JJC TEC®

2025

北京捷杰西科技股份有限公司

企业手册

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立志成就中国制造在能源领域的国际品牌

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我们致力于技术创新和管理创新

品质

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快乐

我们规范制度、奖励卓越、提倡合作，创造快乐的工作环境

公司简介

北京捷杰西科技股份有限公司专注于石油行业高端智能装备的研发制造，立志成就中国制造在能源领域的国际品牌。公司拥有强大的自主研发能力和国际领先的技术及产品，是国家高新技术企业和国家专精特新“小巨人”企业。获得ISO 9001 质量管理体系认证和美国石油协会API Q1 质量体系认证，拥有多项国内外发明专利。公司总部位于北京，在天津设有制造中心，在世界多地设有分支机构。

公司主营业务由高端智能石油装备研发制造和高端石油装备技术服务两大板块组成，业务范围和规模正在快速扩大。其中，研发制造板块有多款自主产品以独特的性能优势赢得市场主导地位。技术服务板块凭借专业的人才团队和强大的技术能力，为海洋油气开发与生产提供高端技术服务保障和国产替代解决方案。

公司资质

捷杰西坚持自主研发和创新，拥有近百项国内外发明专利及软件著作权。捷杰西始终把质量放在首位，不断提升管理水平，先后获得了 ISO 9001 质量管理体系认证、ISO 14001 环境管理体系认证、ISO 45001 职业健康安全管理体系认证、美国石油协会 API-Q1 体系认证、API Spec 7-1/7K/8C 会标认证。

API 资质证书

资质证书

专利及软件著作权证书

Tripro® 智能钻井系统

Tripro® 智能钻井系统采用全数字化、智能化控制技术，实现钻井管柱在地面、井口、立根盒之间的自动、高效、精准移动，与传统人工作业相比可大幅提升作业效率，减轻劳动强度，实现钻井作业本质安全。

01 一键式智能化全流程自动作业

02 集成控制 + 区域管理，实现无人化作业

03 大幅减少作业人员，安全可靠高效

技术特点

安全

- 实现钻台面和二层台无人化，降低安全风险
- 设备互锁联动，实现本质安全
- 防碰撞功能、区域管理系统、AI机器视觉助力安全作业

效率

- 起、下钻实现全自动 “一键式” 作业
- 管具处理系统与提升系统并行作业，缩短作业时间
- 低位安装，随井架起升

可靠

- 悬持方式受力好，钻杆不弯曲不倾斜
- 上下机械手同步移动，伺服控制，钻杆移运平稳、快速、精准

实用

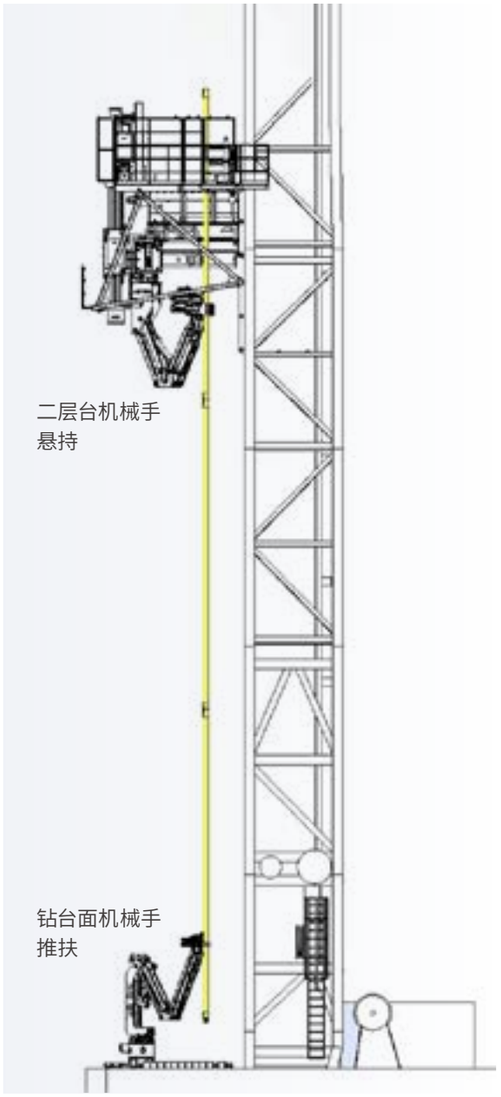
- 井口自动对扣，与吊卡自动交接，无需司钻干预
- 单、双司钻配置灵活，操作简便

自动排管系统

产品特点

- 采用悬持形式，重心位于夹持点下端，稳定性好
- 全电驱动，速度快，精度高
- 先进运动控制算法，钻具运动迅速、平稳不抖动
- 一键式全自动作业，无需司钻操作

悬持式设计



二层台机械手

SPH-2.5

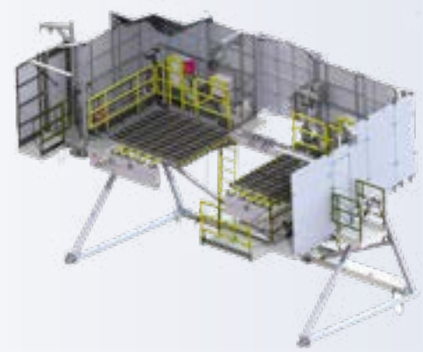
技术参数	
适用管具范围	2-7/8"DP~11" DC
最大举升载荷	25 kN
最大举升范围	1.9 m
最大举升速度	0.2 m/s
最大平移速度	0.3 m/s
最大回转速度	15° /s
回转角度范围	±90°

钻台机械手

PHR-8

技术参数	
适用管具范围	2-7/8"DP~11" DC
最大推扶载荷	8 kN
臂架操作半径	3.8 m
最大伸缩速度	0.4 m/s
最大平移速度	0.3 m/s
最大回转速度	30° /s
回转角度范围	±90°

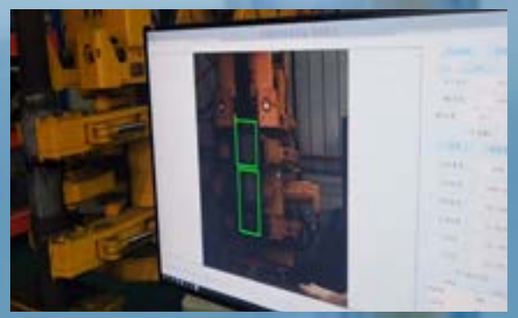
动力指梁架



人工智能赋能

Tripro® 智能钻井系统广泛应用人工智能技术，包括业界领先的计算机视觉技术和激光雷达技术，实现钻台无人化作业，大幅提升作业效率，降低作业风险。

应用场景



计算机视觉技术

AI 空间管理系统

捷杰西创新产品

我们坚持以创造客户价值为目标，努力技术创新。公司自主研发产品系列均拥有国内外专利，领先国际先进水平，深受用户喜爱。

智能铁钻工

JJC 智能铁钻工采用了新型的能够快速并安全地完成管具上卸扣和旋扣的作业方法，耐用、易于安装、操作及维护。

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智能铁钻工技术参数

SW08

适用管具范围	2-7/8" DP~8-1/2" DC
最大旋扣速度	80 RPM @ 5" DP
最大旋扣扭矩	5,000 N·m (3,750 ft-lb)
最大上扣扭矩	120,000 N·m (90,000 ft-lb)
最大卸扣扭矩	130,000 N·m (100,000 ft-lb)

SW10

适用管具范围	2-7/8" DP ~ 9-3/4" DC
最大旋扣速度	80 RPM @ 5" DP
最大旋扣扭矩	5,000 N·m (3,750 ft-lb)
最大上扣扭矩	140,000 N·m (100,000 ft-lb)
最大卸扣扭矩	160,000 N·m (120,000 ft-lb)

SW12

适用管具范围	2-7/8" DP ~ 10" DC
最大旋扣速度	80 RPM @ 5" DP
最大旋扣扭矩	5,000 N·m (3,750 ft-lb)
最大上扣扭矩	150,000 N·m (110,000 ft-lb)
最大卸扣扭矩	180,000 N·m (135,000 ft-lb)

SW16

适用管具范围	2-3/8" DP ～ 11- 1/2" DC
最大旋扣速度	80 RPM @ 5" DP
最大旋扣扭矩	5,500 N·m (4,100 ft-lb)
最大上扣扭矩	160,000 N·m (120,000 ft-lb)
最大卸扣扭矩	200,000 N·m (150,000 ft-lb)

SW10-E1

适用管具范围	2-7/8" DP ~ 9-3/4" DC
最大旋扣速度	80 RPM @ 5" DP
最大旋扣扭矩	5,000 N·m (3,750 ft-lb)
最大上扣扭矩	140,000 N·m (100,000 ft-lb)
最大卸扣扭矩	160,000 N·m (120,000 ft-lb)

钻修一体铁钻工

钻修一体铁钻工 WD-140 覆盖修井作业常用油管、钻杆尺寸范围，可以保证油管一次性旋扣到位，钻杆一次性冲扣到位。采用业内首创技术实现一台设备满足修井和侧钻等多种工况的作业要求。

钻修一体

大、小修和侧钻一机适配。

管具覆盖

覆盖常用油管、钻杆尺寸范围。

功能强大

油管一次性旋扣到位，钻杆一次性冲扣到位。

轻便快移

设计紧凑、体积小、重量轻。

技术参数			
型号	WD-140	旋扣速度	80 RPM @ 2-7/8" DP
管具范围	油管 2-3/8" ~ 4-1/2" 钻杆 2-3/8" ~ 5"	最大上扣扭矩	45,000 N·m (33,300 ft-lb)
钳头伸缩范围	1,450 mm (57.4")	最大卸扣扭矩	50,000 N·m (36,900 ft-lb)
升降范围	920 mm (36.2")	液压源要求	100 L/min @ 14 MPa
最大旋扣扭矩	6,000 N·m (4,425 ft-lb)	重量	3,750 kg (8,267 lbs)

