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热水锅炉产品手册 / Hot Water Boiler/Product Manual

FIRSTD BOILER

- ✎ **SZS系列燃油气热水水管锅炉**
SZS Series Fuel Gas Hot Water Pipe Boilers
- ✎ **WNS系列燃油气热水锅炉**
WNS Series Fuel Gas Hot Water Boilers
- ✎ **D系列全预混直流不锈钢冷凝热水锅炉**
D Series Fully Premixed DC Stainless Steel Condensing Hot Water Boilers
- ✎ **D系列全预混低氮铸铝冷凝锅炉**
D Series Fully Premixed Low-Nitrogen Cast Aluminum Condensing Boilers
- ✎ **S系列水冷全预混热水锅炉**
S-Series Water-Cooled Fully Premixed Hot Water Boilers
- ✎ **CLHS系列燃油气立式热水锅炉**
CLHS Series Vertical Fuel Gas Hot Water Boilers
- ✎ **CKS系列燃油气开水锅炉**
CKS Series Fuel Gas Boiling Water Boilers

新能源集成方案专家 >>>
EXPERT IN NEW ENERGY INTEGRATION SOLUTIONS



关于福士德 ABOUT FIRSTD COMPANY >>>

福士德锅炉有限公司是一家专业研发、制造节能环保锅炉的高新技术企业，作为绿智低碳能源集成运营服务商的福士德锅炉拥有标准的现代化生产基地，先进的自动化锅炉生产设备；公司注册资金1.02亿元，现为国家A级锅炉、压力容器制造单位，拥有国家A级安装改造维修资质和GC2工业管道安装资质，通过了ISO9001质量管理体系、ISO14001环境管理体系、ISO45001职业健康安全管理体系认证，入围《国家工业节能技术装备推荐目录》及《“能效之星”产品目录》，拥有专业的技术及精湛的工艺。

福士德锅炉有限公司主要生产燃（油）气SZS系列水管蒸汽锅炉、水管热水锅炉；烟气深度冷凝系统（深冷器）；内核三段式垃圾焚烧炉；WNS系列冷凝蒸汽、热水、真空锅炉；F系列丰能管低氮真空、热水锅炉；S系列水冷蒸汽、热水、真空锅炉、蒸汽发生器；D系列全预混低氮铸铝、全预混不锈钢冷凝锅炉、全预混商用热水机组及电加热系列蒸汽、蒸汽发生器、热水、真空、开水锅炉、高压电极锅炉；FSD全预混燃烧器和FSD双贫氧燃烧器等产品，产品热效率高、烟温低、配置高，主要辅机、配件均为原装进口或合资品牌，福士德锅炉的PLC控制系统可为客户实现集中和远程监测。福士德锅炉的远程监测系统，可以为客户实时提供增值服务，通过画面组态将锅炉的运行数据以生动形象的方式展现给客户。

福士德锅炉有限公司研发中心通过反复测试、实验，设计合理的炉膛结构和尺寸，匹配全进口和自主品牌低氮燃烧器，使用全预混、FGR烟气再循环、FIR双贫氧内循环燃烧技术，加上自主研发的PLC控制系统，使锅炉运行更加节能环保、安全可靠。通过测试数据显示，锅炉的NOx排放浓度可降至30mg/m³以下。

福士德锅炉有限公司已在国内各省市地区形成了拥有300多家合作经销商的销售网络，在全国各地区设置了百余个24小时全天候售后网点，公司产品有中国平安财险股份有限公司予以担保，有效解除客户的后顾之忧。

福士德锅炉有限公司将继续以造福世界、以士为本、厚德载物为公司理念，为客户创造价值，提供更优质的技术、产品和服务。

Firstd Boiler Co., Ltd. is a high-tech enterprise specializing in the R&D and manufacturing of energy-saving and environmentally friendly boilers. As a green, intelligent and low-carbon energy integration and operation service provider, Firstd Boiler is equipped with a standardized modern production base and advanced automated boiler production equipment. With a registered capital of 102 million yuan, the company is a national Grade A boiler and pressure vessel manufacturer, possessing national Grade A installation, renovation, and maintenance qualifications as well as GC2 industrial pipeline installation qualifications. It has been certified for ISO 9001 Quality Management System, ISO 14001 Environmental Management System, and ISO 45001 Occupational Health And Safety Management System. The company has been included in the National Industrial Energy-Saving Technology and Equipment Recommendation Catalogue and the "Energy Efficiency Star" Product Catalogue, demonstrating its professional technology and exquisite craftsmanship.

Firstd Boiler Co., Ltd. mainly manufactures the following products: fuel gas SZS series water pipe steam boilers, water pipe hot water boilers, flue gas deep condensation systems (deep coolers), three-stage core waste incinerators, WNS series condensing steam, hot water and vacuum boilers, F series high-efficiency tube low-nitrogen vacuum and hot water boilers, S series water-cooled steam, hot water and vacuum boilers, as well as steam generators, D series fully premixed low-nitrogen cast aluminum boilers, fully premixed stainless steel condensing boilers, fully premixed commercial hot water units, electric heating series steam boilers, steam generators, hot water boilers, vacuum boilers, water boilers and high-voltage electrode boilers, and FSD fully premixed burners and FSD double lean-oxygen burners.. These products feature high thermal efficiency, low flue gas temperature and high configuration. All key auxiliary machines and accessories are originally imported or from joint-venture brands. Firstd Boiler's PLC control system enables centralized and remote monitoring for customers. Firstd Boiler's remote monitoring system provides real-time value-added services for customers, and vividly displays boiler operation data to customers through screen configuration.

The R&D center of Firstd Boiler Co., Ltd. has designed a reasonable furnace structure and dimensions through repeated testing and experimentation. It is equipped with fully imported and self-owned brand low-nitrogen burners, and adopts fully premixed technology, FGR (flue gas recirculation), and FIR (Flue gas Internal Recirculation) dual lean oxygen internal circulation combustion technology. Combined with the self-developed PLC control system, it ensures that the boiler operates with higher energy efficiency, better environmental performance, and enhanced safety and reliability. Test data shows that the NOx emission concentration of the boiler can be reduced to below 30 mg/m³.

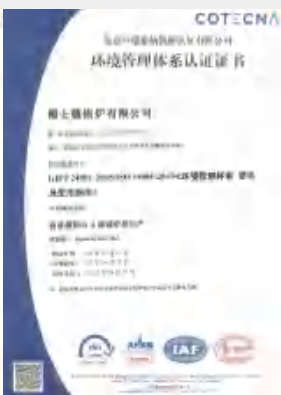
Firstd Boiler Co., Ltd. has established a sales network with over 300 cooperative dealers across various provinces and cities in China. Additionally, we have set up more than 100 24/7 after-sales service outlets throughout the country. Our products are guaranteed by China Ping An Property Insurance Co., Ltd., effectively eliminating any concerns customers may have.

Firstd Boiler Co., Ltd. will continue to uphold the corporate philosophy of Benefiting the World, People-oriented and Great Virtue Upholds All, creating value for customers, and providing superior technology, products, and services.

专业制造近  30 年 打造冷凝、节能、低氮、环保锅炉

With nearly 30 years of professional manufacturing experience, we craft condensing, energy-saving, low-nitrogen, and environmentally friendly boilers.

资质/装备 >>> QUALIFICATIONS/EQUIPMENT



现代化标准厂房+自动化锅炉生产设备+专业的技术及精湛的工艺
自科技为先，精益求精，为您打造专业的产品。

It boasts modern standard factory buildings and automated boiler production equipment.
With professional technology and exquisite craftsmanship, we prioritize science and technology, strive for excellence, and create professional products for you.



△数控等离子切割机 CNC Plasma Cutting Machine



△数控四辊卷板机CNC Four-Roller Plate Bending Machine



△机器人焊接 Robot Welding



△激光焊接设备 Laser Welding Equipment



△埋弧自动焊 Automatic Submerged Arc Welding



△自动管板焊 Automatic Tube-To-Sheet Welding



△膜式壁生产线 Membrane Wall Production Line



△热工测试平台 Thermal Engineering Testing Platform

科技智领未来

感受科技 + 铸就冷凝 ▪ 节能 ▪ 低氮 ▪ 环保锅炉

实现「低碳」排放 共创美丽中国

TECHNOLOGY LEADS THE FUTURE WITH INTELLIGENCE

Technology and craft a condensing, energy-saving, low-nitrogen,
and environmentally friendly boiler

Achieve low-carbon emissions and jointly create a beautiful China



国际理念 领先技术
设计合理
Reasonable design



多项智能保护装置
安全可靠
Safe and reliable



热效率高 吸收充分
节能降耗
Energy conservation and
consumption reduction



自主研发 专业制造
科技创新
Technological
innovation



标准制作 做工精细
标准制作
Standard production



操作简单 人性化设计
操作简单
Easy to operate



SZS系列燃油气热水水管锅炉
SZS Series Fuel Gas Hot Water Pipe Boilers

D系列全预混直流不锈钢冷凝热水锅炉
D Series Fully Premixed DC Stainless Steel Condensing Hot Water Boilers



WNS系列燃油气冷凝一体热水锅炉
WNS Series Integrated Fuel Gas Condensing Hot Water Boilers



WNS系列燃油气分体热水锅炉
WNS Series Fuel Gas Split Hot Water Boilers

SZS系列 SZS SERIES

SZS系列燃油气热水水管锅炉 SZS SERIES FUEL GAS HOT WATER PIPE BOILERS



■SZS(14 ~ 70) -(1.25/1.6)-(115/130)70-Y,Q

FIRSTD BOILER

SZS系列燃油气热水水管锅炉的优势

Advantages of SZS Series Fuel Gas Hot Water Pipe Boilers:

SZS系列燃油气热水水管锅炉是我公司在引进国外先进技术的基础上，自行研制的一种集机、电、仪、燃烧、换热、控制与一体的高新技术产品。该锅炉为D型布置、双锅筒纵置式、快组装机管结构，微正压运行。

引进德国先进的工业锅炉安全控制系统，采用PLC和独立连锁保护系统设计以全中文触摸屏和智能化、便捷化的锅炉人机操作界面，保证高安全性、高可靠性、全自动智能化的锅炉控制和运行。

The SZS series fuel gas hot water pipe boiler is a high-tech product developed by our company based on the introduction of advanced foreign technology, which integrates machinery, electricity, instrumentation, combustion, heat exchange, and control. The boiler is arranged in a D-type configuration, with double-drum vertical placement and quick-assembly water pipe structure, and operates under slight positive pressure.

It adopts an advanced industrial boiler safety control system imported from Germany, integrates PLC and an independent interlock protection system design, and is equipped with a fully Chinese touch screen as well as and intelligent and convenient boiler human-machine operation interface, ensuring high safety, high reliability, and fully automatic and intelligent boiler control and operation.



智能控制 Intelligent control:

- ▷先进的机电一体化,全自动锅炉控制技术,进口品牌控制元器件,系统设置多重连锁保护。
- ▷ It adopts advanced mechatronics integration, fully automatic boiler control technology and imported brand control components, and the system is equipped with multiple interlock protection settings.



清洁环保 Clean and environmentally friendly:

- ▷广泛采用高效清洁燃烧技术，锅炉排放符合国家Ⅰ类地区标准。
- ▷采用低氮燃烧技术可满足更严格的排放标准。
- ▷炉膛设计容积大，降低燃烧强度，减少污染物NOx等的生成，同时利于高效燃烧。
- ▷锅炉密封性好，现场干净、整洁。
- ▷The boiler widely adopts efficient and clean combustion technology, ensuring that its emissions meet the national Class I regional standards.
- ▷The use of low-nitrogen combustion technology enables it to meet stricter emission standards.
- ▷The furnace design has a large volume, which reduces combustion intensity, minimizes the generation of pollutants such as NOx, and facilitates efficient combustion.
- ▷With excellent sealing performance, the boiler ensures a clean and tidy on-site environment.



安全可靠 Safe and reliable:

- ▷SZS系列锅炉采用自然循环、热水锅炉采用强制循环，确保水循环安全可靠。
- ▷锅炉整体为全膜式壁结构，燃烧安全，高效、密封性好。
- ▷防爆门采用微正压大口径弹簧式，密封性好，保证锅炉安全运行。
- ▷先进完善的控制技术，性能可靠的元器件，确保锅炉运行安全可靠。
- ▷The SZS series boilers use natural circulation, while the hot water boilers use forced circulation to ensure safe and reliable water circulation.
- ▷The overall structure of the boiler is a full membrane wall structure, which ensures safe combustion, high efficiency, and good sealing.
- ▷The explosion-proof door adopts a micro positive pressure large-diameter spring type, with good sealing performance to ensure the safe operation of the boiler.
- ▷Advanced and comprehensive control technology, and reliable components ensure the safe and reliable operation of the boiler.



