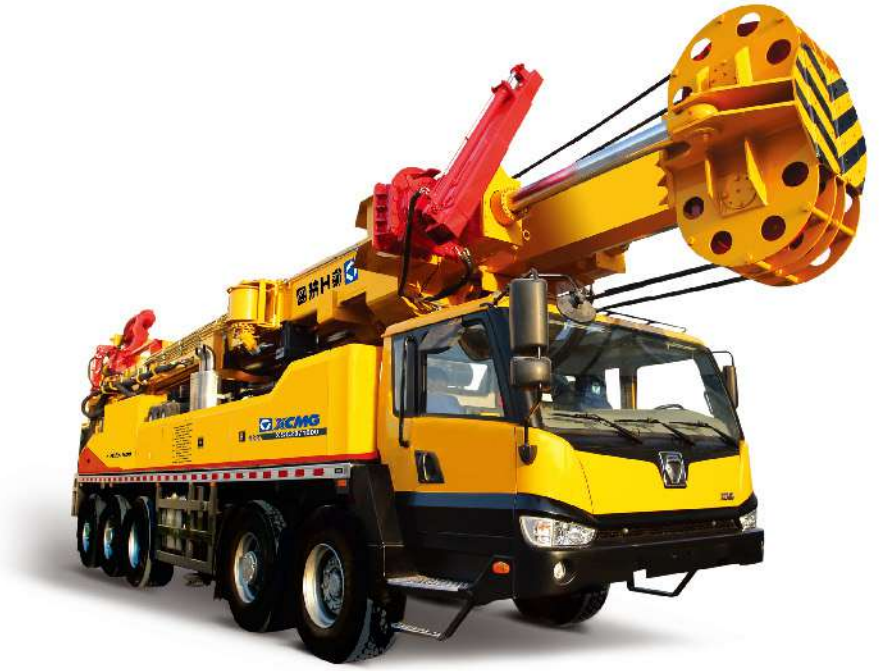
XCMG
徐工集团

XSC/XSL系列深（水）井钻机

XSC/XSL Series Deep（Water）Well Drilling Rig



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产品简介 Products Brief Introduction

- XSC/XSL系列深(水)井钻机采用全液压控制，顶置动力头驱动钻具回转，钻进效率高。整机布局合理，采用履带或全地面底盘运输，机动性好，适应各种恶劣路况作业，广泛应用于水文水井、煤层气、浅层页岩气、地热等资源勘探开采工程，也可用于煤矿瓦斯抽采、抢险救援等场合。徐工XSL7/350水井钻机已成功出口阿根廷。
- 顶驱动力头主轴通径大，适用泥浆钻进、空气钻进、空气泡沫钻进等多种施工工艺，满足不同地层的钻井需求。