高性能机械密封冲管

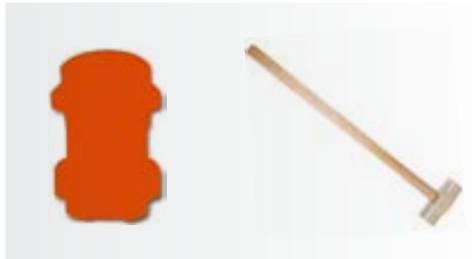
冲管总成上端与鹅颈管相连，下端与顶驱主轴相连，形成了钻井液的高压旋转通道。

密封环摩擦副采用耐磨、耐腐蚀、耐高温的高性能复合陶瓷材料。

带压运转时长达 1500 小时。

可承受 120°C高温，70 MPa 高压。

盘根式冲管



- 冲管总成整体更换
- 2 人交叉作业
- 锤击由壬
- 所需时间: 120 分钟

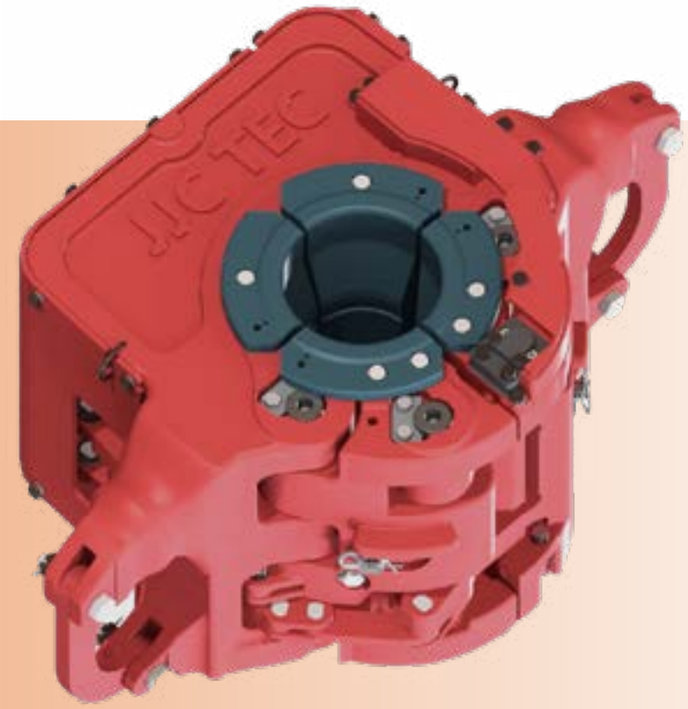
机械密封冲管

- 更换上下密封环
- 单人作业
- 使用棘轮扳手
- 所需时间: 10 分钟

技术参数			
通径	76.2 mm (3.0")	101.6 mm (4.0")	101.6 mm (4.0")
最大工作压力	52.5 MPa (7,500 psi)	52.5 MPa (7,500 psi)	70 MPa (10,000 psi)
适用泥浆类型	水基泥浆 或 油基泥浆		
尺寸 (长度 x 外径)	368.3 x 241.3 mm	368.3 x 268.0 mm	367.3 × 268.0 mm
重量	40 kg	50 kg	50 kg

液压吊卡

捷杰西液压吊卡采用了新型的开关门与安全互锁结构，可靠性高。



使用油道少

通过创新设计 1 路油道可实现本体正常工作，2 路油道可添加翻转机构或负载反馈功能。

老钻机加装不需要改造顶驱。

安全

创新的机械锁紧机构和冗余的液压锁紧与反馈设计，安全可靠。

易于维护

创新的快速拆卸主承载销，维修便捷。补芯可快速更换。

高可靠性

超大扭矩的开关门力矩在冬季结冰与泥浆污染的情况下，仍能顺畅开关吊卡。

钻杆吊卡

技术参数				
型号	SE25-A1	SE35-A1	SE50-A1	SE75-A1
载荷额定值	2,250 kN	3,150 kN	4,500 kN	6,750 kN
适应管径范围	2-3/8" ~ 7-1/4"		2-3/8" ~ 9-3/4"	
液压系统压力	16 MPa (2,300 psi)			
最大开门力矩	1,200 N·m (890 ft-lb)	1,600 N·m (1,180 ft-lb)		
最大关门力矩	2,000 N·m (1,480 ft-lb)	2,800 N·m (2,070 ft-lb)		
安全门最大开门力矩	800 N·m (590 ft-lb)	1,400 N·m (1,030 ft-lb)		
安全门最大关门力矩	1,300 N·m (960 ft-lb)	2,500 N·m (1,840 ft-lb)		
控制方式	自动关门、司钻开门、设备联锁			

套管吊卡

技术参数		
型号	SE35-B1	SE50-B1
载荷额定值	3,150 kN	4,500 kN
适应管径范围	8-5/8″ ~ 14″	9-5/8″ ~ 20″
液压系统压力	16 MPa（2,300 psi）	
最大开门力矩	1,700 N·m (1,250 ft-lb)	
最大关门力矩	2,900 N·m (2,140 ft-lb)	
安全门最大开门力矩	1,400 N·m (1,030 ft-lb)	
安全门最大关门力矩	2,400 N·m (1,770 ft-lb)	
控制方式	自动关门、司钻开门、设备联锁	

动力卡瓦系统

轻巧

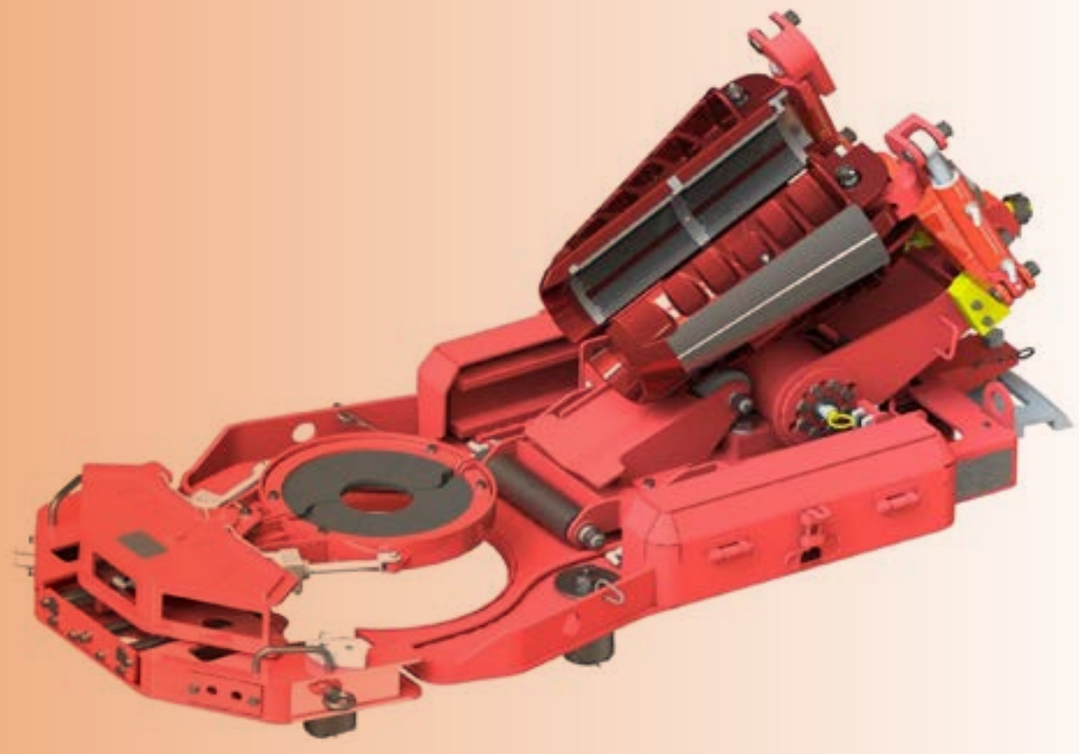
体积小，重量轻，易于维护。

安全

仿生设计，联动互锁，采取使能控制解卡，避免卡死风险。

避开井口

待机时避开井口，不磨钻具。



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动力卡瓦

PS-A1

JJC 动力卡瓦创新设计，可快速提放不同类型卡瓦，可靠耐用，易于安装和维护。

技术参数	
适用管具范围	2-3/8" ~ 6-5/8"
最大工作压力	17.5 MPa (2,540 psi)
额定流量	25 LPM (6.6 GPM)
重量	310 kg (684 lbs)
外形尺寸 (长 x 宽 x 高)	1,470 x 810 x 815 mm (57.9" x 31.9" x 32.1")
控制方式	本地、远程、集成控制

自动刮泥器

PMW-A1

自动刮泥器是一种井口自动化设备，在起钻的过程中代替人力清洁管具外壁的泥浆。

技术参数	
适用管具范围	2-3/8" ~ 6-5/8"
额定工作压力	0.5 ~ 1.0 MPa 气动
外形尺寸 (长 x 宽 x 高)	762 × 890 × 310 (30" × 35" × 12.2")
重量	59 kg (110 lbs)
控制方式	脚踏控制、远程、集成控制

沉入式卡瓦

HPS-A1

捷杰西沉入式卡瓦具有卡持范围大，坐卡受力面积大，具有反扭矩功能，自动对中功能、精确信号反馈、钳牙自适应、安全互锁等技术特点。

技术参数	
适用转盘	ZP375
适用管具范围	2-3/8″ -14″
最大载荷	4,500 kN
最大承载扭矩	120,000 N·m
液压需求	40 L/min @ 16 MPa
控制方式	集成控制

综合液压动力站

自有专利的负载敏感控制技术，电机泵组功率自动匹配负载功率。无负载时自动进入小流量待机状态，平均能耗可降低 80%。

采用模块化橇装设计，预留钻机集成控制端口，满足客户钻机的新造和定制化改造需求。

耐用

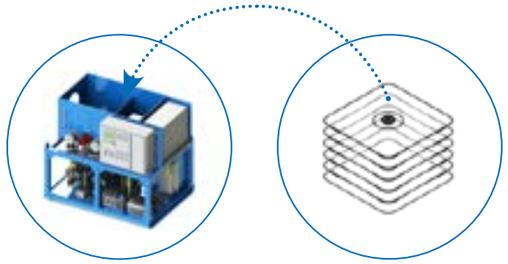
环保

适配

专利呼吸胶囊

专利技术的呼吸胶囊通过特殊材质和优良的工艺制作，为长方体或者枕形结构，安装在辅助油箱内部，形成封闭的油箱系统。

在液压站工作过程中，通过油箱呼吸胶囊的收缩和膨胀，平衡油箱内外压力，同时隔绝油箱内的液压油与外界空气，从而有效保证了液压油的清洁度，延长了液压油的使用寿命。



技术参数		
型号	HPU45-140DI	HPU55-200DI
系统最大流量	140 L/min	200 L/min
系统最大压力	21 MPa (3,000 psi)	21 MPa (3,000 psi)
系统主电机功率	45 kW × 2	55 kW × 2
油箱有效容积	1,000 L	1,200 L
整机重量	3,000 kg	4,800 kg
整机尺寸 (长 x 宽 x 高)	2,200 x 1,850 x 2,000 mm	2,450 x 1,850 x 2,100 mm

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洁扣涂油装置

ABM-H1

洁扣涂油模块可安装在钻台面下，非工作状态下不占用钻台空间。洁扣和涂油作业可与钻进作业并行，不占用钻井时间，是实现钻井无人化的重要自动化装备。

技术参数	
供电方式	10 A @ 220 V 50/60 Hz
管具范围	2-7/8 " ~ 5-7/8 " DP
垂直升降高度	445 mm (17.5”)

缓冲机械手

缓冲机械手代替人工推扶管具，完成猫道、鼠洞与井口间的管具运输。采用液压驱动，精准定位，自动对中，结构紧凑，控制简单，可靠性高。

技术参数	
适应管具范围	2-7/8" ～ 24"
最大缓冲推力	13 kN
最大伸出速度	0.65 m/s
翻转角度	-2°～ 85°

井口抢接装置

代替人工进行危险的抢接工作，安全高效。待机时在钻台面下，不占用钻台面空间。可适配不同规格止回阀，“一键式” 操作，可在 30-50s 内抢接完成，响应迅速。设备紧凑体积小重量轻，方便移运。

技术参数	
最大上扣扭矩	9,000 N·m
设备重量	2,000 kg
外形尺寸（待机状态）	1,450 x 1,050 x 1,650 mm
液压源	60 L/min @ 17.5 MPa
气压源	150 L/s @ 0.7 MPa