低氮高效节能 Low nitrogen, high-efficiency and energy-saving:

- ▷锅炉选配进口全自动燃烧器，实现锅炉的高效、自动燃烧。
- ▷微正压运行，锅炉燃烧效率更高，耗电量低，降低运行费用。
- ▷全膜式壁结构，炉墙内壁温度低散热损失小，密封性好，锅炉效率高。
- ▷尾部设有高效节能器，进一步降低排烟温度，提高锅炉热效率。
- ▷The boiler is equipped with an imported fully automatic burner to achieve efficient and automatic combustion.
- ▷Micro positive pressure operation increases boiler combustion efficiency, reduces power consumption, and lowers operating costs.
- ▷It adopts a full membrane wall structure, featuring low temperature on the inner wall of the boiler body, low heat loss, good sealing performance, and high boiler efficiency.
- ▷The tail is equipped with a high-efficiency energy-saving device to further reduce the exhaust gas temperature and improve the thermal efficiency of the boiler.

SZS系列燃油气热水水管锅炉技术参数

TECHNICAL PARAMETERS OF SZS SERIES FUEL GAS HOT WATER PIPE BOILERS

项目/型号 Item/Model		SZS14-1.25/130 /70 -Y、Q	SZS21-1.25/130 /70 -Y、Q	SZS29-1.6/130 /70 -Y、Q	SZS46-1.6/130 /70 -Y、Q	SZS58-1.6/130 /70 -Y、Q	SZS70-1.6/130 /70-Y、Q
额定出水压力 Rated outlet pressure		1.25	1.25	1.6	1.6	1.6	1.6
额定出水温度 Rated outlet temperature		115/130					
额定进水温度 Rated inlet temperature		70					
设计热效率 Designed thermal efficiency		96%~98%					
柴油耗量 Diesel consumption (Kg/h)		1220	1829	2541	4686	6350	7002
天然气耗量 Natural gas consumption (Nm³/h)		1339.7	2009.6	2791.1	4736.9	6334.7	7723.8
煤气耗量 Gas consumption (Nm³/h)		2721.1	4081.6	5668.9	7687.6	8299.5	9884.3
燃烧方式 Combustion method		微正压室燃 Micro positive pressure chamber combustion					
燃烧调节方式 Combustion regulation method		全自动比例调节 Fully automatic proportional adjustment					
电源 Power supply (V/Hz)		380 / 50					
进水口 Water inlet (mm)		DN200	DN250	DN250	DN350	DN400	DN400
出水口 Water outlet (mm)		DN200	DN 250	DN250	DN350	DN400	DN400
供气口 Air supply port (mm)		根据供气压力定 According to the gas supply pressure					
外形尺寸 Overall dimensions (mm)	长L	11200	13000	14000	17000	19000	20000
	宽W	7700	7900	8400	10100	11300	12000
	高H	5300	5600	5800	6000	6390	6700
重量Weight(T)		45	55	72	150	170	210
安全阀 Safety valve	接口 Interface (mm)	DN125	DN150	DN150	DN150	DN200	DN200
	排泄口 Relief port (mm)	DN150	DN200	DN200	DN200	DN200	DN200
烟囱Chimney Φ(mm)		560	700	730	1200	1500	1500

备 注: 1、燃料耗量均为锅炉满负荷时耗量，根据工况不同，实际耗量将不同。

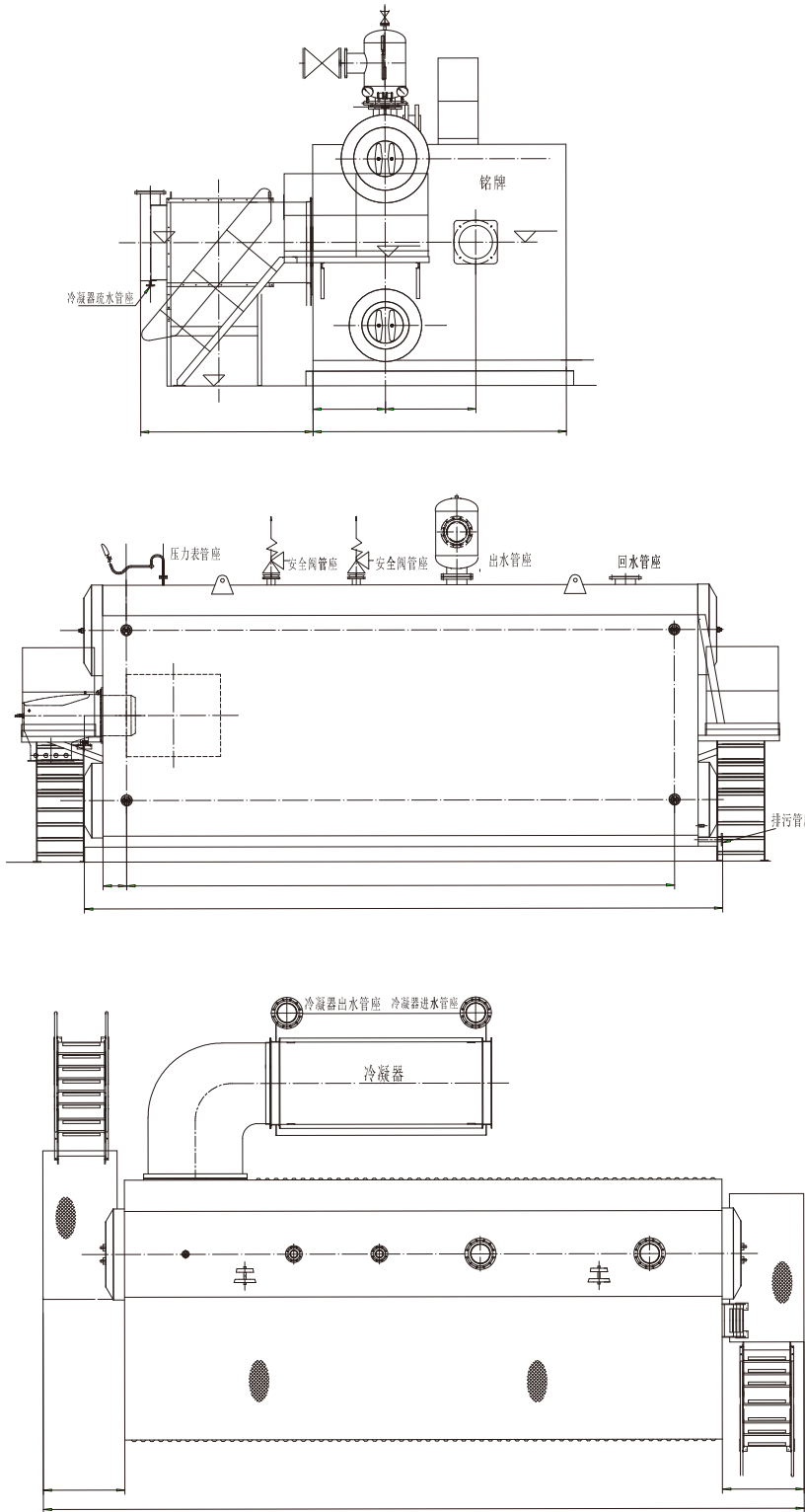
2、上述参数仅供参考，保留在不事先通知的情况下重新定义更改产品信息的权利（包括外形、技术、内部结构等）具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.

2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

SZS系列燃油气热水水管锅炉外型图

OUTLINE DRAWING OF SZS SERIES FUEL GAS HOT WATER PIPE BOILERS



WNS系列 WNS SERIES

燃料：天然气、柴油、LNG。
Fuel: Natural gas, diesel, LNG.

主要用途：适用于工厂、学校、宾馆、酒店、医院、
温棚、住宅小区、洗浴中心、游泳馆等。

Main application: Suitable for factories, schools, hotels, inns, hospitals, greenhouses,
residential quarters, bathing centers, swimming pools, etc.

WNS燃油气冷凝一体热水锅炉 WNS INTEGRATED FUEL GAS CONDENSING HOT WATER BOILERS



WNS(0.7 ~ 14) -(1.0-1.25)-(95/115/130)/70-Y,Q
CWNS(0.7 ~ 7.0) -85/70-Y,Q

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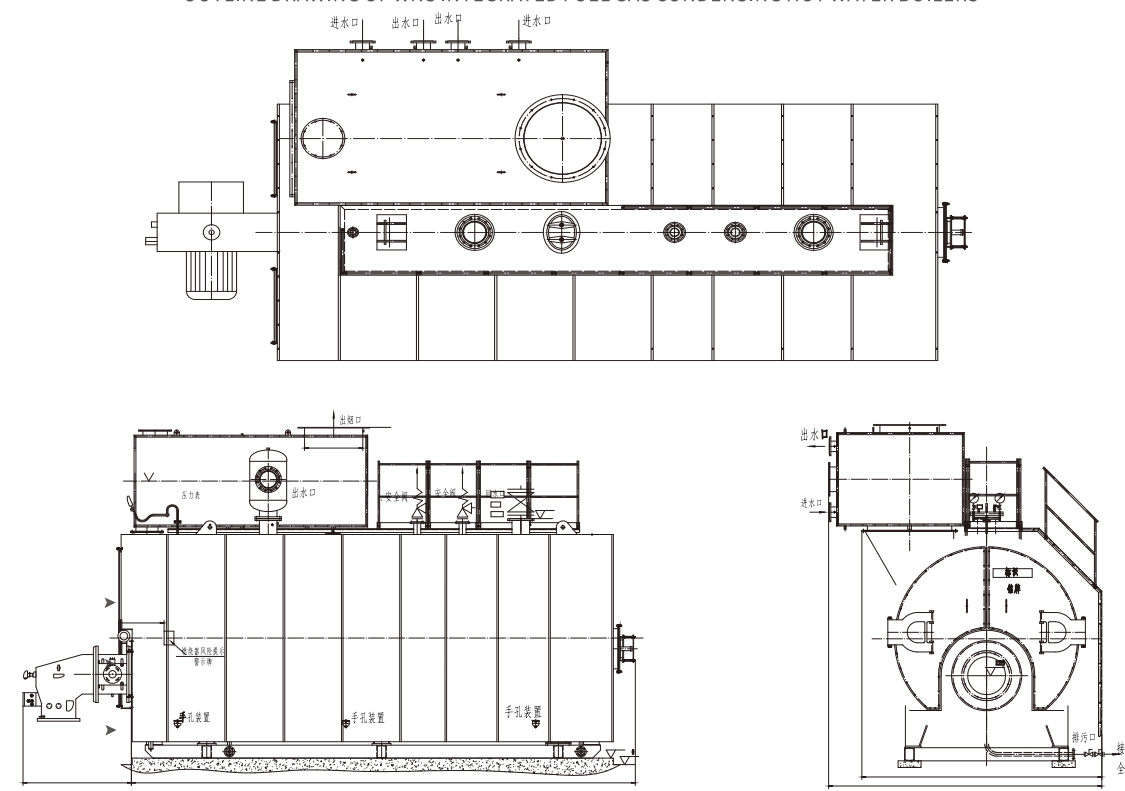
WNS燃油气冷凝一体热水锅炉的优势 Advantages of WNS Integrated Fuel Gas Condensing Hot Water Boilers

- ▶ 冷凝一体式热水锅炉,是由锅炉本体、冷凝器有机的结合为整体而成的锅炉。
- ▶ 该锅炉安装简便易行,空间占用小,热效率高;
- ▶ 该系列锅炉的热效率通过独特的设计以充分发挥,使有害物质的排放量更低。
- ▶ 冷凝换热组件采用ND钢或者钢铝复合翅片管制作,高抗腐蚀性,大幅吸收烟气热量,降低排烟温度,热效率更高。
- ▶ 增加烟气再循环系统,加上自主研发的PLC控制系统可满足严格的环保要求抑制燃烧中NOX的形成,减轻对大气环境的污染,使NOX的排放量低于30mg/m³。

1. The integrated condensing hot water boiler integrates the boiler body and the condenser into one compact unit.
2. This boiler features easy installation, small footprint and high thermal efficiency.
3. The thermal efficiency of this boiler series is fully utilized through its unique design, resulting in lower emissions of harmful substances.
4. The condensing heat exchange components are made of ND steel or steel-aluminum composite finned tubes, featuring high corrosion resistance, significant flue gas heat recovery, reduced exhaust gas temperature, and higher thermal efficiency.
5. Equipped with a flue gas recirculation system and a self-developed PLC control system, this boiler meets stringent environmental requirements, suppresses NOx formation during combustion, reduces atmospheric pollution, and limits NOx emissions to less than 30 mg/m³.

