



液力传动系列产品

Series Products of Hydraulic Transmission

节能 · 高效 · 环保
Energy Saving High Efficiency Environmental-friendly



济柴
Jichai

中国石油集团济柴动力总厂
CNPC Jichai Power Equipment Company

液力传动装备厂简介

Brief Introduction on Hydraulic Transmission Equipment Company

中国石油集团济柴动力总厂位于中国山东济南市风景优美的长清开发区，1996年10月，石油济柴股票在深圳上市。现拥有职工3000多人，总资产50多亿元，主要生产设备2000多台套。济柴拥有山东济南、四川成都、河北青县三大研发制造基地，核心业务是内燃机研发制造，延伸业务包括：压缩机制造及成撬，液力传动装置，燃气集成装置，电气控制装置等，年生产能力5000台大功率柴油机，销售收入近30亿元。先后被授予国家质量管理奖、全国用户满意企业、西气东输优质供应商等称号，并通过了ISO9001质量体系认证、中国船级社CCS认证和法国船级社BV认证。

CNPC Jichai Power Equipment Company is located in the scenic Changqing Development Zone, Jinan City, Shandong Province, China. CNPC Jichai share was officially listed in Shenzhen Stock Exchange in October, 1996. The plant has 3,000 employees now, total assets of more than 5 billion yuan and possesses more than 2,000 pieces (sets) of main production equipments. Jichai has three big R & D production bases in Jinan of Shandong, Chengdu of Sichuan and Qing County of Hebei respectively. Its core business is the development and production of combustion engine. Its business is also extended to compressor manufacture integration pry, hydraulic transmission device, gas integration device, electrical control device, etc, annual production capacity is 5,000 diesel engines and sales revenue is nearly 3 billion yuan. The plant was successively awarded the titles of “National Quality Management Award”, “National Customer Satisfaction Enterprise”, and “Quality Supplier of West-East Natural Gas Transmission” and so on, and passed the ISO9001 Quality System Certification, China Classification Society Certification and Bureau Veritas Certification.

中国石油集团济柴动力总厂液力传动装备厂，专业从事液力传动产品的研发、制造、销售工作，目前已形成280、420、560、650、670、750、875、1000、1150等系列的液力耦合器、液力传动装置系列产品；工作腔直径480、550、650、750、830和900毫米的充油调节离心涡轮变矩器的系列化产品，可与135、140、160、180、190、200、260、320等系列内燃机（柴油机、气体机）、各种形式电动机及卡特、康明斯、沃尔沃等国外先进动力机械配套。产品覆盖石油钻采、炼化、船舶、工程机械等领域，能适应不同地区和多种用户的需求。

Hydraulic Transmission Equipment Company of CNPC Jichai Power Equipment Company is specialized in research and development, manufacturing and sales of hydraulic transmission productions. Currently, the plant has formed hydraulic coupling and hydraulic transmission unit series products of 280, 420, 560, 650, 670, 750, 875, 1000, 1150, etc; oil-extended adjusting centrifugal turbine torque converter series products with working chambers diameter of 480, 550, 650, 750, 830, 900 mm, which can match with internal combustion engines (diesel engine, gas engine) of 135, 140, 160, 180, 190, 200, 260, 320 and other series, kinds of motors, and

foreign advanced power machinery such as Caterpillar, Cummins, Volvo, etc. The products cover the fields such as petroleum, refining, ship industry, engineering machinery, etc. and can adapt the need of different regions and various customers.

目前中国石油集团济柴动力总厂已成长为国内液力传动行业中的主流企业，在石油装备领域处于主导地位。产品销售遍布大庆、胜利、华北、辽河、长庆、西南、新疆、四川等各大油田，以及天津、广西、江苏等水资源丰富的地区，并出口到哈萨克斯坦、缅甸、肯尼亚等国家。产品以优良的性能，完善的服务，赢得了国内外用户的好评。

At present, Hydraulic Transmission Equipment Company of CNPC Jichai Power Equipment Company has grown as mainstream enterprise in the same domestic field, and plays a leading role in petroleum equipment domain. Our products have been distributed to Daqing, Shengli, Huabei, Liaohe, Changqing, Xinan, Xinjiang, Sichuan Oilfield and other major oilfields, as well as Tianjin, Guangxi, Jiangsu and other areas with sufficient water resources, also the products are exported to Kazakhstan, Burma, Kenya, etc. The product has gained good reputations from customers at home and abroad for high performance and perfect service.

打造中国动力国际品牌，是中国石油集团济柴动力总厂员工神圣而光荣的历史使命，液力传动装备厂以“创新发展、和谐共赢”为宗旨，以客户利益为中心，在广大用户客商的大力支持下，将以卓越的创新能力和先进的销售策略和完善的售后服务向着新的目标迈进。

The historical mission of CNPC Jichai Power Equipment Company's staffs is to build an international brand for Chinese power. Regard "Innovation Development, Harmony and Win-win" as tenet and being customer benefit-oriented, we are marching along the road toward a new aim with remarkable innovation ability, advanced marketing strategy, perfect after-sale service and vigorous support of our customers and merchants.



科学管理 创新发展

Scientific Management; Innovation Development

中国石油集团济柴动力总厂液力传动装备厂坚持“科学管理、创新发展”的理念，将创新作为发展的前提和灵魂。我们采用先进的ERP系统管理生产，实施ISO质量体系确保产品质量受控，制定有效措施激励员工工作创新、精益求精，与国内外知名公司合作，努力将中国石油集团济柴动力总厂液力传动产品打造成国内液传第一品牌，并在技术方面取得了重大突破。

Hydraulic Transmission Equipment Company of CNPC Jichai Power Equipment Company adheres to the philosophy of “Scientific Management, Innovation Development”, takes innovation as the prerequisite and soul of development. We adopt advanced ERP System to manage production, execute ISO Quality System to ensure product quality be a controlled condition, formulate effective measures to stimulate worker doing work innovatively and keeping improving. We cooperate with famous companies in domestic and abroad, get great breakthrough in technology, and try to make the hydraulic transmission products of CNPC Jichai Power Equipment Company as the first brand of hydraulic transmission in China.

2009年4月，哈尔滨工业大学专家们对中国石油集团济柴动力总厂液力产品给予了高度评价，一致认为中国石油集团济柴动力总厂液力产品固定导管喷嘴阀控调速技术达到了国际先进水平，并成功应用于石油钻井、工程船舶等领域，具有创新性。

In April, 2009, the experts of Harbin Institute of Technology gave high evaluation to the hydraulic transmission products of CNPC Jichai Power Equipment Company, agreed that the fixed-tube nozzle valve-controlled speed regulating technology of hydraulic transmission products of CNPC Jichai Power Equipment Company has reached advanced international level and has been applied in petroleum drilling, engineering ship and other fields successfully with great innovation.



评价认定意见

2009年4月13日，哈尔滨工业大学受济南柴油机厂（济南柴油机股份有限公司）委托，组织相关领域专家对济柴液力传动事业部“液力耦合器固定导管调速技术及相关产品”进行了技术评价，结论如下：

1. 固定导管调速技术是济柴液力传动事业部在充分借鉴、吸收、消化国际知名液力传动企业典型产品技术特点的基础上，独立开发研制的新型液力调速技术。技术手段先进，系统的功能和配置独具特点，是液力耦合器固定导管调速技术、阀控调速技术、快速排油离合技术之后的又一创新性液力耦合器调速形式。济柴以此为核心技术开发的石油钻井用液力耦合器传动装置，已广泛应用于石油钻井领域，并成为石油机械主机传动的标准配置，取得了显著的经济和社会效益。
2. YOF1360~875 固定导管喷嘴阀控式调速型液力耦合器反车减速箱是由液力耦合器与单级齿轮减速器串联而成的液力传动装置，其新颖的结构和独特的固定导管调速技术，使该产品成为石油钻井用单机泵用新的匹配形式的关键装备。新的单机泵组实现了无级调节泵浆的排量和压力，减少了更换泥浆泵泵套的次数，减轻了劳动强度；该系统还具备离合功能，在没有任何冲击和磨损的情况下平滑进行离合；同时耦合器具有柔性传动、过载保护等功能，所以该系统可消除柴油机机损，提高柴油机寿命，使柴油机及传动系统的寿命提高了40%~60%；泥浆泵泵压脉动幅度降低50%以上。
3. YOT2750 固定导管喷嘴阀控式调速型液力耦合器具有新颖的结构和独特的固定导管调速技术，主要与大功率交流电动机配套实现机械电

机网电化改造，取代了传统的柴油机驱动。该系统以电动机为动力，用户可充分利用廉价的工业电网，与使用柴油机驱动相比较，可降低钻井作业成本的30%~45%；系统维护保养方便，实现无人值守。

4. YOCQH1000 工程船舶调速型液力耦合器传动箱是采用前置齿轮增速、后置齿轮减速结构的新型液力传动装置，是针对挖掘船泥砂泵工况特点而专门研发的新产品。
5. YOTJ420~580 调速型液力耦合器是大功率柴油机冷却风扇调速用液力传动装置，通过检测柴油机冷却水温度控制风扇的开启，从而实现有柴油机冷却风扇转速的自动调节，它内置齿轮减速机构，取消了皮带传动，具有明显的节能效果。

综上所述，评价委员会认为以上四种产品所采用的固定导管喷嘴阀控调速技术先进，在该技术领域达到了国际先进水平。基于该技术开发的系列产品成功应用于石油钻井、工程船舶等领域，具有创新性。

建议：（1）进一步优化产品性能指标，推广研究成果的应用；
（2）创造济柴液力传动品牌，树立高端产品品牌形象；
（3）注重知识产权保护，发展创新技术，增强核心竞争力。

评价委员会主任：王洪杰

哈尔滨工业大学机电工程学院
2009年4月13日

济南柴油机厂
济南柴油机股份有限公司

液力传动关键技术与相关产品评价会

专家组名单

姓名	研究方向	单位	职称/职务	签字
王洪杰	流体机械及工程	哈工大能源学院	教授/副院长	王洪杰
匡 翼	流体机械及工程	哈工大能源学院	教授	匡 翼
陆学达	流体机械及工程	哈工大能源学院	教授	陆学达
李炳顺	动力工程及工程热物理	哈工大能源学院	教授	李炳顺
刘吉生	动力机械及工程	哈工大能源学院	教授	刘吉生
程东明	动力机械及工程	哈工大工程技术研究院	副院长	程东明
陈 彦	动力机械及工程	哈工大能源学院	教授	陈 彦
闫国军	流体机械及工程	哈工大能源学院	副教授	闫国军
董 洁	流体机械及工程	哈工大能源学院	副教授	董 洁

2009年4月13日

2000系列液力耦合器正车减速箱 2000 series hydraulic coupling gear reducer

联合水冷 Combined water cooling system

该类型液力耦合器正车减速箱与柴油机采用同一水冷却系统，统一安装在共用底盘上，安装移运方便，操作安全可靠。

The same water cooling system installed on the shared chassis integrally is adopted for this type and the diesel engine, with easy installation and transportation and safe and reliable operations.

输入转速：600~1500 r/min

Input speed: 600~1500 r/min

功率范围：600~1300 kW

Power range: 600~1300 kW

额定滑差：3%

Rated slip: 3%

额定效率：≥96%

Rated efficiency: ≥96%

减速比：1.5~2.5（根据用户配套情况具体确定）

Reduction ratio: 1.5~2.5 (depending on the equipments used by the customer)



共用底盘独立风冷 Shared chassis / independent fan cooling system

该类型液力耦合器正车减速箱与柴油机采用公共底盘，采用独立的风扇冷却系统。

An independent fan cooling system adopted for this type is sharing a chassis with the diesel engine.

输入转速：600~1500 r/min

Input speed: 600~1500 r/min

功率范围：600~1300 kW

Power range: 600~1300 kW

额定滑差：3%

Rated slip: 3%

额定效率：≥96%

Rated efficiency: ≥96%

减速比：1.5~2.5（根据用户配套情况具体确定）

Reduction ratio: 1.5~2.5 (depending on the equipments used by the customer)



单独安装独立风冷 Independent fan cooling system installed separately

该类型液力耦合器正车减速箱采用独立的底盘，独立的风扇冷却系统，宜于各型钻机的选用配套。

The independent chassis and fan cooling system adopted separately for this type are suitable for various drilling rigs.