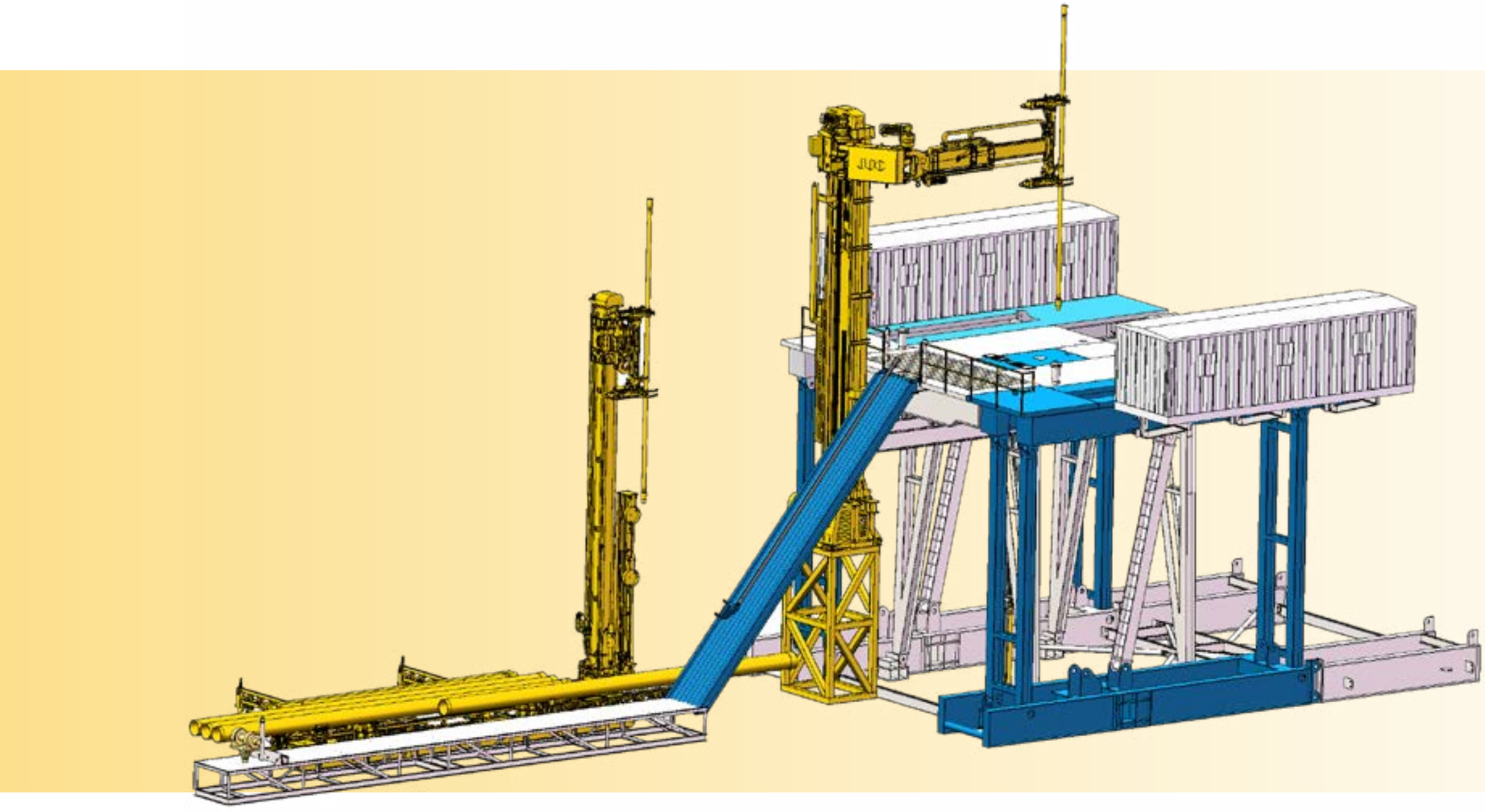
场地机器人系统

PHRB-4.5

场地机器人系统通过流水线作业及垂直处理管具方式，在井口和鼠洞实现管具抓取及自动对扣，减少井口占用时间。

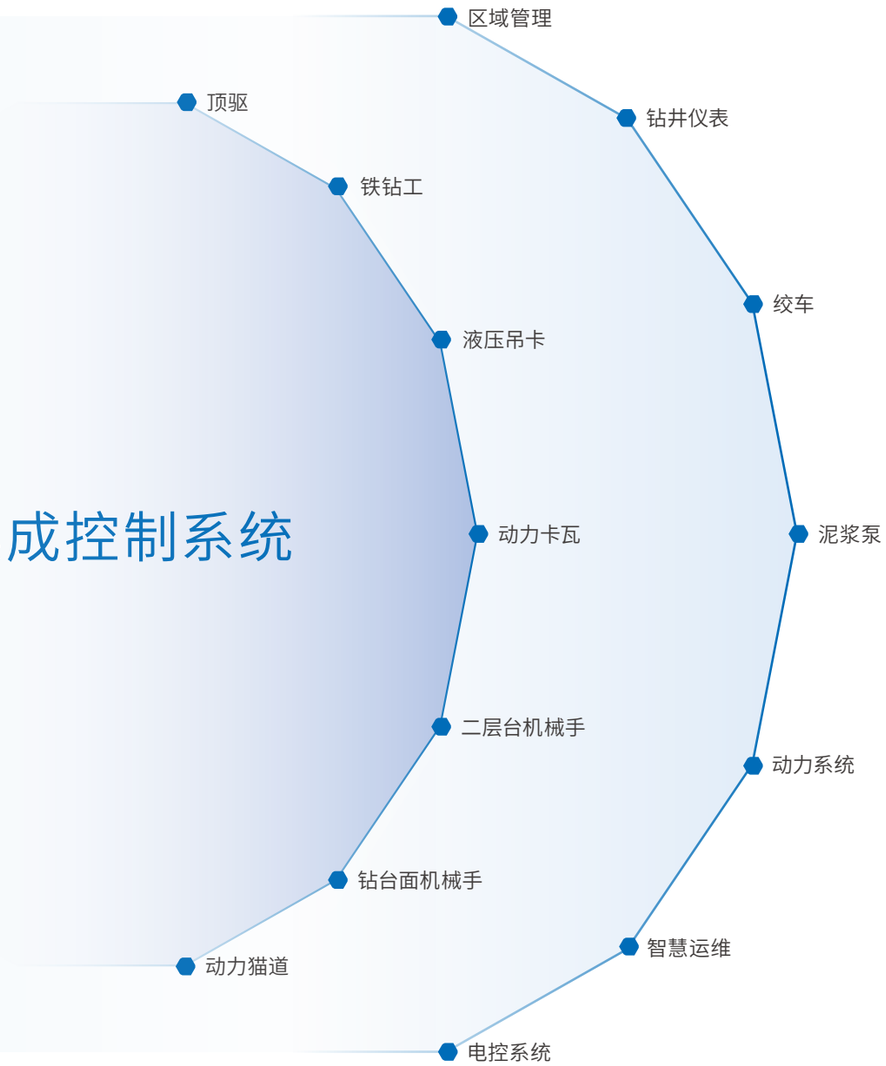
- 井口和鼠洞完成管柱对扣、建立根、甩钻具功能
- 集成卸护丝、测长、通径、洁扣、涂丝扣油、喷码等功能
- 伺服控制，高效率，高精度，高稳定性，不受环境温度影响

技术参数	
举升范围	12 m
适应管柱范围	2-3/8" ~ 20"
取送管柱回转速度	35° /s
适应最大管柱重量	4,500 kg
单根作业效率	60 柱 / 小时



集成控制系统

- 集成绞车、顶驱、泥浆泵、排管机、铁钻工、液压站、吊卡、卡瓦、盘刹、猫道、钻杆盒等设备控制。
- 集成急停按钮、CCTV 控制面板、司钻对讲。
- 集成机器视觉、区域管理、远程运维系统。
- 权限分级管理，保证作业安全。
- 开放式平台，兼容第三方设备。



AI 产品

AI 空间管理系统

空间管理系统配套的视觉设备安装在司钻房顶靠近井口位置,整体视野范围水平方向可达 220 度,垂直方向 85 度。该系统同样适用于泥浆泵区、灌区、防喷器地面控制房等区域。

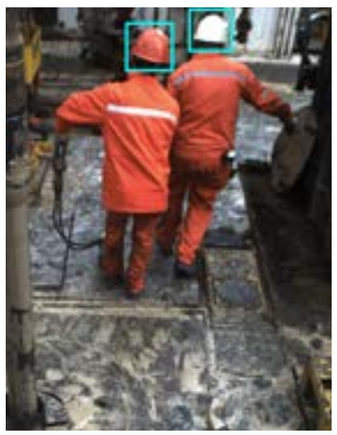
该系统可根据需求定制安全场景算法,实现烟雾火焰、设备状态、作业人数检测,识别工服、反光衣、人员跌倒、离岗、脱岗、睡岗、抽烟、打电话等功能。

红区检测

人员进入红区后报警

防碰撞功能

定位人员和设备，实现防碰撞功能

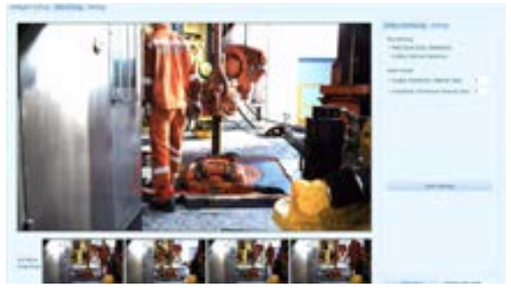


安全帽检测

检测安全帽是否正确佩戴

基于 CCTV 的区域管理系统

CCTV区域管理系统升级服务借助人工智能与大数据分析技术，实现了从传统人工监控向智能识别与自动预警的转变。可对井场环境、人员和设备进行全方位的实时监控与深度分析，快速锁定异常，极大地增强井场运维的安全。



智能司钻座舱

智能司钻座舱位于井场地面远端，舱内设置一台多功能司钻操作台，具备工作模式与虚拟场景模式。可实现钻井系统远程操控，只需一名操作人员即可控制整套钻机。

远程操作

可使用本设备操作全套自动化设备

虚拟培训

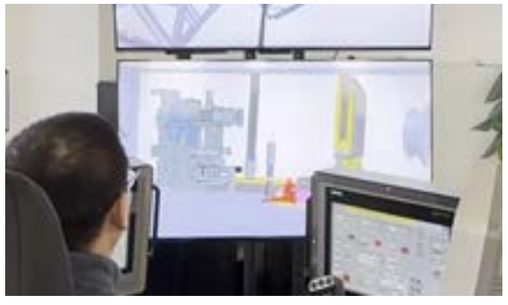
在仿真平台上完成操作培训，感受现场作业场景，快速适应行业工况

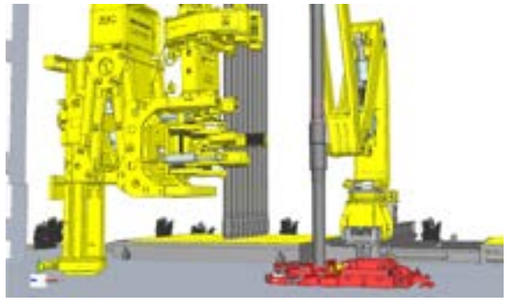
仿真调试

可在仿真平台上实现对控制系统的调试，大幅提升效率，缩减调试时间

3D 数字孪生技术

- 根据钻机信息定制建模。
- 可展示二层台、钻台面视野及各自动化设备。





顶驱电控房

根据客户的具体需求以及现场应用的实际要求， 可提供包括 ABB、SIEMENS 等国际知名品牌在内的变频驱动产品，同时也支持选用其他优质的国 产品牌变频器，以满足多样化的应用场景和个性化需求。