WNS燃油气冷凝一体热水锅炉外型图

OUTLINE DRAWING OF WNS INTEGRATED FUEL GAS CONDENSING HOT WATER BOILERS



WNS燃油气冷凝一体热水锅炉(承压)技术参数

TECHNICAL PARAMETERS OF WNS INTEGRATED FUEL GAS CONDENSING HOT WATER BOILERS (PRESSURE)

项目/型号 Item/Model	WNS0.7– 1.25/115(95) /70–Q(Y)	WNS1.4– 1.25/115(95) /70–Q(Y)	WNS2.1– 1.25/115(95) /70–Q(Y)	WNS2.8– 1.25/115(95) /70–Q(Y)	WNS4.2– 1.25/115(95) /70–Q(Y)	WNS5.6– 1.25/115(95) /70–Q(Y)	WNS7.0– 1.25/115(95) /70–Q(Y)	WNS10.5– 1.25/115(95) /70–Q(Y)	WNS14– 1.25/115(95) /70–Q(Y)
额定功率 Rated power (MW)	0.7	1.4	2.1	2.8	4.2	5.6	7	10.5	14
额定供回水温度 Rated supply and return water temperature (°C)	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70	115 (95)/70
有效水容积 Effective water volume (m³)	3	3.4	4.4	5.1	7.5	8.9	19.5	21	26.7
循环水量 Circulating water volume (m³/h)	13/24	27/48	40/72	53/96	80/144	107/192	133/240	200/360	267/480
取暖面积 Heating area (m²)	7500	15000	22500	30000	40000	60000	70000	112500	150000
额定出口压力 Rated outlet pressure	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
热效率 Thermal efficiency (%)	99%以上 over 99%								
柴油耗量 Diesel consumption (Kg/h)	58.5	117.2	175.5	234	351	468	585	878	1170
天然气耗量 Natural gas consumption (Nm³/h)	69.58	140	209.8	279.9	422.5	549	668.6	978	1295.4
煤气耗量 Gas consumption (Nm³/h)	163	326	489	652	922	1144	1520	1611	2148
电源 Power supply (V/Hz)	380/50								
供回水口 Supply and return water inlet (mm)	DN 65	DN100	DN125	DN125	DN150	DN200	DN 200	DN 250	DN 250
排污口 Discharge outlet (mm)	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
烟囱 Chimney φ(mm)	325	325	426	426	500	600	700	800	900
外形尺寸 Overall dimensions (mm)	长L	3335	3715	4325	4775	5290	6030	6730	7175
	宽W	1700	1845	1900	2080	2425	2485	3225	3365
	高H	2050	2130	2225	2325	2600	2630	3190	3400
重量Weight(t)	4	4.8	6	7.3	10.3	12.7	18.1	24.7	30.5

备 注: 1、燃料耗量均为锅炉满负荷时耗量，根据工况不同，实际耗量将不同。
2、上述参数仅供参考，保留在不事先通知的情况下重新定义更改产品信息的权利（包括外形、技术、内部结构等）具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

WNS燃油气冷凝一体热水锅炉(常压)技术参数

TECHNICAL PARAMETERS OF WNS INTEGRATED FUEL GAS CONDENSING HOT WATER BOILERS (ATMOSPHERIC)

项目 /型号 Item/Model	CWNS0.7– 85/70–Q(Y)	CWNS1.4– 85/70–Q(Y)	CWNS1.75– 85/70–Q(Y)	CWNS2.1– 85/70–Q(Y)	CWNS2.8– 85/70–Q(Y)	CWNS4.2– 85/70–Q(Y)	CWNS5.6– 85/70–Q(Y)	CWNS7.0– 85/70–Q(Y)
额定功率 Rated power (MW)	0.7	1.4	1.75	2.1	2.8	4.2	5.6	7
额定供回水温度 Rated supply and return water temperature (°C)	85/70	85/70	85/70	85/70	85/70	85/70	85/70	85/70
有效水容积 Effective water volume (m³)	1.4	2.7	3.2	3.6	5.7	10.4	14	16.9
循环水量 Circulating water volume (m³/h)	40	80	100	120	160	240	320	400
取暖面积 Heating area (m²)	7500	15000	18750	22500	30000	40000	60000	70000
△t= 25℃热出水量 Δt=25℃ Hot water output (m³/h)	24	48	60	72	96	144	192	240
热效率 Thermal efficiency (%)	99%以上 over 99%							
柴油耗量 Diesel consumption (Kg/h)	58.5	117.2	146.2	175.5	234	351	468	585
天然气耗量 Natural gas consumption (Nm³/h)	69.58	140	173.7	209.8	279.9	422.5	556	695
煤气耗量 Gas consumption (Nm³/h)	163	326	402.8	489	652	922	1144	1520
电源 Power supply (V/Hz)	380/50							
供回水口 Supply and return water inlet (mm)	DN 80	DN125	DN150	DN150	DN200	DN200	DN250	DN250
通大气口 Atmospheric vent (mm)	DN 80	DN125	DN125	DN150	DN200	DN200	DN250	DN250
排污口 Discharge outlet (mm)	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
烟囱 Chimney φ(mm)	325	325	325	426	426	500	600	700
外形尺寸 Overall dimensions (mm)	长 L	2815	3260	3460	3650	4375	5060	5980
	宽 W	1740	1880	2000	2070	2245	2610	2700
	高 H	1790	1940	2060	2170	2335	2520	2825
重量 Weight(t)	2.6	3.9	4.8	5.6	6.5	8.2	12.6	16.4

WNS系列 WNS SERIES

燃料：天然气、柴油、LNG、醇基燃料。
Fuel: natural gas, diesel, LNG, alcohol-based fuel.

主要用途：适用于住宅小区、学校、宾馆、
酒店、医院、洗浴中心、游泳馆等。

Main application: Suitable for residential quarters, schools, hotels, inns,
hospitals, bathing centers, swimming pools, etc.

WNS燃油气分体热水锅炉 WNS FUEL GAS SPLIT HOT WATER BOILERS



WNS(0.35 ~ 14) -(1.0/1.25)-(90/115)/70-Y、Q
CWNS(0.35 ~ 7.0) -85/70-Y、Q

FIRSTD BOILER

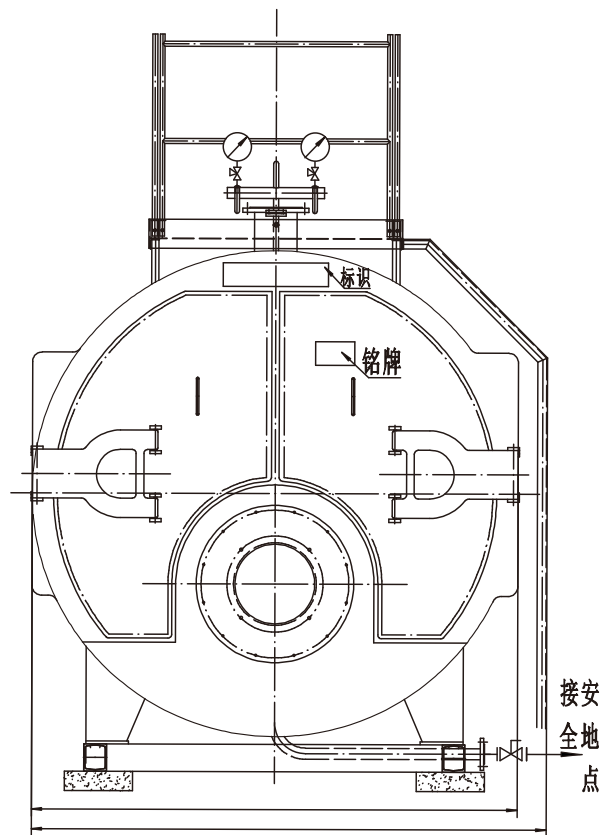
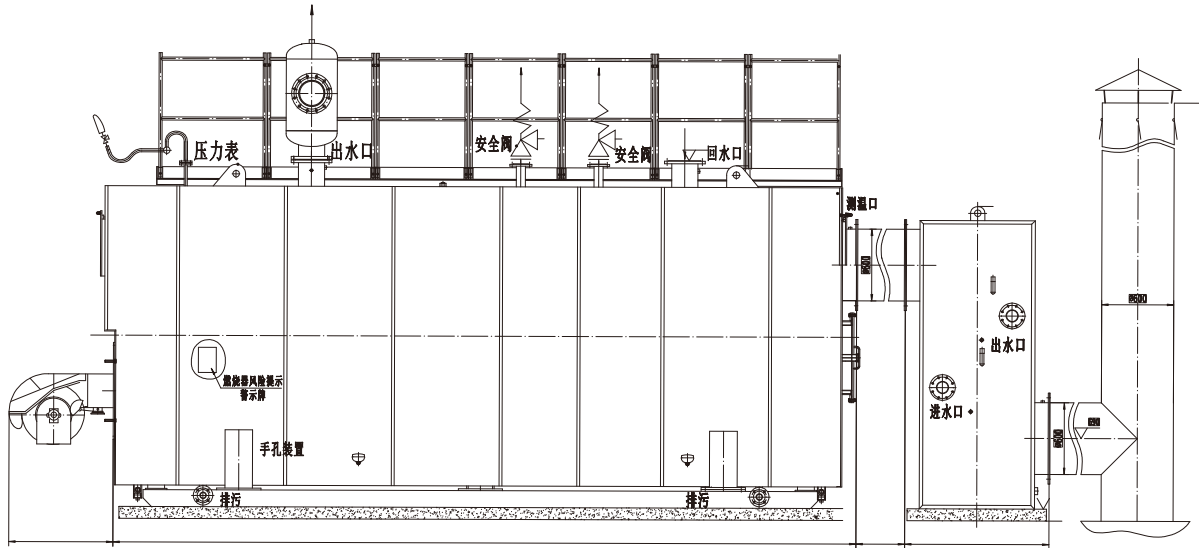
WNS燃油气分体热水锅炉的优势 Advantages of WNS Fuel Gas Split Hot Water Boiler



- 1、采用专业计算机绘图软件优化设计，保证了水循环良好，水流阻力小，完全优化了炉胆内受热面换热系数，大大提高了锅炉运行热效率，相比热效率高2%~10%。
- 2、燃料在炉胆内微正压燃烧，高温烟气沿波形炉胆进行辐射换热，向后至炉胆尾部折转180°进入第二回程烟管向前回流至前烟箱折转180°进入第三回程烟管进行对流换热，然后到烟箱，再经冷凝器进行对流换热，最后经烟囱排入大气。
- 3、采用轴对称向下偏置湿背式顺流燃烧三回程结构，避免了干背式结构后烟箱受高温烟气直接冲刷容易损坏不得不经常停炉修理的缺点，延长了锅炉的正常运行周期，降低了维护费用；整体式后烟箱，结构简单，便于运行、操作和维护。
- 4、内胆为波纹内胆，增加了受热面积，总吸热量比例较大，具有良好的胀缩性，且提高了热效率。
- 5、本锅炉型式为火管锅炉，每根烟管都内置了空气扰流片，大大提高了燃气燃烧所产生的热量在锅炉内的作用时间，从而提高锅炉热能 能量转换的效率，达到提高锅炉热效率的作用；
- 6、排烟温度低，散热损失少，可获得更高的热效率。
- 7、锅炉炉体保温采用进口双层玻璃丝棉材料，保温性能好，从另一方面、另一角度减少了燃气消耗量，提高了锅炉热效率。
- 8、燃烧器选配进口燃烧器。阀组含过滤装置，燃烧及调节性能优良，安全高效。
- 9、外壳（外包）采用银灰色彩板包装，美观、大方、耐用，不锈蚀，是常见的工业级包装材料。
- 10、整机出厂，外形美观，安装方便。

1. Optimized design using professional computer drawing software ensures excellent water circulation and low flow resistance. It fully optimizes the heat transfer coefficient of the heating surface in the furnace, greatly improving the boiler's operating thermal efficiency by 2%~10%.
2. The fuel burns under slight positive pressure inside the furnace tube. The high-temperature flue gas conducts radiation heat transfer along the corrugated furnace tube, then turns 180° at the furnace rear into the second pass tubes, flows forward to the front smoke box, turns 180° again into the third pass tubes for convective heat transfer, passes through the smoke box and the condenser for further convective heat transfer, and is finally discharged into the atmosphere via the chimney.
3. It adopts an axisymmetrically downward-offset wet-back three-pass downstream combustion structure, which overcomes the shortcomings of the dry-back structure where the rear smoke box is prone to damage due to direct scouring by high-temperature flue gas and requires frequent shutdowns for maintenance. This prolongs the boiler's normal operating cycle and reduces maintenance costs. The integrated rear smoke box features a simple structure and is convenient for operation and maintenance.
4. The furnace tube is corrugated, which increases the heating surface area and with a large proportion of total heat absorption. It has good expansion and contraction properties and improves thermal efficiency.
5. This boiler is a fire tube boiler, and each smoke tube is equipped with an air turbulator, which greatly prolongs the residence time for the heat generated by gas combustion inside the boiler, thereby improving the boiler thermal energy conversion efficiency and enhancing the overall thermal efficiency of the boiler;
6. Low exhaust gas temperature results in less heat loss and higher thermal efficiency.
7. The boiler body is insulated with imported double-layer glass wool material, which has good insulation performance and reduces gas consumption from another perspective, thereby improving the thermal efficiency of the boiler.
8. The burner is equipped with an imported burner. The valve assembly includes a filtering device, which has excellent combustion and regulation performance, and is safe and efficient.
9. The outer shell (outer casing) is packaged with silver-gray color plates, which is beautiful, generous, durable, rust free, and are common industrial grade packaging materials.
10. The boiler is delivered as a complete unit, featuring a beautiful appearance and easy installation.

