



## 游车大钩 Hook Blocks

### 游车大钩的设计特点

游车与大钩连体，缩小了游车与大钩的长度，更好地满足顶部驱动钻井的工艺要求。

游车大钩符合 API Spec8C PSL1 规范，允许使用 API 会标。

### Hook Blocks Design Features

Joining traveling block and hook together reduces overall Length and can help satisfy the requirements of operating a top drive.

The hook blocks conform to API Spec.8C PS1, and API monogram can be used.



## 游车参数表 Specifications of Traveling Blocks

型号 type	最大钩载 max.hook load KN	滑轮数量 number of sheaves	滑轮外径 number of sheaves	钢丝绳直径 dia mater of wire line	外形尺寸 长×宽×高(约) overall dimension (length×width×height)	质量 (约) weight
YC170	1700 KN 190 USton	5	915 mm 36 in	29 mm 1 1/8 in	2090 × 960 × 630 mm 82.3 × 38 × 25 in	2800 Kg 6173 lb
YC225	2250 KN 250 US ton	5	1120 mm 44 in	35 mm 1 3/8 in	2294 × 1190 × 630 mm 90 × 47 × 25 in	3713 kg 8351 lb
YC315	3150 KN 350 USton	6	1270 mm 50 in	35 mm 1 3/8 in	2680 × 1350 × 974 mm 105.5 × 53.1 × 38.3 in	6842 Kg 15084 lb
YC450	4500 KN 500 USton	6	1524 mm 60 in	38 mm 1 1/2 in	3075 × 1600 × 800 mm 105.5 × 53.1 × 38.3 in	8135 kg 17935 lb

## 游车大钩参数表 Specifications of Hook Blocks

型号 type	最大钩载 max.hook load KN	滑轮数量 number of sheaves	滑轮外径 number of sheaves	钢丝绳直径 dia mater of wire line	主吊钩 开口尺寸 major-hook opening	弹簧 工作行程 Spring travel	外形尺寸 长×宽×高(约) overall dimension (length×width×height)	质量 (约) weight
YG135	1350 KN 150 USton	4	760 mm 30 in	26 mm 1 in	150 mm 5.9 in	170 mm 6.7 in	2946 × 838 × 647 mm 116 × 33 × 26 in	3126 Kg 6892 lb
			915 mm 36 in	29 mm 1 1/8 in			3091 × 987 × 647 mm 122 × 39 × 26 in	3426 Kg 7548 lb
			760 mm 30 in	29 mm 1 1/8 in			3059 × 830 × 763 mm 121 × 33 × 30 in	3282 kg 7236 lb
YG160	1600 KN 180 USton	4	760 mm 30 in	29 mm 1 1/8 in	220 mm 8.7 in	150 mm 5.9 in	3059 × 830 × 763 mm 121 × 33 × 30 in	3282 kg 7236 lb
YG170	1700 KN 190 USton	5	915 mm 36 in	29 mm 1 1/8 in	200 mm 7 in	170 mm 6.7 in	3402 × 960 × 725 mm 134 × 38 × 29 in	4594 Kg 10120 lb
YG225	2250 KN 250 USton	5	915 mm 36 in	29 mm 1 1/8 in	190 mm 7.5 in	180 mm 7 in	3610 × 960 × 775 mm 142 × 38 × 31 in	6200 Kg 13657 lb
			1120 mm 44 in	29 mm 1 1/8 in			3714 × 1190 × 775 mm 146 × 47 × 31 in	6600 Kg 14538 lb
			1120 mm 44 in	32 mm 1 1/4 in			3714 × 1190 × 775 mm 146 × 47 × 31 in	6600 Kg 14538 lb
YG350	3170 KN 350 USton	5	1270 mm 50 in	32 mm 1 1/4 in	220 mm 8.7 in	200 mm 7 7/8 in	4190 × 1350 × 885 mm 165 × 53.2 × 34.9 in	10860 Kg 23942 lb
YG450	4500KN 500 USton	6	1524 mm 60 in	35 mm 1 3/8 in	220 mm 8.7 in	200 mm 7 7/8 in	4887 × 1600 × 810 mm 193 × 63 × 32 in	12530 Kg 27646 lb

## 大钩参数表 Specifications of Hook

型号 type	最大钩载 max.hook load kn	主吊钩 开口尺寸 major-hook opening	弹簧 工作行程 Spring travel	外形尺寸 长×宽×高(约) overall dimension (length×width×height)	质量 (约) weight
DG170	1700 KN 190 USton	190 mm 7.5 in	180 mm 7 1/8 in	2498 × 742 × 678 mm 98 × 29 × 27 in	2100 kg 4620 lb
DG225	2250 KN 250 US ton	190 mm 7.5 in	180 mm 7 1/8 in	2545 × 780 × 750 mm 100 × 30.7 × 29.5 in	2180 kg 4806 lb
DG315	3150 KN 350 USton	220 mm 8.7 in	200 mm 7 7/8 in	2953 × 890 × 830 mm 116.3 × 35 × 34.6 in	3410 Kg 7520 lb
Dg450	4500 KN 500 USton	220 mm 8.7 in	200 mm 7 7/8 in	2953 × 890 × 880 mm 116.3 × 35 × 34.6 in	3500 kg 7720 lb