输入转速：600~1500r/min

Input speed: 600~1500 r/min

功率范围：600~1300kW

Power range: 600~1300kW

额定滑差：3%

Rated slip: 3%

额定效率：≥96%

Rated efficiency: ≥96%

减速比：1.5~2.5（根据用户配套情况具体确定）

Reduction ratio: 1.5~2.5 (depending on the equipments used by the customer)

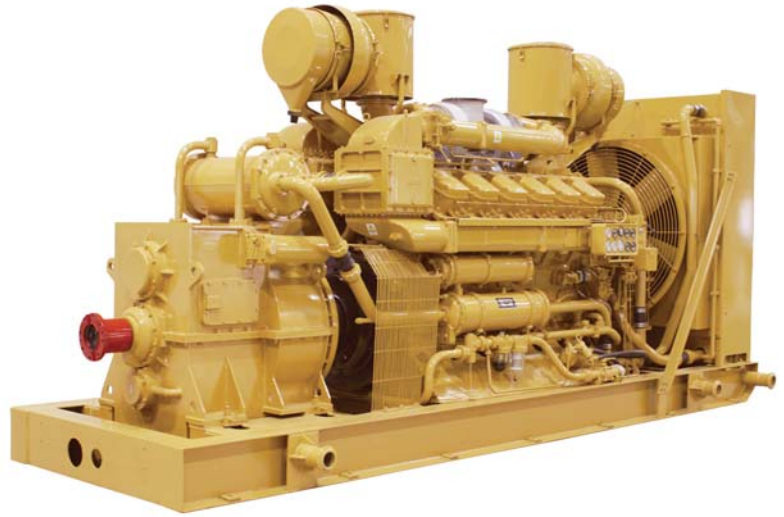


2000系列柴油机耦合器正车箱机组 2000 series diesel engine coupling gear □o□ set

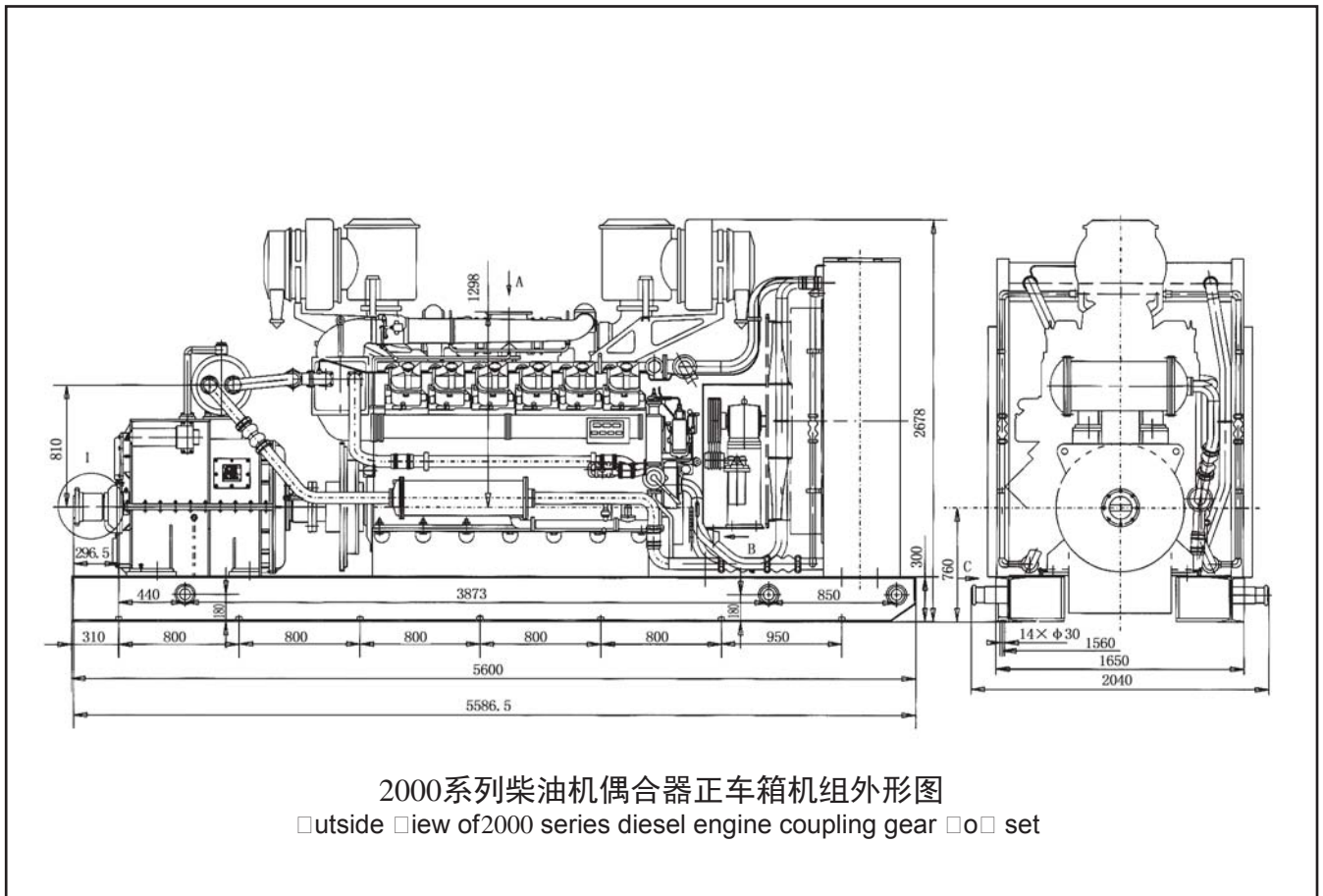
机组标定转速：1000~1500 r/min
Declared speed: 1000~1500 r/min
机组标定功率：740~1000 kW
Declared power: 740~1000 kW

广泛应用于石油钻探领域,目前已成为石油钻机用柴油机耦合器动力机组标准配置。

With a wide application in oil drilling field, the product is the standard equipment configured for oil drilling rigs currently.



外形尺寸 Overall dimension



2000系列柴油机耦合器正车箱机组外形图

□outside □iew of 2000 series diesel engine coupling gear □o□ set

3000系列液力耦合器正车减速箱 3000 series hydraulic coupling gear reducer

该类型液力耦合器正车减速箱通过输入端止口与柴油机飞轮罩壳直接联接并安装在同一共用底盘上，结构紧凑，轴向尺寸短。

This type is directly coupled with the flywheel casing of diesel engine through spigot of the input end and is installed on the shared chassis, with compact structure and small axial dimension.

输入转速：600~1500 r/min

Input speed: 600~1500 r/min

功率范围：800~1200 kW

Power range: 800~1200 kW

额定滑差：3%

Rated slip: 3%

减速比：1.5~2.5（根据用户配套情况具体确定）

Reduction ratio: 1.5~2.5 (depending on the equipments used by the customer)



3000系列柴油机耦合器正车箱机组 3000 series diesel engine coupling gear box set

机组标定转速：1000~1500 r/min

Declared speed: 1000~1500 r/min

机组标定功率：800~1200 kW

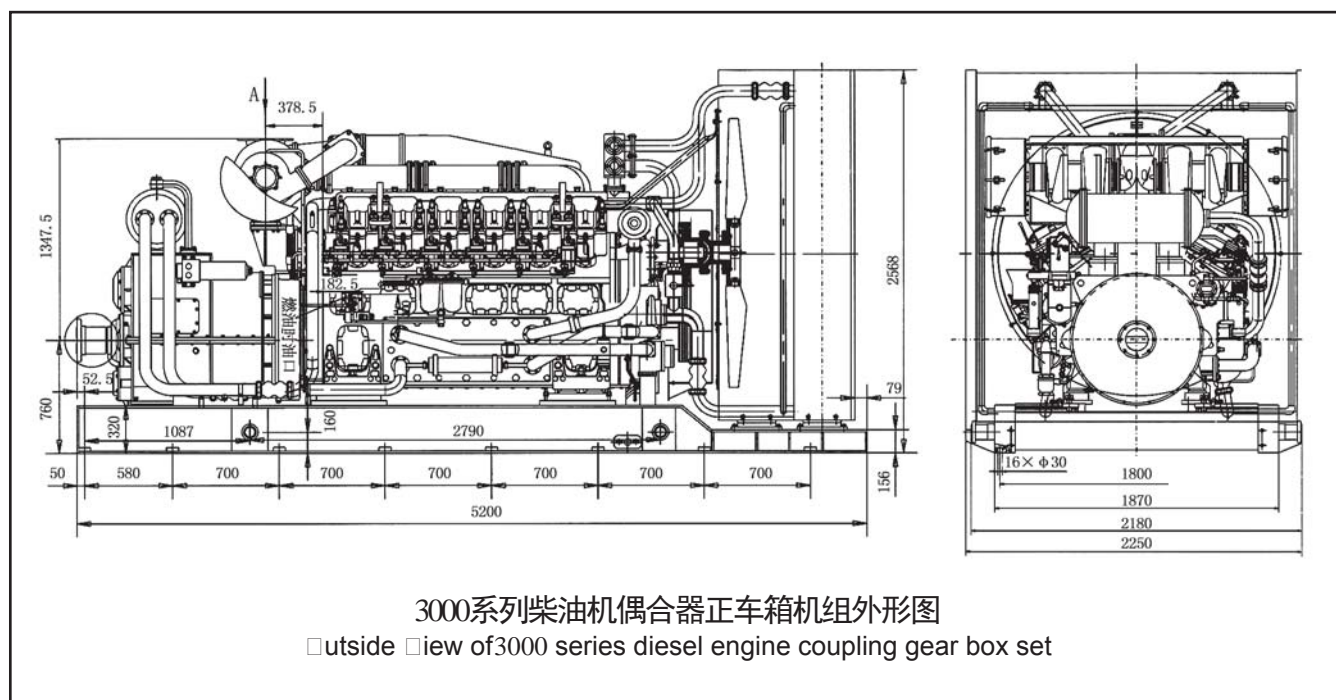
Declared power: 800~1200 kW

广泛应用于石油机械钻井动力、疏浚工程等动力工程设备。

The product is widely used in power engineering equipments for petroleum machinery drilling and dredging projects.



外形尺寸 Overall dimension



柴油机耦合器（正车箱）机组配置 Diesel engine coupling (gear box) set configuration

2000系列柴油机耦合器机组匹配一览表

类别	柴油机参数			柴油机型号	耦合器型号	机组型号	耦合器输入功率 (kW)	耦合器效率 (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012系列	≤209	1200	735	G12V190PZ _L -1	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L -1/O	695	≥96%
		1300	810	G12V190PZ _L -3	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L -3/O	770	
		1500	900	G12V190PZ _L	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L /O	860	

Configuration table of 2000 series diesel engine coupling set

Category	Parameters of diesel engine			Diesel engine model	Coupling model	Set type	Input power of coupling (kW)	Coupling efficiency (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012 series	≤209	1200	735	G12V190PZ _L -1	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L -1/O	695	≥96%
		1300	810	G12V190PZ _L -3	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L -3/O	770	
		1500	900	G12V190PZ _L	YOZJ750-20FLshA (YOZJ750-20FLfA)	G12V190PZ _L /O	860	

3000系列柴油机耦合器机组匹配一览表

类别	柴油机参数			柴油机型号	耦合器型号	机组型号	耦合器输入功率 (kW)	耦合器效率 (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
3012系列	≤205	1500	1200	A12V190PZ _L	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _L /O	1140	≥96%
		1300	1100	A12V190PZ _L -3	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _L -3/O	1040	
		1200	1000	A12V190PZ _L -1	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _L -1/O	940	
3008系列	≤205	1500	900	A8V190PZ _L	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _L /O	840	
		1300	760	A8V190PZ _L -3	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _L -3/O	700	
		1200	700	A8V190PZ _L -1	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _L -1/O	640	

Configuration table of 3000 series diesel engine coupling set

Category	Parameters of diesel engine			Diesel engine model	Coupling model	Set type	Input power of coupling (kW)	Coupling efficiency (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
3012 series	≤205	1500	1200	A12V190PZ _L	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _L /O	1140	≥96%
		1300	1100	A12V190PZ _{L-3}	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _{L-3} /O	1040	
		1200	1000	A12V190PZ _{L-1}	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A12V190PZ _{L-1} /O	940	
3008 series	≤205	1500	900	A8V190PZ _L	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _L /O	840	
		1300	760	A8V190PZ _{L-3}	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _{L-3} /O	700	
		1200	700	A8V190PZ _{L-1}	YOZJ750-20ZhLshB (YOZJ750-20FLshB)	A8V190PZ _{L-1} /O	640	

单独风冷柴油机耦合器机组匹配一览表

类别	柴油机参数			柴油机型号	耦合器型号	机组型号	耦合器输入功率 (kW)	耦合器效率 (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012系列	≤209	1200	735	G12V190PZ _{L-1}	YOZJ750-20FDfA	G12V190PZ _{L-1} /O	695	≥96%
		1300	810	G12V190PZ _{L-3}	YOZJ750-20FDfA	G12V190PZ _{L-3} /O	770	
		1500	900	G12V190PZ _L	YOZJ750-20FDfA	G12V190PZ _L /O	860	

Configuration table of diesel engine coupling set with independent fan cooling system

Category	Parameters of diesel engine			Diesel engine model	Coupling model	Set type	Input power of coupling (kW)	Coupling efficiency (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012series	≤209	1200	735	G12V190PZ _{L-1}	YOZJ750-20FDfA	G12V190PZ _{L-1} /O	695	≥96%
		1300	810	G12V190PZ _{L-3}	YOZJ750-20FDfA	G12V190PZ _{L-3} /O	770	
		1500	900	G12V190PZ _L	YOZJ750-20FDfA	G12V190PZ _L /O	860	

YOTFJ450/560/650/750/875系列调速型液力耦合器反车减速箱 YOTFJ450/560/650/750/875 speed-adjustable hydraulic coupling reverse-gear reducer

产品用途：与我厂140、190、260、320等系列柴油机及卡特、沃尔沃、康明斯柴油机或电动机配套，用于驱动泥浆泵。

Product usage: used together with 140, 190, 260, 320 and other series diesel engines manufactured by us and Caterpillar, Volvo and Cummins diesel engines or electric motors for driving mud pumps.