WNS燃油气分体(承压)热水锅炉外型图
OUTLINE DRAWING OF WNS FUEL GAS SPLIT (PRESSURE) HOT WATER BOILERS



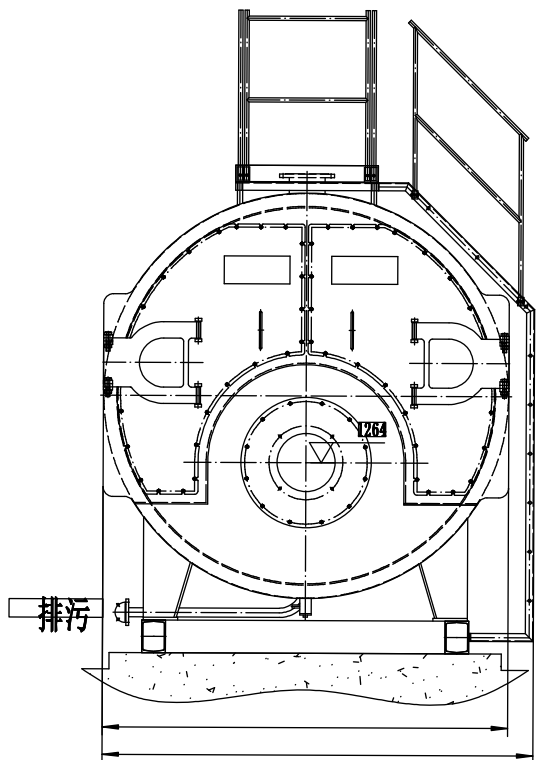
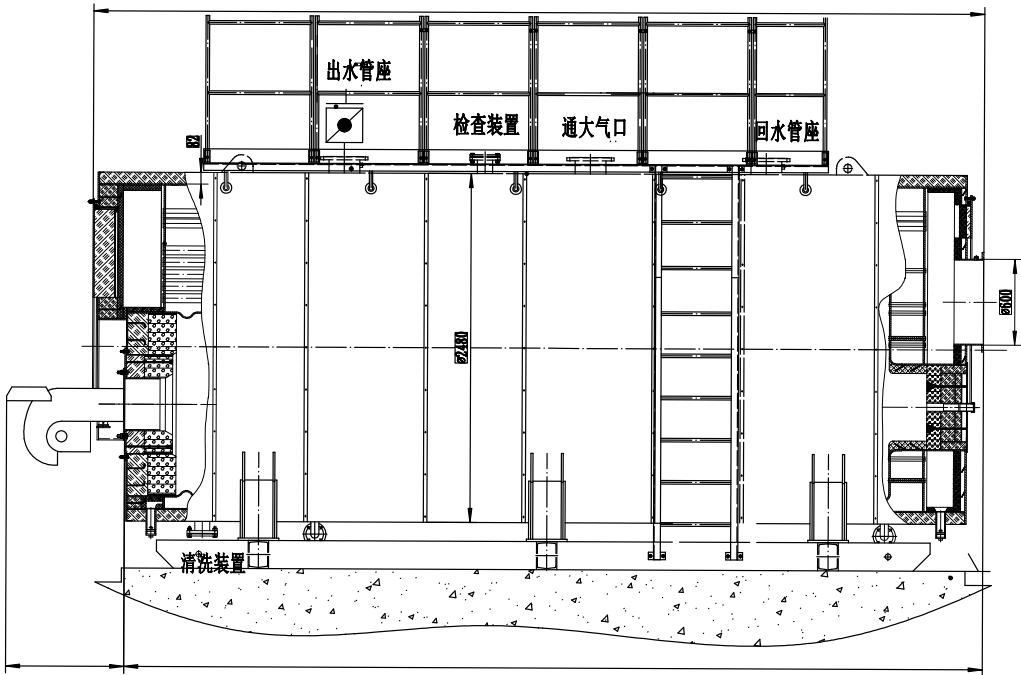
WNS燃油气分体(承压)热水锅炉技术参数
TECHNICAL PARAMETERS OF WNS FUEL GAS SPLIT (PRESSURE) HOT WATER BOILERS

项目/型号 Item/Model	WNS0.35- 1.25/115(95)/ 70-Q(Y)	WNS0.7- 1.25/115(95)/ 70-Q(Y)	WNS1.05- 1.25/115(95)/ 70-Q(Y)	WNS1.4- 1.25/115(95)/ 70-Q(Y)	WNS2.1- 1.25/115(95)/ 70-Q(Y)	WNS2.8- 1.25/115(95)/ 70-Q(Y)	WNS4.2- 1.25/115(95)/ 70-Q(Y)	WNS5.6- 1.25/115(95)/ 70-Q(Y)	WNS7- 1.25/115(95)/ 70-Q(Y)	WNS10.5- 1.25/115(95)/ 70-Q(Y)	WNS14- 1.25/115(95)/ 70-Q(Y)
额定功率 Rated power (MW)	0.35	0.7	1.05	1.4	2.1	2.8	4.2	5.6	7	10.5	14
额定供回水温度 Rated supply and return water temperature (°C)	95/70	95/70	95/70	95/70	95/70	95/70	95/70	115/70	115/70	115/70	115/70
有效水容积 Effective water volume (m³)	1	1.5	2	3.3	4.1	4.9	7.9	10.9	14.8	21	24.8
循环水量 Circulating water volume (m³/h)	7/12	13/24	20/36	27/48	40/72	53/96	80/144	107/192	133/240	200/360	267/480
取暖面积 Heating area (m²)	3750	7500	11250	15000	22500	30000	40000	60000	70000	112500	150000
额定出口压力 Rated outlet pressure	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
热效率 Thermal efficiency (%)	未配置冷凝器 94~96%，配置冷凝器 99%以上。 94%~96% without condenser, over 99% with condenser										
柴油耗量 Diesel consumption (Kg/h)	30.8	61.6	92.4	123.2	184.8	246.4	369.6	500.8	626.0	939.0	1252
天然气耗量 Natural gas consumption (Nm³/h)	36.5	72.6	108.9	133.9	210.3	278.2	404	542.8	678.9	1125.1	1377.5
煤气耗量 Gas consumption (Nm³/h)	81.5	163	244.5	326	489	652	978	1184	1480	2220	2960
电源 Power supply (V/Hz)	380/50										
供回水口 Supply and return water inlet (mm)	DN65	DN80	DN100	DN100	DN125	DN125	DN150	DN200	DN200	DN250	DN250
排污口 Discharge outlet (mm)	DN40	DN40	DN40	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
烟囱Chimney φ(mm)	219	325	325	325	426	426	500	600	700	800	900
外形尺寸 Overall dimensions (mm)	长 L	2555	2935	3280	3790	4400	4800	5290	6110	6970	7880
	宽 W	1090	1205	1440	1770	1820	1920	2250	2470	2800	3200
	高 H	1480	1605	1835	2180	2300	2430	2630	2820	3085	3685
重量 Weight(t)	1.68	2.13	3.16	5.7	6.3	8.2	10.9	13.9	19.3	30.3	35.48

备 注: 1、燃料耗量均为锅炉满负荷时耗量, 根据工况不同, 实际耗量将不同。
2、上述参数仅供参考, 保留在不事先通知的情况下重新定义更改产品信息权利 (包括外形、技术、内部结构等) 具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

WNS燃油气分体(常压)热水锅炉外型图
OUTLINE DRAWING OF WNS FUEL GAS SPLIT (ATMOSPHERIC) HOT WATER BOILERS



WNS燃油气分体(常压)热水锅炉技术参数
TECHNICAL PARAMETERS OF WNS FUEL GAS SPLIT (ATMOSPHERIC) HOT WATER BOILERS

项目 /型号 Item/Model	CWNS0.7-85/70-Q(Y)	CWNS1.4-85/70-Q(Y)	CWNS1.75-85/70-Q(Y)	CWNS2.1-85/70-Q(Y)	CWNS2.8-85/70-Q(Y)	CWNS4.2-85/70-Q(Y)	CWNS5.6-85/70-Q(Y)	CWNS7.0-85/70-Q(Y)
额定功率 Rated power (MW)	0.7	1.4	1.75	2.1	2.8	4.2	5.6	7
额定供回水温度 Rated supply and return water temperature (°C)	85/70	85/70	85/70	85/70	85/70	85/70	85/70	85/70
有效水容积 Effective water volume (m³)	1.4	2.7	3.2	3.6	5.7	10.4	14	16.9
循环水量 Circulating water volume (m³/h)	40	80	100	120	160	240	320	400
取暖面积 Heating area (m²)	7500	15000	18750	22500	30000	40000	60000	70000
Δt= 25℃ 热出水量 Δt=25℃ Hot water output (m³/h)	24	48	60	72	96	144	192	240
热效率 Thermal efficiency (%)	99%以上 Over 99%							
柴油耗量 Diesel consumption (Kg/h)	58.5	117.2	146.2	175.5	234	351	468	585
天然气耗量 Natural gas consumption (Nm³/h)	69.58	140	173.7	209.8	279.9	422.5	556	695
煤气耗量 Gas consumption (Nm³/h)	163	326	402.8	489	652	922	1144	1520
电源 Power supply (V/Hz)	380/50							
供回水口 Supply and return water inlet (mm)	DN80	DN125	DN150	DN150	DN200	DN200	DN250	DN250
通大气口 Atmospheric vent (mm)	DN80	DN125	DN125	DN150	DN200	DN200	DN250	DN250
排污口 Discharge outlet (mm)	DN50	DN50	DN 50	DN50	DN50	DN50	DN50	DN50
烟囱 Chimney φ (mm)	325	325	325	426	426	500	600	700
外形尺寸 Overall dimensions (mm)	长 L	2815	3260	3460	3650	4375	5060	6580
	宽 W	1740	1880	2000	2070	2245	2610	2850
	高 H	1790	1940	2060	2170	2335	2520	3000
重量 Weight(t)	2.6	3.9	4.8	5.6	6.5	8.2	12.6	16.4

备 注: 1、燃料耗量均为锅炉满负荷时耗量, 根据工况不同, 实际耗量将不同。
2、上述参数仅供参考, 保留在不事先通知的情况下重新定义更改产品信息权利 (包括外形、技术、内部结构等) 具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

D系列 D SERIES

全预混直流不锈钢冷凝热水锅炉 FULLY PREMIXED DC STAINLESS STEEL CONDENSING HOT WATER BOILERS



■ DWRS(350-2800)

FIRSTD BOILER

全预混直流不锈钢冷凝热水锅炉的优势

Advantages of Fully Premixed DC Stainless Steel Condensing Hot Water Boilers

全预混直流不锈钢冷凝热水锅炉双核涡轮交换技术，实现360度热交换，热交换面积更宽。创新的冷凝换热器改变传统锅炉的顺流布置结构，额定效率提高10%。超高导热性能，超长寿命不锈钢具有超高的导热系数（是钢的5-8倍），抗酸性物质和氧气腐蚀，加上成熟的技术和耐用的设计，可为用户提供充足的导热性和使用寿命。

The dual-core turbine exchange technology of the fully premixed DC stainless steel condensing hot water boiler achieves 360-degree heat exchange with a wider heat exchange area. The innovative condensing exchanger changes the downstream arrangement structure of traditional boilers, increasing the rated efficiency by 10%. It features ultra-high thermal conductivity and a long service life. Stainless steel has an ultra-high thermal conductivity (5-8 times that of steel), is resistant to corrosion by acidic substances and oxygen, and coupled with mature technology and durable design, it can provide users with sufficient thermal conductivity and a long service life.

全预混直流不锈钢冷凝热水锅炉拥有专业的燃烧技术、智能点火控制程序，确保了安全高效的运行。产品可根据设计热负荷需求进行模块化组合，在实际运行过程中自动匹配热负荷需求，调节设备启停台数，实现较高的季节运行效率，避免能源浪费。同时，每台设备开启是均在设计负荷下运行，不会存在热效率衰减现象，始终可以保持高效、节能运行，为用户节省大量的运行费用。水流方向与烟气方向形成对向流动，达到充分换热效果，提高换热器的功率；

The fully premixed DC stainless steel condensing hot water boiler is equipped with professional combustion technology and an intelligent ignition control program, ensuring safe and efficient operation. The product can be modularly combined according to the designed heat load requirements, automatically matching the heat load requirements during actual operation, adjusting the number of equipment starts and stops, achieving high seasonal operating efficiency, and avoiding energy waste. At the same time, each device operates under the designed load without thermal efficiency degradation, and can always maintain efficient and energy-saving operation, saving users a lot of operating costs. The direction of water flow is opposite to the direction of flue gas, achieving sufficient heat exchange, thereby increasing the power of the heat exchanger;

采用全预混燃烧技术，空气与燃料在进入燃烧室前完全混合，降低空气的需求并提高烟气的露点温度，使烟气尽早进入冷凝阶段，进一步提高热效率，并从内部结构设计及形成机理上抑制NOx等污染物的产生，产品的NOx排放能够满足严格的环保要求，实现NOx排放低于30mg/m³。

By adopting fully premixed combustion technology, air and fuel are completely mixed before entering the combustion chamber, reducing air demand and increasing the dew point temperature of flue gas. This allows the flue gas to enter the condensation stage as early as possible, further improving thermal efficiency. In addition, it suppresses the generation of pollutants such as NOx from the perspective of internal structure design and formation mechanism. The NOx emissions of the product can meet strict environmental requirements, achieving NOx emissions below 30mg/m³.