* 实际产品与图片可能会存在出入，产品参数可根据客户要求进行定制。

高性能

变频驱动装置采用ABB ACS880、SIEMENS S120等系列变频器，可根据用户的偏好选择。

快速精准

根据客户的具体需求可以选用包括西门子S7-1500在内的控制器和各类模块，配有集成CPU显示面板，搭配Profinet网络系统，具有响应速度快，支持调试与诊断的功能。

冷却

空调采用一体式设计的工业空调，针对海洋环境还可以选用船用产品，可适应极端气候环境。1台或者2台空调可选，确保电控房安全、稳定、高效的工作环境。

可靠

电控房所有关键电气件选用Siemens、Schneider、ABB、Amphenol等国际知名品牌产品，确保设备的可靠运行。

定制程序

可提供定制化的软件包用以控制不同品牌和型号的顶驱，并且可以增加和其它设备（如绞车）的联锁或者其他设备（如吊卡）的控制功能。

安全

电控房体设计制造符合行业质量标准，满足整体吊装及运输要求，并且能适应需防腐、防盐雾的工作环境。

自升式平台升降系统润滑装置

JUL-AI 自升式平台升降系统润滑装置，用于对自升式钻井平台的升降装置齿轮传动机构进行自动润滑，可适配于各类采用齿轮齿条方式进行升降作业的自升式海洋钻井平台。它可以取代传统人工润滑作业方式，实现高效、经济、环保的自动化涂油作业并且易安装、易保养。该设备已经成功部署在包括中海油服、中油海工等海洋钻井作业者的多个自升式海洋钻井平台上。

* 实际产品与图片可能会存在出入，产品参数可根据客户要求进行定制。

安全

遥控和自动化作业，不需要登高作业。

经济

设备自动化运行，同时解放多达9个工位*。可根据实际需求调整喷油量，精准喷涂，减少油料浪费。

环保

油料精准喷涂，减少海洋排入量。

维保便捷

润滑点相互独立，单点故障不影响其他部分工作。同时设备灵活度高，可灵活布置润滑点位置和数量来适应平台具体情况。

安装灵活

结构紧凑，重量小，易安装。

* 实际情况取决于平台尺寸和设计

高端技术服务

A+ 级团队

- 拥有 20+ 位行业专家，以及一支拥有多年现场工作经验的工程师队伍。
- 团队内骨干成员曾长期就职于行业内知名国际公司。

高专业度

- 为不同钻井包或钻井单元提供包括硬件与控制系统在内的 7*24 全天候现场和远程技术支持。
- 熟悉行业内各个主流厂商的设备和系统。

及时高效

- 凭借充足的设备配件库存，能够实现设备维修的快速响应与高效交付。
- 依托优化的供应链管理体系，可依据实际需求精准调配并及时获取所需物料，确保维修与运维工作的连续性与高效性。

深耕高端装备服务十余年

桥吊

载人工作篮

指梁检修

故障诊断及现场检修

根据客户要求，我们可以提供现场检查和维修服务或车间大修服务，涵盖所有关键钻井设备，包括顶驱、绞车、排管机等。

顶驱

现场修理

车间修理

船厂维修

绞车

铁钻工

JJC TEC

钻井控制系统升级

我们提供现场故障排除服务，可为高温 / 极寒钻机提供维护服务。

- 累计为COSL, CPOE, SINOPEC等客户的超过50个海洋平台提供服务。
- 快速的备件供应和维修维护能力。

平台系统升级包括如下 2 类升级项目：

钻井设备控制系统及升级

- 钻井设备控制服务器硬件以及通讯卡件的升级，解决原始旧服务器停产造成的备件缺失和服务器卡件不兼容的问题，延长了服务器使用寿命。
- 控制系统服务器操作系统升级，在不改变原有逻辑以及框架的基础上进行了控制软件的更新。

其他控制系统升级

其他控制系统如变频控制系统，VMS系统等各类专用控制系统的升级、改造。

数字孪生 / 虚拟调试系统

现场调试

定制化产品服务

机械类

总成件

电气类

传感器

液压类

泵、马达

液缸总成

电缆接头

阀汇总成

获取更多信息：

足量备件库存 我们在国内设有备件库，储备大量各种配件现货，快速响应客户需求。

顶驱备件服务

1 液缸总成

2 背钳液缸总成

3 齿轮油泵总成

4 旋转头法兰内套

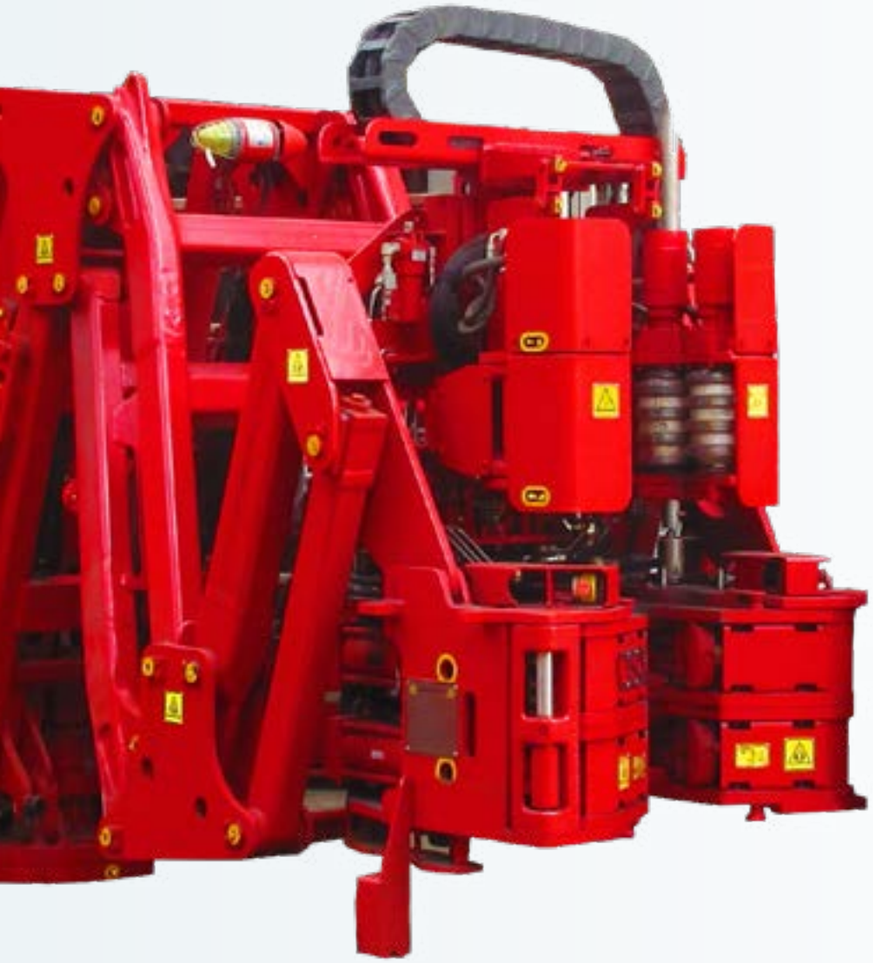
5 顶驱锁销总成

6 顶驱管子处理器

7 S 管

铁钻工备件

铁钻工是自动化钻机的重要设备，冲扣钳和旋扣钳是用于钻具夹持和上、卸扣的关键组件。使用频繁、作业强度高、承受负载大、作业环境恶劣，需要频繁拆卸和安装。



旋扣钳

稳定器

冲扣钳

扭矩钳

液压阀组

钳颚

旋转器

滚轮

钻井绞车备件

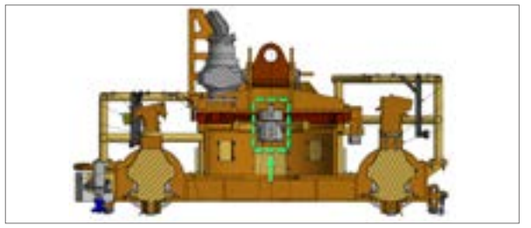
ADS 系列（自动绞车系统）是一种由齿轮驱动的机械绞车。由于工作负荷条件高，需要频繁的拆卸和安装。

大扭矩齿轮箱组件

伊顿摩擦盘式刹车组件

排管机备件

旋转油道总成广泛应用于各种钻井设备中，为设备固定件和旋转件之间的液压（气压）提供通道，并且保证各液（气）路精确匹配，固定件和旋转件之间可以无限制旋转。



全球服务网络

捷杰西在国内主要油区及海外多个国家设有服务站，储存有可支持区域内服务的充足备件库存。可以快速响应客户的需求，就近向客户提供优质的技术服务。

客户满意
是我们的服务宗旨

服务中心
北京市北京经济技术开发区

海洋服务中心
天津市津南区咸水沽镇

华北服务站
天津市津南区咸水沽镇

宝鸡服务站
陕西省宝鸡市渭滨区

西北服务站
新疆维吾尔自治区克拉玛依市白碱滩区
新疆维吾尔自治区阿克苏地区库车市经济技术开发区

西南服务站
四川省内江市威远县

东北服务站
黑龙江省大庆市让胡路区

华东服务站
山东省东营市东营区

国外—沙特服务站
Al Khobar 31952, KSA,Villa -02 Alfalak compound P.O Box 2060

国外—科威特服务站
Room B6, First floor, building E976, 80 Salem Sabah Al Salem St, block 4, Mahboula, Kuwait

国外—阿联酋服务站
PO Box 17298 Jebel Ali, Dubai United Arab Emirates

国外—墨西哥服务站
Av. Tabasco #110 Fraccionamiento Guadalupe, Villahermosa, Centro Tabasco

