

GDF

绿色能源动力

230SG系列天然气机和发电机组



Green Energy Power-Product Introduction for
230SG Series Gas Engine And Gen-Set

GDF

广州柴油机厂股份有限公司
GUANGZHOU DIESEL ENGINE FACTORY CO.,LTD



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公司简介 · Company Profile

广州柴油机厂股份有限公司（原广州柴油机厂）是中国柴油机制造业中历史最悠久的企业之一，始建于1911年，1915年成功地制造出中国第一台柴油机。目前主要生产320、230、G32、KU30A等四种系列的船、陆用中速柴油机，产品功率范围810kW-6000kW。获得了CCS、BV、BL、NK、LR等多国船级社的工厂认可和产品认可证书。230SG系列天然气发动机是根据目前国际市场需求，按照节能减排的设计理念，与挪威船舶技术研究所合作研发的新产品。产品遍及全国各地，远销东南亚及部分欧洲国家。广州柴油机厂股份有限公司致力于建立中国沿海和东南亚地区的服务网点，目前已经成立泉州、宁波、大连、南京、天津、广州、上海、武汉以及越南、新加坡、印度、印尼等国内外服务中心和办事处，及时为客户提供优质、快捷的服务。



Guangzhou Diesel Engine Factory Co., Ltd. (formerly known as Guangzhou Diesel Engine Factory) is one of the enterprise with longest history in diesel engine manufacturing industry which established in 1911 and made the first diesel engine successfully in 1915. At the present, the company manufactures mainly series 320, 230, G32 and KU30A medium-speed marine/stationary diesel engines with power range from 810kW-6000kW which have obtained the CCS, BV, BL, NK, and LR Factory Authorization and Certificates. The new product 230SG series nature gas engine is designed by Norwegian Marine Technology Research Institute cooperated with our company according to the Energy Saving and Emission Reduction Principle and the market demand. Our products have sold to Southeast Asia and some European countries. GDF has also devoted to build our service networks at coastal cities in China and Southeast Asian region. Till now we have already set up our domestic and overseas service centers and offices in Quanzhou, Ningbo, Dalian, Nanjing, Tianjin, Guangzhou, Shanghai and Wuhan in China, and Singapore, India, Indonesia etc. in overseas to provide excellent and express services to our customers.

低碳、环保、节能
Low Carbon, Environmental Protection, Energy Conservation

230SG系列天然气机和发电机组

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技术特点

Technical Features

- 230SG天然气机是按照稀薄燃烧的原理，采用预燃烧室、火花塞点火、逐缸供应燃气、电子计算机控制系统等多项专用技术，工作过程由计算机控制空燃比、排气温度和点火正时，以确保发动机获得良好的性能和可靠地运行。

230SG Gas Engine is according to the lean burning principle, adopts pre-combustion chamber, spark plug ignition, gas supply one cylinder by one cylinder, computer control system etc. multiple special techniques. And the computer will control the air fuel ratio, exhaust temperature and ignition timing during the working process, so to ensure the engine would have the good performance and high reliability.

- 6230SG天然气机由挪威船舶技术研究所设计，首制机在挪威的试验室进行测试，测试结果各项技术指标均达到设计要求，在国内机中处于领先地位。我司技术人员全程参与6230SG天然气机的设计和首制机的调试过程。

6230SG gas engine is designed by Norwegian Marine Technology Research Institute, the first set of engine has been tested in Norwegian laboratory, and the each technical index has reached the designing requirements, and kept ahead in the domestic engines. The engineers of our company have joined in the designing and the first engine test.

产品特点

Product Characteristic

- 零部件制作精良。控制系统、点火装置、燃气调压单元、增压器、起动马达、活塞环、扭振减振器、发电机等主要配套件在世界范围的著名品牌中挑选。
- 发动机和电机安装在同一公共底座上，公共底座同时作为润滑油的储存柜。结构紧凑，减少占用机房的空间。
- 采用监控仪和电控设备，可把发动机的运行参数集中在监视室显示，并带安全保护和报警功能。既减少了机房管理人员的劳动强度，又能保证发动机安全可靠地运行。
- 外围系统组装成模块，既减少了现场安装时的管件连接，又使外围设备布置得更整齐。

The parts and components are excellent. The main parts and auxiliary equipments such as control system, ignition system, gas pressure regulating unit, turbocharger, starting motor, piston ring, torque vibration damper, generator, will be selected from the famous brands in the world.