不锈钢翅片管换热器具有优良的导热性能，并具有独特翅片设计，保证了锅炉充足的运行效率。不锈钢翅片管相比其它金属材质，不易形成水垢沉积，从而避免了一般锅炉因管路结垢阻塞导致过热甚至出现炉水汽化的情况，锅炉可以年复一年的稳定运行。

The stainless-steel finned tube heat exchanger has excellent thermal conductivity and a unique fin design, ensuring sufficient operational efficiency of the boiler. Compared to other metal materials, stainless steel finned tubes are less prone to scale deposition, thus avoiding overheating and even boiler water vaporization caused by pipeline fouling blockage in general boilers. The boiler can operate stably year after year.

锅炉在供暖运行中，热负荷实时多变，锅炉在部分负荷工况下运行常态；商用直流式燃气热水锅炉，排烟损失率不变，散热损失极小，在变负荷工况下，热效率保持恒定不变。

During heating operation, the heat load of the boiler varies in real-time, and it operates normally under partial load conditions. Commercial direct current gas hot water boilers maintain a constant exhaust loss rate and minimal heat dissipation loss. Under variable load conditions, the thermal efficiency remains constant.

全预混直流不锈钢冷凝热水锅炉，换热材质为不锈钢、设计紧凑、占地极小，为各用户节省大量的占地空间成本，且易于运输及安装。

The fully premixed DC stainless steel condensing hot water boiler uses stainless steel as the heat exchange material, with a compact design and minimal footprint. It saves users substantial space costs and is easy to transport and install.

全预混直流不锈钢冷凝热水锅炉技术参数

TECHNICAL PARAMETERS OF FULLY PREMIXED DC STAINLESS STEEL CONDENSING HOT WATER BOILERS

项目/型号 Item/Model		DWRS-350	DWRS-700	DWRS-1050	DWRS-1400	DWRS-2100	DWRS-2800
额定功率 Rated power (MW)		350	700	1050	1400	2100	2800
额定供回水温度 Rated supply and return water temperature (°C)		85/70	85/70	85/70	85/70	85/70	85/70
取暖面积 Heating area (m²)		0.5万~0.7万	0.9万~1.4万	1.4万~2万	1.8万~2.8万	2.8万~4万	3.7万~5.6万
有效水容积 Effective water volume (m³)		59	85	195	215	390	430
循环水量 Circulating water volume (m³/h)		30	60	90	120	180	240
热效率 Thermal efficiency (%)		103	103	103	103.5	103.5	103.5
额定压力 Rated pressure (MPa)		常压	常压	常压	常压	常压	常压
天然气耗量 Natural gas consumption (Nm³/h)		33.5	67	100.5	134	201	268
电源 Power supply (V/Hz)		220 / 50	220/50	380/50	380/50	380/50	380/50
供回水口 Supply and return water inlet (mm)		DN65	DN100	DN125	DN150	DN125×2	DN150×2
烟囱 Chimney φ (mm)		200	250	250	300	250 × 2	300 × 2
烟气温度 Flue gas temperature		< 60	< 60	< 60	< 60	< 60	< 60
噪音 Noise dB (A)		≤40	≤40	≤40	≤40	≤40	≤40
氮氧化物 Nitrogen oxides (NO _x) (mg/Nm³)		< 30	< 30	< 30	< 30	< 30	< 30
外形尺寸 Overall dimensions (mm)	长L	1810	2425	2500	2610	3000	3150
	宽W	985	1085	1235	1235	2235	2235
	高H	1280	1460	1730	1780	1730	1780
重量Weight(t)		700	1000	1200	1390	2300	2530

备 注: 1、燃料耗量均为锅炉满负荷时耗量, 根据工况不同, 实际耗量将不同。
2、上述参数仅供参考, 保留在不事先通知的情况下重新定义更改产品信息权利 (包括外形、技术、内部结构等) 具体以提供图纸为准。

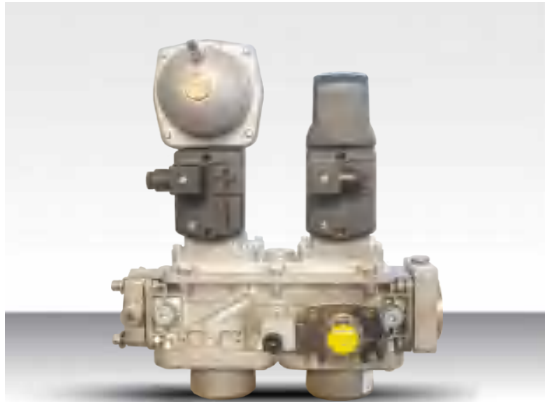
Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

全预混直流不锈钢冷凝热水锅炉选用优质配件

HIGH-QUALITY ACCESSORIES OF PREMIXED DC STAINLESS STEEL CONDENSING HOT WATER BOILERS



进口直流变频 (EBM品牌)风机
Imported DC Variable Frequency (EBM Brand) Fans



霍尼韦尔/西门子电磁阀
Honeywell/Siemens Solenoid Valve



(霍尼韦尔/西门子) 文丘里
(Honeywell/Siemens) Venturi



霍尼韦尔压力开关
Honeywell Pressure Switch



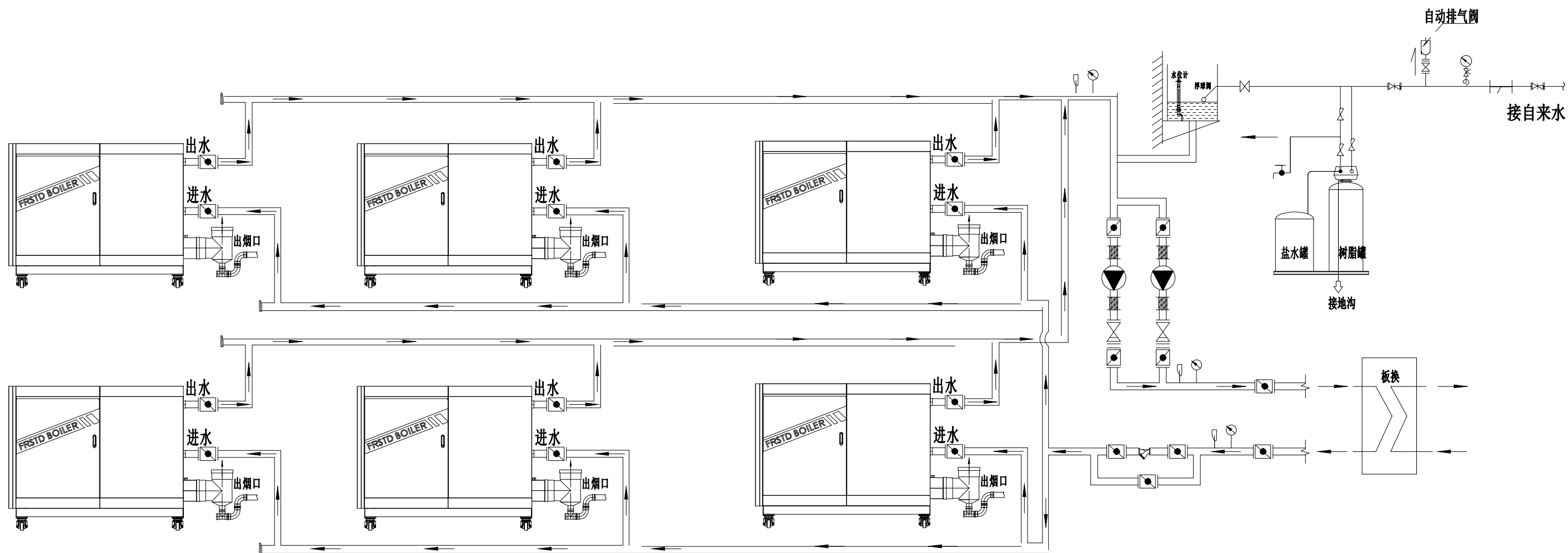
智能控制系统
Intelligent Control System



金属纤维燃烧头
Metal Fiber Combustion Head

全预混直流不锈钢冷凝热水锅炉系统图

SYSTEM DIAGRAM OF FULLY PREMIXED DC STAINLESS STEEL CONDENSING HOT WATER BOILERS



D系列 D SERIES

全预混低氮铸铝冷凝锅炉 FULLY PREMIXED LOW NITROGEN CAST ALUMINUM CONDENSING BOILERS



■ZLLN-(175-2800)

FIRSTD BOILER

全预混低氮铸铝冷凝锅炉的优势

Advantages of Fully Premixed Low Nitrogen Cast Aluminum Condensing Boilers

► 高效节能

全预混低氮铸铝冷凝锅炉运行效率比普通锅炉运行效率提高15%以上，这将直接给用户降低运行成本，带来可观的经济效益。

► 低氮燃烧

NOx排放低至30mg/m³以下，适应中国越来越严格的锅炉NOx排放标准。

► 安装占地面积更小使用安全

锅炉体积小重量轻，安装简单，节省锅炉安装费用；具有完备的燃气安全保护，温度安全控制等全面的保护功能。

► 安装成本低

全预混低氮铸铝冷凝锅炉，采用PVC管材作排烟管，安装简单，可节省锅炉及烟管的安装费用。

► 使用寿命长运行更加稳定

按照标准设计，铸铝换热器等核心部件设计使用寿命可达20年以上；铸铝换热器的宽水道和烟道设计，以及大功率风机等锅炉核心部件全部欧洲供应商进口，欧洲成熟设计，操作简单，确保长期稳定运行。

► 后期维护成本低

结构简单，配件品质高，通用性强，易损件少，以及大功率变频风机的使用，大大降低后期维护成本。

► 无忧使用

强大的售前技术支持，完善的产品售后服务，以及中国平安保险公司提供的产品险，确保用户无忧使用。

Efficient and energy-saving:

The operating efficiency of the fully premixed low nitrogen cast aluminum condensing boiler is increased by more than 15% compared to ordinary boilers, which will directly reduce operating costs for users and bring considerable economic benefits.

Low nitrogen combustion:

NOx emissions are as low as 30mg/m³ or below, adapting to China's increasingly strict boiler NOx emission standards.

Installation takes up less space and is safe to use:

The boiler has a small volume, light weight and simple installation, which saves boiler installation costs. It has comprehensive protection functions such as complete gas safety protection and temperature safety control.

Low installation cost:

The fully premixed low-nitrogen cast aluminum condensing boiler uses PVC pipes as exhaust pipes, which are easy to install and can save installation costs for the boiler and exhaust pipes.

Long service life and more stable operation:

According to standard design, the service life of core components such as cast aluminum heat exchangers can reach more than 20 years. The wide waterway and flue design of the cast aluminum heat exchanger, as well as the core components of the boiler such as high-power fans, are all imported from European suppliers. With mature European design and simple operation, it ensures long-term stable operation.

Low maintenance costs in the later stage:

With a simple structure, high-quality accessories, strong versatility, few vulnerable parts, and the use of high-power variable frequency fans, the later-stage maintenance costs are greatly reduced.

Worry-free use:

Strong pre-sales technical support, comprehensive product after-sales service, and product insurance provided by Ping An Insurance Company of China ensure worry-free use for users.

► 全预混低氮铸铝冷凝锅炉核心技术

Core Technology of Fully Premixed Low Nitrogen Cast Aluminum Condensing Boilers

燃烧比例调节技术

Combustion ratio adjustment technology

采用智能锅炉控制器，全预混变频风机，文丘里混合器以及具有比例调节功能燃气组合阀等，保证充足的空燃比，并自动调节锅炉出力来满足动态热负荷，减少无效输出，同时达到较低排放效果。

By adopting an intelligent boiler controller, a fully premixed variable frequency fan, a Venturi mixer, and a gas combination valve with proportional adjustment function, it ensures a sufficient air-fuel ratio, automatically adjust boiler output to meet dynamic heat load, reduce ineffective output, and achieves a lower emission effect.