产品特点：采用固定导管排油与进口阀控调节相结合的方式实现对转速的调节，具备带载起动、过载保护、隔离扭振、减缓冲击、无级调速及快速平稳离合等优点，是泥浆泵最理想的调速传动装置。

Features: the product features the combination of fixed tubes for oil drain and imported valve control and regulation to realize the adjustment of speed. With advantages of on-load startup, overload protection, torsional vibration isolation, impact mitigation, stepless speed regulation, quick and steady clutch, etc, the product is the best variable speed drive for mud pump.

技术指标：

Technical data:

输入转速：1000~1500 r/min

Input speed: 1000~1500 r/min

传递功率：200~3000 kW

Transmission power: 200~3000 kW

额定效率：≥96%

Rated efficiency: ≥96%

齿轮减速比：2.0~3.3（根据用户配套情况具体确定）

Gear reduction ratio: 2.0~3.3

(depending on the equipments used by the customer)

额定滑差：3%

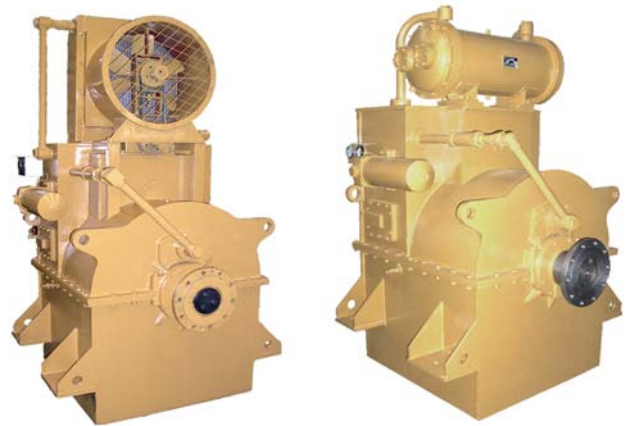
Rated slip: 3%

调速范围：1~1/3

Adjustable speed range: 1~1/3

离合灵敏度：6~8S

Clutch sensitivity: 6~8S



该系列产品是我厂为钻井泥浆泵固控循环系统开发的新型液力耦合器减速箱。该产品采用固定导管调速技术，实现了耦合器的无级调速及快速、平稳离合功能，是目前国内石油钻井泥浆泵匹配的最佳选择。

This series of products are newly developed hydraulic coupling reducers designed for solid control circulating system of the drilling mud pump. The product features the adoption of fixed-tube speed regulation technology to realize the stepless speed regulation, quick and steady clutch of the coupling, and is the best choice for the oil drilling mud pump in China currently.

柴油机液力耦合器反车箱机组匹配泥浆泵优点

The combined use of diesel engine-hydraulic coupling reverse-gear box set and mud pump has the following advantages

1、采用柴油机耦合器反车箱驱动泥浆泵,取消了皮带传动、机械减速箱、气囊离合器,简化了传动系统,提高了效率,减少了体积和重量,增强了移运性。

1. The diesel engine coupling reverse-gear box is adopted to drive the mud pump. This fact eliminates the need for belt transmission, mechanical reducer and air bag clutch, and provides simplified transmission system, higher efficiency, reduced volume and weight and higher mobility.

2、柴油机与耦合器反车箱由高弹联轴器联接,安装在一个共用底盘上,并采用了联合高压水冷却,简化了耦合器的冷却系统,减少了辅助功率的消耗,结构紧凑可靠。

2. The diesel engine and hydraulic coupling reverse-gear box are coupled via the high-elastic coupling, and are installed on a shared chassis with a combined high-pressure water cooling system. This feature simplifies the cooling system in the coupling and reduces auxiliary power consumption. The structure is compact and reliable.

3、柴油机耦合器反车箱驱动泥浆泵可充分满足钻井工况不同排量和泵压的要求,既可以通过调节柴油机油门或更换缸套来调节泥浆泵排量和泵压,也可以通过控制耦合器气控阀的开度,在一定范围内无级的改变泥浆泵的排量和泵压,从而使柴油机可始终保持在高效区工作($\geq 1000\text{r/min}$)。

3. Under drilling conditions, the mud pump driven by a diesel engine coupling reverse-gear box can reach different discharge capacities and pumping pressures controlled by adjusting diesel engine throttle or replacing cylinder sleeve or regulating opening of pneumatic control valve of coupling within limits in a stepless manner, so that the diesel engine can operate efficiently normally ($\geq 1000\text{r/min}$).

4、具有离合器功能,在无任何冲击和磨损的情况下平稳进行离合。

4. With functions of clutch, it is possible to apply the clutch when no impact and wearing appear.



反车箱配卡特柴油机驱动泥浆泵实况
Scenario: Reverse-gear box with Caterpillar diesel engine to drive mud pump



反车箱配济柴柴油机驱动泥浆泵实况
Scenario: Reverse-gear box with Jichai diesel engine to drive mud pump

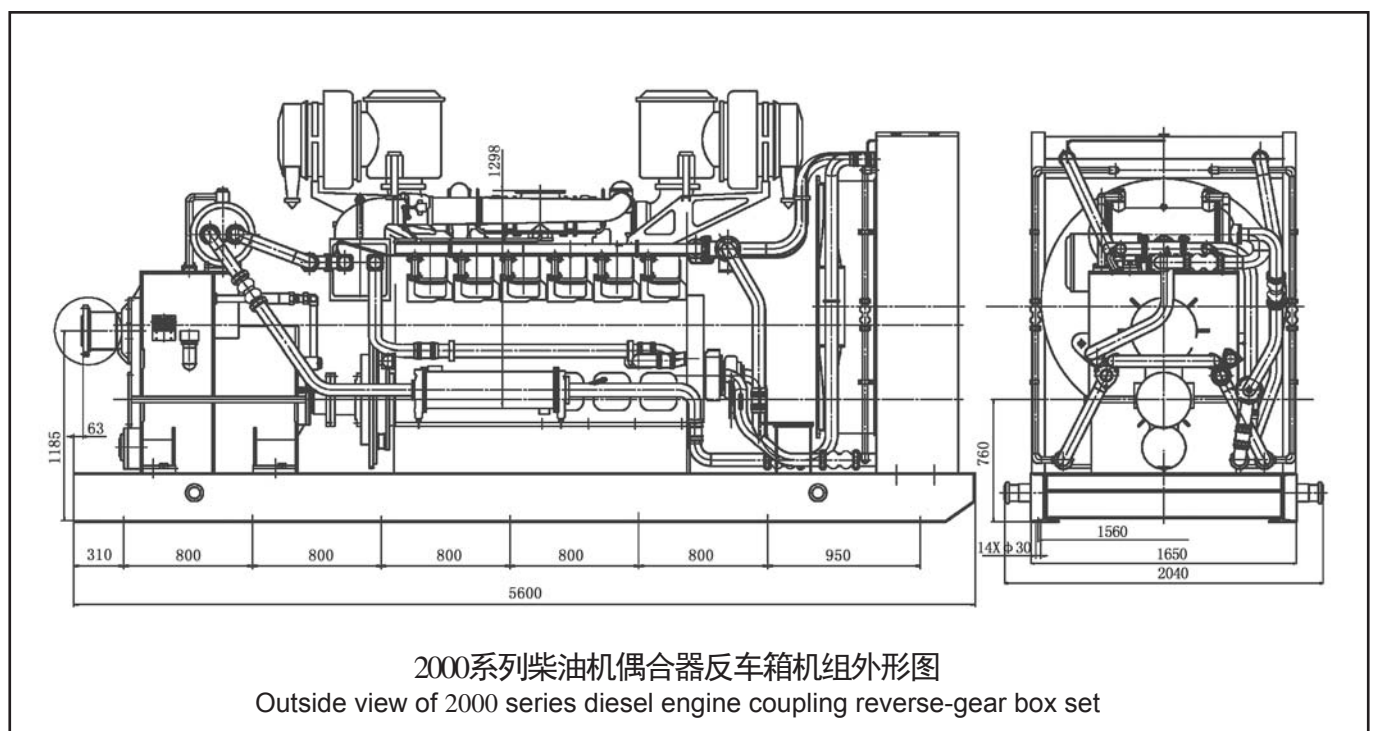
柴油机液力耦合器反车箱机组 Diesel engine-hydraulic coupling reverse-gear box set

YOTFJ450~875系列调速型液力耦合器反车减速箱及动力机组是中国石油集团济柴动力总厂针对石油钻机泥浆泵工况特点而专门设计的新型液力传动产品。具备带载启动、过载保护、隔离扭振、减缓冲击、无级调速、平稳快速离合等优点，用于取代传统配置的柴油机泥浆泵单机泵机组，取消了传统配置的机械减速箱、气囊离合器、传动皮带，结构紧凑、操作维护方便。机组功率范围：105kW(140Hp)~3000kW(4000Hp)，完全满足现有钻机在用200~2200Hp泥浆泵驱动要求。动力机组动力机可选用柴油机或电动机，如选用电动机驱动且充分利用电网电力资源，可节约能源费用40%以上。

YOTFJ450~875 series speed-adjustable hydraulic coupling reverse-gear reducer and power unit are late-model hydraulic transmission products that designed by CNPC Jichai Power Equipment Company according to characteristics of the working condition of oil drilling rig and mud pump. With advantages of on-load startup, overload protection, torsional vibration isolation, impact mitigation, stepless speed regulation, quick and steady clutch, etc; this product is used for the replacement of the traditional diesel engine mud pump single pump units, and eliminates the need for the traditional mechanical reducer, air bag clutch and driving belt. The structure is compact and convenient for operation and maintenance. The power range of the units is 105 kW (140Hp)~3000 kW (4000Hp), which can fully meet the drive requirement of existing drilling rig when using 200~2200 Hp mud pump. Both diesel engine and electric motors can be used to be the engine of power unit, when using electric motor and making full use of grid electricity resources, the cost of energy can be saved more than 40%.



