 Casing	QP18-5/8	18-5/8 Casing
QP7	7 Casing	QP20	20 Casing

16.11 DP RUBBER WIPER

Single DP Rubber Wiper



Wiper Size in	2-3/8	2-7/8	3-1/2	4	4-1/2	5	5-1/2	6-5/8
DP Size in	2-3/8	2-7/8	3-1/2	4	4-1/2	5	5-1/2	6-5/8

Dual Split DP Rubber Wiper

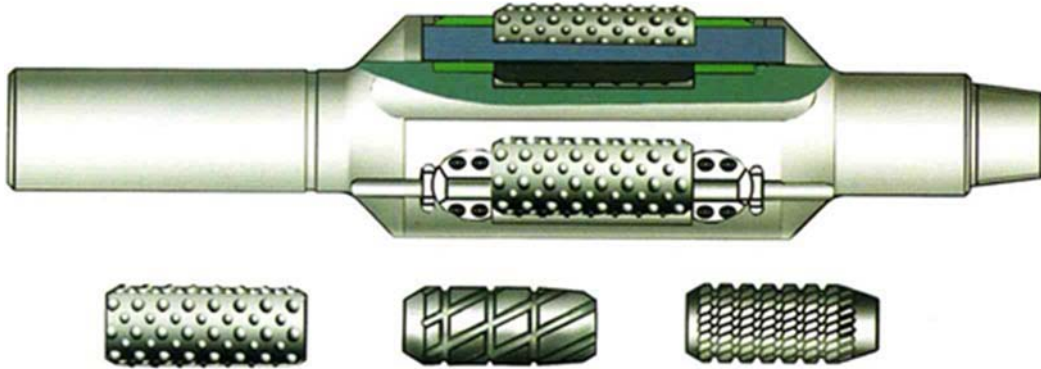


Wiper OD in	14	17	19	22
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Remarks: Wiper ID can be cut any size upon requests.

17. Drill String

17.1 Reamer



Technical Specifications:

Type	Hole Size (in)	Thread Type (API)	O.D. (mm)	I.D. (mm)	Overall Length (mm)	Ends O.D. (mm)
R155	6-1/8	3-1/2IF	155	31.7	1,400	121
R206	8-1/8	4IF	206	38	1,600	159
R212	8-3/8	4-1/2IF	212.7	44	1,700	165
R215	8-1/2	4-1/2IF	215.9	44	1,700	165
R244	9-5/8	NC50	244	57	1,800	178
R311	12-1/4	6-5/8REG	311.2	71	1,800	210
R444	17-1/2	7-5/8REG	444.5	76	2,100	241.3
R660	26	7-5/8REG	660.4	76	2,200	241.3
R762	30	7-5/8REG	762	76	2,300	241.3
R812	32	7-5/8REG	812	76	2,400	241.3
R914	36	7-5/8REG	914	76	2,600	241.3

17.2 Stabilizer

Stabilizers can be defined into many types according to different parameters.

- 1) Drill String Stabilizer & Near Bit Stabilizer;
- 2) Slick Stabilizer (Long & Short type) and Spiral Stabilizer (Long & Short type);
- 3) Rigid Stabilizer, Non-Rotating Stabilizer and Roller Stabilizer;

17.2.1 Integral Straight Blade Stabilizer

Straight blade stabilizer is integrally made of high strength alloy steel AISI 4145H, usually with 3 blades or 4 blades. The working surface of straight stabilizer is provided with carbide insert, diamond compound insert, or overlay welding etc.