全预混低氮燃烧技术

Fully premixed low-nitrogen combustion technology

冷凝锅炉的全预混金属低氮燃烧器是将空气和天然气在进入燃烧室之前按比例完全混合，使天然气充分燃烧的同时，炉膛内部受热更均匀，降低空气的需求量，提高烟气露点，使烟气尽早进入冷凝阶段，以进一步提高燃烧效率；同时还降低火焰温度以减少NOx的产生，使NOx在运行工况下排放可控制到30mg/m³以下。

The fully premixed metal low-nitrogen burner of the condensing boiler mixes air and natural gas in proportion before entering the combustion chamber, allowing the natural gas to burn fully while the furnace is heated more evenly. It reduces the demand for air, increases the dew point of flue gas, and allows the flue gas to enter the condensation stage as early as possible to further improve combustion efficiency. At the same time, it also lowers the flame temperature to reduce the production of NOx, so that NOx emissions can be controlled below 30mg/m³ under operating conditions.

冷凝技术

Condensation technology

冷凝锅炉采用全铸铝高效冷凝换热器，其独特的热利用原理，充分利用了烟气中的显热和水蒸气凝结所释放的汽化潜热，以提高锅炉整体热利用效率。

The condensing boiler adopts a fully cast aluminum high-efficiency condensing heat exchanger, and its unique heat utilization principle fully utilizes the sensible heat in the flue gas and the latent heat of vaporization released by the condensation of water vapor to improve the overall heat utilization efficiency of the boiler.

全预混低氮铸铝冷凝锅炉技术参数

TECHNICAL PARAMETERS OF FULLY PREMIXED LOW-NITROGEN CAST ALUMINUM CONDENSING BOILERS

项目/型号 Item/Model		ZLLN- 175	ZLLN- 280	ZLLN- 360	ZLLN- 750	ZLLN-1100	ZLLN-1400	ZLLN-2100	ZLLN-2800
额定功率 Rated power (MW)		175	280	360	750	1100	1400	2100	2800
额定供回水温度 Rated supply and return water temperature (°C)		85/60	85/60	85/60	85/60	85/60	85/60	85/60	85/60
取暖面积 Heating area (m²)		2800	2920	3750	7500	11250	15000	22500	30000
有效水容积 Effective water volume (m³)		22.5	28	31.5	80	90	160	330	460
循环水量 Circulating water volume (m³/h)		6	9.6	12.5	26	38	48	72	96
最高出水温度 Maximum outlet temperature		90	90	90	90	90	90	90	90
Δt=25°C 热出水量 Δt=25°C Hot water output (m³/h)		7.5	12	15.5	32	47	60	90	120
热效率 Thermal efficiency (%)		108	108	108	108.9	108.9	108.9	108.9	108.9
额定压力 Rated pressure (MPa)		常压	常压	常压	常压	常压	常压	常压	常压
天然气耗量 Natural gas consumption (Nm³/h)		16.2	25.2	32.4	64.8	97.2	129.6	194.4	259.2
供回水口 Supply and return water inlet (mm)		DN50	DN50	DN50	DN100	DN100	DN125	DN125	DN150
烟囱 Chimney φ(mm)		200	200	200	250	250	300	410	420
电源 Power supply (V/Hz)		220/50	220/50	220/50	220/50	380/50	380/50	380/50	380/50
烟气温度 Flue gas temperature		< 65	< 65	< 65	< 65	< 65	< 65	< 65	< 65
噪音 Noise dB (A)		≤55	≤55	≤55	≤55	≤55	≤55	≤55	≤55
氮氧化物 Nitrogen oxides (NO _x) (mg/Nm³)		< 30	< 30	< 30	< 30	< 30	< 30	< 30	< 30
外形尺寸 Overall dimensions (mm)	长L	1425	1425	1575	1840	2130	2275	2755	3900
	宽W	850	850	850	1015	1150	1050	1250	2200
	高H	1300	1300	1450	1445	1630	1630	1900	1900
重量Weight(t)		300	345	420	740	890	1460	1800	2500 (2600)

备 注: 1、燃料耗量均为锅炉满负荷时耗量，根据工况不同，实际耗量将不同。
2、上述参数仅供参考，保留在不事先通知的情况下重新定义更改产品信息权利（包括外形、技术、内部结构等）具体以提供图纸为准。

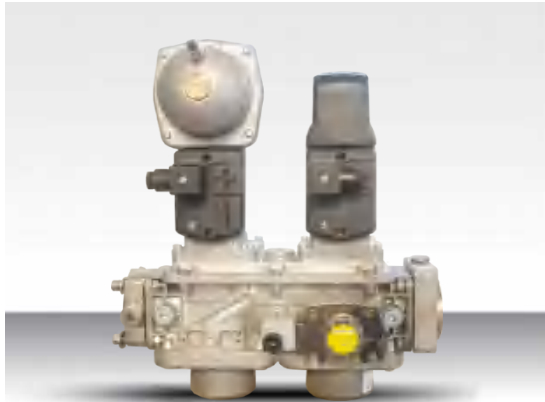
Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
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全预混低氮铸铝冷凝锅炉选用优质配件

HIGH-QUALITY ACCESSORIES OF THE FULLY PREMIXED LOW-NITROGEN CAST ALUMINUM CONDENSING BOILERS:



进口直流变频（EBM品牌）风机
Imported DC Variable Frequency (EBM Brand) Fans



霍尼韦尔/西门子电磁阀
Honeywell/Siemens Solenoid Valve



(霍尼韦尔/西门子) 文丘里
(Honeywell/Siemens) Venturi



霍尼韦尔压力开关
Honeywell Pressure Switch



智能控制系统
Intelligent Control System



金属纤维燃烧头
Metal Fiber Combustion Head

全预混低氮铸铝冷凝锅炉选用优质配件 HIGH-QUALITY ACCESSORIES OF THE FULLY PREMIXED LOW-NITROGEN CAST ALUMINUM CONDENSING BOILERS:

铸铝换热器

Cast aluminum heat exchangers

低污染排放：

NO_x、CO的排放标准达到环保相应标准。

三高三低：

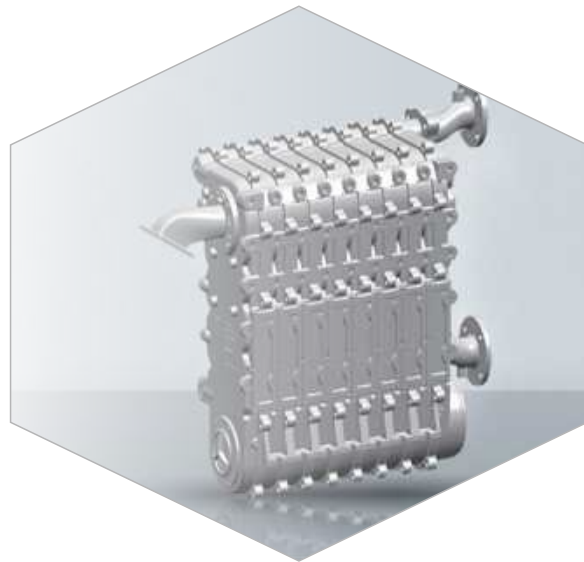
高效率、高寿命、高性能、
低烟温、低氮排放、低占地面积。

Low pollution emissions:

The emission standards for NO_x and CO meet the corresponding environmental protection standards.

Three highs and three lows:

High efficiency, long service life, high performance, low flue gas temperature, low nitrogen emissions, and low footprint.



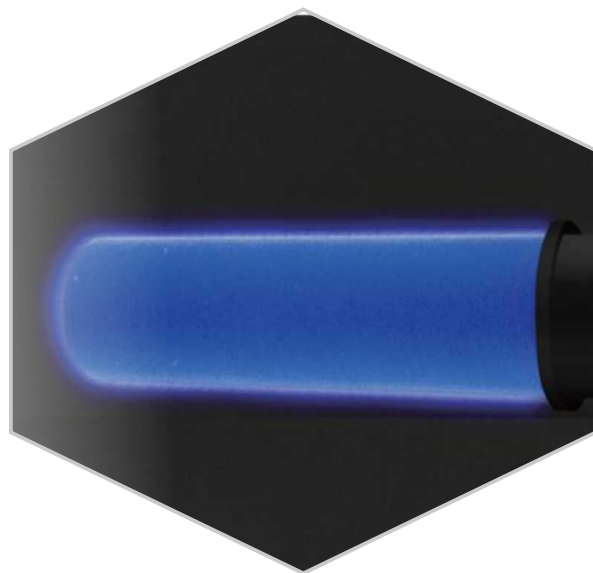
最大的特点是提高了换热系数，同时具备较好的节能效果，与目前各类普通换热器相比，可节能15%以上。
可以适应不同工况，设计合理、换热效率高、性能可靠、运行安全、应用广泛、配套简便、体积小、寿命长。
为用户提供理想的全预混冷凝锅炉设计的解决方案，是优秀的铸铝换热器。

The biggest feature is that it improves the heat transfer coefficient and has a good energy-saving effect. Compared with various ordinary heat exchangers currently available, it can save more than 15% energy.

It can adapt to different working conditions, with reasonable design, high heat transfer efficiency, reliable performance, safe operation, wide application, simple matching, small size, and long service life.

It provides users with an ideal solution for the design of fully premixed condensing boilers and is an excellent cast aluminum heat exchanger.

金属纤维燃烧器



低污染排放：

NO_x、CO的排放标准达到环保相应标准。

节 能：

用于全预混燃烧器；燃烧效率高，排烟损失小体积小，噪音低。

安全性好：

金属纤维介质的细密性决定了金属纤维燃烧器回火倾向性极低热强度大、调节范围大，可在（100~10000kw/m²）之间调节。

抗热冲击性能优异：

由100%金属纤维制成，柔软而抗冲击有一定机械强度，可加工任何形状。

Low pollution emissions:

The emission standards for NO_x and CO meet the corresponding environmental protection standards.

Energy saving:

Used for fully premixed burners; it features high combustion efficiency, low exhaust gas loss, small volume, and low noise.

Good safety:

The fineness of the metal fiber medium determines that the metal fiber burner has an extremely low tempering tendency, high heat intensity and a large adjustment range, which can be adjusted between (100~10000kw/m²).

Excellent thermal shock resistance:

Made of 100% metal fiber, it is soft, impact resistant, has certain mechanical strength, and can be processed into any shape.

FIRSTD BOILER

智能可编辑控制器+

液晶触摸屏全自动控制器

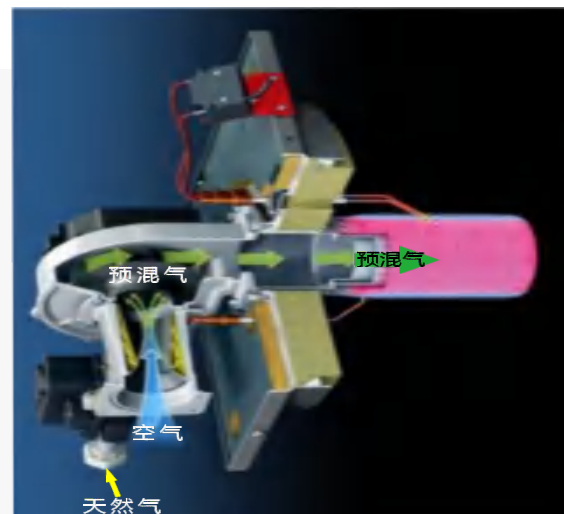
Intelligent editable controller + LCD touch screen fully automatic controller:

智能可编辑控制器全触摸液晶屏，采用中文操作、动态图形化显示，设备可实现自动化运行及手动运行，使操作简单轻松。

网络服务器模块可与楼宇自控系统智能对接，轻松实现远程监控，还可以和手机电脑实现智能控制随时监控系统可信息记录，通过设定也可定期向用户发送邮件汇报系统的错误信息。也可通过增加模块可以将系统有目的的划分为多个区无限扩展功能，室内温度控制功能（有线/无线配置）、室外温度补偿功能，高达16台锅炉联控功能。

The intelligent editable controller is equipped with a full touch LCD screen, using Chinese operation and dynamic graphical display. The device can achieve automatic and manual operation, making the operation simple and easy.

The network server module can intelligently interface with the building automation system to easily achieve remote monitoring it can also support intelligent control via mobile phones and computers. The monitoring system features real-time information recording, and can be configured to regularly send emails to users to report system errors. Additionally, the system can be purposefully divided into multiple zones with unlimited expansion functions by adding additional modules, including indoor temperature control (wired/wireless configuration), outdoor temperature compensation, and joint control for up to 16 boilers.



特殊材质柔性金属纤维燃烧器，让混合气体在其表面燃烧，燃烧更充分，提高燃气燃烧利用率。

The special material flexible metal fiber burner allows the mixed gas to burn on its surface, resulting in more complete combustion and higher gas combustion utilization rate.