外形尺寸 Overall dimension



柴油机耦合器（反车箱）机组配置 Configuration of diesel engine coupling (reverse-gear box)

2000系列柴油机耦合器机组匹配一览表

类别	柴油机参数			柴油机型号	耦合器型号	机组型号	耦合器输入功率 (kW)	耦合器效率 (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012系列	≤209	1200	735	G12V190PZ _L -1	YOTFJ750-22FLshA	CO735F-1/22	695	≥96%
		1300	810	G12V190PZ _L -3	YOTFJ750-25FLshA	CO810F-3/25	770	
		1500	900	G12V190PZ _L	YOTFJ750-33FLshA	CO900F/33	860	
2008系列	≤209	1300	510	G8V190PZ _L -3	YOTFJ750-20FLsh	CO510F-3/20	470	

Configuration table of 2000 series diesel engine coupling set

Category	Parameters of diesel engine			Diesel engine model	Coupling model	Set type	Input power of coupling (kW)	Coupling efficiency (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
2012 series	≤209	1200	735	G12V190PZ _L -1	YOTFJ750-22FLshA	CO735F-1/22	695	≥96%
		1300	810	G12V190PZ _L -3	YOTFJ750-25FLshA	CO810F-3/25	770	
		1500	900	G12V190PZ _L	YOTFJ750-33FLshA	CO900F/33	860	
2008 series	≤209	1300	510	G8V190PZ _L -3	YOTFJ750-20FLsh	CO510F-3/20	470	

3000系列柴油机耦合器机组匹配一览表

类别	柴油机参数			柴油机型号	耦合器型号	机组型号	耦合器输入功率 (kW)	耦合器效率 (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
3012系列	≤205	1500	1200	A12V190PZ _L	YOTFJ750-33FLshB	CO1200F/33	1140	≥96%
		1300	1100	A12V190PZ _L -3	YOTFJ750-25FLshB	CO1100F-3/25	1040	
		1200	1000	A12V190PZ _L -1	YOTFJ750-22FLshB	CO1000F-1/22	940	
B3012系列	≤202	1300	1210	BH12V190PZ _L -3	YOTFJ750-25FLshB1	CO1210F-3/25	1150	
		1500	1360	BH12V190PZ _L	YOTFJ750-33FLshB1	CO1360F/33	1300	
4012系列	≤202	1200	1200	L12V190PZ _L -1	YOTFJ875-22FLshA	CO1200F-1/22	1140	
		1300	1300	L12V190PZ _L -3	YOTFJ875-25FLshA	CO1300F-3/25	1240	

Configuration table of 3000 series diesel engine coupling set

Category	Parameters of diesel engine			Diesel engine model	Coupling model	Set type	Input power of coupling (kW)	Coupling efficiency (%)
	ge(g/kW.h)	n(r/min)	Ne(kW)					
3012 series	≤205	1500	1200	A12V190PZ _L	YOTFJ750-33FLshB	CO1200F/33	1140	≥96%
		1300	1100	A12V190PZ _L -3	YOTFJ750-25FLshB	CO1100F-3/25	1040	
		1200	1000	A12V190PZ _L -1	YOTFJ750-22FLshB	CO1000F-1/22	940	
B3012 series	≤202	1300	1210	BH12V190PZ _L -3	YOTFJ750-25FLshB1	CO1210F-3/25	1150	
		1500	1360	BH12V190PZ _L	YOTFJ750-33FLshB1	CO1360F/33	1300	
4012 series	≤202	1200	1200	L12V190PZ _L -1	YOTFJ875-22FLshA	CO1200F-1/22	1140	
		1300	1300	L12V190PZ _L -3	YOTFJ875-25FLshA	CO1300F-3/25	1240	

YOTFJ560~875系列调速型耦合器反车箱动力机组参数

序号	耦合器型号	柴油机型号	泥浆泵型号	机组型号	泵冲
1	YOTFJ560	4190PZ _L	N3NB350	CO470F	120
2	YOTFJ650	G8V190PZ _L -3	3NB500C	CO510F-3/33	95
3	YOTFJ750	G12V190PZ _L -3	3NB1000C	CO810F-3/30	110
4	YOTFJ750	G12V190PZ _L A12V190PZ _L -1	3NB1300C	CO1000F/33	120
5	YOTFJ875	L12V190PZ _L -3	3NB1600C	CO1300F-3/30	115
6	YOTFJ650	G8V190PZ _L -3	F-500	CO510F-3/20	150
7	YOTFJ750	G12V190PZ _L -3	F-800	CO810F-3/25	120
8	YOTFJ750	G12V190PZ _L	F-1000	CO900F/25	140
9	YOTFJ750	G12V190PZ _L A12V190PZ _L -1	F-1300	CO1000F/30	120
10	YOTFJ875	L12V190PZ _L -3	F-1600	CO1300F-3/25	120
11	YOTFJ875	B3016H(16V)	F-2200HL	CO1800F	

Parameters of YOTFJ560~875 series speed-adjustable coupling reverse-gear box power units

Sequence number	Coupling model	Diesel engine model	Mud pump model	Set type	Pump stroke
1	YOTFJ560	4190PZ _L	N3NB350	CO470F	120
2	YOTFJ650	G8V190PZ _L -3	3NB500C	CO510F-3/33	95
3	YOTFJ750	G12V190PZ _L -3	3NB1000C	CO810F-3/30	110
4	YOTFJ750	G12V190PZ _L A12V190PZ _L -1	3NB1300C	CO1000F/33	120
5	YOTFJ875	L12V190PZ _L -3	3NB1600C	CO1300F-3/30	115
6	YOTFJ650	G8V190PZ _L -3	F-500	CO510F-3/20	150
7	YOTFJ750	G12V190PZ _L -3	F-800	CO810F-3/25	120
8	YOTFJ750	G12V190PZ _L	F-1000	CO900F/25	140
9	YOTFJ750	G12V190PZ _L A12V190PZ _L -1	F-1300	CO1000F/30	120
10	YOTFJ875	L12V190PZ _L -3	F-1600	CO1300F-3/25	120
11	YOTFJ875	B3016H(16V)	F-2200HL	CO1800F	

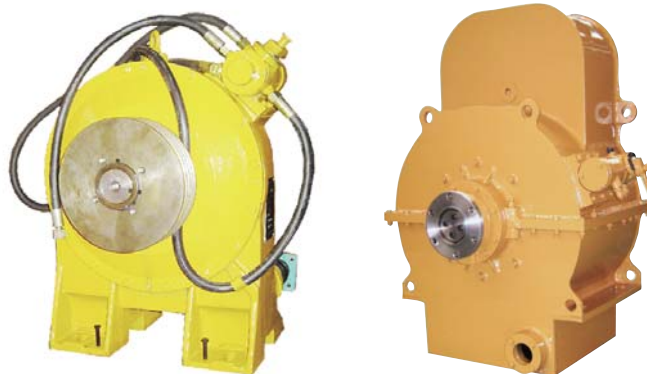
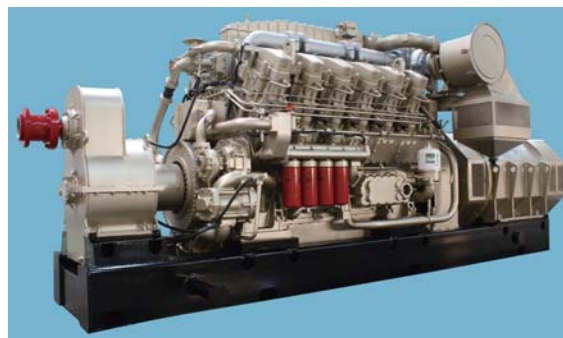
YOTJ420、580系列液力耦合器 YOTJ420、580 series hydraulic coupling

产品用途：190系列柴油机冷却风扇调速装置。

Product usage: cooling fans speeder for 190 series diesel engines

产品特点：通过检测柴油机冷却水温度控制充油阀的开度，从而实现对柴油机冷却风扇开启、关闭及转速的自动调节，达到节能降耗的目的。

Features: achieve the start, stop, and the automatic speed adjustment of diesel engine cooling fan by control oil valve opening via testing temperature of cooling water and save the energy at the same time.



YOTJ420—1000阀控调速型液力耦合器 YOTJ420-1000 Valve-Regulated Variable Speed Hydraulic Coupling

YOTJ420—1000系列液力耦合器，具有带载启动、隔离扭振、减缓冲击、无级调速、快速平稳离合等优点，可以完全取代传统配置的机械减速箱、国外同类产品，改善动力机组的传动品质，彻底解决传统配置存在的缺陷，是天然气钻探、炼化、钢铁、煤炭、电力等企业动力机组最理想的动力传输设备。

YOTJ420-1000 series hydraulic coupling is characterized by load startup, torsional vibration isolation, buffering, stepless speed regulating, quick and stable clutching, etc. This series can totally replace the mechanical reducer box and international similar products with traditional configuration, improve the transmission quality of power unit, eliminate the shortcomings of traditional configuration completely, which is optimal power transmission equipment for power unit of gas drilling, refining, steel, coal, electric power enterprises, etc.

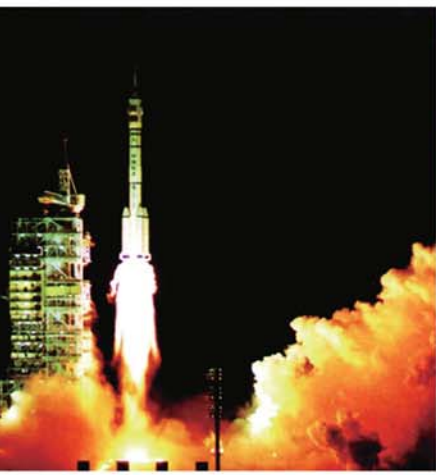
中油济柴针对用户使用工况,已设计形成传递功率800--3000kW该型系列化耦合器。调速分为手动、气动、电动三种控制形式，并可根据用户使用需求对结构进行优化设计、专门配置，使用户设备达到最佳使用效果。该产品性能优良、工作可靠、操作维护方便，目前处于国内领先水平。

Based on users' operating condition, CNPC Jinan Diesel Engine General Factory has designed coupling with 800-3,000 kW capacity of this series. The speed control is divided into three categories: manual, pneumatic and electric controls, and the structure can be optimally designed and configured specially based on users' demand, realize the equipment's best effect. The products of this series are characterized by excellent performance, reliable, easy operation and maintenance, and it is in the domestic leading level currently.



让用户满意是我
The satisfaction
is our pursuit





我們永恆的追求。
of customers
quit forever.



采用新型伯纳德电动执行器的YOTJ420—1000系列阀控调速型液力耦合器，可实现手动/远程控制来调节控制阀的开度。通过执行器控制系统的故障报警、自动校相、触点信号输入/输出、限位保护、手动开关保护等功能，保障执行器可靠稳定运行，从而保证调节阀的连续可调、准确控制，实现液力耦合器的电控无级调速。

The YOTJ420-1000 series valve-regulated variable speed hydraulic coupling with new Bernard electric actuator could adjust the opening size of control valve by manual/remote control. The stable operation of actuator can be ensured by the functions of failure warning, auto phase correction, contact signal input/output, limit protection, hand-switch protection, etc. of actuator control system, which ensures the continuing adjustment and exact control of the control valve, so as to realize the stepless speed regulating of hydraulic coupling.



主要技术参数

Main Technical Parameters

参数 Parameters	型号 Model							
	YOTJ420	YOTJ500	YOTJ580	YOTJ650	YOTJ750	YOTJ875	YOTJ1000	
额定输入功率 (kW) / 额定输入转速 (r/min) Rated input power/ Rated input rotating speed	24/1000	58/1000	120/1000	200/1000	450/1000	980/1000	1800/1000	
	82/1500	198/1500	415/1500	735/1500	1000/1500	1300/1300		
传动效率 (%) Transmission efficiency	97							
额定滑差 (%) Rated slip	3							
工作油温 (°C) Operating oil temperature	≤110							
使用用油 (液力传动油) Oil Types (hydraulic transmission oil)	6号或8号 6# or 8#							
减速比 Reduction ratio	1							
冷却方式 Cooling type	水冷 Water-cooling							
支承方式 Supporting method	双支承 Double supporting							

注：1. 环境温度在-20℃以上，使用6号液力传动油。环境温度在-20℃以下，使用8号液力传动油。

2. 适用于与大功率电动机、2000及3000系列柴油机、气体发动机等机型配套。

3. 以上参数仅供参考，我们可根据用户需要进行特殊设计、特殊供货。

Note: 1. Adopt 6# hydraulic transmission oil when the ambient temperature is above -20 °C, adopt 8# hydraulic transmission oil when the ambient temperature is below -20 °C,

2. The equipment is applicable to the high power motor, 2000 and 3000 series diesel engines, gas engines and other models.

3. The parameters above is only for reference, we could design specially and produce in accordance with users' demand.

YOTZJ700/750系列调速型液力偶合器正车减速箱 YOTZJ700/750 series speed-adjustable hydraulic coupling gear reducer

产品用途：与我厂190系列柴油机、电动机配套，即可以用于泥浆泵单机泵组、又适用于机械钻机传统配置。

Product usage: match with 190 series diesel engines and electric motors produced by us. This series products can be used in single pumping set of mud pump, also are suitable for traditional device of mechanical drilling rig.