Integral Straight Blade Stabilizer

Technical Specifications:

Bit OD in	End OD mm	ID mm	Length(mm)				Connection			
			Short Type		Long Type		Drill String		Near Bit	
			Near Bit	Drill String	Near Bit	Drill String	Top	Down	Top	Down
6	121	51	800~900	1,000~1,100	1,200~1,400	1,400~1,600	NC38	NC38	NC38	3-1/2 REG
6-1/4										
6-1/2										
7-1/2	159	57	800~900	1,000	1,600	1,800	NC46	NC46	NC46	4-1/2 REG
7-7/8										
8-3/8										
8-1/2										
8-3/4	178	71	800~1,000	1,000~1,200	1,600~1,800	1,800~2,000	NC46 NC50		4-1/2 REG	
9-1/2										
9-5/8										
9-7/8	178	71	800~1,000	1,000~1,200	1,600~1,800	1,800~2,000	NC50	NC50	NC50	6-5/8 REG
12-1/4										
17-1/2										
12-1/4	203	76	1,000~1,200	1,200~1,500	1,800~2,000	2,000~2,200	NC56 6-5/8 REG		6-5/8 REG	
17-1/2										
17-1/2	229	76	1,200~1,300	1,200~1,300	2,000~2,200	2,000~2,200	NC61 7-5/8 REG			

17.2.2 Integral Spiral Blade Stabilizer

Spiral blade stabilizer is integrally made of high strength alloy steel AISI 4145H, usually with 3 blades or 4 blades. The working surface of spiral stabilizer is provided with carbide insert, diamond compound insert, or overlay welding etc.



Integral Spiral Blade Stabilizer

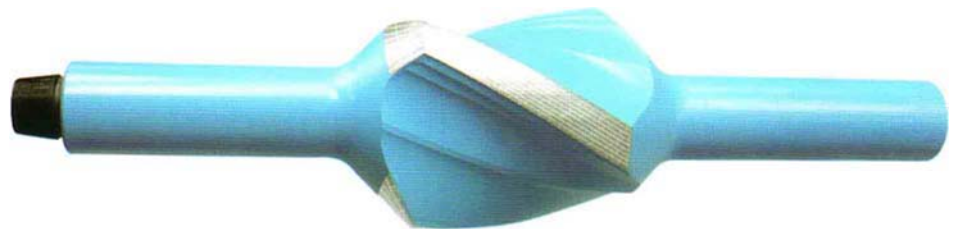
Technical Specifications:

Bit Size in	End OD mm	ID mm	Length mm	Thread Code on Both Ends			
				String type		Near bit type	
				Top	Down	Top	Down
6	121	51	1,200	NC38		3-1/2REG	
6-1/4							
6-1/2							
7-1/2	159	57	1,600	NC46		4-1/2REG	
7-7/8							
8-3/8							
8-1/2	159	71	1,600 1,800	NC46 NC50			
8-3/4	165 178						
9-1/2	178						
9-5/8	197		1,800	NC50	NC50	NC50	6-5/8REG
9-7/8							
12-1/4	203 229	76	1,800	NC56 6-5/8 REG	NC56 6-5/8 REG	NC56 6-5/8 REG	6-5/8 REG
16	229			NC61	NC61	NC61	NC61
	241.3			7-5/8 REG	7-5/8 REG	7-5/8 REG	7-5/8 REG

HF3000 Hard-Facing Stabilizers

Introduction:

Stabilizers are connected with drill collar accessories to make up the downhole drill stem. HF3000 Hard Facing stabilizers have high tensile, high-wearing feature and recoverability features. This particular dressing comprises tungsten carbide inserts set in a power spray deposit, which is ideal for abrasive formations. Area of tungsten carbide inserts coverage on the surface of hard-facing reaches more than 60%. Hard-facing dressing is some special tungsten-carbide powder. It can get more strength and toughness after the welding procedure. It can ensure the hard-facing's abrasion resistance and not easily pull-out to cause damage. We take full account of chemical composition of the material and the need for repeated redressing without damage for our dressing technique. A well-controlled welding temperature can result in a reliable surface alloy welding operation. The composition plane can reach more than 97%. HF3000 Hard Facing Stabilizers can be cleaned by acetylene burner after abrasion. When the cleaning process is completed, new hard facing can be welded on the surface, proving the better recoverability.



Features:

HF3000 Hard Facing Stabilizers are based on the advanced technology from abroad. This type of stabilizers is generally used in abrasive rock formation in the international drilling market.

This kind of stabilizer's hard-facing is firstly invented at home.