## 水龙头 Swivel

### 水龙头设计特点

\* 水龙头分普通水龙头和两用水龙头两大类，两用水龙头是将普通水龙头与旋扣器合二为一。

\* 水龙头符合美国石油协会 API Spec 8c PSL1 产品规范，并获得其颁发的 API 产品证书，允许使用 API 标志。

\* 冲管盘根总成采用盒式结构，可在钻台上迅速更换，不须拆下水龙带和鹅颈管。

\* 可选配 3LP 和 4LP 内、外螺纹水龙带接头螺纹。

\* 也可根据客户要求提供高寒地带使用的耐低温水龙头。

普通水龙头主要由提环、鹅颈管、盘根装置、壳体、中心管、主轴承和接头等部分组成，下端的接头通过标准螺纹联接方钻杆，上端提环则挂在大钩上，鹅颈管与水龙带可根据要求通过标准螺纹接头或油壬联接（正常情况下 CH125 水龙头不焊接螺纹接头，其他型号水龙头焊接 4LP 外螺纹）。

### Design Features:

Swivel has two categories, common swivel and double duty swivel. Double duty swivel is common swivel combined with spinner.

The company's swivel matches the API SPEC 8C PSL1 products standards. It received the API certification issued by the American Petroleum Institute and allow to use API monogram.

Washpipe packing set assembly adopts cassette structure. It can be exchanged quickly without disassemble rotary hose and gooseneck.

May matching 3LP and 4LP internal or external thread hose connection thread.

The company can also manufacture low temperature resistant swivel according to customer's requirement.

Common swivel consists of swivel bail, shell, Support, gooseneck, central pipe, master bearing, joint other parts. The lower end connected with kelly stem by REG thread. The swivel bail is hang on the hook. Gooseneck and rotary hose can connected by REG thread connection or union connection (Under normal circumstances, the CH125 swivel not welded thread joint, other types of swivel welded 4LP external thread).

普通水龙头基本技术参数表  
Basic Technical Parameters of Normal Swivels

型号 Type	CH125	SL135	SL160	SL170	SL225	SL315	SL450
最大静载荷 kN Max. Dead Load	1250	1350	1600	1700	2250	3150	4500
最高转速 r/min Max. Revolution	300						
最大工作压力 Mpa Max. Working Pressure	21	35					
鹅颈管中心线与垂线夹角 Angle between the gooseneck central line and vertical line	15°						
接头下螺纹 Lower thread	6 $\frac{5}{8}$ REG-LH						
中心管通径mm Bore Size of Central Pipe	Φ68	Φ60	Φ70	Φ75			
冲管通径mm	Φ70	Φ57.15	Φ70	Φ75			
提环弯曲处断面mm Fractured surface at bail bend	116×90 R50	R67.5	115×95 R63	125×115 R60	70×120 R60	180×140 R70	180×165 R75
提环弯曲半径 Bail bend radius	R105	R115					R120
外形尺寸(长×宽×高)mm overall dimension	2100×660 ×620	2290×650 ×640	2470×790 ×680	2725×840 ×785	2970×990 ×980	3010×1040 ×980	3040×1110 ×1095
质量 weight	625	777	1000	1250	2500	2700	2900

两用水龙头是在普通水龙头的结构基础上，在壳体上加入马达离合器部分。气马达的动力通过摩擦片式离合器传递给小齿轮，小齿轮带动安装在中心管上的大齿轮使接头旋转，从而实现旋扣。

我公司两用水龙头有 XSL225 和 XSL450 两种型号，其基本技术参数参照 SL225 和 SL450 普通水龙头，其它技术参数见下表：

Double duty swivel is common swivel combined with a motor clutch on its shell. Through the friction disc type clutch the driving force of gas motor transmitted to pinion, the pinion drive the gear wheel mounted on the central pipe to make the joint rotate, then achieved spinning task.

The company has two type of double duty swivel: XSL225 and XSL450. The basic parameters of these two swivels referred to the common swivel :SL225 and SL450, other parameters are as follows:

两用水龙头其它技术参数表  
Other Parameters of Double Duty Swivel

型号 Type	气马达型号 type of gas motor	额定功率 kw rated power	额定转速 r/min rated revolution	额定气压 Mpa rated gas pressure	耗气量 m <sup>3</sup> /min gas consumption	旋扣转速 r/min spinning revolution	旋扣扭矩 Nm spinning torque	进气口 Inlet	质量 weight
XSL225	FMS-20	14.7	2800	0.7-0.9	18	92	3000	Rc1 $\frac{1}{2}$	2650
XSL450									3050



## 转盘



- 大、小齿轮均为合金钢材料制成。
- 可根据需要，主补心与方钻杆滚子补心可选择采用四方或四销驱动。
- 销传动型式主补心可放入 API 标准方钻杆或六方钻杆的滚子补心，长、短卡瓦均可使用。
- 转盘润滑充分、密封可靠。
- 转盘符合 API Spec 7K 规范。