产品特点：采用固定导管与进口调节相结合的方式实现对转速的调节，具备带载起动、过载保护、隔离扭振、减缓冲击、无级调速、快速无冲击离合等优点，是泥浆泵及钻机主传动系统“电代油”改造最理想的调速传动装置。

Features: the product features the combination of fixed tubes and inlet adjusting to realize the adjustment of speed, with advantages of on-load startup, overload protection, torsional vibration isolation, impact mitigation, stepless speed regulation, quick and no-impact clutch, etc. The product is the best speed-adjustable transmission device for “replace oil by electricity” reformation of the main drive system of mud pump and drilling rig.

YOTZJ700/750 系列调速型液力偶合器正车箱技术指标：

Technical data of YOTZJ700/750 series speed-adjustable hydraulic coupling gear box:

输入转速：1000~1500 r/min

Input speed: 1000~1500 r/min

传递功率：600~1200 kW

Transmission power: 600~1200 kW

额定效率：≥96%

Rated efficiency: ≥96%

调速范围：1~1/3

Speed adjustable range: 1~1/3



DO系列电动机偶合器动力机组 DO series power units of electric motor coupling

DO系列电动机偶合器动力机组是为了实现传统机械钻机电驱动化改造，降低钻井成本，提高经济效益而开发的新型动力机组。该机组以大功率电动机为动力，用户可充分利用廉价的网电资源，降低钻井成本30%~45%，特别适用于钻井周期长、地质条件复杂、交通不便及井位集中的地区。该系列机组具备带载起动、过载保护、隔离扭振、减缓冲击、无级调速、快速平稳离合及协调多机并车等优点，故障率低、性能优良、安全可靠、操作维护方便，并且有效降低钻机噪音，无废气排放，极大改善了工作环境，对绿色钻井将产生积极深远的影响。

DO series power units of electric motor coupling are late-model power units developed to achieve electric-transmission transform of traditional mechanical rig, reduction of drilling costs and improvement of economic efficiency. The high power motor provides power for the units, and users can take advantage of cheap grid electricity resources and reduce drilling cost by 30%~45%. The units are especially suitable for regions that have long drilling cycle, complex geological conditions, inconvenient traffic and concentrated well sites. This series units are with advantages of on-load startup, overload protection, torsional vibration isolation, impact mitigation, stepless speed regulation, quick and steady clutch, coordination of multi-machine and vehicle, etc, and are also characterized by low failure rate, excellent performance, safety and reliable, easy operation and maintenance, low drilling noise, no exhaust emission etc. Introducing the units will greatly improve the working environment and will have a positive far-reaching impact on “green drilling” .

动力机组主要技术参数：

Main technical parameters of power units:

电动机：600~1000 kW

Electric motor: 600~1000 kW

偶合器型号：YO(T)ZJ750液力偶合器正车减速箱

Coupling model: YO (T) ZJ750 hydraulic coupling gear reducer

额定输入转速：1000~1500 r/min

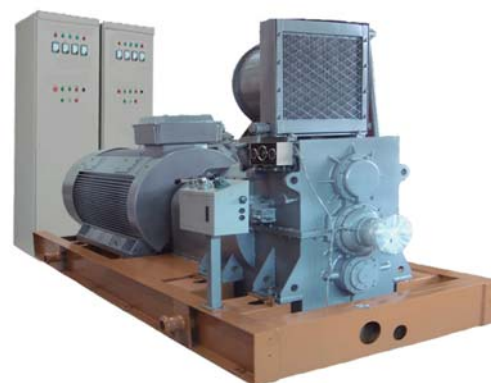
Rated input speed: 1000~1500 r/min

额定输入功率：600~1300 kW

Rated input power: 600~1300 kW

额定效率：≥96%

Rated efficiency: ≥96%



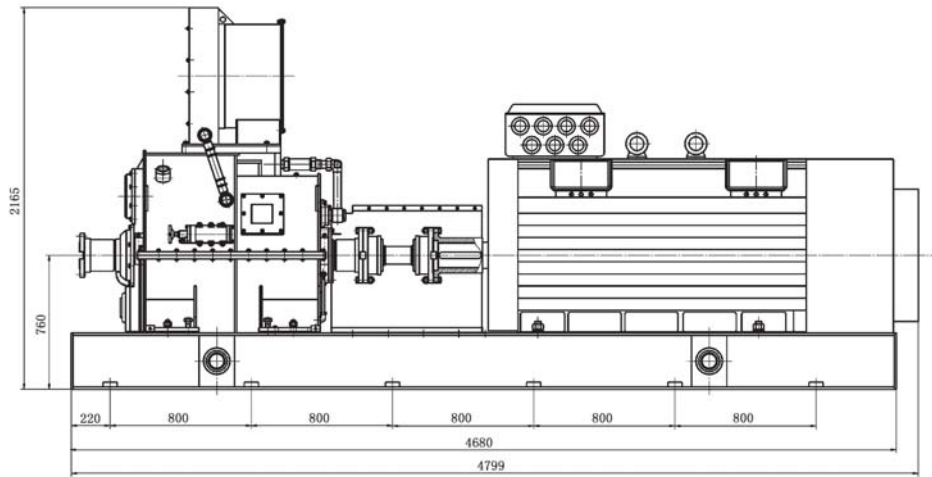
DO系列电动机耦合器动力机组配置方案 Configuration plan for DO series power units of electric motor coupling

- (1) 交流异步电动机+ YOTZJ750调速型液力耦合器正车箱
- (1) AC asynchronous motor + YOTZJ750 speed-adjustable hydraulic coupling gear box
- (2) 直流调速电动机+ YOZJ750液力耦合器正车箱
- (2) DC speed adjustable motor + YOZJ750 hydraulic coupling gear box
- (3) 交流变频调速电动机+YOZJ750液力耦合器正车箱
- (3) AC frequency-control speed adjustable motor + YOZJ750 hydraulic coupling gear box

机组安装接口尺寸：符合G12V190PZL-3/O或A12V190PZL-3/O柴油机耦合器机组安装接口尺寸,确保电动机耦合器动力机组与柴油机耦合器动力机组的互换性。

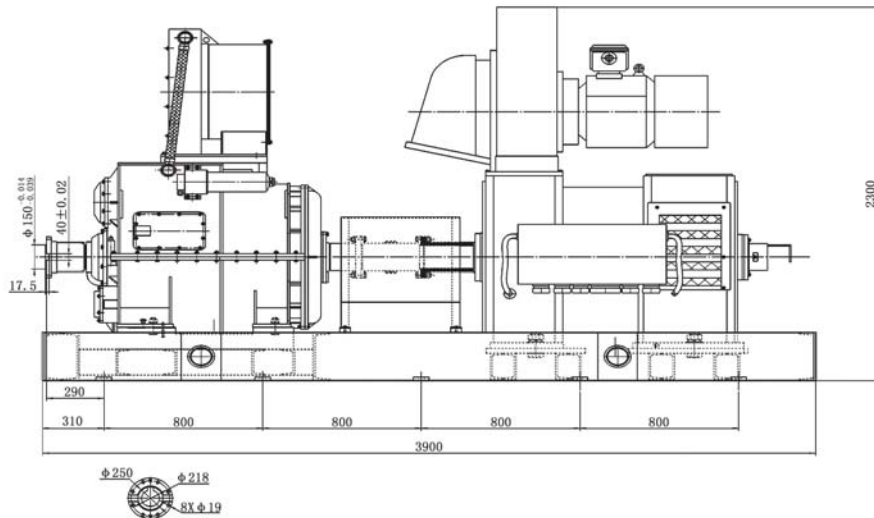
Connector size for units' installation: correspond with the connection size of G12V190PZL-3/O or A12V190PZL-3/O power units of diesel engine coupling, ensure the interchangeability between power units of electric motor coupling and coupling power units of diesel engine.

外形尺寸 Overall dimension



交流异步电动机+调速型液力耦合器正车箱机组外形图（参考）

Outside view of AC asynchronous motor+speed-adjustable hydraulic coupling gear box set for reference



调速型电动机+液力耦合器正车箱机组外形图（参考）

Outside view of speed-adjustable motor+hydraulic coupling gear box set for reference

YOC系列船用液力耦合器传动箱 YOC series marine hydraulic coupling transmission box

YOC系列船用液力耦合器传动箱, 具有带载启动、过载保护、隔离扭振、减缓冲击、无级调速、快速平稳离合等优点, 可以完全取代工程船舶传统配置的机械减速箱, 改善系统传动品质, 彻底解决传统配置存在的缺陷, 是工程船舶动力机组最理想的动力传输设备。

YOC series marine hydraulic coupling transmission box has advantages of on-load startup, overload protection, torsional vibration isolation, impact mitigation, stepless speed regulation, quick and steady clutch, and can replace traditional machinery reducer of engineering ships, improve system transmission quality and help resolve defects in conventional configuration. It is the best power transmission equipment of power units for engineering ships.

液力传动装备厂针对挖泥船、抽沙船、捕捞船等工程船舶特殊工况, 已设计形成传递功率100kW~8000 kW的系列化产品, 性能优良、工作可靠、操作维护方便。

Hydraulic Transmission Equipment Company has designed series products with transmission power of 100 kW~8000 kW based on special working conditions of engineering ships such as dredger, sand pump vessel and fishing boat etc. The series products have the advantages of high performance, reliable working and easy operation and maintenance.



泵箱合一 Combination of Pump & Transmission Box

“泵箱合一”调速型液力耦合器砂砾泵总成是液力传动装备厂针对挖泥船、抽沙船砂砾泵工况特点而全新设计的新型液力传动产品。在耦合器传动箱箱体外型及内部轴系结构布置上都做了有针对性的优化改进与调整。

The “combination of pump & transmission box” variable-speed hydraulic coupling gravel pump assembly designed by business division of hydraulic transmission is a new hydraulic transmission product aiming at working condition features of gravel pump of dredger and sand pumping vessel. Some targeted optimized improvement and adjustment have been made on coupling transmission box’ s appearance and arrangement of internal shafting structure.

所谓泵箱合一就是把砂砾泵的泵头直接通过连接板连接到耦合器传动箱的箱体上, 砂砾泵转子(叶轮)直接安装在耦合器传动箱的输出轴上。与原有的砂砾泵相比较取消了砂砾泵托架、轴承箱。具有制造成本低、结构紧凑、体积小及柔性、平稳传动的技术优势。

The “combination of pump & transmission box” means connecting the pump head of gravel pump direct to the body of coupling transmission box through connecting plate, and connecting the rotor (impeller) of gravel pump direct to output shaft of coupling transmission box. Compared with original gravel pump, the bracket and bearing box of gravel pump are not used any more. It is characterized by low manufacturing cost, compact structure, small size, and flexible and stable transmission.

我们以市场需求为导向, 其产品可实现对中小型(300~2000KW)挖泥船、抽沙船的全覆盖。

Our company is guided by market demand, our products cover all related products for small and medium size dredger and sand pumping vessel (300~2,000 KW)



船用液力耦合器传动箱技术参数

型号 参数	YOCQH1000	YOCQH1000A	YOCQH1000B	YOCQH1000C	YOCH875	YOCH750	YOCH650	YOCH560
输入转速 (r/min)	290	600	600	600	1000~1500	1000~1500	1000~1800	1000~1800
传递功率 (kW)	1600	2200	4500	3000	1000~3000	1000~1500	200~1800	100~1000
额定滑差率	3%~5%							
输出转速 (r/min)	290	300	300	300	290~720	395~960	395~1155	395~1155
传动比	0.98	1.95	1.93	1.95	2.0~3.3	1.51~2.45		
工作油温(°C)	≤110°C							
使用油品	6号或8号 (环境温度在-20°C以上使用6号液力传动油, 环境温度在-20°C以下使用8号液力传动油)							
冷却方式	水冷却							
外形尺寸 (长×宽×高mm)	2140×1956×2035	2140×1956×2035	2532×2288×2165	2140×1956×2035	1700×1300×2100	1586×970×1792	1350×970×1650	1350×970×1650
重量 (kg)	6850	8450	9850	8450	3450	2500	2300	2000

以上参数仅供参考, 可根据用户需要进行特殊设计、特殊供货。

订货用户提供以下参数:

动力机参数: 额定输出功率、额定输出转速、中心高、接口尺寸。

泥泵参数: 额定输入功率、额定输入转速、中心高、接口尺寸。

Technical parameters of marine hydraulic coupling transmission box

Model Parameters	YOCQH1000	YOCQH1000A	YOCQH1000B	YOCQH1000C	YOCH875	YOCH750	YOCH650	YOCH560
Input speed (r/min)	290	600	600	600	1000~1500	1000~1500	1000~1800	1000~1800
Transmission power (kW)	1600	2200	4500	3000	1000~3000	1000~1500	200~1800	100~1000
Rated slip	3%~5%							
Output speed (r/min)	290	300	300	300	290~720	395~960	395~1155	395~1155
Transmission ratio	0.98	1.95	1.93	1.95	2.0~3.3	1.51~2.45		
Working oil temperature (°C)	≤110°C							
Oil products applied	No.6 or No.8 hydraulic transmission oil (No.6 hydraulic transmission oil is applied at the ambient temperature of above -20 °C, and No.8 hydraulic transmission oil is applied at the ambient temperature of below -20 °C)							
Cooling method	Water cooling							
Overall dimensions (length width height) (mm)	2140×1956×2035	2140×1956×2035	2532×2288×2165	2140×1956×2035	1700×1300×2100	1586×970×1792	1350×970×1650	1350×970×1650
Weight (kg)	6850	8450	9850	8450	3450	2500	2300	2000

The above parameters are only for reference, and special design and supply can be conducted in accordance with the requirements of customers.