The engine and alternator shall be installed on the same common bed, and the common bed also is as the lubricating oil tank. The configuration is compact, so using engine room space will be reduced.

Monitoring instrument and the control devices will indicate the engine running parameters in the monitoring room, and be equipped with safety protection and alarm function. So it not only reduces the labor strength of the engine room personnel, but also ensures the engine safety and reliability.

The peripheral system shall be assembled into the module, so not only reduce the pipe connection in the field installation, but also make the peripheral device more even.

良好的经济性和先进的环保指标 ▶▶

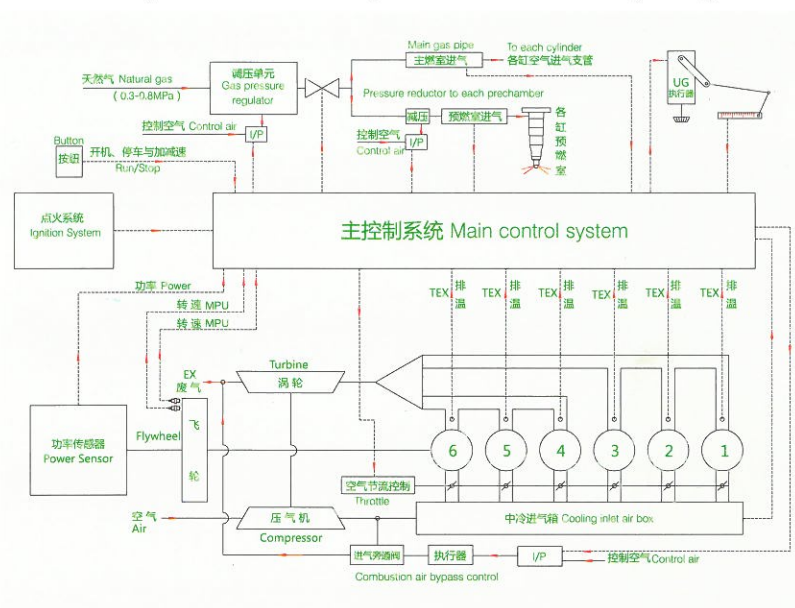
Good economy and advanced environmental protection index

230SG 系列天然气发动机的热效率与同样技术参数的柴油机相当。碳化物排量约为柴油机的75%，氮氧化物排量满足国际海事组织限值（IMO III）要求，在整个功率范围无可视烟色，硫氧化物排量几乎为零。230SG系列天然气发动机是低碳、环保、节能型产品。

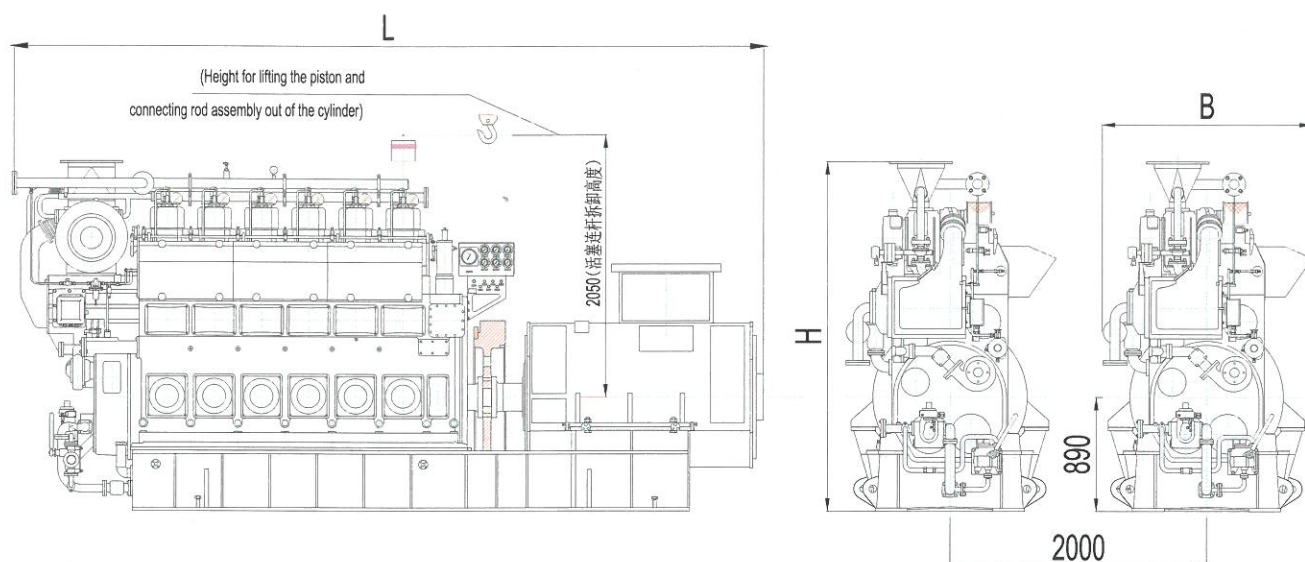
The thermal efficiency of 230SG series gas engine is equivalent to the diesel engine's with the same technical parameter. Carbide emission is about 75% of diesel engine carbide emission, NOx emission meets the requirement of IMO III, no visual smoke color in the whole power range, and the SOx emission is almost equal to zero. So 230SG series gas engine set is the low carbon, environmental protection, and energy-saving product.