转盘参数表 Specifications of Rotary Tables

型号 type	ZP175	ZP520	ZP205-I	ZP205-II	ZP275	ZP375	ZP495
通孔直径(mm) dia.of opening	444.5 (17-1/2)	520.7 (20-1/2)	520.7 (20-1/2)	520.7 (20-1/2)	698.5 (27-1/2)	952.5 (37-1/2)	1257.3 (49-1/2)
中心距(mm) table axis center innerrow sprocket	1118(44)	1353 (53-1/4)	1353 (53-1/4)	1118(44)	1353 (53-1/4)	1353 (53-1/4)	1651(65)
最大静载荷(KN) max. dead load	2700	1960	3150	3150	4540	5850	7250
最大工作扭矩(N.m) max.working torque	13729		22555	22555	27459	32362	37000
最高转速(r/min) max.speed	350	300	300	300	300	300	300
齿轮传动比 gear rotio	3.75	3.22	3.79	3.79	3.67	3.56	3.93
外形尺寸(mm) overall dimension	1974 × 1366 × 560	2333 × 1440 × 705	2204 × 1410 × 610	1969 × 1410 × 610	2390 × 1670 × 685	2468 × 1810 × 718	2940 × 2184 × 813
重量 (kg) weight	3666.5	4500	5542	5450	6250	7970	11626

## Rotary Tables

- Gear wheel and pinions are all made of alloy steel.
- According to needs, master bushing and kelly roller bushing can adopt square drive or pin drive.
- Pin drive type master bushing can put into API standard kelly or hex kelly roller bushing. Long clips and short clips are applicable.
- Full lubrication and steady seal.
- Rotatry table is according with API Spec 7k standard.

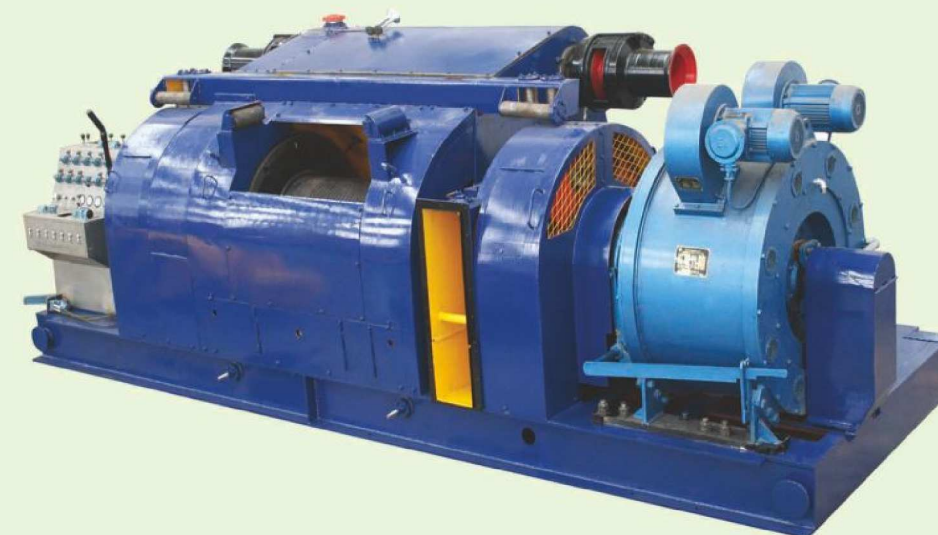
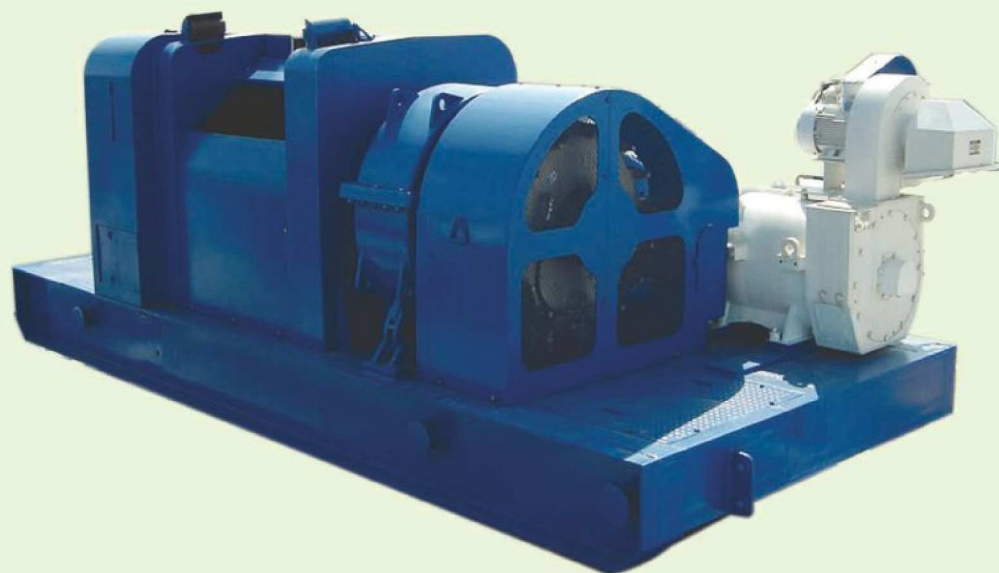




# 绞车 parameters of drawworks

## 绞车设计特点

- 轴支承全部采用滚子轴承，轴材料均为合金钢，链条均为强制润滑。
- 滚筒开槽。滚筒的高、低速端带有通风式气胎离合器。
- 刹车轮钢采用循环水强制冷却，表面经中频淬火，耐磨性好，使用寿命长。
- 链轮齿廓经中频淬火。所有换挡离合器均为渐开线花键齿式离合器。
- 主刹车采用带式或盘式。辅助刹车配电磁涡流刹车或 EATON 刹车。
- All bearings are rolling bearings and the shafts are made of alloy steel.
- The chains are pressure lubricated.
- The drum is grooved. The low-speed & high-speed ends of drum shaft are equipped with a ventilating air tube clutch. The brake rim is water cooled and the surface is medium-frequency induction hardened which provides long service life.
- The contours of the sprocket teeth are medium frequency induction hardened. All transmission clutches are of involute spline type.
- The drawworks can be equipped with either a band or disc brake system. The auxiliary brake can be equipped with either an eddy brake or an EATON brake.