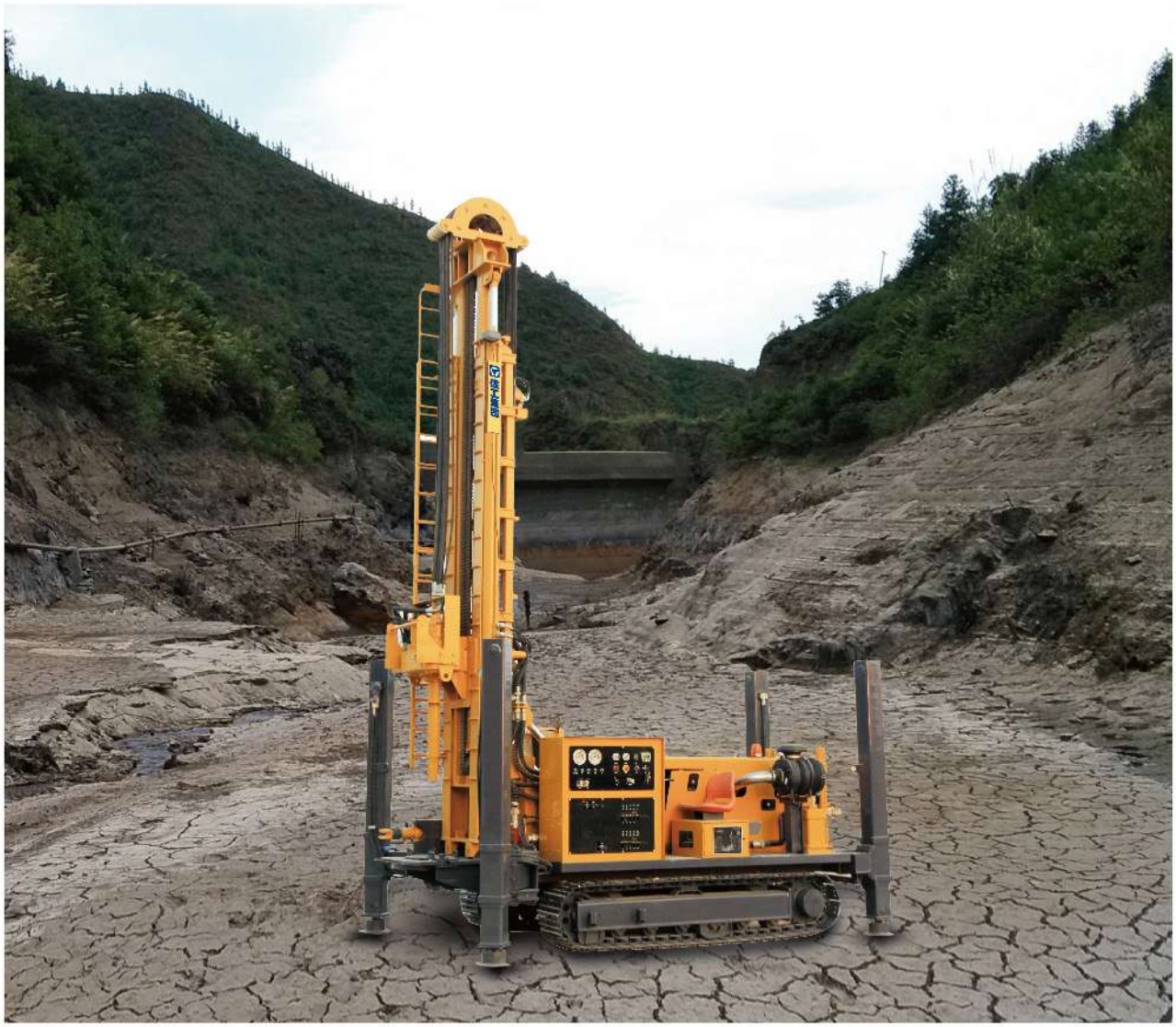
- XSC/XSL series deep(water) well drilling rig uses full hydraulic control and the top drive to drive the rotation of drilling tools with very high drilling efficiency. Reasonable overall layout uses the tractor-mounted or all terrain chassis for transportation with good maneuverability. Very flexible in difficult roads, it can be widely used in many fields such as resource exploration of hydrology wells, coalbed methane, shallow layer of shale gas, terrestrial heat, etc, and can also be used for coal-mine gas exploitation or salvage work.XCMG XSL7/350 well drilling rig has been successfully exported to Argentina.
- The top-mounted driving head principal shaft has a great drift diameter,which is suitable for many kinds of construction work such as slurry drilling, air drilling, and air foam drilling, meeting the demands of well-drilling in different terrain strata.