文丘里 Venturi:

配气精准，保证
天然气充分燃烧。

Accurate gas distribution ensures full combustion of natural gas

S 系列 S SERIES

WNS水冷全预混热水锅炉 WNS WATER-COOLED FULLY PREMIXED HOT WATER BOILERS



■ SCWNS- (350—4200)

FIRSTD BOILER 水冷全预混热水锅炉的优势

Advantages of Water-Cooled Fully Premixed Hot Water Boilers:

锅炉配置水冷预混燃烧器，采用不锈钢火排、管内水冷的燃烧方式，火焰温度低，炉内温度场更趋均匀，有效避免了局部高温，抑制热力型NOx产生，当氧含量3.5%时NOx排放小于30mg/m³。循环水强制冷却火排，杜绝高温回火；精确计算火孔尺寸及加工工艺，排列均匀、不回火、不堵塞。无需空气过滤系统，长久保持燃烧系统的稳定运行；采用水冷型炉墙结构，散热损失小，效率更高。

The boiler is equipped with a water-cooled premixed burner, which adopts a combustion method of stainless-steel fire rows and water cooling inside the tubes. The flame temperature is low, and the temperature field inside the furnace is more uniform, effectively avoiding local high temperatures and suppressing the generation of thermal NOx. When the oxygen content is 3.5%, the NOx emission is less than 30mg/m³. The fire rows are force-cooled by circulating water to prevent high-temperature backfire. The size and processing technology of the fire holes are accurately calculated, ensuring uniform arrangement, no backfire, and no blockage. No air filtration system is required, maintaining stable operation of the combustion system for a long time. A water-cooled furnace wall structure is adopted, resulting in low heat dissipation loss and higher efficiency.



超低氮水冷燃烧技术 Ultra-Low Nitrogen Water-Cooled Combustion Technology:

锅炉配置水冷全预混低氮燃烧器，实现锅炉的高效、自动燃烧。采用低氮燃烧技术可满足严格的排放标准。

The boiler is equipped with water-cooled fully premixed low-nitrogen burners to achieve efficient and automatic combustion of the boiler. The adoption of low-nitrogen combustion technology can meet strict emission standards.



安全可靠 Safe and reliable:

先进完善的控制技术，性能稳定的元器件，确保锅炉运行安全可靠。智能故障自诊断系统，锅炉具备远程监控功能。

Advanced and comprehensive control technology and stable-performance components ensure the safe and reliable operation of the boiler. Equipped with an intelligent fault self-diagnosis system, the boiler has a remote monitoring function.



清洁环保 Clean and environmentally friendly:

广泛采用高效清洁燃烧技术。锅炉采用特殊的炉膛设计，降低燃烧强度，减少氮氧化物NOx等的生成，使NOx排放<30mg/m³同时有利于高效燃烧。

Efficient and clean combustion technology is widely adopted. The boiler adopts a special furnace tank design to reduce combustion intensity, decrease the generation of nitrogen oxides such as NOx, reduce NOx emissions to less than 30mg/m³, and facilitate efficient combustion.



智能控制 Intelligent control:

福士德锅炉自主研发的燃控控制系统可为客户实现集中和远程监测，用户可以通过福士德网站网页查看自己锅炉的运行状态。

The combustion control system independently developed by Firstd Boiler can realize centralized and remote monitoring for customers. Users can view the operating status of their own boilers through the webpage of the Firstd official website.

FIRSTD BOILER

水冷全预混热水锅炉的优势

Advantages of Water-Cooled Fully Premixed Hot Water Boilers

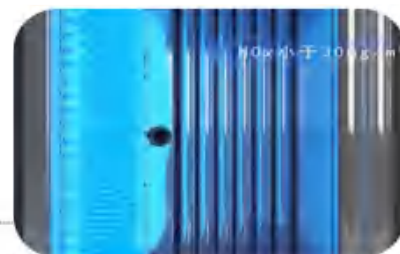
水冷预混燃烧技术

Water-cooled premixed combustion technology



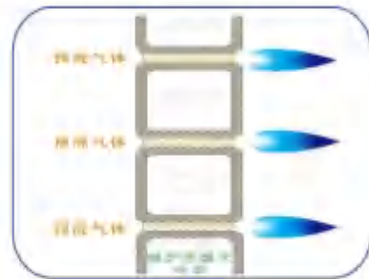
水冷预混燃烧器

Water-cooled premixed burner



采用20水管和高频焊翅片管相结合的结构型式，将炉体体积缩小至极致。

The structure combines 20 water pipes and high-frequency welded finned tubes to reduce the volume of the furnace to the extreme.



采用不锈钢火排、管内水冷的燃烧方式，火焰温度低，炉内温度场更趋均匀，有效避免了局部高温，抑制热力型NOx产生,当氧含量3.5%NOx排放小于30mg/m³。循环水强制冷却火排，杜绝高温回火。

It adopts a combustion method of stainless-steel fire rows and water cooling inside the tubes. The flame temperature is low, and the temperature field inside the furnace is more uniform, effectively avoiding local high temperatures and suppressing the generation of thermal NOx. When the oxygen content is 3.5%, the NOx emission is less than 30mg/m³. The fire rows are force-cooled by circulating water to prevent high-temperature backfire.

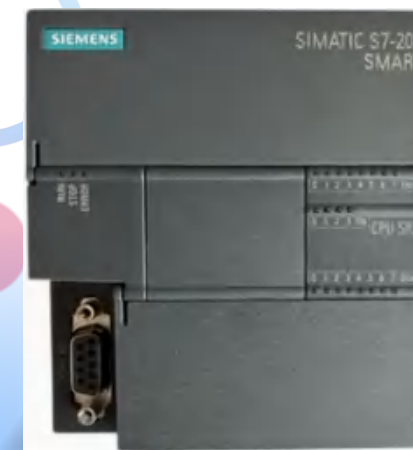
水冷全预混热水锅炉智能互联

Intelligent Interconnection of Water-Cooled Fully Premixed Hot Water Boilers

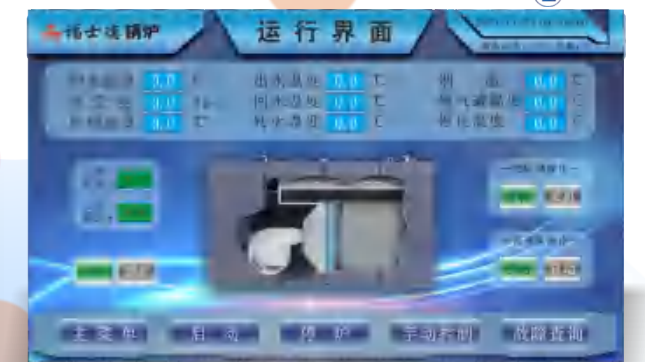
公司拥有完全知识产权自主设计开发的PLC全自动智能控制系统，采用机电一体化控制设备和可编程逻辑控制器(PLC)联合控制方式。以先进的可编程逻辑控制器(PLC)为控制系统的“中央处理器”。控制系统通过触摸屏进行操作，使锅炉自动化控制程度和运行可靠程度大大提高，操作更加简便直观。

Firstd Company possesses a fully automatic intelligent PLC control system independently designed and developed with complete intellectual property rights. It adopts a joint control mode combining electromechanical integration control equipment and programmable logic controller (PLC). The advanced programmable logic controller (PLC) serves as the "central processing unit" of the control system. The control system is operated via a touch screen, which greatly improves the automation control level and operational reliability of the boiler, and makes the operation more convenient and intuitive.

科技未来 智能互联



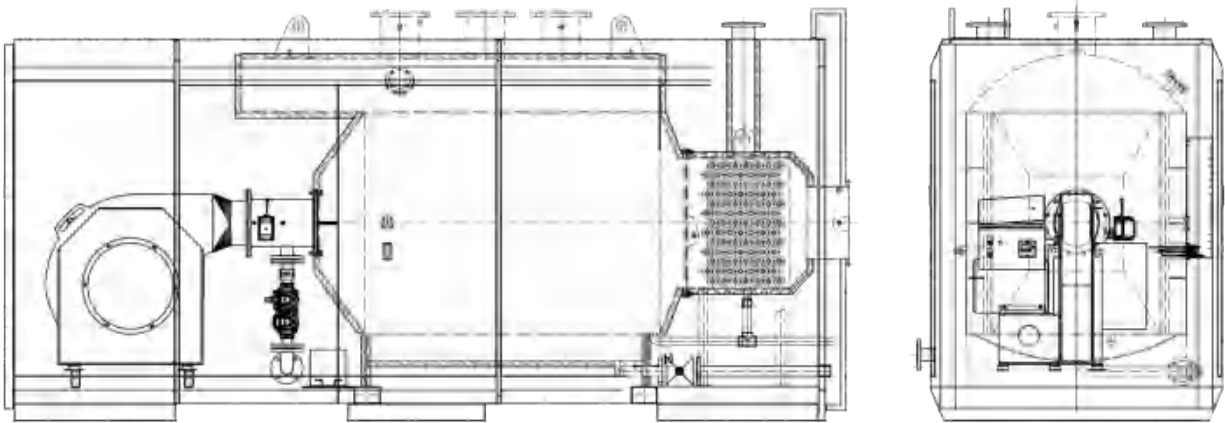
彩色触摸屏
Color touch screen



中央处理单元
CPU Central Processing Unit (CPU)

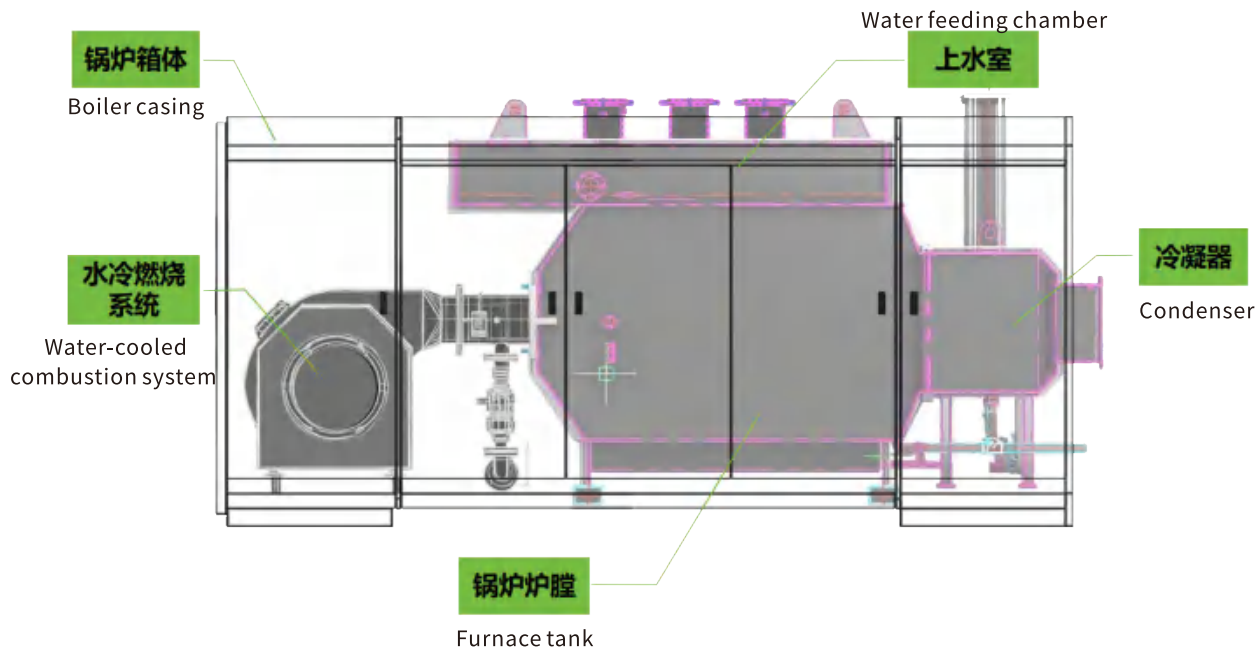
水冷全预混热水锅炉线条图

Line Drawing of Water-Cooled Fully Premixed Hot Water Boilers



水冷全预混热水锅炉产品结构示意图

Schematic Diagram of Product Structure for Water-Cooled Fully Premixed Hot Water Boilers



水冷全预混热水锅炉技术参数

Technical Parameters of Water-Cooled Fully Premixed Hot Water Boilers

项目/型号 Item/Model	SCWNS-350	SCWNS-700	SCWNS-1050	SCWNS-1400	SCWNS-1750	SCWNS-2100	SCWNS-2800	SCWNS-3500	SCWNS-4200
额定功率 Rated power (MW)	0.35	0.7	1.05	1.4	1.75	2.1	2.8	3.5	4.2
额定供回水温度 Rated supply and return water temperature (°C)	85/70	85/70	85/70	85/70	85/70	85/70	85/70	85/70	85/70
水容积 Water volume (m³)	0.32	0.5	0.67	0.78	0.85	0.87	1.1	1.62	1.94
循环水量 Circulating water volume (m³/h)	20	40	60	80	100	120	160	200	240
取暖面积 Heating area (m²)	3750	7500	11250	15000	18750	22500	30000	37500	45000
Δt=25°C 热水水量 Δt=25°C Hot water output (m³/h)	12	24	36	48	60	72	96	120	144
热效率 Thermal efficiency (%)	未配置冷凝器94~96%，配置冷凝器99%以上。 94%~96% without condenser, over 99% with condenser								
天然气耗量 Natural gas consumption (Nm³/h)	36.3	72.6	108.9	145.2	181.5	217.8	290.4	363	435.6
电源 Power supply (V/Hz)	220/50			380/50					
供回水口 Supply and return water inlet (mm)	DN65	DN80	DN100	DN125	DN125	DN150	DN200	DN200	DN200
通大气口 Atmospheric vent (mm)	DN65	DN80	DN100	DN125	DN125	DN150	DN200	DN200	DN200
排污口 Discharge outlet (mm)	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50	DN50
烟囱 Chimney mm (φ)	219	273	325	325	325	426	426	426	500
外形尺寸 Overall dimensions (mm)	长L	3020	3185	3440	3440	4500	4500	4920	5490
	宽W	1100	1150	1300	1300	1450	1550	1700	1900
	高H	1650	1945	2145	2345	2395	2395	2445	2595
重量 Weight(t)	1.5	1.9	2.6	3	3.5	3.9	4.9	6	6.8