绞车参数表 Specifications of Drawwrks

型号 type	JC20(二轴)	JC30L(三轴)	JC40L(三轴)	JC40(五轴)	JC40DZ(单轴)
名义钻深范围 nominal depth of drilling	1200-2000	1600-3000	2500-4000	2500-4000	2500-4000
额定功率 rated power	440KW	550KW	735KW	735KW	1100KW
最大快绳拉力 Max. fast line pull	200KN	210KN	275KN	275KN	275KN
钢丝绳直径 Dia. of wire line	Φ29mm 1 1/8	Φ29mm 1 1/8	Φ32mm 1 1/4	Φ32mm 1 1/4	Φ32mm 1 1/4
滚筒开槽尺寸 (直径X长度) size of drum groove (diameter x length)	Φ560×1120 mm	Φ560×1005.72 mm	Φ640×1142 mm	Φ640×1142.5 mm	Φ640×1302 mm
刹车轮钢 braking round steel	Φ1067×267mm			Φ1168×265mm	
刹车盘 brake disc		Φ1400×40mm	Φ1500×76mm		Φ1400×40mm
辅助刹车 auxiliary brake	SDF20(风冷)	FDWS30	FDWS40	FDWS40	236WCB2
外形尺寸(长×宽×高) overall dimension (length×width×height)	2450×5500 ×2545mm	6140×2835 ×2562mm	6600×2890 ×2670mm	6450×3553× 2429mm	6600×2946 ×2636mm
质量(Kg) weight	17528	24120	29000	28000	34825

## 机械驱动绞车基本参数

Specifications of Mechanical drive Drawworks

型号 type		JC20	JC30	JC40	JC50	JC70
名义钻深范围 Range of Drilling Depth	Φ114mm钻杆 Φ114mm Stem	1200-2000	1600-3000	2500-4000	3500-5000	4500-7000
	Φ127mm钻杆 Φ127mm Stem	1100-1800	1500-2500	2000-3200	2800-4500	4000-6000
额定功率KW(hp) rated power		440(600)	550(750)	735(1000)	1100(1500)	1470 (2000)
最大快绳拉力KN Max. Fastline Pull		200	210	275	340	485
钢丝绳直径mm(in) Dia. Of wire line		Φ29 (1 1/8)	Φ29 (1 1/8)	Φ32 (1 1/4)	Φ35 (1 3/8)	Φ38 (1 1/2)
滚筒开槽尺寸(直径×长度) mm Size of Drum Groove (Dia.× Length)		Φ560×1120 (22×44)	Φ560×1005.72 (22×39 1/4)	Φ640×1142 (25 1/4 ×45)	Φ685×1245 (27×49)	Φ770×1436 (30×56 1/2)
刹车轮钢(直径×长度) mm(in) Brake rim (Dia.× Length)		Φ1067×267 (42×10 1/2)		Φ1168×265 (46×10 1/2)	Φ1270×267 (50×10 1/2)	Φ1370×267 (54×10 1/2)
刹车盘(直径×宽度) mm(in) Brake Disc (Dia.× Length)			Φ1400×40 (55×11/2))	Φ1500×76 (59×3)	Φ1600×76 (63×3)	Φ1600×76 (63×3)
辅助刹车 Auxiliary Brake		SDF20(风冷)	EDWS30	EDWS40	DS50	DS70
外形尺寸(长×宽×高) mm Overall Dimension length×width×height		2450×5500×2545	6140×2835×2562	6600×2890×2670 6450×3553×2429	7000×2955×2780	7930×3194×2930
质量(Kg) weight		17528	24120	29000/28000	45210	43000

## 直流电驱动绞车基本参数

Specifications of DC Drive Drawworks

型号 type		JC40D	JC50D	JC70D
名义钻深范围 Range of Drilling Depth	Φ114mm钻杆 Φ114mm Stem	2500-4000	3500-5000	4500-7000
	Φ127mm钻杆 Φ127mm Stem	2000-3200	2800-4500	4000-6000
额定功率KW(hp) rated power		735(1000)	1100(1500)	1470 (2000)
电机台数×额定功率KW(hp)		2×438(537)/1×800(1072)	2×800(1072)	2X800(1072)
电机额定转速 r/min		880/970	970	970
最大快绳拉力KN Max. Fastline Pull		275	340	485
钢丝绳直径mm(in) Dia. Of wire line		Φ32 (1 1/4)	Φ35 (1 3/8)	Φ38 (1 1/2)
滚筒开槽尺寸(直径×长度) mm Size of Drum Groove (Dia.× Length)		Φ640×1139 (25 1/4×44 7/8)	Φ685×1245 (27×44 7/8)	Φ770×1361 (30×53 1/2)
刹车盘(直径×宽度) mm(in) Brake Disc (Dia.× Length)		Φ1500×76 (59×1 1/2)	Φ1600×76 (63×3)	Φ1600×76 (63×3)
辅助刹车 Auxiliary Brake		DS40	DS50	DS70
外形尺寸(长×宽×高) mm Overall Dimension length×width×height		6600×3716×2990	6800×4537×2998	7670×4585×3197
质量(Kg) weight		40000	48000	61000