XSC系列车载式深井钻机技术特点 XSC Series Deep Well Drilling Rig Technical Characteristics

- **路况自适应智能全地面越野底盘**
  - -多桥转向智能控制，多种转向模式，转向灵活，转弯直径小；
  - -油气悬挂，行驶平顺性好，通过能力强，适应泥泞、沙地、雪地、山地等恶劣路况行驶。
- **全液压顶驱动力头**
  - -输出端配置浮动装置，有效减轻钻杆螺纹磨损，提高钻杆适应寿命；
  - -主轴通经大，排渣能力强，尤其适用反循环施工。
- **给进系统**
  - -工作时可完全伸出，行程大，适用长钻杆、套管作业。行驶时缩回，有效减少运输尺寸；
  - -采用油缸—钢丝绳倍速给进系统，并设计有慢速进给模式。钻进时慢速给进，确保钻井顺利。起下钻时，快速提升，减少辅助时间，效率更高。
- **便捷的换杆机构**
  - -可选配独立自动换杆系统，与可翘起的顶驱动力头配合使用，实现上卸钻杆全自动化，减少现场工人数量及劳动强度。
- **先进、高效的液压控制系统**
  - -自主开发的负载敏感控制系统，可根据负载需要，给执行机构相应的流量和压力，高效节能；
  - -主要动作采用比例控制，调速方便，启动和停止无冲击，控制精度高。
- **高效大扭矩上卸扣装置**
  - -可快速实现钻具的上卸扣作业，与动力卡瓦配合 使用，拆卸钻杆无需人工辅助，降低工人劳动强度。
- **舒适的操作室**
  - -大提升力钻机采用封闭式操作室，有效隔离现场噪音、粉尘等，极大改善操作环境；
  - -内部集约化操作平台，考虑人体工程学原理进行设计，观察方便、操作舒适。

- **Road Condition Adaptive Intellective All-terrain Off-road Chassis**
  Multi-axle steering intelligent control and multi-steering mode provide flexible steering and small steering diameter.
  Hydro-pneumatic suspension with good travelling performance, which adapts to severe road conditions such as muddy road, sand, snowfield, upland etc.
- **Full Hydraulic Top-drive**
  Output port adopts floating device, which effectively reduces the wearing of the drill stem thread, and increases service life of the drill stem.
  Spindle has a strong slag discharge capacity through its large drift diameter, which makes it especially adapt to the reverse circulation construction.
- **The feeding system**
  It has a large stroke by extending completely when working, which adapts to long drill stem and long casing constructions. It retracts when travel to reduce transportation dimensions.
  It adopts cylinder-wire rope speed multiple feeding system with slow feeding mode, which provides slow drilling and fast lifting. With that it ensures good drilling performance and improves working efficiency.
- **The convenient stem changing mechanism**
  Optional independent stem auto-change system and top-drive can use cooperatively, which realizes full automation of stem loading and unloading, and reduces the number of workers and work intensity on the job site.
- **The advanced and efficient hydraulic control system**
  The independently developed load sensitivity control system can provide proper flow and pressure to the actuating mechanism according to the loading needs, which is energy-efficient.
  It adopts the proportional control of the major movements, which makes the speed adjust conveniently. With no shock when start and stop, the control is highly accurate.
- **The efficient large torque fastening and unfastening device**
  It can fasten and unfasten the drill tools rapidly by using with power slip cooperatively, which realizes loading and unloading drill stem without assistance of workers and reduces work intensity.
- **The comfortable cab**
  Large lifting force drilling rig adopts closed cab, which insulates the noise and dust of the job site efficiently and improves operating environment greatly.
  With human engineering designed intensive operation platform, it is comfortable to operate and convenient to observe.

XSL系列履带式水井钻机技术特点 XSL Series Water Well Drilling Rig Technical Characteristics



- 成熟可靠的液压顶驱动力头，承载能力大，密封效果好。
- 间隙可调式伸缩钻桅，能够满足长套管施工要求，工作效率高。
- 独有的液压匹配技术，系统效率高。
- 集成可视化加减压进给系统，根据钻深可精细调节钻进压力。
- 配置四个液压高支腿，实现钻机快速调平，不需吊装。
- 旋开式定心器，工作时提供广阔的作业空间。

- Mature and reliable hydraulic top drive power head with large bearing capacity and good sealing effect.
- The gap adjustable telescopic drill collar can meet the requirements of long casing construction and has high work efficiency.
- Unique hydraulic matching technology for high system efficiency.
- Integrated visualization pressurize and pressurize decompression feed system for fine adjustment of drilling pressure according to drilling depth.
- Four hydraulic high supporting legs are provided to achieve rapid leveling of the rig without lifting.
- The swing-type centering device provides a wide working space when working.