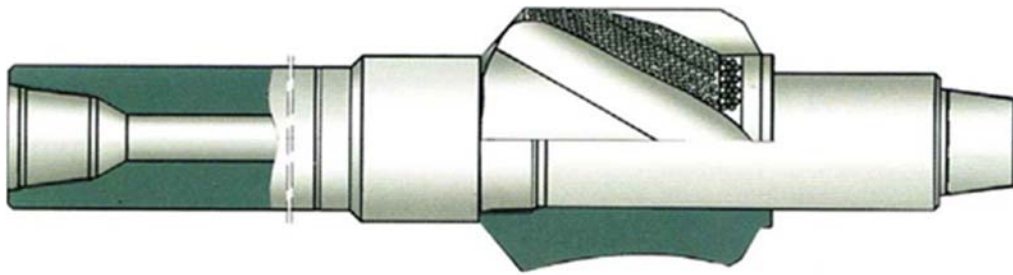
This kind of stabilizer is prior to the traditional insert alloy column type stabilizer.

- 1) Traditional insert alloy column type stabilizer is easily pull-out and will cause damage to the drill bit.
- 2) It has a longer service life than traditional inlaid alloy column type stabilizer.
- 3) This type of stabilizers is easy to repair, to reduce the well drilling costs.



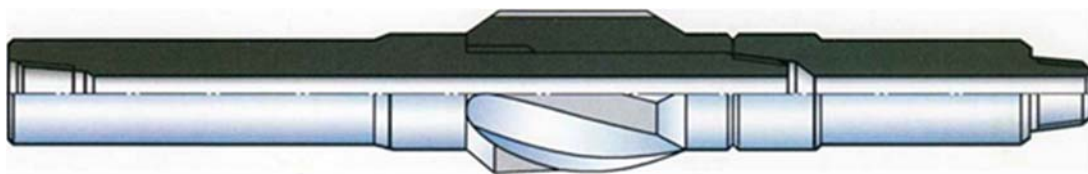
17.2.3 Replaceable Sleeve Stabilizer

Replaceable sleeve stabilizer is special tool suitable for directional well drilling. The stabilizer sleeve can be changed quickly and easily after sleeve hard banding is worn-out. There're two styles available: 2-piece stabilizer, and 3-piece stabilizer.



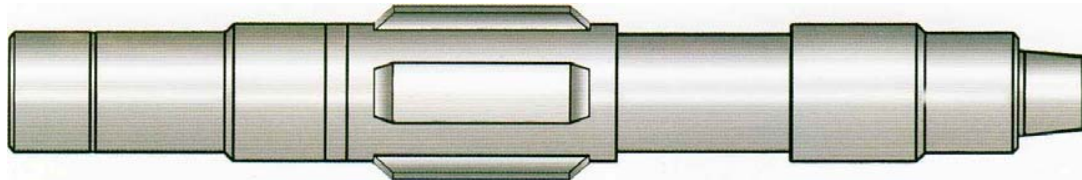
Technical Specifications:

Bit Dia. (in)	DC Dia. (in)	Sleeve		Stabilizer Body							Thread Code on Both Ends			
		Length (mm)	Work O.D. (mm)	Upset End Dia. (mm)	Upset End length (mm)	Fishing Neck Length (mm)	I.D. (mm)	Make-up Torque (KN.m)	Over length L (mm)		Drill String		Near Bit	
									Near Bit	Drill String	Top	Down	Top	Down
8-1/2	6-1/2	480	214	190			71	6.95 ~7.25	1,800 ~1,900	1,800 ~1,900	4-1/2 IF	4-1/2 IF	4-1/2 IF	4-1/2 REG
8-1/4		470	210											
8		472	203											
7-3/4		455	197											
12-1/4	8	555	310	238	200	600	76	19.7 ~11	1,800 ~2,000	1,800 ~2,000	6-5/8 REG	6-5/8 REG	6-5/8 REG	6-5/8 REG
12		550	305											
11-1/2		540	292											
11		530	279											
17-1/2	9	682	444	279			76	13.85 ~16.55	2,000 ~2,200	2,000 ~2,200	7-5/8 REG	7-5/8 REG	7-5/8 REG	7-5/8 REG
17		676	432											
16-1/2		670	420											
16		644	407											
22														
24														
26														



17.2.4 Non-Rotating Stabilizer

Non-rotating stabilizer is special tool in drilling to avoid blade worn out or wall damage. Kerui provides non-rotating stabilizer for drilling hole from 13-3/8~28 inch.