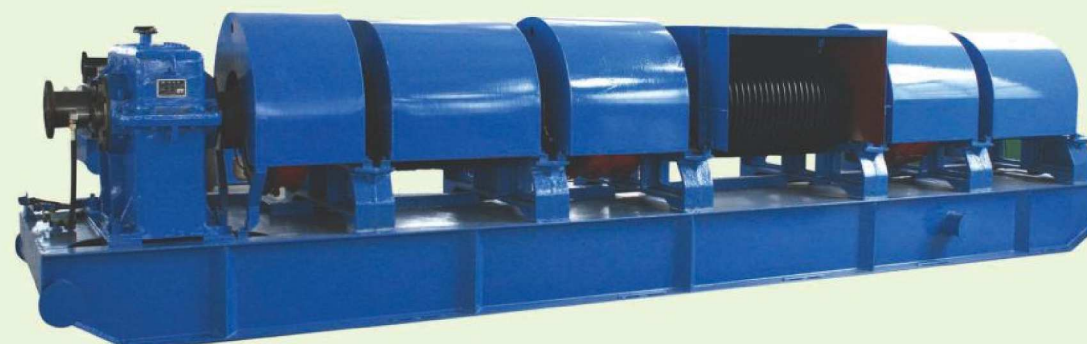
# 传动机组 transmission units

传动机组设计特点：

- 由三台柴油机驱动，带双泵、绞车、空压机、及发电机，功率能满足需要。
- 三套机组通过皮带并车，动力输出稳定。
- 利用气胎离合器来进行联接与分离。

Transmission Units design feature:

- Driven by three diesel engine, complete with double bump, drawworks, air presser and generator, power can satisfy the need.
- 3 sets of units paralleling through belt, power output steadily.
- Use air tube clutch to connect and separate.



## 传动机组参数 parameters of transmission units

型号 type	大庆130-II	ZJ45J	
装机功率 installed power	3 × 810KW	3 × 810KW	
减速箱传动比 gear reducer ratio	1.536	1.536	
上台传动装置传动比 power transmission device ratio	3.14	1.722	
输出链轮齿数 tooth number of output gear	36	40、26	
外形尺寸 (长×宽×高) overall dimension (length×width×height)	一号机组 unit 1	5135×1353×1345	5935×1455×1815
	二号机组 unit 2	6276×1196×1360	7060×1325×1505
	三号机组 unit 3	4536×1196×1360	4795×1325×1505
质量 weight	一号机组 unit 1	7010	10270
	二号机组 unit 2	5775	9585
	三号机组 unit 3	4265	6525

## SL160X、SL225X 气胎式旋扣器

气胎式旋扣器结构简单、使用方便。

旋扣器主要有箱体、楔形套、摩擦轮、气胎离合器、轴出轴套、大齿轮 1、大齿轮 2、齿轮轴、马达小齿轮、气马达、继电器、箱体底盖、等组成。摩擦轮、楔形套固定在中心管上，其它部分用螺栓固定在水龙头下壳体上。



## SL160X、SL225X air tube spinner

Air tube spinner has a simple structure and easy to use.

Spinner mainly consisted by cabinet, wedge-shaped sheath, friction wheel, air tube clutch, gear wheel 1, gear wheel 2, gear shaft, motor pinion, air motor and other parts. Friction wheel, wedge-shaped sheath fixed on central pipe, other parts fixed on swivel lower shell by bolts.

型号	type	SL160X	SL225X
额定扭矩	rated torque	1150N·m	1600N·m
制动扭矩	brake torque	2000N·m	2500N·m
旋扣转速	spinning speed	70r/min	70r/min
转 向	turn direction	单向	可逆
总传动比	overall ratio	41.22: 1	40.53: 1
气动马达参数 pneumatic motor parameters			
气马达型号	type	FMS-14	FMS-20
额定功率	rated power	10.29kw	14.7kw
额定转速	rated revolution	3200r/min	2900r/min
耗气量	air consumption	10 m <sup>3</sup> /min	18 m <sup>3</sup> /min
进气压力	intake pressure	0.7-0.9Mpa	0.7-0.9Mpa
适用水龙头	applicable swivel	SL160、SL170	SL225

## FSK-15B 风马达上扣器

风马达上扣器结构简单，安装方便，直接通过螺纹安装在接头下面。系统以压缩空气为动力源，通过叶片式起动马达及减速机构使之减速，在气压的推动下，使减速机构末端的起动齿轮与上扣器转盘中的大齿轮相结合，从而使中心管转动，并带动钻杆，实现自动旋扣。

FSK-15B 风马达上扣器基本技术参数如下：

工作压力：0.7-0.9Mpa

额定输出功率：15KW

额定功率输出扭矩不小于：1200N m

上扣时间不大于：9s

上扣时中心管转速：110r/min

适用于 CH125、SL135、SL160、SL170 水龙头。

## FSK-15B air motor make up machine

air motor make up machine has a simple structure, easy to assemble—directly mounted under the joint through thread. The system use pressed air as drive source, slow the system by vane type starting motor and slow unit. Under the force of air pressure, the starting gear at the end of slow unit work together with the gear wheel in the rotary table of make up machine to make the central pipe rotate and drive the drilling stem to achieve automatically spinning.