Parameters provided by the order customer:

Power engine parameters: rated output power, rated output speed, center height and connector size.

Mud pump parameters: rated input power, rated input speed, center height and connector size.

船用调速型液力行星变速箱 Ship's speed regulation type hydraulic planetary transmission

船用调速型液力行星变速箱属于新型液力复合调速装置。它采用调速型液力耦合器加行星传动机构的布置方案，其输入端由调速型液力耦合器泵轮端与动力机相连，耦合器涡轮端与两组行星传动机构相连接，行星传动机构输出端经一对定轴齿轮传动机构与螺旋桨相连进行动力输出。行星变速机构通过电气控制系统实现电-液动力换挡，能实现前进档、倒档和空档切换。

Ship's speed regulation type planetary transmission belongs to new-type multiple hydraulic speed regulating device. It adopts the arrangement scheme of speed regulation type hydraulic coupler plus the planetary gear drive mechanism. At its input end, the pump impeller end of the speed regulation type hydraulic coupler is connected with the motive unit, the turbine end of the coupler is connected with two groups of planetary gear drive mechanism, and the output end of the planetary gear drive mechanism gives out power by connecting with the screw propeller through a pair of gear drive with dead axle. The planetary gear drive mechanism realizes the electric-hydraulic motive power shift through the electric control system, and it can realize the shift among the drive, back motion and neutral.

该产品具有带载启动、过载保护、减缓冲击、无级调速、换挡平顺等优点，可使动力机在最经济工况下恒速运转，延长了动力机的寿命。

This product has such advantages as starting with load, overload protection, impact abatement, stepless speed regulation and smooth shifting, and it can make the motivating unit run under the most economic operating mode, thus prolong the life-span of the motivating unit.

该产品是济柴动力总厂“气化水运”战略的重点科研项目之一，是国内船舶用推进系统中第一款具备“调速”、“行星传动”特质的高品质传动箱。

This product is one of the key scientific research projects of the “gasification and fluid transmission” strategy of Jinan Diesel Oil Power Factory, and also the first high-quality transmission case with the properties of “speed regulation” and “planetary gear drive” of the domestic propulsion system for ships.



主要技术参数:

Main technical parameters:

额定输入转速: 1200r/min

Rated input rotational speed: 1200r/min

额定输入功率: 400-1000kW

Rated input power: 400-1000kW

额定效率: ≥95%

Rated efficiency: ≥95%

机械定传动比: 2.3-6

Fixed mechanical transmission ratio: 2.3-6

液力调速范围: 1-1/5

Hydraulic speed regulation range: 1-1/5

档位: 前进、倒、空

Shift: drive, back motion and neutral

换挡方式: 电-液动力换挡

Shifting method: Electric—hydraulic shift change

输出方式: 垂直异中心

Output mode: Vertical different center

游梁式抽油机用SEE液传动力装置 SEE fluid transmitted power device for Beam Pumping Unit

游梁式抽油机用SEE液传动力装置取消了皮带装置，增加液力耦合器，将调速电机+耦合器+齿轮减速箱组合为一个独立的动力单元，提高了系统化传动效率，改善抽油机性能，降低抽油机能耗。该装置采用多速电机或调速电机作为动力单元，与齿轮箱匹配，充分满足抽油工况要求，实现系统多速输出或无级调速输出。适用于48、53、73、89等型号的游梁式抽油机动力配置与改造。

SEE fluid transmitted power device for Beam Pumping Unit eliminates the belting and adds fluid coupling, and combines variable speed motor, coupling and gear as a separate power unit to increase systematic transmission efficiency, improve performance of pumping unit and reduce energy consumption. Multi-speed motor or variable speed motor is adopted in this system as power unit to match the gearbox, which can fully meet requirements of oil pumping operating condition and realize multi-speed output or stepless speed regulation output of the system. It is applicable to power configuration and renovation of 48, 53, 73, 89 and other types of beam pumping units.



与常规皮带齿轮传动相比，液力耦合器传动箱动力机组具备以下优点：

Compared to conventional belt and gear transmission, the power unit of hydraulic coupling transmission box has following advantages:

1、具有空载启动和软启动功能，能使电机在重载状态下轻载启动。

1. It has the function of idle load start and soft start to enable the motor to conduct light load start under heavy load.

2、取消了皮带传动，提高了机械效率，可避免传统带传动中因雨雪天气造成皮带打滑、停机是影响油井正常生产，同时节约了材料成本，降低人工劳动强度。

2. It eliminates belt transmission and improves mechanical efficiency to avoid belt slipping, shutdown and other elements arising out of rainy and snow weather from affecting normal production of oil well (compared to traditional belt transmission), save cost of material and reduce intensity of hand labor.

3、液力耦合器为柔性传动，具有减缓冲击和隔离扭振功能，大幅度地降低了系统的机械损耗，大大提高齿轮箱寿命。

3. Hydraulic coupling is of flexible transmission, with function of damping impact and isolating torsional vibration to reduce mechanical loss of system significantly and to greatly improve the life of gear box.

4、液力耦合器可以削平（弱）由于交变载荷造成的电机峰值电流，消除电动机“发电”现象，提高电机功率因数，使电动机接近在高效区域运行，具有明显的节电功效。

4. Hydraulic coupling can balance (reduce) peak current of motor caused by live load, eliminate the “electricity generation” phenomenon of electric motor and increase power factors of motor to allow the electric motor to operate nearly in high-efficient range and have obvious function of power saving.

5、采用多速或调速电机技术，可直接通过电机接线盒组合开关实现调换冲次，操作简单。

5. Multi-speed or speed regulation technology is employed to change directly frequency of stroke by combination switch of junction box of the motor in a simple way.

6、与常规游梁式抽油机传统动力系统配置相比，系统可节能15%~20%左右，符合国家建设节约型社会的要求。

6. Compared to configuration of conventional power system, the system may save about 15% ~ 20% energy, which conforms to national requirements for construction of resource-efficient society.

7、该装置电机部位增高，具有防洪防盗的效果。

7. The motor seat of this device is raised, which can prevent flood and theft.

主要技术参数：

Main technical parameters:

额定扭矩：48—89kN.m；

Rated torque: 48 ~ 89 kN.m

传动比：158.48—439.2；

Transmission ratio: 158.48 ~ 439.2；

电机额定转速：750/1000/1500r/min；

Rated revolution of motor: 750/1000/1500 r/min；

调速电机转速：600r/min~1500 r/min

Rotating speed of variable speed motor:

600 r/min ~ 1500 r/min

电机额定功率：18kW~55kW；

Rated power of motor: 18kW~55kW；

YBLT900型液力变矩器 YBLT900 hydraulic torque converter

液力变矩器是一种安装在动力机（如柴油机和电动机）与工作机（如绞车、转盘和钻井泵）之间，以矿物油为工作介质、将动力机的功率传递给工作机的柔性传动装置。YBLT900型液力变矩器是一种带充调阀、其工作腔直径为900毫米的离心涡轮变矩器。它与G12V190PZL（或CAT3512）柴油机匹配（见表），主要应用在石油钻机上。该型变矩器还可以与其它型号的柴油机和电动机匹配，作为一种自动无级变速装置，应用在挖掘机、起重运输机械和挖泥船等设备上。

Hydraulic torque converter is a flexible transmission device with mineral oil as the operating medium and is installed between power engine (such as diesel engine and electric motor) and working machine (such as winch,

rotary table and drilling pump), transmits the power of the power engine to the working engine. YBLT900 hydraulic torque converter is a centrifugal turbine torque converter with oil valve and the working chamber diameter of 900 mm, which is matched with G12V190PZL (or CAT3512) diesel engine (see the table) and mainly applied to drilling rig. In addition, it can also be matched with other models of diesel engines and electric motors as an automatic stepless speed-regulation device which is applied to diggers, lifting transportation machinery and dredgers etc.

产品特点:

Features:

- (1) 零速变矩系数大和传动效率高, 可提高钻机的工作效能。
(1) Large stall torque ratio and high transmission efficiency to improve working efficiency of drilling rig.
- (2) 减小甚至消除对柴油机和钻机传动部件的冲击, 提高使用寿命。
(2) Reduce even eliminate impact on transmission devices of diesel engine and drilling rig to extend service life.
- (3) 当钻机卡钻或超负荷时, 柴油机不会熄火。
(3) No diesel engine failure in case of pipe sticking or overload.
- (4) 即使发动机在全速下运转, 亦可通过改变变矩器的充油量, 使钻机工作机构(转盘和钻井泵)在低速下长期运转。
(4) Even if engine is operating at full speed, operation mechanism of drilling rig (rotary table and drilling pump) can be set in long-time operation at a low speed by changing the oil content of the torque converter.
- (5) 随外界负载的变化, 变矩器自动调节输出转速和力矩, 而不会出现输出功率中断。
(5) The torque converter regulates output speed and moment automatically according to variation of outside load to avoid interrupt of output power.
- (6) 当工作机构承受载荷很小或等于零时, 柴油机处于低转速运转, 而变矩器同时自动地实现最小充油量或零充油量, 从而降低了功率损失。
(6) When operation mechanism bears few loads or no loads, the diesel engine operates at a low speed and the torque converter operates with minimum oil content or no oil content to reduce power loss.
- (7) 结构布置精巧, 工作可靠, 使用寿命长, 安装维修方便。
(7) Ingenious structure, reliable working, long service life and convenient installation and maintenance.
- (8) 冷却效果好, 工作油不会过热。
(8) Good cooling effect to prevent working oil overheat.
- (9) 采用间隙密封, 永不磨损。
(9) Durable due to clearance sealing.