www.jjcpe.com

公众号

官网

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JJC TEC®

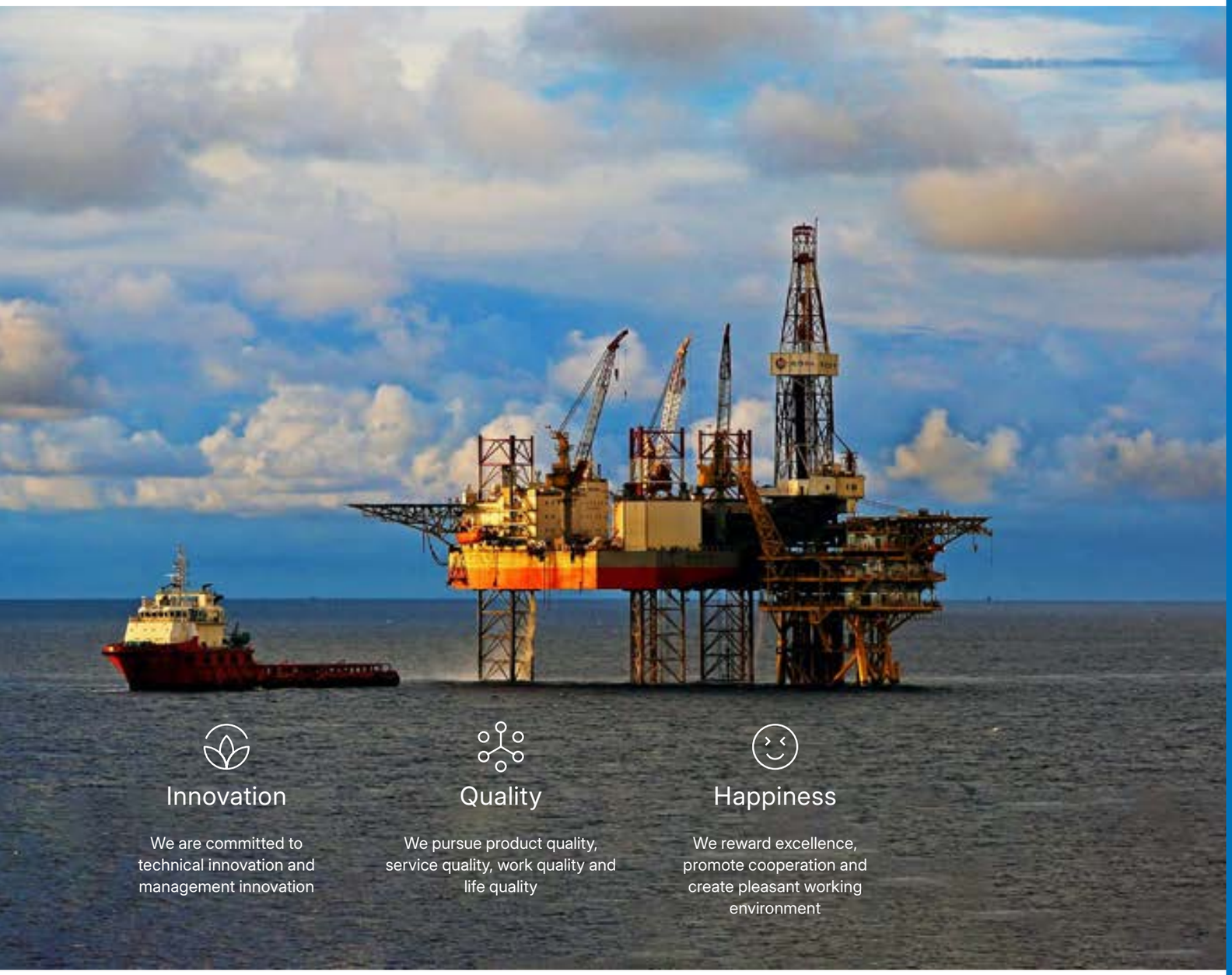
2025

Beijing JJC Technology Co., Ltd.

Company Brochure

Contents

Thriving for global reputation in energy sector



Innovation

We are committed to technical innovation and management innovation

Quality

We pursue product quality, service quality, work quality and life quality

Happiness

We reward excellence, promote cooperation and create pleasant working environment

Company Profile

Beijing JJC Technology Co., Ltd. is dedicated to the development of high-end intelligent equipment for the oil industry. The company possesses strong R&D capabilities, world-leading technology and products. It is accredited as the national high-tech enterprise and the national innovative “little giant” enterprise.

The company has two business sectors, intelligent equipment design & manufacture (D&M), and high-end technical service. The D&M sector has a number of proprietary products with unique performance advantages leading to a dominant market position. With a talented professional team and strong technological capabilities, the service sector provides comprehensive technical solutions for offshore oil and gas platforms.

Qualifications

JJC adheres to independent R&D and innovation, owns dozens of invention patents and software copyrights. JJC always puts quality first and improves its management continuously. It has successively obtained API Specification Q1, API Spec 7-1 / 7K / 8C certifications, ISO 9001, ISO 14001 and ISO 45001.

API Qualification Certificates

ISO and Other Qualification Certificates

Certificates of Patents & Software Copyrights

Tripro® Intelligent Drilling System

Tripro® Intelligent Drilling System adopts digital and intelligent control technologies to achieve automatic, efficient, and precise movement of drilling pipes between the ground, wellhead, and set back. Compared with traditional manual operations, it significantly enhances operation efficiency, reduces labor intensity, and ensures intrinsic safety in drilling operation.

01 "One button" automatic operation

02 Integration controls and zone management, realizes unmanned drilling

03 Reduce headcount, enhance operation safety and boost efficiency

Technical Advantages

Safe

- Unmanned drill floor and monkey board reduce operation risk
- Intrinsic safety through equipment interlocking
- Anti-collision, zone management system, and AI vision enhance safety

Efficient

- Fully automatic "one-button" operation for tripping in and out
- Parallelize the pipe handling system and the hoisting system, shorten operation time
- Lightweight system, no change to normal rig up and rig down process

Reliable

- Top-grip design, avoid pipe bending or tilt
- Synchronize movement of robotic arms with servo motor control, enable stable and rapid movement of drill stands

Practical

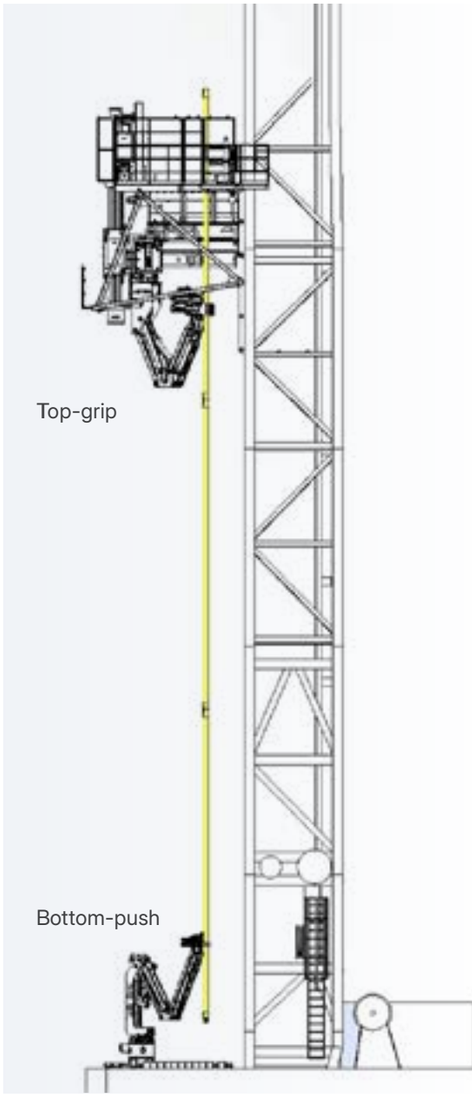
- Automated joint alignment, seamless drill stand handover
- Single or dual chairs options available in driller's house

Automatic Pipe Handling System

Features

- Adopt top-grip design, center of gravity in located below clamping point.
- All electric drive, high accurate and high precision.
- Advanced movement control for swift and smooth action, for fast and smooth movement.
- “One button” automatic control, reduce labor force.

Top-grip Method



Smart Pipe Handler

SPH-2.5

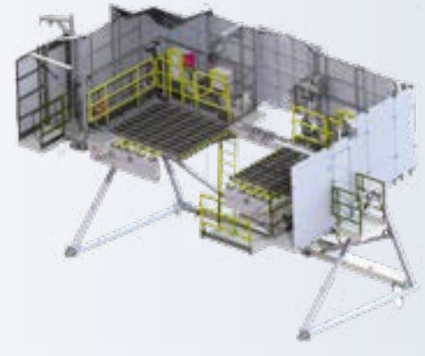
Technical Specification	
Pipe Range	2-7/8"DP~11" DC
Max. Load	25 kN
Max. Vertical Travel	1.9 m
Max. Vertical Travel Speed	0.2 m/s
Max. Horizontal Travel Speed	0.3 m/s
Max. Rotating Speed	15°/s
Max. Rotating Angle	±90°

Pipe Handling Robot

PHR-8

Technical Specification	
Pipe Range	2-7/8"DP~11" DC
Max. Load	8 kN
Max. Extend Range	3.8 m
Max. Extend Speed	0.4 m/s
Max. Horizontal Travel Speed	0.3 m/s
Max. Rotating Speed	30°/s
Max. Rotating Angle	±90°

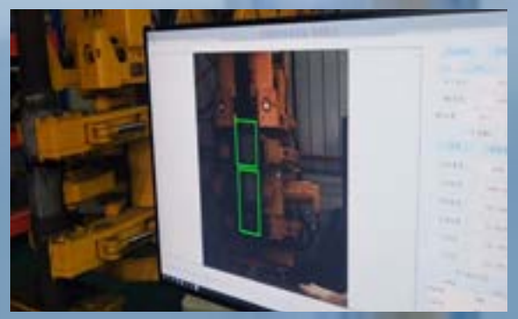
Rackingboard



AI Technology Empowered

The Tripro® Intelligent Drilling System extensively applies AI technologies, including industry-leading computer vision technology and LiDAR technology, to achieve unmanned operations on the drilling platform, significantly enhancing operational efficiency while reducing operational risks.

Application Scenarios



AI Vision Technology

AI Zone Management System

JJC Innovative Products

JJC pursues the creation of customer value and strives for innovation. Our proprietary products with the patents are leading the industry and appraised by customers around the world.

Smart Wrench

JJC Smart Wrench adopts innovative working principle, which can quickly and safely carry out the make-up and break-out operations. It is small-sized, light-weighted, reliable, durable, easy to use and maintain.

Technical Specifications

SW08

Pipe Range	2-7/8" DP~8-1/2" DC
Max. Spin Speed	80 RPM @ 5" DP
Max. Spin Torque	5,000 N·m (3,750 ft-lb)
Max. Make-up Torque	120,000 N·m (90,000 ft-lb)
Max. Break-out Torque	130,000 N·m (100,000 ft-lb)

SW10

Pipe Range	2-7/8" DP ~ 9-3/4" DC
Max. Spin Speed	80 RPM @ 5" DP
Max. Spin Torque	5,000 N·m (3,750 ft-lb)
Max. Make-up Torque	140,000 N·m (100,000 ft-lb)
Max. Break-out Torque	160,000 N·m (120,000 ft-lb)

SW12

Pipe Range	2-7/8" DP ~ 10" DC
Max. Spin Speed	80 RPM @ 5" DP
Max. Spin Torque	5,000 N·m (3,750 ft-lb)
Max. Make-up Torque	150,000 N·m (110,000 ft-lb)
Max. Break-out Torque	180,000 N·m (135,000 ft-lb)

SW16

Pipe Range	2-3/8" DP ~ 11- 1/2"DC
Max. Spin Speed	80 RPM @ 5" DP
Max. Spin Torque	5,500 N·m (4,100 ft-lb)
Max. Make-up Torque	160,000 N·m (120,000 ft-lb)
Max. Break-out Torque	200,000 N·m (150,000 ft-lb)

SW10-E1

Pipe Range	2-7/8" DP ~ 9-3/4" DC
Max. Spin Speed	80 RPM @ 5" DP
Max. Spin Torque	5,000 N·m (3,750 ft-lb)
Max. Make-up Torque	140,000 N·m (100,000 ft-lb)
Max. Break-out Torque	160,000 N·m (120,000 ft-lb)

Workover & Drilling Smart Wrench

Workover & drilling smart wrench designed with industry-first technology, for common use tubing and drill pipe to meet the demands of workover and sidetracking operation.

Two-in-one

Combine workover and sidetrack use.

Wide

Cover commonly used tubing and drill pipe range.

Efficiency

Make-up and break-out at one time.

Compact

Compact size and light-weighted.

Technical Specification			
Model	WD-140	Max. Spin Speed	80 RPM @2-7/8" DP
Pipe Range	Tubing 2-3/8" ~ 4-1/2" Drill pipe 2-3/8" to 5"	Max. Make-up Torque	45,000 N·m (33,300 ft-lb)
Horizontal Travel	1,450 mm (57.4")	Max. Break-out Torque	50,000 N·m (36,900 ft-lb)
Vertical Travel	920 mm (36.2")	Hydraulic Pressure	100 L/min @ 14 MPa
Max. Spin Torque	6,000 N·m (4,425 ft-lb)	Weight	8,267 lbs (3,750 kg)

Mechanical Seal Washpipe

Mechanical seal floating structure design, has obtained several Chinese and American patents, multiple award winning. Performed well in various working conditions around the world.