FSK-15B basic parameters of air motor make up machine are as follows:

working pressure: 0.7-0.9Mpa

rated output power: 15KW

Min.rated output power: 1200N m

Max. make up time : 9s

Rotate speed at make up: 110r/min

applicable swivel CH125、SL135、SL160、SL170 etc.





## 旋扣器 Spinner



### 旋扣器的设计特点

旋扣器是在钻井过程中利用液压或气压做动力，驱动钻杆旋转，与小鼠洞卡钳配合使用，因而自动完成接单杆的一种专用装置。其特点是安全、高效、减轻工人劳动强度。除快速接单杆外，还可用在打捞作业，找寻方向或需要慢转的钻井工具上，以及大鼠洞用。

我公司的旋扣器有三个品种 5 个型号，即：节爪式旋扣器、气胎式旋扣器和风动马达上扣器，节爪式扣器分为 XFK-77Q 气动式和 XFK-77Y 液动式两种；气胎式旋扣器分为 SL160X 和 SL225X 两种；风动马达上扣器型号为 FSK-15B。

### Spinner Design Features

Spinner is a Special instrument that uses liquid pressure or air pressure as driving force to drive the Kelly stem rotate. Combined use of spinner and mousehole capllipers can automatically finish the task of pipe connection. Its characteristics are safe, efficient and reducing the labor intensity. In addition to the quickness of pipe connection, it can also be used on fishing operation, search direction tools or drilling tools that demands low rotary speed.

Our company has 3 varieties spinners 5 models, they are: claw type spinner, air tube spinner, air drive make up machine. claw type spinner divides into two types: XFK-77Q pneumatic type and XFK-77Y hydraulic type; Air tube spinner divides into two types: SL160X and SL225X; Model of the air driven make up machine is FSK-15B.

## XFK-77Q(Y) 节爪式旋扣器

XFK-77Q(Y) 型节爪式旋扣器是根据美国先进样机，结合国内情况研制的，这种旋扣器具有结构紧凑、使用灵便、安装方便、安全可靠、应用范围广等特点。

XFK-77Q(Y) 型节爪式旋扣器主要由气动或液动马达、壳体、驱动轴、减速齿轮、主齿圈、棘轮牙嵌、轴承、密封件、制动圈和制动弹簧等部分组成。旋扣器支架与水龙头下壳体用螺栓固定，节爪抱着接头。

### XFK-77Q(Y)claw type spinner

XFK-77Q(Y)type spinner is researched and manufactured according to the advanced prototype in the USA and the domestic situation. Its characteristics are tightly constructed, easy to assemble, safe and wide application.

XFK-77Q(Y)claw type spinner is mainly consisted by air driven or hydraulic driven motor, shell, driving shaft, slow gear, main gear ring, ratchet jaw, bearing, seal pieces, brake ring, brake spring and other parts. Support and swivel lower shell are fixed by screw, claws hold the joint

## XFK-77Q(Y)节爪式旋扣器基本技术参数

### Basic parameters of XFK-77Q(Y) claw type spinner

型号 type	XFK-77Q	型号 type	XFK-77Y
最大输出扭矩 Max. Output torque	980N·m	最大输出扭矩 Max. Output torque	2412N·m
最大输出转速 Max. output revolution	109r/min	最大输出转速 Max. output revolution	78r/min
总传动比 overall ratio	22.98:1	总传动比 overall ratio	22.98:1
夹持外径 OD. Of holding	196.85mm( $7\frac{3}{4}$ "	夹持外径 OD. Of holding	196.85mm( $7\frac{3}{4}$ "
外形尺寸 overall dimension	797×635×741mm	外形尺寸 overall dimension	797×635×741mm
质量 weight	325kg	质量 weight	295kg
气动马达参数 pneumatic motor parameters		液动马达参数 hydraulic motor parameters	
气动马达型号 type	TM×15A	液动马达型号 Type	CMN-80
额定功率 rated power	14.7kw	进口压力 inlet pressure	16Mpa
额定转速 rated revolution	3000r/min	额定扭矩 rated torque	18 N·m
耗气量 air consumption	18 m <sup>3</sup> /min	排量 delivery capacity	80ml/r
进气压力 intake pressure	0.7-0.9Mpa	进油口螺纹 inlet thread	ZG1"
接气螺纹 inlet thread	G1 $\frac{3}{4}$ "	回油口螺纹 return pipe thread	ZG1"
适用水龙头 applicable swivel	CH125, SL135, SL160, SL170	适用水龙头 applicable swivel	CH125, SL135, SL160, SL170, SL225



## 滚子补心 Roller Bushing



### 滚子补心设计特点

该补芯为石油钻井必备工具，与转盘方瓦相配，驱动方钻杆，该产品通过四个滚子转动减少与方钻杆的摩擦，延长其寿命。对于四方和六方不同规格的方钻杆，可以通过更换滚子与之配合，与各类转盘连接，有四方转动和销轴转动二种形式。按 API Spec 7K《钻井设备规范》设计、制造。

### Roller bushing design features

This kind of bushing is the necessary product of drilling rig. It matches with the master bushing to drive the Kelly. This product rotates the Kelly through four rollers to reduce the friction thus extend its working life. This product has square drive and pin drive two forms. It can match with different type of Kelly by changing the rollers. It is designed and manufactured according to the API SPEC 7K 《Drilling Equipments Standard》.