主要技术参数:

Main technical parameters:

最大输入功率: 1000 kW
Maximum input power: 1000 kW
最大输入转速: 1500 r/min
Maximum input speed: 1500 r/min
最大输入力矩: 6.5k Nm
Maximum input moment: 6.5 kNm
最大输出力矩: 38.0 kNm
Maximum output moment: 38.0 kNm
最高效率: 85±2%
Maximum efficiency: 85±2%
工作腔直径: 900 mm
Working chamber diameter: 900 mm
供油压力: 0.3~0.47 MPa
Oil supply pressure: 0.3~0.47 MPa

工作油温度: ≤110℃
Working oil temperature: ≤110℃
使用油品: 6号或8号液力传动油
(环境温度为-20℃以下时推荐使用8号)
Oil products applied: No.6 or No.8 hydraulic transmission oil(No.8 recommended when the ambient temperature is below -20℃)
液力传动油加油量: 260L
Adding quantity of hydrodynamic transmission oil: 260 L
净质量: 2100kg
Net weight: 2100 kg
外形尺寸(长×宽×高): 1330×950×1073 mm
Overall dimensions (length×width×height): 1330×950×1073 mm

YBLT900型离心涡轮变矩器与G12V190PZ_L柴油机匹配一览表

序号	柴 (Chai) 油机参数			柴油机型号	变矩器参数				变矩器型号	备注
	n _c	P _c	P _{cf}		P _{B1}	P _{Bg}	P _{Bf}	P _{Bb}		
	r/min	kW			kW					
1	1200	735	27	G12V190PZ _L -1	708	6	4	698	YBLT900-45DD _i (+12)	扩容, 换导轮
2			40	G12V190PZ _L -1/B	695		0	689	YBLT900-45FLsh(+12)	
3			0	G12V190Z _L -1/B	735		0	729	YBLT900-45FWsh(+12)	
4	1300	810	27	G12V190PZ _L -3	783	7	5	771	YBLT900-45DD _i	基本型
5			40	G12V190PZ _L -3/B	770		0	763	YBLT900-45FLsh	
6			0	G12V190Z _L -3/B	810		0	803	YBLT900-45FWsh	
7	1500	1000	40	G12V190PZ _L /B	960	11	0	949	YBLT900-45FWsh(+12)	扩容, 换导轮和泵轮
8		900	27	G12V190PZ _L	873		7	855	YBLT900-45DD _i (-23)	减容, 换导轮和泵轮
9			40	G12V190PZ _L /B	860		0	849	YBLT900-45FLsh(-23)	
10			0	G12V190Z _L /B	900		0	889	YBLT900-45FLsh(-19)	

注1: 表中符号的含义: n_c-柴 (Chai) 油机标定转速, r/min; P_c-柴油机标定功率, kW; P_{cf}-柴油机附属设备 (冷却风扇和空滤器) 功率, kW; P_{B1}=P_c-P_{cf}-变矩器输入功率, kW; P_{Bg}-变矩器供 (Gong) 油泵功率, kW; P_{Bf}-变矩器风 (Feng) 扇功率, kW; P_{Bb}=P_{B1}-P_{Bg}-P_{Bf}-变矩器泵 (Beng) 轮吸收功率, kW;

注2: 柴油机型号中符号含义: 例如, G12V190PZ_L-1/B: G-改进型 (2000系列); 12-12缸; V-气缸V型排列; P-配套机 (带风扇及散热器); Z_L-增压中冷; -1-标定转速n_c=1200r/min; -3-标定转速n_c=1300r/min; /B-带液力变矩器; A12V190PZ_L-3/B: 3000系列。

 Configuration table of YBLT900 centrifugal turbine torque converter and G12V190PZ_L diesel engine

Sequence number	Parameters of diesel engine			Diesel engine model	Parameters of torque converter				Torque converter model	Remarks
	n _c	P _c	P _{cf}		P _{B1}	P _{Bg}	P _{Bf}	P _{Bb}		
	r/min	kW			kW					
1	1200	735	27	G12V190PZ _L -1	708	6	4	698	YBLT900-45DD _i (+12)	Expand capacity, replace guide pulley
2			40	G12V190PZ _L -1/B	695		0	689	YBLT900-45FLsh(+12)	
3			0	G12V190Z _L -1/B	735		0	729	YBLT900-45FWsh(+12)	
4	1300	810	27	G12V190PZ _L -3	783	7	5	771	YBLT900-45DD _i	Basic model
5			40	G12V190PZ _L -3/B	770		0	763	YBLT900-45FLsh	
6			0	G12V190Z _L -3/B	810		0	803	YBLT900-45FWsh	
7	1500	1000	40	G12V190PZ _L /B	960	11	0	949	YBLT900-45FWsh(+12)	Expand capacity, replace guide pulley and pump pulley
8		900	27	G12V190PZ _L	873		7	855	YBLT900-45DD _i (-23)	Reduce capacity, replace guide pulley and pump pulley
9			40	G12V190PZ _L /B	860		0	849	YBLT900-45FLsh(-23)	
10			0	G12V190Z _L /B	900		0	889	YBLT900-45FLsh(-19)	

Note 1: meanings of symbols in the table above: n_c: declared speed of diesel engine, r/min; P_c: declared power of diesel engine, kW; P_{cf}: power of accessory devices (cooling fan and air cleaner) of diesel engine, kW; P_{B1}=P_c-P_{cf}: input power of torque converter, kW; P_{Bg}: power of oil supply pump of torque converter, kW; P_{Bf}: power of torque converter fan, kW; P_{Bb}=P_{B1}-P_{Bg}-P_{Bf}: absorption power of pump pulley of torque converter, kW;

Note 2: meanings of symbols in the model of diesel engine: e.g. G12V190PZ_L-1/B: G-modified model (2000 series); 12: 12-cylinder; V: V-shape arrangement of cylinders; P: matching machine (with fan and radiator); Z_L: turbocharged inter-cooled; -1: declared speed n_c=1200 r/min; -3: declared speed n_c=1300 r/min; /B: with hydraulic torque converter; A12V190PZ_L-3/B: 3000 series.

YDB620--900系列导叶可调液力变矩器

YDB620-900 Series Hydraulic Torque Converter with Adjustable Guide Blades

YDB620--900系列导叶可调式液力变矩器是济柴针对国内石化行业压缩机调速驱动的工况特点，并在充分借鉴、吸收了国际知名公司同类产品的技术结构特点，及国内液力传动工程技术领域近十余年技术成果的基础上而全新整合、优化设计的新型液力传动产品，主要适用于各类往复式柱塞压缩机、泵的驱动，还可用于石油钻机驱动。此系列产品填补了国内空白，目前处于国内前沿技术水平。

YDB620-900 series hydraulic torque converter with adjustable guide blades is a newly integrated hydraulic transmission product with optimized design of CNPC Jinan Diesel Engine General Factory, in light of adjustable speed transmission condition of compressor in domestic petrochemical industry, by fully learning from and drawing on characteristic technical structure of similar international well-known companies, based on technical achievements for about ten years in the field of domestic hydraulic transmission engineering technology. It is mainly applicable to transmission of dual plunger compressor, pump and oil rig. This series of products fills the gap at home and has frontier technology in China currently.



该系列产品采用了导叶回转调节的调速技术形式，通过调节可调叶片的开度，改变叶型安装角、叶栅出口环量、入口攻角及其流道面积，进而改变循环流量，从而改变变矩器的能容，达到调节输出转速的目的。依据具体的工艺流程要求，可选配多种形式的智能型电动执行机构，可以实现闭环自动调节控制，进而达到更加完美的工况匹配效果。

This series of products adopts the speed regulation technology form of guide blade rotation, changes the circulating flow by adjusting opening adjustable blades and changing established angle of blade profile, circulation of blade grid outlet, inlet attack angle and the flow area, thus changes the capacity of torque converter, finally realizes the output speed adjustment. Various types of intelligent electric actuators can be selected in accordance with specific process requirements, and automatic closed loop adjusting and controlling can be realized to achieve a more perfect effect of operating condition matching.

主要技术参数

Main Technical Parameters

参数 Parameters	型号 Model	YDB620	YDB670	YDB900
额定输入功率 (kW) Rated input power		350	495	770
额定输入转速 (r/min) Rated input rotating speed:		1485	1485	1300
传动效率 (%) Transmission efficiency		88		
工作油温 (°C) Operating oil temperature		≤110		
使用用油 (液力传动油) Oil Types (hydraulic transmission oil)		6号或8号 6# or 8#		
减速比 Reduction ratio		0.92	0.92	0.45
冷却方式 Cooling type		水冷 Water-cooling		
支承方式 Supporting method		双支承 Double supporting		
注：1. 环境温度在-20℃以上，使用6号液力传动油。环境温度在-20℃以下，使用8号液力传动油。 2. 适用于与大功率电动机、2000及3000系列柴油机、气体发动机等机型配套。 3. 以上参数仅供参考，我们可根据用户需要进行特殊设计、特殊供货。 Note: 1. Adopt 6# hydraulic transmission oil when the ambient temperature is above -20 °C, adopt 8# hydraulic transmission oil when the ambient temperature is below -20 °C. 2. The equipment is applicable to the high power motor, 2000 and 3000 series diesel engines, gas engines and other models. 3. The parameters above is only for reference, we could design specially and produce in accordance with users' demand.				

JCYXB550液力机械变速箱 JCYXB550 hydraulic mechanical transmission



JCYXB550六速液力机械自动变速箱（简称液力机械变速箱）是中国石油集团济柴动力总厂以二十年技术积累、技术底蕴为依托并整合本行业最优势资源而研发的、具有完全自主知识产权的、百分百“中国制造”的液力机械变速箱。

JCYXB550 six-speed hydraulic mechanical automatic transmission (shortened form hydraulic mechanical transmission) is developed by CNPC Jichai Power Equipment Company completely, which have twenty years' accumulated technology and integrates the industry's most advantageous resources, and completely made in China.

产品集单级两相液力变矩器、单向离合器、闭锁离合器、液力缓速器、行星传动、动力换挡、ECU控制、电液换挡阀组等系统单元于一体，具有结构紧凑、操作方便、工作可靠等优点。

It integrates single-stage two-phase hydraulic torque converter, one-way clutch, lockup clutch, hydraulic retarder, planetary gear drive, power shift, ECU control, and electro-hydraulic shift valve systems unit, it is characterized by compact structure, convenient operation and reliable work, etc.

产品广泛应用于石油钻机、石油特种车辆、重型卡车、工程车辆、泵组、泵站等领域。

Products are widely used in oil drilling rigs, petroleum special vehicles, heavy trucks, construction vehicles, pumps and pumping stations, etc.

技术优势之一

First technical superiority

基于二十年技术积累的叶栅系统匹配设计能力，可以针对负载设备的工况特点“定制”叶栅系统，实现动力机、变速箱、工作机的完美匹配。

Based on the characteristics of the working conditions of load device, we can customize the cascade system, the capabilities of cascade system match design have twenty years' accumulated of technology, achieving perfect match of power machine, gearbox, and work machine.

技术优势之二

Second technical superiority

完全自主知识产权的动力换挡电液控制阀组模块及ECU控制单元，可以根据负载设备的工况特点设定特定的控制程序，实现动力机与工作机的完美匹配与结合。

Based on set specific control program by the characteristics of the working condition of load equipment, electric-hydraulic control valve module, which is completely intellectual property and ECU control unit, it can achieve a perfect match and combination of power machine with working machine.

源于军工技术及十余年应用验证的动力换挡电液控制阀组模块，通过ECU控制单元逻辑控制液力变矩器闭锁离合器的“锁定”与“解锁”，与传统的皮托机构相比较具有更大的柔性和灵活性，可进一步拓展产品应用的广泛性和针对性。

Because of logical control of ECU control unit and lock and unlock the hydraulic torque converter, electric-hydraulic control valve modules, the modules come from military technology and more than ten years' application verification, have greater flexible and agility compared with traditional Pitot component, which can further expand the universality and pertinence of product application.

卓越的动力换挡离合器缓冲充油技术最大限度的降低换挡冲击对摩擦片、齿轮等机械部件的影响，确保更长

久的使用寿命，大幅提高车辆运行的稳定性和舒适性。

Excellent power shift clutch oil-filled cushion technology, can maximum reduction the influence of shift impact on the mechanical parts friction plate, gear, etc, ensur longer service life, great improved the running stability of vehicles and comfort.

技术优势之三

The third technical superiority

源于军工技术及十余年应用验证，作为单级两相液力变矩器两“相”转换的核心部件，单向离合器的性能直接决定了整台变速箱的可靠性。

As the core components of two phase transformation of single-stage two-phase hydraulic torque converter, the one-way clutch come from military technology and more than ten years' application verification, the performance of one-way clutch directly make sure the reliability of the entire transmission.

技术优势之四

The forth technical superiority

加装液力缓速器可以大幅降低车辆长距离下坡道行驶对机械制动机构的磨损与危害，提高车辆的通过性和安全性。

Installation hydraulic retarder can substantially reduce the wear and damage of brake mechanism when vehicle travel long distances downhill, improving performance and safety of vehicle.

采用电---液控制阀组，对于非“气刹”车辆，不必为车辆加装复杂的气源系统。

Electro-hydraulic control valves are used, a complex air supply system is not necessary for no air brake vehicle.

技术优势之五

The fifth Technical superiority

对机械传动部件总成进行了全面优化设计并完全“中国制造”。

We designed the assembly of mechanical transmission components fully optimally and achieve the "Made in China."