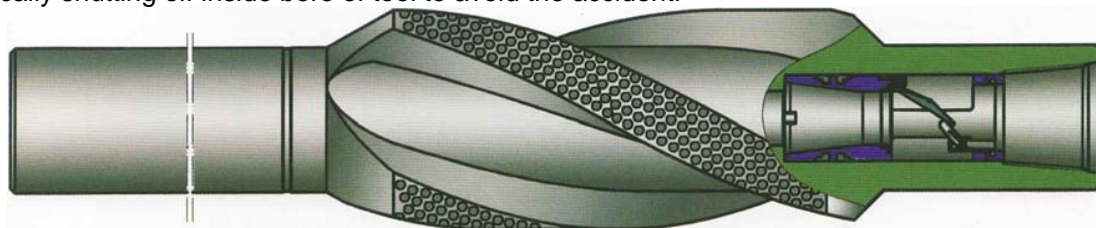


Technical Specifications:

Hole Size (in)	Stabilizer Sleeve			Stabilizer Body			Overall Length (mm)
	Length (mm)	O.D. (mm)	Blade Qty.	ID (mm)	Fishing O.D. (mm)	Thread Type	
13-3/8	500	313	4	71	165	4-1/2 IF	2,000
10-3/4	500	255	4	71	165	4-1/2IF	2,000
9-5/8	500	220	4	71	165	4-1/2IF	2,000
7	380	157	4	44	127	4-1/2IF	1,600
12-1/4	523	310	4	76	215	6-1/8REG	2,010
16	543	405	4	76	241	7-5/8REG	2,210
17	543	430	4	76	241	7-5/8REG	2,210
22	635	558	4	76	241	7-5/8REG	2,210
28	715	711	5	76	241	7-5/8REG	2,210

17.2.5 Float Valve Stabilizer

Float valve stabilizer is effective tool in drilling operation. The stabilizer is connected at upper part of drill bit, and the float valve assembly in stabilizer is near the bit thread. Such structure of stabilizer can realize the automatically shutting off inside bore of tool to avoid the accident.

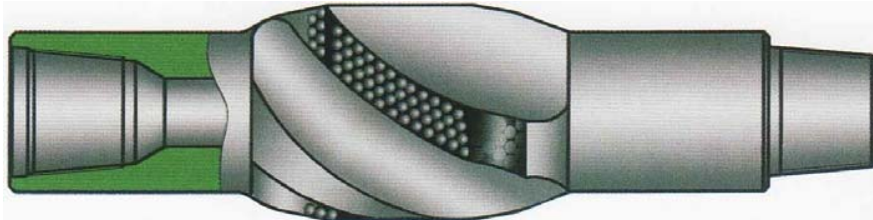


Technical Specifications:

Stabilizer Type	Stabilizer Body O.D. (mm)	Stabilizer Thread	Float Valve Assembly O.D. (mm)	Float Valve Assembly Length (mm)
FV711	228 241	7-5/8 REG	121	298.4
FV588	228 241	7-5/8 REG	121	298.4
FV444	228 241	7-5/8 REG	121	298.4
FV311	203 209.6	6-5/8 REG	121	298.4
FV241	178	4-1/2 IF	98	247.6
FV214	178 165	4-1/2 REG	88	211.14
FV152	127 121	3-1/2 REG	61	165.1

17.2.6 Spherical Stabilizer

Spherical stabilizer is new tool for various drilling operation. Kerui provides spherical stabilizer from 6~ 12 1/4 inch.