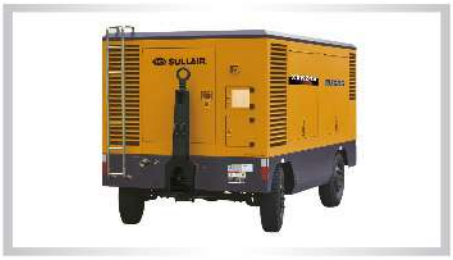
主要技术参数 Main Technical Specification

参数项Parameter			XSL3/160	XSL5/260	XSL7/350
钻进能力 Drilling capability	钻深 Drilling depth	m	300（Φ89）	500（Φ89）	700（Φ102）
	最大通过直径 Max. diameter of working floor	mm	Φ330	Φ400	Φ500
给进系统 Feeding system	最大提升力 Max. lifting capacity	kN	160	260	350
	最大进给力 Max. feeding capacity	kN	80	120	150
	快速提升速度 Max. lifting speed	m/min	32	30	32
	快速下放速度 Max. feeding speed	m/min	60	60	60
	行程 Stroke	mm	3800（7000）	6600	7000
顶驱动力头 Top drive	最大扭矩 Max. torque	N·m	6600/3300	9200/4600	12200/6100
	最高转速 Max. speed	r/min	95/190	95/190	180/90
	主轴通径 I.D	mm	Φ45	Φ55	Φ55
	主轴浮动行程 Floating distance	mm	/	/	/
	最大翘起角度 Max. tilting angle	°	/	/	/
上车发动机 Deck engine	型号 Type	/	YUCHAI YC4A125-T30	CUMMINS QSB5.9-C150	CUMMINS QSB5.9-C210
	额定功率 Rated power	kW	92	113	154
主卷扬 Main winch	最大提升力 Hoisting capacity	kN	/	/	30(选配)
工具卷扬 Tool winch	最大提升力 Hoisting capacity	kN	15	15	15
卸扣装置 Breakout device	最大卸扣扭矩 Max. breakout torque	N·m	18000	36000	36000
	夹持范围 Vise clamping range	mm	定制	定制	定制
泥浆泵/渣浆泵 Mud pump/ Centrifugal slurry pump	最大排量 Max. flow	L/min	/	/	/
	最大压力 Max. pressure	MPa	/	/	/
泡沫泵 Foam pump	最大排量 Max. flow	L/min	35（选配）	35（选配）	35（选配）
	最大压力 Max. pressure	MPa	4（选配）	4（选配）	4（选配）
管汇 Mud pipe	通径 I.D	mm	Φ55	Φ55	Φ55
	最大压力 Max. pressure	MPa	8	8	8
底盘 Chassis	驱动形式 Drive mode	/	履带底盘	履带底盘	履带底盘
	发动机额定功率 Rated power	kW	/	/	/
	最高行驶速度 Highest speed	km/h	2.4	2	3
	最大爬坡度 Max. climbing gradient	%	39	39	39
工作尺寸 Working dimension		mm	3980×3130×6500（3980×3130×8100）	4400×3200×9300	5150×3250×10500
运输尺寸 Transportation dimension		mm	4450（3980）×1800×2400（6050（3980）×1800×2400）	5950×2100×2630	6400×2250×2860
整机重量 Weight		t	9（10）	12.5	14