### 滚子补心参数表 Specifications of Roller Bushing

型号 Type	类型 Style	驱动方式 Drive Method	适用方钻杆规格 Applicable type of Kelly stem	
			四方 Square Drive	六方 Hexagonal
HDS	重型 heavy	四方传动 square	2 1/2 - 6	3 - 6
27-HDP		销轴传动 pin drive	3 - 6	3 - 6
20-HDP		销轴传动 pin drive	3 - 6	3 - 6
MDS	中型 Medium	四方传动 square	2 1/2 - 4 1/4	3 - 4 1/4
RTM4		四方传动 square	2 1/2 - 5 1/5	3 - 4 1/4
20-MDP		销轴传动 pin drive	2 1/2 - 4 1/4	3 - 4 1/4
17-MDP		销轴传动 pin drive	2 1/2 - 4 1/4	3 - 4 1/4
RTS4	轻型 Light	四方传动 square	2 1/2 - 4 1/4	3 - 4 1/4



### 转盘主补心参数表 Specifications of Master Bushing

补心型号 Type		适用转型 Applicable type of Rotary Table	卡持管径 Dia. of Holding	
MSS	四方驱动 (分体) Square type Drive (Split type)	17 1/2 (18)	2 3/8 - 8 5/8	
		20 1/2		
		23		
	四方驱动 (分体) Square type Drive (Split type)	27 1/2		
		17 1/2		2 3/8 - 10 3/4
		20 1/2		
22				
MSPC	销驱动 (分体) Pin Drive (Split type)	23	2 3/8 - 8 3/2	
		27 1/2		
		27 1/2		
MDSP	销驱动 (分体) Pin Drive (Split type)	17 1/2	2 3/8 - 8 5/2	
		18		
MSP	销驱动 (分体) Pin Drive (Split type)	20 1/2	2 3/8 - 8 5/2	
		23		
MPCH	销驱动 Pin Drive	37 1/2	2 3/2 - 13 3/2	

## 套管补心

CU、CUL 和 CB 等型式的套管补心及内衬，可用于卡持 9 5/8in 至 30in 的套管。CU 和 CUL 型为整体式补心；CB 型为剖分式补心。

### Casing bushing

CU、CUL and CB type Casing bushing and linner etc can be used in casing with size from 9-5/8" to 30". CU and CUL are solid bushing; CB is split bushing.





# 气胎离合器

## Pneumatic tube clutch



气动离合器是以压缩空气为操纵动力源的摩擦离合器。一般用于需要传递大转矩和以较快速变换回转方向的设备上,如石油钻井机械、船舶、大型机械压力机、挖掘机、球磨机、橡塑机械等。

气胎离合器传递转矩大,接合平稳,便于安装,吸振,能补偿少量主,从动轴角向和径向相对偏移,从动部分惯性小,使用寿命高,结构紧凑,密封性好。气胎变形阻力大,气胎材料成本高,使用温度有一定限制,高于 60°C 时会降低气胎寿命,低于 -20°C 时易使气胎变脆。气动离合器接合元件主要采用摩擦片,摩擦块等。

胎式离合器依据其结构形式的不同又可分为普通型与通风型两种。

Air tube clutch is a friction clutch that uses compressed air as manipulating power source. Generally, this product is used on devices that need large torque transfer and more rapid transmission, such as drilling machinery, watercraft, large mechanical press machine, excavator, ball mill, rubber machinery etc.

The air tube clutch has a large transmission torque, combining smooth, easy to install, can make a little compensation of deflection to the angular direction and radial direction of main drive shaft and slave shaft. The features of the slave drive part are, small inertance, long service life, compact structure and sealing good. Air tube has large deformation resistance and high cost to the material. There has certain restricts to the usage, higher than 60 ° C will reduce the working life, lower than -20 ° C will make it brittle. The Joint elements of pneumatic clutch adopted friction disc, friction blocks etc.

Air tube clutch can be divided into common type and ventilation type two types according to the construction forms.



### 1) 普通型 common type

靠气胎传递扭矩,结构简单,制造、安装技术要求低,散热条件不如通风型,气胎容积较大,充气、放气时间较长,容易打滑。

Common type transfers torque through air tube. Simple structures, manufacture, install low technical requirements.