Technical Specifications:

Working O.D. (in)	Body O.D. on Both Ends (mm)	I.D. (mm)	Stabilizer Length (mm)	Thread on Both Stabilizer Ends (in)			
				String Type		Near Bit Type	
				Top	Down	Top	Down
6~6-1/2	121	51	785	3-1/2IF	3-1/2IF	3-1/2IF	3-1/2REG
7~7-7/8	159	57	850	4-1/2IF	4-1/2IF	4-1/2IF	4-1/2REG
8~8-1/2	165	71	850	4-1/2IF	4-1/2IF	4-1/2IF	4-1/2REG
9~9-1/4	197	71	870	4-1/2IF	4-1/2IF	4-1/2IF	4-1/2REG
12~12-1/4	203	76	940	6-5/8REG	6-5/8REG	6-5/8REG	6-5/8REG

17.3 Hole Opener

Fixed Diameter Hole Opener is used for enlarging the surface hole which drilled by cone bit in advance, or connected above the cone bit. It applies to Onshore and offshore oilfield.



Cutters type:

"SM": Soft to medium formation;

"MH": Medium to hard formation;

"XH": Hard formation.

Technical Specifications:

Type	Hole Dia. (in)	Blade No.	Min Guiding Hole (in)	Mandrel Fishing Neck Dia. (in)	Mandrel I.D. (in)	Upper Threads (Pin Thread)	Lower Threads (Box Thread)	Overall Length (in)
HO3-311	12-1/4	3	8-1/2	8	1-1/2	6-5/8 REG	6-5/8 REG	60
HO3-406	16	3	10	9-1/2	2-1/4	7-5/8 REG	7-5/8 REG	72
HO3-444	17-1/2	3	10	9-1/2	2-1/4	7-5/8 REG	7-5/8 REG	72
HO3-660	26	3	17-1/2	10	3	7-5/8 REG	7-5/8 REG	69
HO4-914	36	4	26	10	3-1/2	7-5/8 REG	7-5/8 REG	104-3/8

17.4 Drill String Accessories

17.4.1 Lifting Subs

Drill tool lifting sub is a special tool for lifting the drill tools in petroleum natural gas industry and geologic exploration. Drill tool lifting sub is divided into two types: 18 degree shoulder and 90 degree shoulder. The lifting sub can be selected according to elevator structure.



Technical Specifications and parameters:

No.	Nominal size (mm)	I.D.(mm)	End of pin			Lifting end		
			Connection	O.D. (mm)	DF (mm)	Tong Space LPB(mm)	O.D. (mm)	Tong Space LPB(mm)
1	73	31.8	NC23	79.4	76.2	250	111.1	100
2		44.5	NC26	88.9	82.9			
3	89	54	NC31	104.8	100.4	250	127	
4		50.8	NC35	120.7	114.7			
5		68.3	NC38	127	121			
6	127	71.4	NC44	152.4	144.5	300	168.3	
7				158.8	149.2			
8		82.6	NC46	158.8	150			
9				165.1	154.8			
10				171.5	159.5			
11				177.8	164.7			
12		95.3	NC50	184.2	169.5			
13				196.8	185.3			
14		95.3	NC56	203.2	190.1			
15				6 5/8 REG	209.6			
16	NC61			228.6	212.7			
17	7 5/8 REG			241.3	223.8			
18	NC70			247.7	232.6			
19				254	237.3			
20	NV77	279.4	260.7					

17.4.2 Crossovers

Cross-over sub acts for conversion and connection of drill stem component in petroleum, natural gas and geology drilling work. It is used mainly for connecting of upper drill tools and lower drill tools during drilling operations.



The cross over sub in 4 types of main structure

Sort	Description	Upper Connection Part	Lower Connection Part	Type
1	Kelly cross-over sub	Kelly	Drill pipe	A or B
2	Drill pipe cross-over sub	Drill pipe	Drill pipe	A or B
3	Interim cross-over sub	Drill pipe	Drill collar	A or B
4	Drill collar cross-over sub	Drill collar	Drill collar	A or B
5	Drill bit cross-over sub	Drill collar	Drill bit	A or B
6	Swivel cross-over sub	Swivel lower sub	Kelly	C
7	Fishing cross-over sub	Kelly	Drill pipe	C
		Drill pipe	Fishing tools	C

17.4.3 Lifting Plugs & Caps

Lifting cap is a special tool for lifting of drilling tools in petroleum, natural gas, drilling engineering and geographical exploration.