3″ or 4″ bore sizes are available.

Average work life: 1000 ~ 1500 hours.

Withstands 120 °C and 10,000 psi working condition.

Traditional washpipe

- Replace the whole assembly
- 2 persons
- Heavy hammering
- 120 mins required

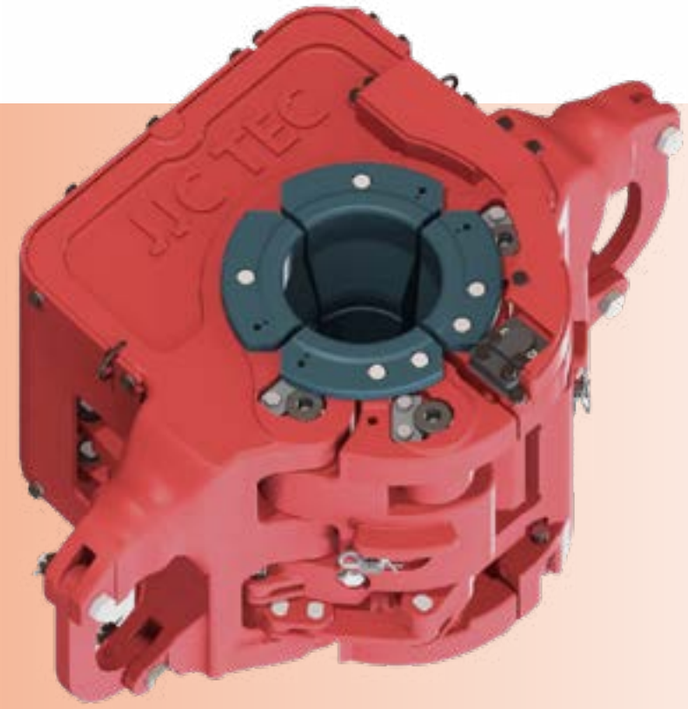
Mechanical seal washpipe

- Replace the seal rings only
- 1 person
- Ratchet wrenches
- 10 mins required

Technical Specification			
Bore Size	76.2 mm (3.0")	101.6 mm (4.0")	101.6 mm (4.0")
Working Pressure	52.5 MPa (7,500 psi)	52.5 MPa (7,500 psi)	70 MPa (10,000 psi)
Drilling Fluid	Water or Oil based mud		
Dimensions (H x OD)	368.3 × 241.3 mm	368.3 × 268.0 mm	367.3 × 268.0 mm
Weight	40 kg	50 kg	50 kg

Hydraulic Elevator

The Hydraulic Elevator adopts innovative fail-safe door opening, closing and interlock mechanisms to achieve fast clamping, loading and releasing of drilling pipes.



Minimum Oil Passages Used

Using 1 hydraulic path from top drive rotary head to realize door closing, opening and safety interlocking.

Good for new and old top drives.

Enhanced Safety

Innovative fail-safe locking mechanism and redundant hydraulic locking and feedback provides reliable and safety use.

Easy Maintenance

Main bearing pin can be removed quickly due to innovative structure design, easy to maintain. Bushing can be replaced quickly.

High Reliability

High torque ensures reliable opening/closing of doors safely, regardless of icing and heavy mud loaded conditions.

Hydraulic Drill Pipe Elevator

Technical Specification				
Model	SE25-A1	SE35-A1	SE50-A1	SE75-A1
Max. Load Rating	2,250 kN	3,150 kN	4,500 kN	6,750 kN
Pipe Range	2-3/8" ~ 7-1/4"		2-3/8" ~ 9-3/4"	
Hydraulic Pressure	16 MPa (2,300 psi)			
Max. Open Torque	1,200 N·m (890 ft-lb)	1,600 N·m (1,180 ft-lb)		
Max. Close Torque	2,000 N·m (1,480 ft-lb)	2,800 N·m (2,070 ft-lb)		
Max. Safety Gate Open Torque	800 N·m (590 ft-lb)	1,400 N·m (1,030 ft-lb)		
Max. Safety Gate Close Torque	1,300 N·m (960 ft-lb)	2,500 N·m (1,840 ft-lb)		
Controls	Auto Close, Remote Open and Interlock			

Hydraulic Casing Elevator

Technical Specification		
Model	SE35-B1	SE50-B1
Max. Load Rating	3,150 kN	4,500 kN
Pipe Range	8-5/8"~ 14"	9-5/8"~ 20"
Hydraulic Pressure	16 MPa (2,300 psi)	
Max. Open Torque	1,700 N·m (1,250 ft-lb)	
Max. Close Torque	2,900 N·m (2,140 ft-lb)	
Max. Safety Gate Open Torque	1,400 N·m (1,030 ft-lb)	
Max. Safety Gate Close Torque	2,400 N·m (1,770 ft-lb)	
Controls	Auto Close, Remote Open and Interlock	

Power Slips System

Size

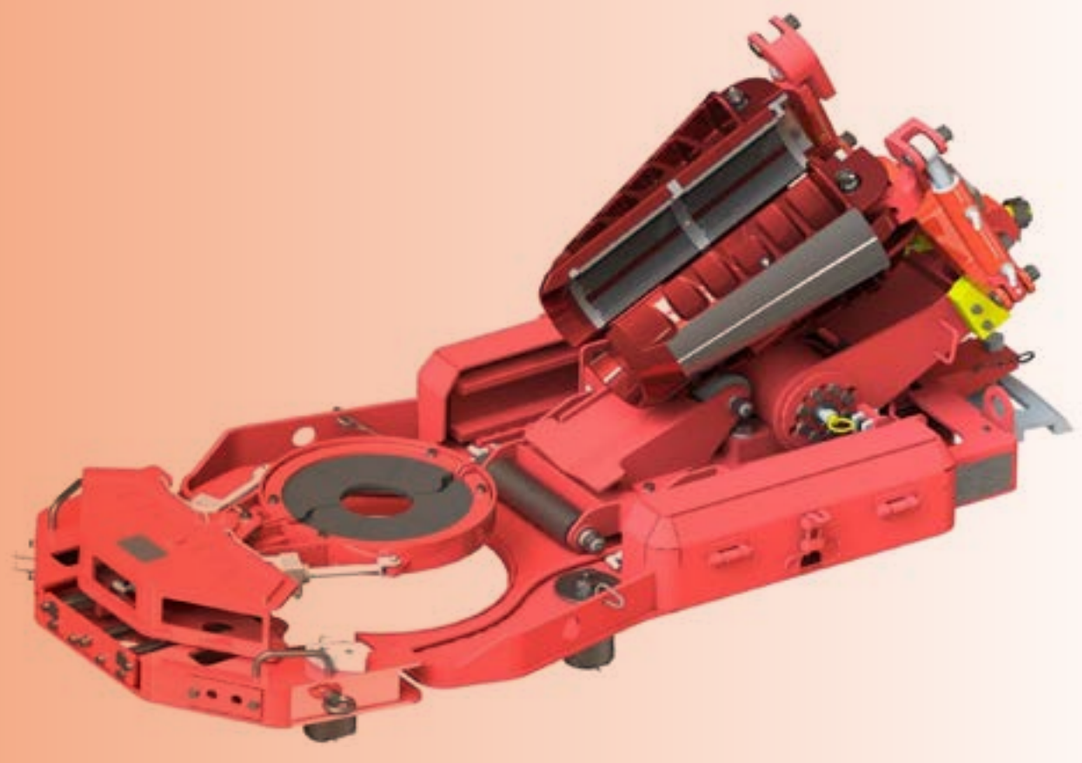
Compact size, light-weighted, easy to install and maintain.

Design

Bionic design, interlock with other equipment.

No Intervention

Stay away from well center when standby, to avoid drill pipe friction.



* Product parameters can be customized according to customer requirements.
There may be discrepancies between actual products and pictures.

Power Slips

PS-A1

JJC Power Slips adopts innovative design. Lifting and setting operations are quick, safe, reliable and durable, easy to install and maintain.

Technical Specification	
Pipe Range	2-3/8" ~ 6-5/8"
Max. Rated Pressure	17.5 MPa (2,540 psi)
Max. Rated Flow	25 LPM (6.6 GPM)
Weight	310 kg (684 lbs)
Dimensions (W x H x L)	1,470 × 810 × 815 mm (57.9" x 31.9" x 32.1")
Controls	Local, Telecontrol, Integration

Mud Crab

PMW-A1

JJC Mud Crab is an automatic wellhead tool to clean mud on outer wall of drilling tools during trip-out process.

Technical Specification	
Pipe Range	2-3/8" ~ 6-5/8"
Rated Pressure	0.5 ~ 1.0 MPa Pneumatic
Dimensions (W x H x L)	762 × 890 × 310 (30" × 35" × 12.2")
Weight	59 kg (110 lbs)
Controls	Foot Pedal, Telecontrol, Integration

Hydraulic Power Slips

HPS-A1

JJC Hydraulic Power Slips features large gripping range, large contact area for setting, anti-torque capability, automatic centering function, accurate signal feedback, self-adaptive dies and safety interlock mechanism.

Technical Specification	
Adaptive Rotary Table	ZP375
Pipe Range	2-3/8"-14" (DP/DC/Casing)
Max. Load	4,500 kN
Max. Anti-torque	120,000 N·m
Hydraulic Pressure	40 L/min @ 16 MPa
Controls	Integration

Hydraulic Power Unit

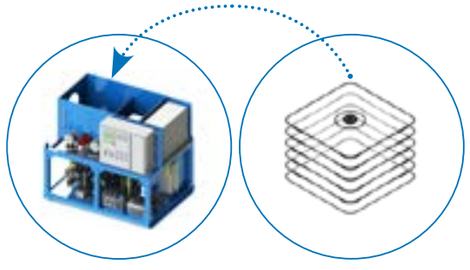
Patented load-sensitive control technology, can match load power automatically. It enters low flow mode when standby, average energy consumption can be reduced by 80%.

Modular design, interface for rig system integration reserved.

- Durability
- Environment Friendly
- Flexibility

Patented Breathing Bladder

The breathing bladder installed inside the auxiliary tank, making it an enclosed system. Through contraction and expansion of the breathing bladder, internal and external pressure are always balanced, and the hydraulic oil is isolated from the outside air, ensures the purity of hydraulic oil, extend the service life of hydraulic fluid and hydraulic components of equipment.



Technical Specification		
Model	HPU45-140DI	HPU55-200DI
Max. Flow	140 L/min	200 L/min
Max. Pressure	21 MPa (3,000 psi)	21 MPa (3,000 psi)
Main Motor Power	45 kW × 2	55 kW × 2
Oil Tank Capacity	1,000 L	1,200 L
Weight	3,000 kg	4,800 kg
Dimensions	2,200 × 1,850 × 2,000 mm	2,450 × 1,850 × 2,100 mm

* Product parameters can be customized according to customer requirements.
There may be discrepancies between actual products and pictures.

Cleaning & Doping Module

ABM-H1

Cleaning & doping module installed under the drill floor saves floor space. It can operates with drilling operation at the same time.