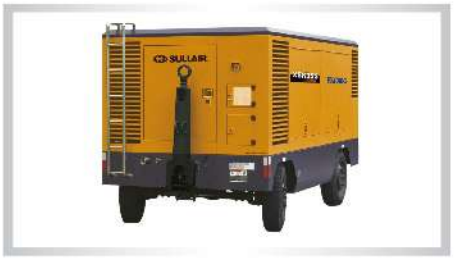
参数项Parameter			XSC5/280	XSC(T)10/500	XSC20/1000	XSC30/1200
钻进能力 Drilling capability	钻深 Drilling depth	m	500（Φ89）	1000(Φ89)	2000(Φ114)	3000（Φ114）
	最大通过直径 Max. diameter of working floor	mm	Φ500	Φ500	Φ820	Φ820
给进系统 Feeding system	最大提升力 Max. lifting capacity	kN	280	500	1000	1200
	最大进给力 Max. feeding capacity	kN	120	150	200	260
	快速提升速度 Max. lifting speed	m/min	39	25	30	30
	快速下放速度 Max. feeding speed	m/min	57	54	60	60
	行程 Stroke	mm	7000	7600/12200	15240	15240
顶驱动力头 Top drive	最大扭矩 Max. torque	N·m	11000	14500/7250	27500/18300	27500/18300
	最高转速 Max. speed	r/min	143	150/75	120/180	120/180
	主轴通径 I.D	mm	Φ76	Φ76	Φ105	Φ105
	主轴浮动行程 Floating distance	mm	100	100	100	100
	最大翘起角度 Max. tilting angle	°	85	/	85	85
上车发动机 Deck engine	型号 Type	/	QSB6.7-C220	CUMMINS QSB5.9-C210	CUMMINS QSX15-C600	CAT C18
	额定功率 Rated power	kW	164	154	447	571
主卷扬 Main winch	最大提升力 Hoisting capacity	kN	50	/	/	/
工具卷扬 Tool winch	最大提升力 Hoisting capacity	kN	/	30	50	50
卸扣装置 Breakout device	最大卸扣扭矩 Max. breakout torque	N·m	22000	45000	95000	95000
	夹持范围 Vise clamping range	mm	Φ3.5"-Φ7.5"	3-1/2"~8-1/4"	2-7/8"~10-6/8"	2-7/8"~10-6/8"
泥浆泵/渣浆泵 Mud pump/ Centrifugal slurry pump	最大排量 Max. flow	L/min	1670（渣浆泵）	1200（泥浆泵）	/	/
	最大压力 Max. pressure	MPa	0.7	12	/	/
泡沫泵 Foam pump	最大排量 Max. flow	L/min	40	50（选配）	/	/
	最大压力 Max. pressure	MPa	3.5	10（选配）	/	/
管汇 Mud pipe	通径 I.D	mm	Φ76	Φ76	Φ76	Φ76
	最大压力 Max. pressure	MPa	8	15	35	35
底盘 Chassis	驱动形式 Drive mode	/	依维柯6×4汽车底盘	8×4全地面汽车底盘/拖车底盘	0×8全地面汽车底盘	0×8全地面汽车底盘
	发动机额定功率 Rated power	kW	220	279	327	327
	最高行驶速度 Highest speed	km/h	96	70	80	80
	最大爬坡度 Max. climbing gradient	%	54	50	45	45
工作尺寸 Working dimension		mm	10200×3600×112500	12340×3955×16850	14680×5184×(13800~21400)	14680×5184×(13800~21400)
运输尺寸 Transportation dimension		mm	12000×2500×4200	16000×2500×4000	14200×2550×4000	14200×2550×4000
整机重量 Weight		t	23	36	53	55

产品简介 Products Description

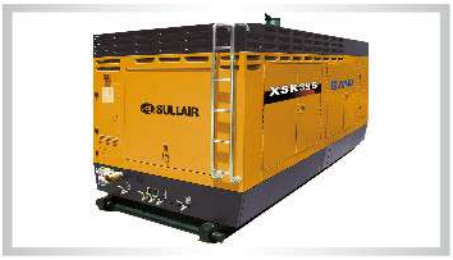
- 新XSK系列移动式空压机由徐工集团和美国寿力公司联合研制开发，苏州寿力气体设备有限公司生产。
- 配置全新的智能控制系统，根据工况需求，以更经济性的燃油消耗，提供强劲、稳定的排气压力，满足更大更深钻井的高效作业要求。
- New XSK Series Portable Air Compressors are jointly developed by XCMG and Sullair， and produced by Suzhou Sullair Gas Equipment Co., Ltd.
- New intelligent control system provides strong and stable exhaust pressure with more economical fuel consumption according to working conditions,drilling deeper,wider and more efficient.