产品性能参数

Product performance parameters

产品型号: JCYXB550EHR

Product Type: JCYXB550EHR

额定输入转速: 2100r/min

Rated input speed: 2100r / min

许用额定输入转速范围: 1500---2100r/min

Allowable rated input speed range: 1500 --- 2100r / min

最低许用输入转速: 550r/min (发动机怠速转速)

Minimum allowable input speed: 550r / min (engine idle speed)

额定输出功率: 410kW(550hp, 1900rpm), 550kW (740hp, 2100rpm)

Rated output power: 410kW (550hp, 1900rpm), 550kW (740hp,2100rpm)

输入端接口: SAE NO.1

Inputs interface: SAE NO.1

取力器接口:两个, Top PTO、Side PTO

PTO interface: two, Top PTO, Side PTO

档位及速比:

Stage and ratio:

一档: 4.00

二档: 2.684

First gear: 4.00

Second gear: 2.684

三档: 2.01

四档: 1.35

Third gear: 2.01

Fourth gear: 1.35

五档: 1

六档: 0.677

Five gear: 1

Six gear: 0.677

倒档: -5.15/-3.44

Reverse: -5.15 / -3.44

液力缓速器:有

Hydraulic Retarder: Yes

换挡控制: (ECU)电控 24V 直流

Shift control: (ECU) electronically controlled 24V DC

净重量: 约1000Kg

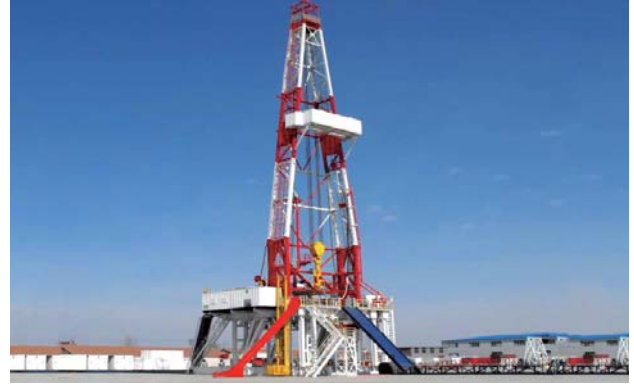
Net weight: about 1000kg

外型尺寸: 1300×850×950mm

Overall Dimensions: 1300×850×950mm



车装钻机
Truck-mounted rig



撬装钻机
Skid mounted rig



压裂车
Fracturing truck



修井机
Workover rig

限矩型液力耦合器

load limiting type of constant filling coupling

限矩型液力耦合器广泛应用于矿山、电力、钢铁、化工、冶金、水泥、铸造、纺织、建筑、陶瓷、石油、制革、轻工、邮电等行业和部门，在连续输送机、破碎机、球磨机、搅拌机、塔机、抽油机、斗提机、梳棉机、分离机等机械设备上均收到极好的经济效益。

The load limiting type of constant filling coupling is widely used in mining, electric power, steel, chemical industry, metallurgy, cement, foundry, spinning ,architecture, ceramic, oil, tannery, light industry, post, etc and departments, and have received good economic benefits on mechanical equipment, such as continuous conveyor, crusher, ball mill, mixer, tower crane, pumping unit, bucket elevator, carding machine, separation machine, etc.



一、YOX系列限矩型液力耦合器

一、YOX series load limiting type of constant filling coupling

YOX型液力耦合器是我厂开发的采用液力传动油作为传动介质的限矩型液力耦合器，主要具有以下功能特点：

Type YOX hydraulic coupling was the load limiting type of constant filling coupling that developed by our factory, which adopts hydraulic transmission oil as transmission medium, and mainly has the following features:

1、耦合器柔性传动，具备隔振减震的功能。

Coupling is of flexible transmission, with function of vibration isolation and damping.

2、耦合器具备过载保护功能。

Coupling has the function of overload protection.

3、耦合器具备轻载启动功能，可有效解决大惯量难启动设备的启动问题，可降低电机机座号，达到节电节能的目的。

Coupling has the function of light-load startup, which can effectively to solve the start problem of equipment of large inertia and difficult startup, and decrease the motor size, to achieve the purpose of saving electricity and energy.

4、耦合器具备后辅腔，可以调整启动时间。

The backward auxiliary chamber in the coupling can adjust the startup time.

5、耦合器具备多机并车功能，可以协调各机负载。

Coupling has functions of the multi-power combine, which can coordinate the machine load.

6、耦合器可改善机组工况，可有效延长整个系统使用寿命。

The coupling can improve units conditions and effectively extend the life of the entire system.

二、YOXGD系列限矩型液力耦合器

二、YOXGD series load limiting type of constant filling coupling

YOXGD系列限矩型液力耦合器采用导管传液技术，与YOX系列液力耦合器相比，具有更长的启动时间、非常低的启动力矩和更小的电动机启动电流，非常适合大功率、大惯量设备的驱动，典型的应用为磨机和皮带输送机等。主要有以下特点：

YOXGD series load limiting type of constant filling coupling adopts catheter liquid transfer technology, compared to YOX series hydraulic coupling, it has a longer startup time, very low starting torque and smaller motor starting current, it is very suitable for driving high-power and large inertia equipment ,typically applied to the mill and belt conveyor ,etc, and mainly has the following features:

1、启动力矩仅为YOX型耦合器的50%左右。

The starting torque is only about 50% of YOX type Couplings' .

2、该系列液力耦合器可径向拆除，无需移动电动机和被驱动设备，更换（或检修）液力耦合器后无需重新调整同心度。

Without moving electric motor and driven equipment, the series hydraulic coupling can be dismantled radially, the concentricity should remain the same after the hydraulic coupling being replaced(or repaired).

3、该系列液力耦合器配置保护易熔塞，但当易熔塞融化后，油液仅从工作循环圆流入后辅腔，避免了油液喷出。

The series hydraulic coupling configured the fusible plug, the oil only flows into backward auxiliary chamber from the working circuit in case of the fusible plug melting, and thus avoid oil spray.

4、除可使用油液作为介质外，也可使用经过处理的水作为介质。

In addition to the oil, the treated water can also be used as medium.

5、可选用钢制壳体适用于矿井下的使用。

coupling with steel shell can be suitable for under the mine.

6、为液力耦合器充液简单易行，试运行后一般无需更换油液。

For the hydraulic coupling charging is simple, generally it needn't to change the oil after commissioning operation.

7、启动时间可通过外设可调阀调整。

The startup time can be adjusted by a peripheral adjustable valve.

我们仍将不断努力
为顾客带来更多更好的产品

We will try our best to
provide our customers with
more and better products



强大的系统集成与配套能力

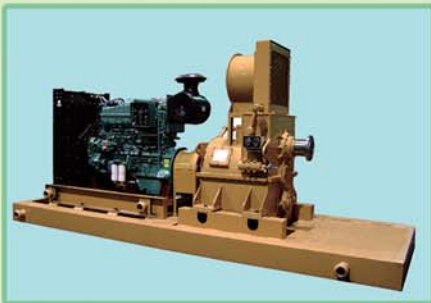
Powerful system integration and matching capacity

中国石油集团济柴动力总厂液力传动装备厂以多元化的液力传动产品为依托，可以根据用户要求进行具体形式的机组配套和改装。动力机可选用济柴140、190、260、320等系列的中高速内燃机（柴油机、气体发动机）或卡特、康明斯、沃尔沃等系列的中高速柴油机以及各种形式的电动机。产品广泛应用于石油钻采、炼化及各类风机、泵、压缩机等设备的驱动。

Supported by diversified hydraulic transmission products, Hydraulic Transmission Equipment Company of CNPC Jichai Power Equipment Company could carry out concrete unit matching and modification based on demand of customer. Medium or high speed internal combustion engines (diesel engines, gas engines) such as Jichai 140, 190, 260 and 320 series etc. or medium or high speed diesel engines of Caterpillar, Cummins, Volvo etc. as well as different types of electric motors are applicable for power units. The products are in wide use for equipment driving of petroleum drilling rigs, refining and different types of fans, pumps, compressors etc.

目前，中国石油集团济柴动力总厂配套的各类液力传动动力机组已经在美国、俄罗斯、哈萨克斯坦、巴西、哥伦比亚等国外市场及国内各大油田得到了广泛应用，并赢得用户的普遍认可和高度评价。

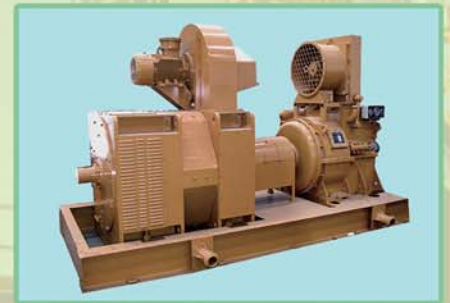
Up to now, various types of hydraulic transmission power units matched by CNPC Jichai Power Equipment Company have been widely used in foreign markets of America, Russia, Kazakhstan, Brazil, Columbia etc as well as all large oilfields in China, and have gained general acceptance and high appraisal from customers.



与康明斯柴油机配套的偶合器机组
Coupling set matching with Cummins diesel engines



与卡特柴油机配套的偶合器机组
Coupling set matching with
Caterpillar diesel engines



与大功率电动机配套的偶合器机组
Coupling set matching with
high power electric motors



与济柴柴油机配套的泥沙泵偶合器机组
Sediment Pump Coupler Unit Matched
with Jinchai Diesel Engine



与济柴柴油机配套的反车箱偶合器机组
Coupling reverse-gear box set matching
with Jichai diesel engines



与济柴气体机配套的变矩器机组
Torque converter set matching
with Jichai gas engines

广阔的应用市场

Wide application market



柴油机耦合器正车箱动力机组
Diesel engines coupling
gear box power units



柴油机耦合器反车箱单机泵机组
Diesel engines coupling
reverse-gear box single pump units



抽油机用液传动力装置在华北油田使用现场
The fluid transmitted power device for the pumping
unit at the job site of North China Oil Field



可调液力变矩器在乌石化使用现场
Adjustable hydraulic torque converter at the job site
of Wulumuqi Petrochemical



耦合器传动箱用于挖泥船泥泵驱动系统
Coupling transmission box
for mud pump driving system of dredger



电动机耦合器正车箱动力机组在现场作业
Electric motor coupling gear box
power units is operating on site

装备精良 技术先进

Well-equipped Advanced Technology

液力传动装备厂拥有一支有着丰富技术底蕴和创新意识的、老中青相结合的、专家化、专业化的、始终坚持以市场需求为导向的产品研发技术团队，近年来陆续研发成功了YOTGC450/560/650、YOTJ580、YOCQH1000等十余项新型液力传动产品，市场、经济效益可观，发展后劲十足。

Hydraulic Transmission Equipment Company gathered a professional technical team consists of the elder, middle-aged and young experts with rich technology and innovation, who adhere to market acquirement as orientation. Our technical team has successfully developed more than ten new types of hydraulic transmission products in succession such as YOTGC450/560/650, YOTJ580, and YOCQH1000 etc., which have earned excellent economic benefits and good market, full of potential development.

★ 一支由高级技师、技师、青年技术骨干为基础的装配力量确保了每台产品的装配质量。

Matching force on the basis of senior technicians, technicians and young key technical staffs are available, which guarantees good matching quality of each piece of products.



★ 主重要部件，严把质量关。

Strict quality management applies to main and key parts and components.



★ 一支由技术专家、高级技师、技师、技术骨干组成的专业技术服务团队随时可为您提供满意的技术支持和售后服务。

Professional technical service team composed of technical experts, senior technicians, technicians and key technical staffs is ready to provide satisfactory technical support and after-sale service for you.



★ 每台产品均进行严格的出厂性能试验，确保每台产品均符合严格的出厂检验标准。

Strict outgoing performance test is carried out for each product to ensure all products comply with rigorous outgoing inspection standard.

★ 全部主重要零部件均采用先进的数控设备进行加工，确保零件加工精度。

All main and key parts and components are processed by advanced NC equipment to guarantee machining accuracy.



★ 每套耦合器核心旋转组件——泵轮、涡轮、泵轮罩组件均进行严格的动平衡检测。

Strict dynamic balance detection is carried out for every set of coupling core rotary components including pump pulley, turbine and pump pulley casing.



★ 严格的工序过程质量控制
Strict process quality control



CNPC JPEC 液力传动 Hydraulic Transmission



CNPC EQUIPMENT

主营单位：中国石油集团济柴动力总厂液力传动装备厂

Main Unit : Hydraulic Transmission Equipment Company of CNPC Jichai Power Equipment Company

地 址：中国山东省济南市长清区经十西路 11966 号

Address : No.11966, West Jingshi Road, Changqing District, Jinan City, Shandong Province, China

邮 编：250306

Postal Code: 250306

客服电话（传真）：0531-87422428

Customer Service Tel. (Fax): 0531-87422428

网 址：<http://www.jncyjc.cn.alibaba.com>

Website : <http://www.jncyjc.cn.alibaba.com>

邮 箱：jcylcd@126.com

E-mail : jcylcd@126.com

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