Technical Specification	
Power Supply	10 A @ 220 V 50/60 Hz
Pipe Range	2-7/8" ~ 5-7/8" DP
Vertical Travel	445 mm (17.5")

Buffer Robotic Arm

It can replaces manual operation of pipe transfer, accurate and automatic alignment, compact design, easy to control and reliable.

Technical Specification	
Pipe Range	2-7/8" ~ 24"
Max. Cushioning Force	13 kN
Max. Extend Speed	0.65 m/s
Rotary Angle	-2° ~ 85°

Emergency Stabling Valve

The device is designed for dangerous snatch work instead of manual operate. It standby under drill floor to save operation space. It adopts to different check valves specification, with “one-button” operation function, it can rapid response and finish operation in 30-50s.

Technical Specification	
Max. Make-up Torque	9,000 N·m
Weight	2,000 kg
Dimensions	1,450 × 1,050 × 1,650 mm
Hydraulic Pressure	60 L/min @ 17.5 MPa
Air Pressure	150 L/s @ 0.7 MPa

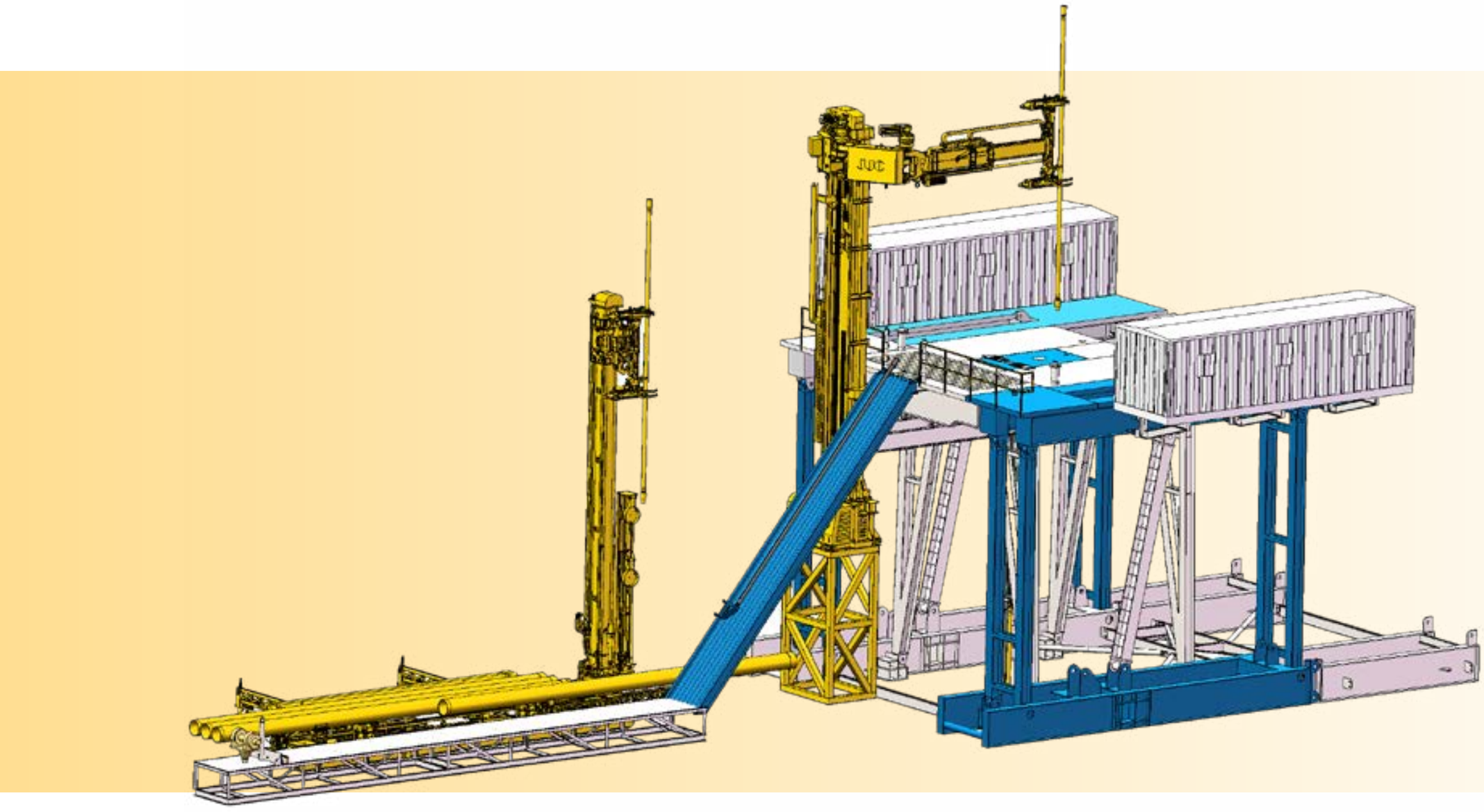
Field Robotic System

PHRB-4.5

Field robotic system operates in assembly line method, it can handle drill tools vertically to wellhead and mousehole, decreases time use at wellhead.

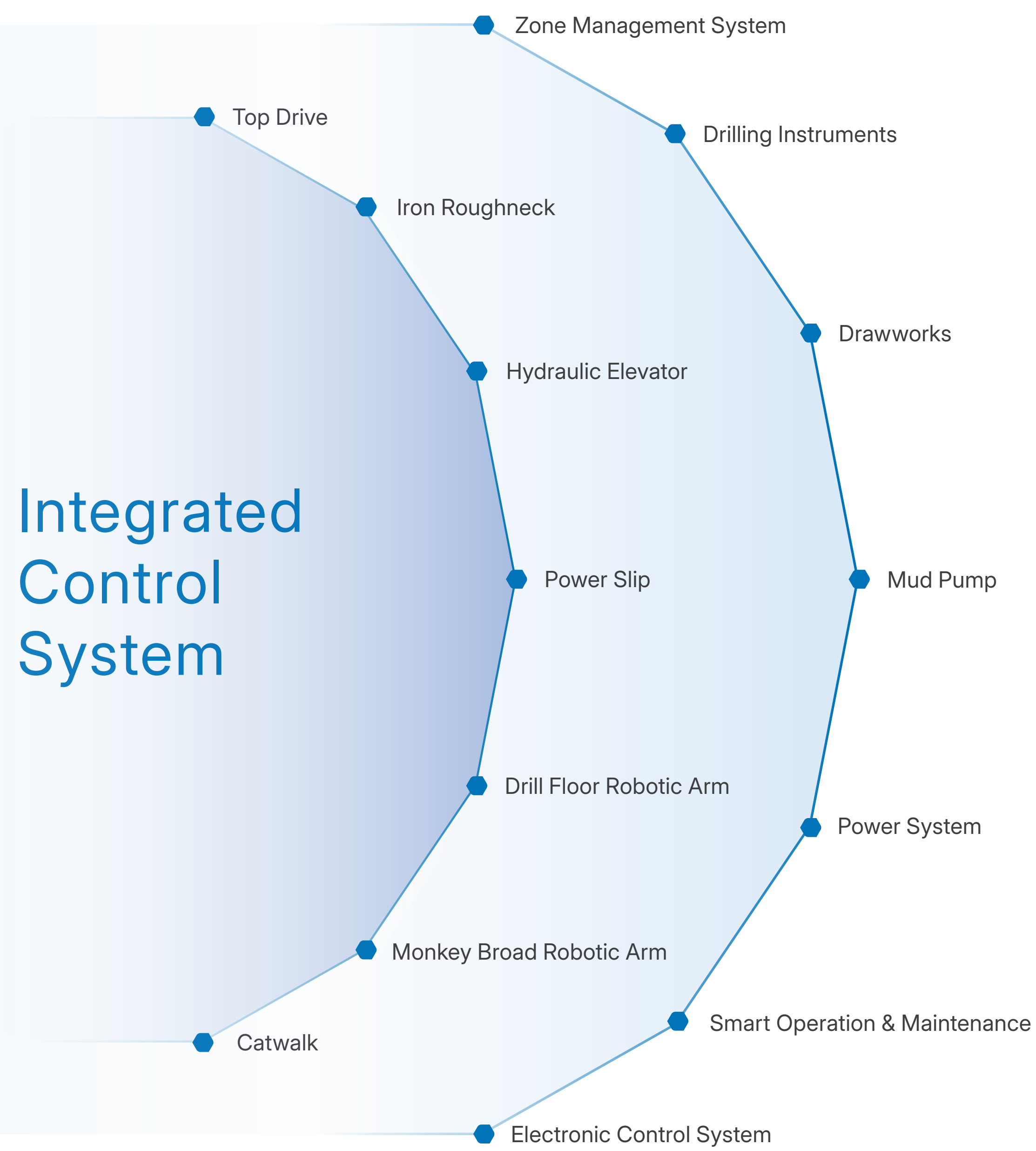
- Pipe stabbing, stands build, pipe pick-up and lay-down
- Cord guard release, length measurement, diameter measurement, thread cleaning, compound greasing, code printing functions integrated
- Serve-motor control, efficient, accurate, stable, weather proof

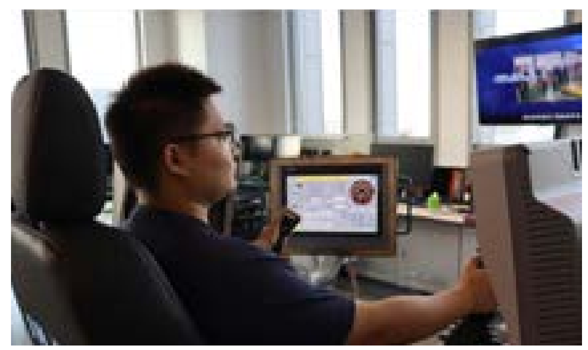
Technical Specification	
Max. Lifting Range	12 m
Pipe Range	2-3/8" ~ 20"
Rotary Speed	35°/s
Max. Lifting Mass	4,500 kg
Speed	60 pipes/h



Integrated Control System

- It integrates equipment control including top drive, mud pump, pipe handler, iron roughneck, elevator, slips, catwalk, etc.
- E-stop, CCTV and communication Integrated.
- AI vision, zone management system, remote operation and maintenance
- Hierarchical management of permissions, ensure operation safety.
- Open platform, third party equipment friendly.





AI Products

AI-based Zone Management System

AI vision device can be installed on the roof of driller's house, providing a horizontal scope up to 220° and vertical scope up to 85°. The system is also applicable to mud pump zone, filling area, BOP control room and etc.

This system can be customised to realize smoke and flames, equipment status, on-site head count, reflective clothing, workwear, worker falls detection and also operator leaving post, unauthorised absence or sleeping, smoking, phone usage.

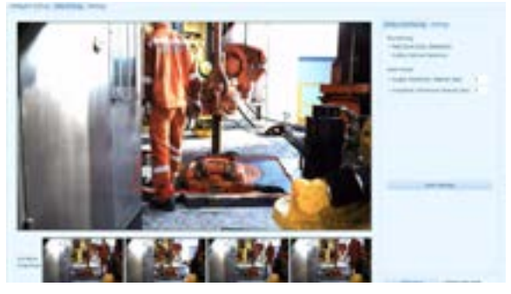
Red-zone Alarm

Proactive E-stop

Safety Helmet Detect

CCTV-based Zone Management System

JJC CCTV based ZMS upgrading service leverages AI and big data analytics, realizes transition from manual to intelligent monitoring and alarm. It provides comprehensive real-time monitoring and in-depth analysis of wellsite environment, operator and equipment, enhance the operational safety at wellsite.