XSK24S



XSK35S



XSK39S

- **螺杆转子**
  寿力原装美国进口转子压缩机主机，效率高，故障率极低，更有5年保固选项，免除所有后顾之忧。
- **发动机**
  采用国际知名品牌发动机（美国康明斯/卡特/东风康明斯），动力强劲，可靠性高，燃油经济性好，维护保养方便，备件供应充足。
- **智能控制系统**
  精确的控制系统，保证发动机输出功率与主机功率匹配良好，用气容调和发动机调速响应快速。高低压输出气压随时切换，适应各种工况作业，带来良好的经济性。
- **重载油滤设计**
  多级燃油过滤系统和超高过滤精度（3ppm），高效油水分离器确保适应中国燃油品质情况，保证供油系统恶劣工况正常工作。
- **双重空滤设计**
  国际品牌进口空滤器，双级滤芯确保过滤所有粉尘，同时可选装空气预过滤器，确保引擎动力持久不衰退。
- **高效弹性联轴器**
  德国进口高效弹性联轴器，有效缓解发动机震动，保障运动部件长久可靠运行。
- **全天候性能设计**
  良好的高原适应性，低温启动性能优良，高寒高海拔多风沙地区全天候工作。
  冬天热风回流系统和吸风风扇选项及水套加热系统，确保寒冷天气控制管路不结冰，发动机低温启动磨损少。

- **Screw rotor**
  With high efficiency, extremely low failure rate, and a five-year warranty, the original Sullair rotor compressor air end imported from the US guarantees a care-free experience.
- **Engine**
  Engines are supplied by world-known brands (Cummins/Cat /DCEC) and feature strong power, good reliability, fuel economy, easy maintenance, and sufficient supply of spare parts.
- **Smart control system**
  Precise control system ensures that the output power of engine well matches the air end power, and guarantees quick response to the demand of air volume regulation and engine speed regulation. The compressor can switch from high and low output pressure or vice versa at any time, providing flexible and economic solutions under different working conditions.
- **Heavy-duty fuel filtering design**
  Multi-stage fuel filtering system, super fine filtration (3ppm), and efficient fuel-water separator are a perfect combination for handling Chinese fuel quality and ensure that the fuel feed system works efficiently in harsh conditions.
- **Dual air filtering design**
  Imported world-renowned filter brands and two-stage filtering element can filter out all dusts. Optional air pre-filter can ensure that the engine remains as powerful as ever despite long-term service.
- **High-efficiency flexible coupler**
  Imported high-efficiency flexible coupler from Germany can efficiently reduce engine vibration, and guarantees long service life of moving parts.
- **All-weather design**
  It can works well at high elevations and is easy to start at low temperatures, with all-weather performance in cold, high-elevation, or sandy regions.
  The hot air reflow system, induced draught fan, and jacket heating system effectively prevent icing up of pipelines and assure low temperature starting wear of the engine in winter.

主要技术参数 Main Technical Specification

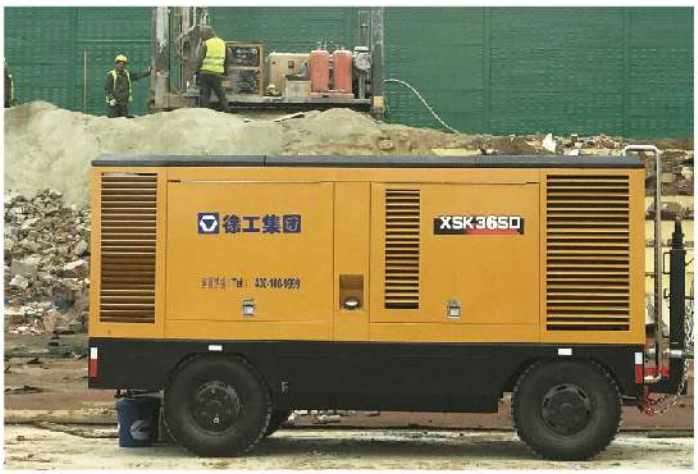
空压机型号 Compressor	/	XSK24SD	XSK30SC	XSK30SD	XSK31S	XSK36S	XSK36SD	XSK39S	XSK39SD	XSK39SC	XSK43SC
额定工作压力 Rated working pressure	Bar	20.7	34.5	34.5	24.1	30	30	17–34.5			34.5/24.1
排气量 Air displacement	m^3/min	24.1	30.3	30.3	31.1	34	34	31.1–38.6			35.4/43.2
压缩级数 Compression stages	/	2									
排气阀尺寸 Air outlet	/	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	Rc2(1) Rc3/4(1)	NPT3(2)
压缩机润滑油系统容积 Capacity of compressor oil system	L	60	60	60	60	60	60	60	60	60	170
燃油箱容积 Capacity of fuel tank	L	600	700	700	700	700	700	700	700	700	420
噪音等级 Noise	dB(A)	83±3	85±3	86±3	83±3	86±3	85±3	85±3	85±3	85±3	83±3
发动机制作商 Engine	/	DF CUMMINS	CATERPILLAR	DF CUMMINS	CUMMINS	CUMMINS	DF CUMMINS	CUMMINS	DF CUMMINS	CATERPILLAR	CATERPILLAR
型号 Model	Model	QSL8.9-C338-30 T3	C15 ACERT T3	QSZ13-C550-30 T3	QSX15 T3	QSX15 T3	QSZ13-C550-30 T3	QSX15	QSZ13-C550-30 T3	C15 ACERT T3	C18TTA ACERT T3
气缸数 Cylinders	/	6									
额定转速下输出功率 Output power under rated revolution	KW	252	403	410	336	399	410	399	410	403	522
发动机最高转速(满载) Engine max. shaft speed – Full load	rpm	1800	1850	1800	1850	1850	1850	1780/1850/1950	1700/1850/1900	1780/1850/1950	1850
油底壳容积 Capacity of oil sump	L	34	40.3	45.4	45.4	45.4	45.4	45.4	45.4	40.3	38
冷却系统容积 Capacity of cooling system	L	26	60	60	60	60	60	60	60	60	45
外观尺寸和重量(标准拖车式) Unit Dimensions and Weight – Standard trailer type											
长 Length	mm	4687	4680	4687	4687	4687	4687	4687	4687	4680	5500
宽 Width	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	2180
高 Height	mm	2558	2490	2558	2558	2558	2558	2558	2558	2490	2230
整机重量 Weight	Kg	6336	7300	7350	7350	7350	7350	7350	7350	7300	9000