6230SG天然气发动机控制系统原理图 ▶▶

The control system schematic diagram of 6230SG natural gas engine



High **Economy** And **Advanced**
Environmental Protection Index



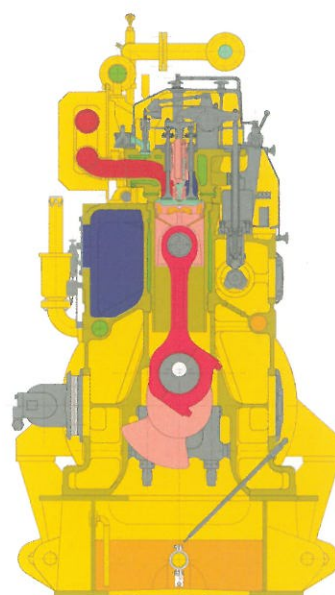
陆用发电机组外形尺寸图

Outline Dimension Drawing Of Gen-set For Land Application

主要技术参数

The Main Specifications Parameters

结构 Construction	直列In-line
气缸直径 Cylinder diameter	230mm
活塞行程 Piston stroke	300mm
转速 Speed	750rpm, 720rpm
活塞平均速度 Mean piston speed	7.5m/s, 7.2m/s
平均有效压力 Mean effective pressure	1.73MPa
最高燃烧压力 Max. combustion pressure	13.0MPa
燃料 Fuel	天然气 Natural gas
燃气消耗率 Specific fuel gas consumption	8200kJ/kWh
机油消耗率 Lube oil consumption rate	0.8g/kWh
NOx排量 NOx emission	2.0g/kWh
废气排量 Exhaust mass	6.552kg/kWh
废气温度 Exhaust temperature	380 °C



横剖面图

Cross Section Drawing

陆用发电机组型号和规格

Model And Specification Of Gen-set For Land Application

机组型号 Engine set model	GC750LASG	GC720LASG	GC1000LA8SG	GC960LASG
机组功率 Engine set power	750kW	720kW	1000kW	960kW
频率 Frequency	50Hz	60Hz	50Hz	60Hz
发动机型号 Engine model	6230SG		8230SG	
发动机功率 Engine power	810kW	778kW	1080kW	1037kW
机组外形尺寸 L×W×H Outline dimensions of engine set	5730×1634×2748mm		6686×1634×2822mm	
机组重量 Weight of engine set	18500kg		23000kg	

船用天然气机型号和规格

Model And Specification Of Gas Engine For Marine Application

型号 Model	6230SG	8230SG
额定功率 Rating Power	735kW	980 kW
转速Speed	750r/min	750r/min
外形尺寸L×W×H Outline dimensions of engine	3872×1473×2576mm	4658×1473×2650mm
重量 Weight of engine	11500kg	14500kg

创新世纪动力

Power for New Century

■ 广州柴油机厂股份有限公司 (原广州柴油机厂)

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