Intelligent Driller Cabin

Intelligent driller cabin can be located at the far end of wellsite. It equipped with a multifunctional driller console, can support both operational mode and virtual commissioning mode. This system enables remote control of the drilling system, requiring only one operator to manage the drilling rig.

Remote Control

Allows remote control of all automatic equipment.

Virtual Training

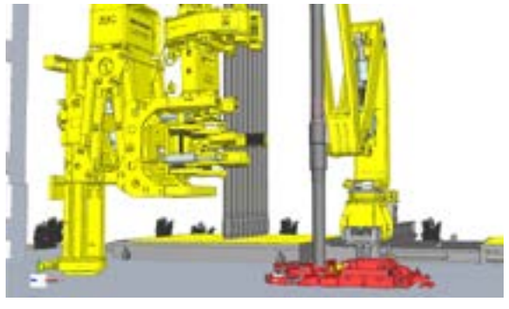
Driller training on simulation platform, experience the realistic field scenarios, and adapt to working conditions.

Virtual Commissioning

Debug system on simulation platform, significantly reducing time and improving efficiency.

Virtual Commissioning

- 3D digital twin models, shortens development cycle, reduces on-site operation risk at site.
- Simulation and training platform during development



Top Drive Integrated Control House

Based on the specific requirements of customers and the actual demands of on-site applications, we can provide frequency conversion drive products that include well-known international brands such as ABB and SIEMENS. We also support the selection of other high-quality domestic brands of frequency converters to meet diverse application scenarios and personalized needs.

* Product parameters can be customized according to customer requirements.
There may be discrepancies between actual products and pictures.

High Performance

ABB ACS880 series or SIEMENS S120 VFD drive, based on customer preference.

Fast & Precise

According to the specific needs of customers, including Siemens S7-1500 controller and various modules can be selected, equipped with an integrated HMI with CPU and Profinet communication, which has fast response speed and supports debugging and diagnostic.

Cooling

The A/C unit adopts integrated industrial unit, Marine products can also be selected for the Marine environment which can work under extreme weather. 1 or 2 air conditioners as required, to maximize the cooling for VFD drive.

Reliability

All electrical components in the top drive control house are selected from world top brands such as SIEMENS, ABB, Schneider, Amphenol, etc., which gives better reliability of the system.

Tailored Program

We can provide tailored control software package, to control different brands and models of top drives, and can add inter-lock functions with other equipment (like drawworks/ iron roughneck) or additional control function (like hydraulic elevators).

Safety

The electrical house complies with industry qua-lity standards, skidded for lifting transportation, suitable for both land rigs and offshore rigs.

Jacking System Lubrication Equipment

JUL-A1 jacking system lubrication equipment is used to automatically grease the transmission gears of platform jacking system, which is compatible with all kinds of jack-up offshore drilling platforms that use rack and pinion .

Compared to the conventional method (manual grease by rig crew), this system can be operated remotely and work automatically, and only applies necessary grease to the transmission gears, which enables a safer, more economical and environment-friendly approach. It is also easy for installation and maintenance. The system has been widely deployed on the jack-up platforms of COSL and CPOE .

* Product parameters can be customized according to customer requirements.
There may be discrepancies between actual products and pictures.

Safety

Remotely and automatically operated. No need to climb up high for jacking system gears lubrication.

Economy

Greatly reduce the man power (save up to 9 manpower*), and only applies necessary grease (volume can be adjusted as required).

*Subject to platform size and design.

Environmental Protection

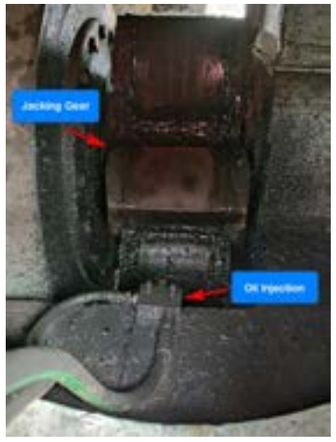
Through precisely control of grease volume, the system greatly reduces the risk of grease leaking into the sea water, reduces oil consumption and is environmental friendly.

Easy Maintenance

Multi-point lubrication system, isolated with each other, makes the system highly reliable. The system is also highly flexible with variable quantity of grease points and positions to match the platform.

Small Footprint

Compact envelop size and light weighted, makes it easy to be accommodated in platform.



Drilling Equipment Technical Service

A+ Team

- With over 20 experts and a team of engineers with years of on-site working experience.
- The core members of the team have long been employed by well-known international companies in the industry.

Expertise

- Offer 24/7 on-site and remote technical support for different drilling packages and individual equipment, as well as hardware and control system.
- Familiar with the equipment and systems of various mainstream manufacturers in the industry.

Fast Turnaround

- With sufficient inventory of equipment parts, it is possible to achieve rapid response and efficient delivery of equipment maintenance.
- Relying on the optimized supply chain management system, the required materials can be accurately deployed and obtained in time according to the actual needs, ensuring the continuity and efficiency of maintenance and operation work.

Case Study - Drilling Equipment 10-Year SPS

Aker-MH bridge crane & fingerboard inspection & repairing

Aker-MH service access basket inspection & repairing

Aker-MH riser fingerboard inspection & repairing

Drilling Equipment On-site Troubleshooting/Maintenance/Overhaul

We offer on-site inspection & repairing service or in-workshop overhaul for all kinds of critical drilling equipment including top drives, iron roughnecks, pipe rackers, mud pumps, overhead cranes, BOP stacks and BOP controls systems.

Top Drives

On-site

Workshop

Shipyard

Drawworks

Iron Roughnecks

Drilling Control System Upgrade

We provide on-site troubleshooting service and maintenance service for drilling rigs and equipment, including cold/warm rigs.

- Served 50+ platforms with COSL, CPOE, SINOPEC of fast turnaround.
- Inhouse spare parts support & short lead time sourcing capability.

Upgrade work of a semi rig drilling control system including:

Drilling Control System

Drilling equipment control server hardware and communication cards are upgraded, avoids shutdown and incompatibility of server cards caused by parameter missing, prolonged server's life.

Operating system of the drilling control system server is upgraded, without changing the original logic and framework control software, perfectly combined the systems.

Other Control Systems

Upgrades and renovations of other control systems, such as variable frequency control systems, VMS systems, and various specialized control systems.

Drilling Control System Technical Service

Software Lab

On-site Commissioning

Spare Parts Service

Mechanical Parts

Assemblies

Cylinders

Electrical Parts

Sensors

Connectors

Hydraulic Parts

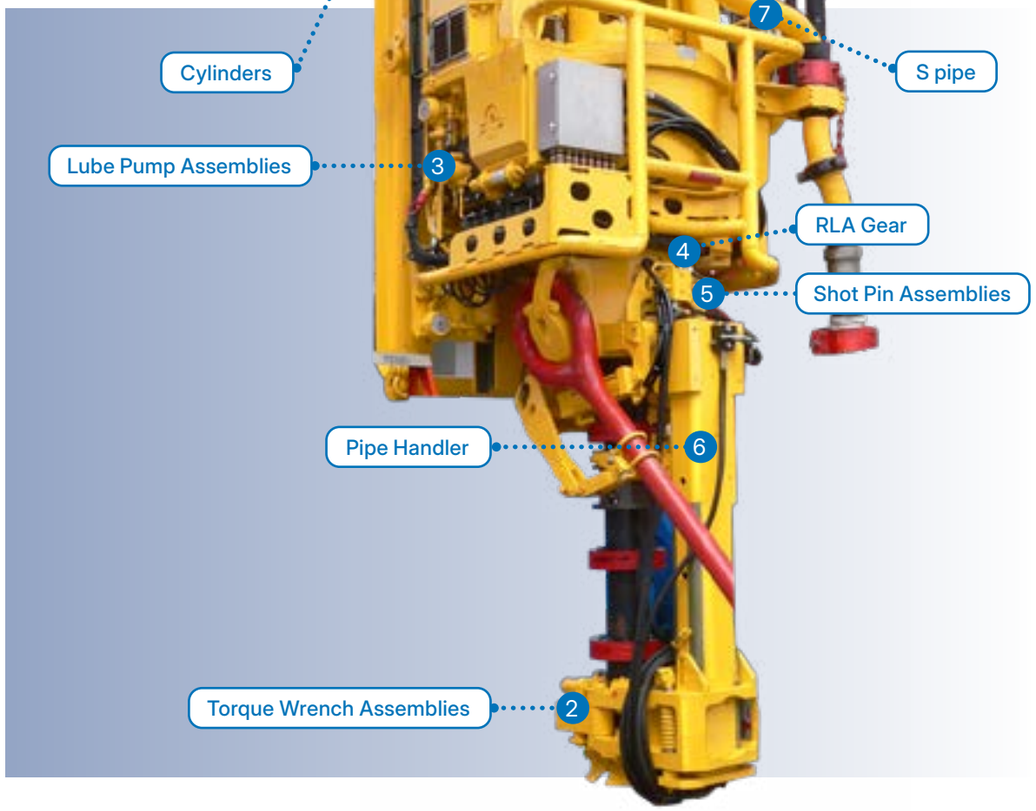
Pumps & Motors

Manifold Assemblies

For more:

We stock regular repair spare parts that can deliver in the same day, to better serve our customers.

Typical Top Drive Spare Parts



1 Cylinders

2 Torque Wrench Assemblies

3 Lube Pump Assemblies

4 RLA Stem

5 Shot Pin Assemblies

6 Pipe Handler

7 S pipe

Iron Roughneck Spare Parts

Iron roughneck torque wrench & spin wrench are key components. Due to frequency, high intensity and high load-bearing use in muddy conditions, a frequent replacement and installation is needed.

Spin Wrench Assemblies

Stabilizers

Torque Jaws

Torque Wrench Jaws

Special Hydro Blocks

Jaws

Spinners

Rollers

ADS Drawworks Spare Parts

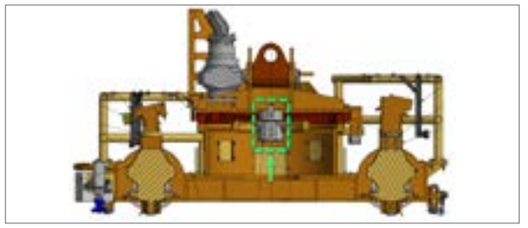
Due to ADS (Automatic Drawworks System) series its high work load conditions, frequent replacement and installation are needed.

High Torque Gearbox Assembly

Eaton Friction Disc Brake Assembly

Pipe Racker Spare Parts

Hydraulic swivels are widely used on all kinds of drilling equipment. Fluid can be routed from the stator to rotator by respective internal fluid passages. They have been used on PRS and HR series pipe racker system.



Global Service Network

Customer satisfaction is our service aim.

JJC has service stations in China major oil regions and many other countries, storing sufficient spare parts inventory to support after-sales service within these regions. This enables rapid response to customer needs and delivery of high-quality service.

Service Center
Beijing, China

Offshore Service Center
Tianjin, China

PRC Service Stations
Baoji
Kelamayi
Kuche
Neijiang
Daqing
Dongying

Saudi Arabia Service Station
Al Khobar 31952, KSA,Villa -02 Alfalak compound P.O Box 2060

Kuwait Service Station
Room B6, First floor, building E976, 80 Salem Sabah Al Salem St, block 4, Mahboula, Kuwait

UAE Service Station
PO Box 17298 Jebel Ali, Dubai United Arab Emirates

Mexico Service Station
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