Technical parameter:

Connection	O.D.(mm)	Length(mm)	Connection	O.D.(mm)	Length(mm)
7 5/8 REG Pin	210	290	7 5/8 REG Box	230	290
6 5/8 REG Pin	190	280	6 5/8 REG Box	200	280
NC50 Pin	155	270	NC50 Box	160	260
NC46 Pin	150	270	NC46 Box	160	260
NC38 Pin	115	260	NC38 Box	120	270
NC31 Pin	100	210	NC31 Box	120	220
2 3/8 REG Pin	80	190	2 3/8 REG Box	110	200

NC26 Pin	89	200	NC26 Box	110	200
3 1/2 REG Pin	100	220	3 1/2 REG Box	130	270
4 1/2 REG Pin	145	260	4 1/2 REG Box	160	260
2 7/8 EUE Pin	80	220	2 7/8 EUE Box	80	220

17.4.4 Tool Joints

Forged or rolled steel component for drill-pipe designed to be welded to the drill-pipe body and having a rotary shouldered connection.



How to order:
Sizes & connections & special requirements.

17.4.5 Top drive saver subs

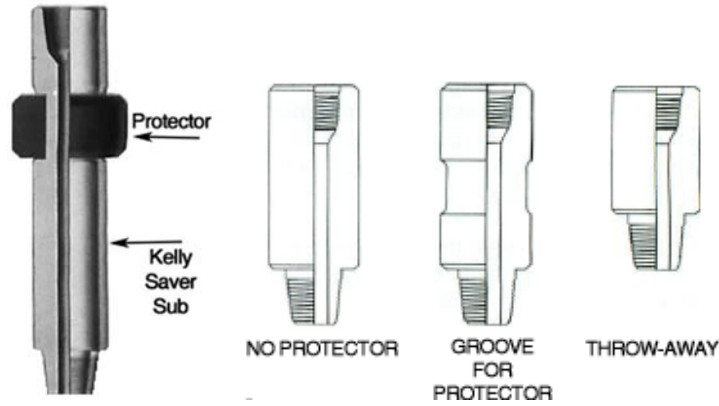
Top Drive Saver Sub is a kind of sub connected with Lower IBOP and drill pipe, mainly used in the top drive system. Not only acting as crossover sub, but also protecting lower IBOP. Top drive saver sub can be divided into general top drive saver sub and low temperature top drive saver sub.



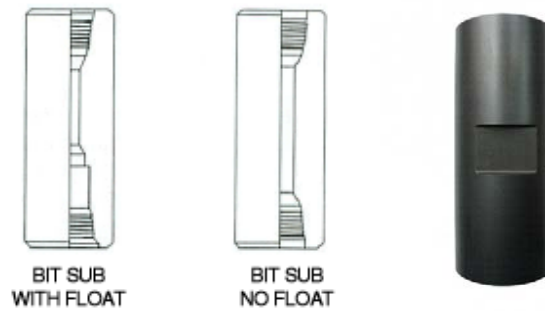
Model	OD mm(inch)	ID mm(inch)	Conn.
DQJ187B	187 (7 23/64)	57.2(2 1/4)	6 5/8REG×NC38
DQJ187A	187 (7 23/64)	71.4(2 13/16)	6 5/8REG×NC50
DQJ197B	197 (7 3/4)	57.2(2 1/4)	6 5/8REG×NC38
DQJ197A	197 (7 3/4)	71.4(2 13/16)	6 5/8REG×NC50
DQJ219B	219(8 5/8)	57.2(2 1/4)	7 5/8REG×NC38
DQJ219A	219(8 5/8)	76.2(3)	7 5/8REG×NC50

17.4.6 Kelly Saver Subs

A kelly saver sub is connected between the kelly and the drill pipe of the drill string to protect the kelly from wear during make-up and break-out of the threaded connections. A rubber protector also forms part of the kelly saver sub to cushion any adverse rotation of the kelly during rotation.