施工案例
Construction Cases

XSL4/200水井钻机山东灌溉井施工
XSL4/200 Water Well Drilling Rig in Irrigation Well Construction in Shandong

XSL4/200水井钻机福建饮水井施工
XSL4/200 Water Well Drilling Rig in Water Well Construction in Fujian

XSL7/350水井钻机山东钢管桩施工
XSL7/350 Water Well Drilling Rig in Steel Pipe Pile in Shandong



XSK36SD空压机山东施工
XSK36SD Air Compressor is working in Shandong Province

XSL7/350水井钻机西藏灌溉井施工
XSL7/350 Water Well Drilling Rig in Irrigation Well Construction in Tibet

XSL4/200水井钻机北戴河地热井施工
XSL4/200 Water Well Drilling Rig in Geothermal Well Construction in Beidaihe

XSL5/260水井钻机北京地热井施工
XSL5/260 Water Well Drilling Rig in Geothermal Well Construction in Beijing

XSL5/260水井钻机湖北地热井施工
XSL5/260 Water Well Drilling Rig in Geothermal Well Construction in Hubei

施工案例
Construction Cases

XSC20/1000深井钻机山西煤层气井施工
XSC20/1000 Deep Well Drilling Rig in CBM Well Construction in Shanxi

XSC8/400深井钻机山西煤层气井施工
XSC8/400 Deep Well Drilling Rig in CBM Well Construction in Shanxi

XSC5/260水井钻机上海战备井施工（电动机）
XSC5/260 Water Well Drilling Rig in Readiness Well Construction in Shanghai (Electromotor)

XSC5/260水井钻机亳州水文监测井施工
XSC5/260 Water Well Drilling Rig in Hydrological Monitoring Well Construction in Bozhou

XSC8/400深井钻机山西煤矿巷道探水施工
XSC8/400 Deep Well Drilling Rig in Water-probing in Mine Construction in Shanxi

XSC8/400深井钻机盐城水文监测井施工
XSC8/400 Deep Well Drilling Rig in Hydrological Monitoring Well Construction in Yancheng

XSC8/400深井钻机山西煤层气井施工
XSC8/400 Deep Well Drilling Rig in CBM Well Construction in Shanxi

XSC8/400深井钻机山西水井施工
XSC8/400 Deep Well Drilling Rig in Water Well Construction in Shanxi

XSC8/400深井钻机河南水井施工
XSC8/400 Deep Well Drilling Rig in Water Well Construction in Henan