### 普通型气胎离合器参数表

Common type Pneumatic tube clutch

型号 type	LT300/100	LT500/125T	LT600/125T	LT700/200	LT700/135CBC	LT800/135	
图号 drawing	115.101.00	115.102.00	115.105.00	105.103.00	115.107.00	T14-013-00	
转速 rotata speed r/min	极限 max	2332-2667	1642-1877	1352-1547	1315-1504	1198-1450	1099-1328
	额定 rating	1348-1542	949-1085	781-894	760-869	687-881	635-768
扭矩 torsional moment n·m	极限 max	3080-4030	10455-13670	14810-19360	33080-43270	22350-32660	28850-42160
	额定 rating	2025-2686	6790-9114	9875-12908	22060-28850	14900-21775	19230-28080
工作压力 working pressure (mpa)	0.7-0.9	0.7-0.9	0.7-0.9	0.7-0.9	0.7-1.0	0.7-1.0	
气胎容积 pneumatic tube cubage(l)	1.3	5.5	5.5	17	2~4	2.4-5	
摩擦轮直径 attrition annulus dia (mm)	Φ300	Φ497	Φ597	Φ695	Φ700	Φ800	
联接尺寸 join link size	轮缘直径 max dia.	Φ450	Φ720	Φ820	Φ1000	Φ900	Φ1015
	轮缘宽度 max width	115	154	154	246	176	176
	定位直径 orientation dia.	Φ450d11	Φ720h11	Φ820d9	Φ1000h11	Φ900k9	Φ1015h11
	螺孔数量及直径 bolt number and dia.	12-Φ13H12	12-Φ17H12	16-Φ17H12	12-Φ27H12 4-Φ25H8	20-Φ17H12	18-Φ17H12 6-Φ17H19
	螺栓孔分布直径 bolt distributing dia.	Φ430	Φ690	Φ790	Φ950	Φ870	Φ975
进气管螺纹 air tilet pipe screw thread	M20×1.5	M20×1.5	M20×1.5	M33×1.5	2-M20×1.5	2-M20×1.5	



## 2) 通风型 Ventilated type

针对普通型不足之处而发展起来的一种气离合器,在结构上增加了一套散热传能装置。

Against the inadequacies of the common type, developed pneumatic clutch and adopted a set of Thermal Energy Transfer Device

### 通风型气胎离合器参数表

#### Ventilated type Pneumatic tube clutch

型号 type	AVB500/200	LT500/250T	AVB600/250	LT700/250T	LT700/135DY	LT800/250T	
图号 drawing	G301.21.00	T14-014-00	G301.22.00	AF24001.02.0 1.00A	115.31.00	115.28.00	
转速 rotata speed r/min	极限 max	1312-1578	1586-1701	1281-1544	-	1569-1890	1016-1224
	额定 rating	758-912	916-983	740-892	-	907-1092	587-707
扭矩 torsional moment n·m	极限 max	17110-24970	23390-26900	32200-46710	-	24560-35630	54240-78660
	额定 rating	11406-16646	15590-17930	21466-31140	32100-47300	16170-23750	36160-52440
工作压力 working pressure (mpa)	0.7-1.0	0.7-0.8	0.7-1.0	0.7-1.0	0.7-1.0	0.7-1.0	
气胎容积 pneumatic tube cubage(l)	13×2	3-5	2×2	2.28×2	24	2.66×2	
摩擦轮直径 attrition annulus dia (mm)	Φ500	Φ496	Φ600	Φ700	Φ700	Φ800	
联接尺寸 join link size	轮缘直径 max dia.	Φ780	Φ750	Φ890	Φ1010	Φ935	Φ1115
	轮缘宽度 max width	234	288	284	292	200	300
	定位直径 orientation dia.	Φ300H8	Φ750f9	Φ340H8 40H8×100	Φ240H8	Φ360H10	Φ1105f9
	螺孔数量及直径 bolt number and dia.	40H8×80	12-Φ18 H10	12-Φ23 H10	8-Φ32 H8	16-Φ22H10	16-Φ22 H10
	螺栓孔分布直径 bolt distributing dia.	10-Φ18 H10	Φ720	Φ420	Φ300	Φ400	Φ1070
进气管螺纹 air tilet pipe screw thread	Φ360	2-M20×1.5	2-G1/2"	2-G1/2 "	1-M20×1.5	2-G1/2 "	



型号 type	LT800/250T	LT900/250T	LT1070/200T	AVB1120/300	LT1170/250T	AVB1250/300	
图号 drawing	115.29.00	ZB01.05.00	115.01.00	G301.25.00	115.02.00	G301.26.00	
转速 rotata speed r/min	极限 max	1016-1224	903-1087	932-1123	-	765-820	-
	额定 rating	587-707	522-628	539-668	-	442-474	-
扭矩 torsional moment n·m	极限 max	54240 -78660	68000 ~98930	84600-122670	-	117740 -134130	-
	额定 rating	36160 -52440	45467 ~65953	56400 -81790	123000 -175500	78490 -89420	153000 -218000
工作压力 working pressure (mpa)	0.7-1.0	0.7-1.0	0.7-1.0	0.7-1.0	0.7-0.8	0.7-1.0	
气胎容积 pneumatic tube cubage(l)	2.66×2	3×2	30	3.96×2	5-7	44×2	
摩擦轮直径 attrition annulus dia (mm)	Φ800	Φ897	Φ1055	Φ1120	Φ1168	Φ1250	
联接尺寸 join link size	轮缘直径 max dia.	Φ1115	Φ1230	Φ1400	Φ1450	Φ1500	Φ1580
	轮缘宽度 max width	300	292	260	357	302	357
	定位直径 orientation dia.	Φ350H8 40H8×100	Φ1220f9	Φ1400h11	Φ840H8 60H8×100	Φ1500h10	Φ1050H8 60 H8×90
	螺孔数量及直径 bolt number and dia.	12-Φ22 H10	16~Φ22 H10	12-Φ27 H10 4-Φ25H8	20-Φ23 H10	12-Φ27 H10	16-Φ25 H10
	螺栓孔分布直径 bolt distributing dia.	Φ420H8	Φ1184	Φ1350	Φ890	Φ1445	Φ1110
进气管螺纹 air tilet pipe screw thread	2-G1/2"	2-G1/2"	2-M33×1.5	2-G1/2"	2-M33×1.5	2-G1/2"	