17.4.7 Drill Bit Subs



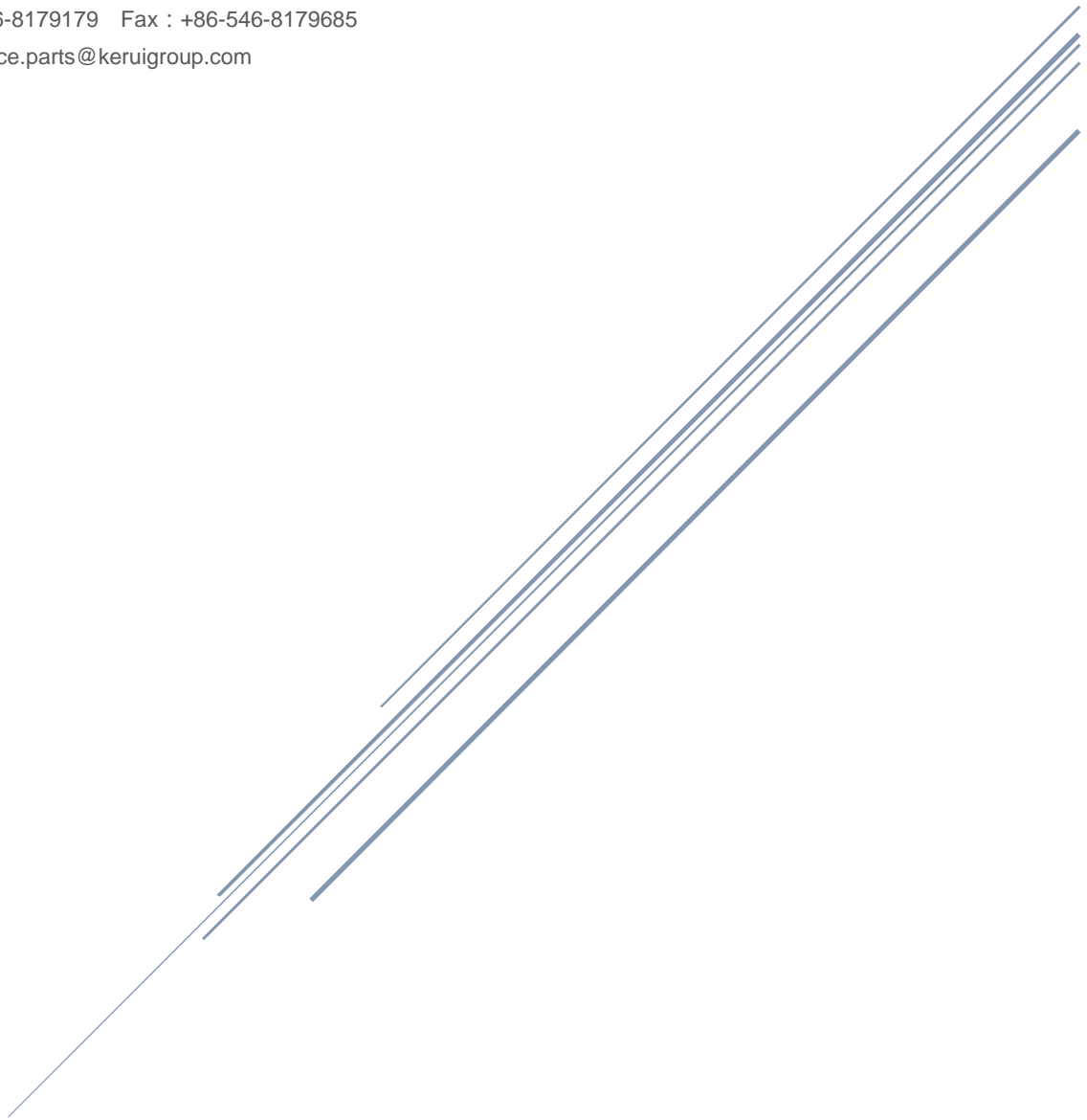
KERUI OILFIELD DRILLING TOOLS AND EQUIPMENT

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