注: 1、最大件长度含燃烧器和冷凝器尺寸;
2、天然气按低位热值即8600kcal/Nm³计算;
3、燃料耗量均为锅炉满负荷时耗量, 根据工况不同, 实际耗量将不同;
4、上述参数仅供参考, 保留在不事先通知的情况下重新定义更改产品信息权利(包括外形、技术、内部结构等)具体以提供图纸为准。

Note: 1. The maximum component length includes the dimensions of the burner and condenser;
2. Natural gas is calculated based on its lower calorific value, i.e., 8600 kcal/Nm³;
3. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions;
4. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

CLHS系列 CLHS SERIES

CLHS燃油气立式热水锅炉 CLHS VERTICAL FUEL GAS HOT WATER BOILERS



√ 自控运行 Self-controlled operation

√ 节能环保 Energy-saving and environmental protection

√ 纯净热水 Pure hot water

■ CLHS-(0.08-0.7)-85/70

FIRSTD BOILER

CLHS燃油气立式热水锅炉的优势

Advantages of CLHS Vertical Fuel Gas Hot Water Boiler:

- 1、锅炉运行采用自动化运行，全中文液晶显示屏，智能化控制；
- 2、采用专业计算机绘图软件优化设计，保证了水循环良好，水流阻力小，完全优化了炉胆内受热面换热系数，大大提高了锅炉运行热效率；
- 3、烟管内插扰流片，热效率高；
- 4、内胆采用特殊材料处理，既保护炉胆，又能保证水质干净卫生；
- 5、保温材料采用进口玻璃丝棉，保温性能好；
- 6、外壳（外包）采用银灰色彩板包装，美观、大方、耐用，不锈蚀，是常见的工业级包装材料；
- 7、燃烧器选配进口燃烧器，进口阀组，燃烧及调节性能优良，安全高效；
- 8、整机快装出厂，体积小，处形美观，安装方便。

1. The boiler adopts automated operation, with a fully Chinese LCD display screen and intelligent control;
2. Professional computer-aided design (CAD) software is used for optimized design, which ensures good water circulation, low water flow resistance, fully optimizes the heat transfer coefficient of the heating surface inside the furnace, and greatly improves the thermal efficiency of boiler operation;
3. Inserting turbulence fins into the smoke pipe results in high thermal efficiency;
4. The furnace tube is treated with special materials, which not only protects the furnace tube but also ensures clean and hygienic water quality;
5. The insulation material adopts imported glass wool, which has good insulation performance;
6. The outer shell (outer casing) is packaged with silver gray color plates, which are beautiful, generous, durable, rust free, and are common industrial grade packaging materials;
7. The burner is equipped with imported burners and valve groups, which have excellent combustion and regulation performance, and are safe and efficient;
8. The whole machine is fully assembled before delivery, with a small size, beautiful appearance, and easy installation.



CLHS燃油气立式热水锅炉技术参数

TECHNICAL PARAMETERS OF CLHS VERTICAL FUEL GAS HOT WATER BOILERS

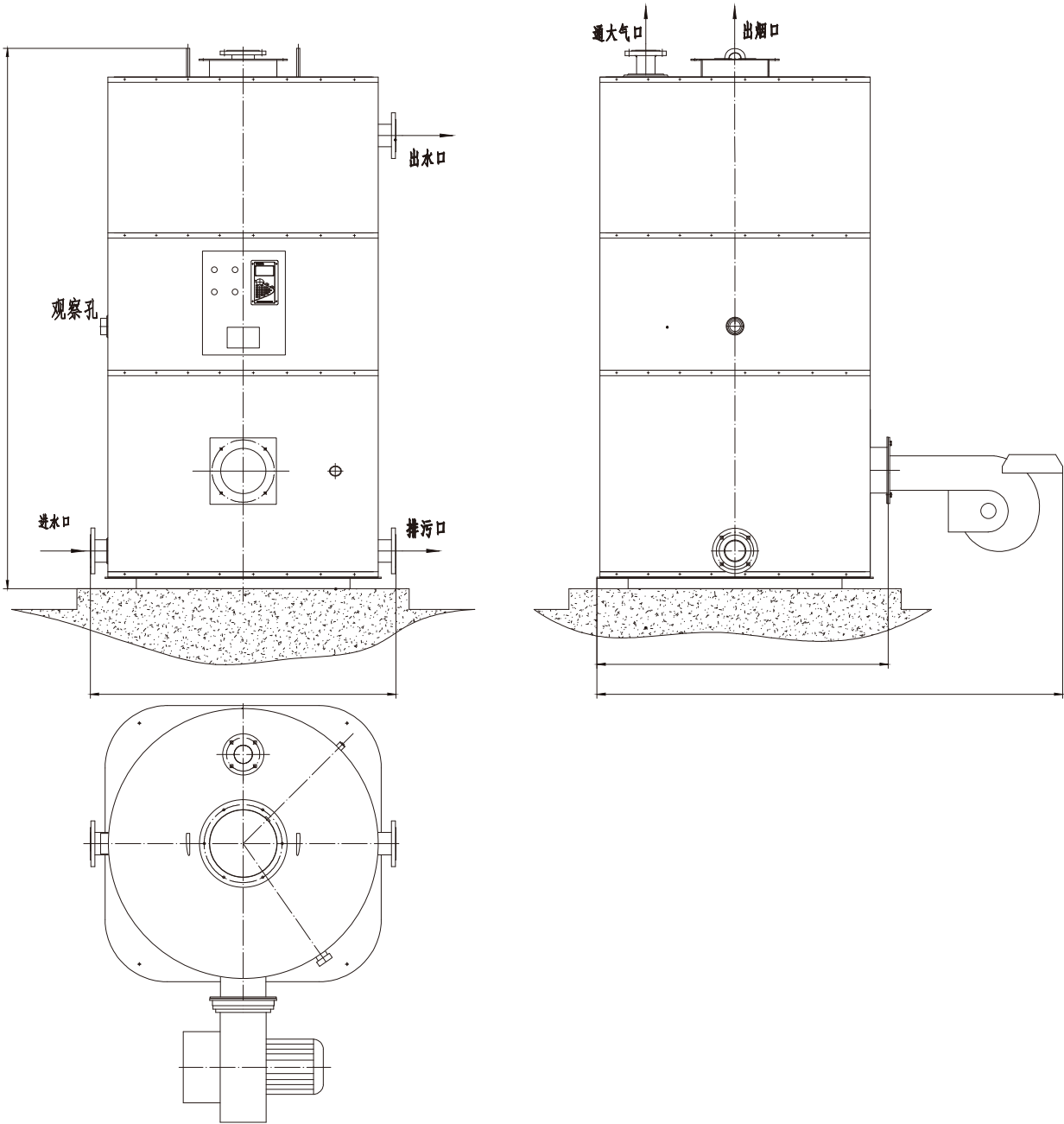
项目/型号 Item/Model	LHS-60	CLHS0.08-85/70-Q(Y)	CLHS0.12-85/70-Q(Y)	CLHS0.17-85/70-Q(Y)	CLHS0.23-85/70-Q(Y)	CLHS0.35-85/70-Q(Y)	CLHS0.47-85/70-Q(Y)	CLHS0.58-85/70-Q(Y)	CLHS0.7-85/70-Q(Y)
额定功率 Rated power (MW)	0.06	0.08	0.12	0.17	0.23	0.35	0.47	0.58	0.7
额定供水温度 Rated supply and return water temperature (°C)	85/70								
有效水容积 Effective water volume (m³)	0.15	0.14	0.14	0.32	0.32	0.48	0.48	1.26	1.46
循环水量 Circulating water volume (m³/h)	3.4	4.7	6.7	10	13.4	20	26.7	33.3	40
取暖面积 Heating area (m²)	630	875	1250	1875	2500	3750	5000	6450	7500
Δt=25℃热出水量 Δt=25℃ Hot water output (m³/h)	2	2.8	4	6	8	12	16	20	24
热效率 Thermal efficiency (%)	96%以上 over 96%								
柴油耗量 Diesel consumption (Kg/h)	5.1	7.2	10.3	15.4	20.5	30.8	41.1	51.3	61.6
天然气耗量 Natural gas consumption (Nm³/h)	6.1	8.5	12.1	18.2	24.2	36.3	48.4	60.5	72.6
煤气耗量 Gas consumption (Nm³/h)	13.6	19	27.2	40.8	54.3	81.5	108.7	135.8	163
电源 Power supply (V/Hz)	220/50								380/50
供回水口 Supply and return water inlet (mm)	DN40	DN40	DN40	DN65	DN65	DN80	DN80	DN100	DN100
通大气口 Atmospheric vent (mm)	DN40	DN40	DN40	DN65	DN65	DN80	DN80	DN80	DN80
排污口 Discharge outlet (mm)	DN40	DN40	DN40	DN65	DN65	DN80	DN80	DN100	DN100
烟囱 Chimney φ (mm)	159	159	159	219	219	219	219	219	325
外形尺寸 Overall dimensions (mm)	长L	595	690	840	895	895	1095	1095	1460
	宽W	595	660	660	830	830	1000	1000	1470
	高H	1145	1620	1620	1995	1995	2160	2160	2435
重量Weight(t)	0.33	0.33	0.33	0.53	0.53	0.81	0.81	1.4	1.5

备 注: 1、燃料耗量均为锅炉满负荷时耗量，根据工况不同，实际耗量将不同。
2、上述参数仅供参考，保留在不事先通知的情况下重新定义更改产品信息的权利（包括外形、技术、内部结构等）具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

CLHS燃油气立式热水锅炉外型图

OUTLINE DRAWING OF CLHS VERTICAL FUEL GAS HOT WATER BOILERS



CKS系列 CKS SERIES

CKS燃油气开水锅炉 CKS FUEL GAS BOILING WATER BOILERS



■CKS(240-6000)

FIRSTD BOILER

CKS燃油气开水锅炉的优势

Advantages of CKS Fuel Gas Water Boilers:

- 可供开水、热水、实现一机二用。
- 具备水位自动监测功能，自动补水。
- 具备缺水、过热、超温等安全保护，使用安全可靠。
- 先进的中文液晶屏人机界面操作更加简便，更有独特时间控制可按需要设置每天开关机时间。
- 可设定出水温度，并自动控制电磁阀推出浴水、数字显温、控温、明明白白喝开水。
- 根据水位变化自控电磁阀补水，停机。
- 结构紧凑合理，排烟温度低。热效率高达92%以上，锅炉寿命长。
- 开水取水采用独特结构，沸水区取水。保证100℃开水。
- 进口彩板，高级橡塑海绵包装，美观大方。不锈蚀，保温效果好。
- 配备超低氮预混燃烧机，将锅炉的热效率充分发挥，热效率超过92%，使NOx的排放量低于30mg/m³。

1. Can be used for boiling water, hot water, and achieve one machine for two purposes.
2. Equipped with automatic water level monitoring function and automatic water replenishment.
3. Equipped with safety protection against water shortage, overheating, and overtemperature, it is safe and reliable to use. The advanced Chinese LCD screen human-machine interface makes operation easier, and there is a unique time control that allows for setting daily on/off times as needed.
4. It can set the water outlet temperature and automatically control the solenoid valve to dispense bath water, display temperature digitally, control temperature, and drink boiled water with clear temperature indication.
5. The solenoid valve is automatically controlled to replenish water and shut down the machine according to changes in water level.
6. It has a compact and reasonable structure, low exhaust gas temperature, thermal efficiency of over 92%, and a long service life.
7. The boiling water intake adopts a unique structure, with water intake from the boiling water area to ensure 100 °C boiling water.
8. It adopts imported color plates and high-end rubber and plastic sponge packaging, which is elegant and generous, free from rust and has a good insulation effect.
9. Equipped with ultra-low nitrogen premixed combustor, it fully exerts the boiler's thermal efficiency (exceeding 92%) and reduces NOx emissions to below 30 mg/m³.

► CKS燃油气开水锅炉技术参数

Technical Parameters of CKS Fuel Gas Boiling Water Boilers

项目/型号 Item/Model	CKS240	CKS360	CKS500	CKS700	CKS1000	CKS1500	CKS2000	CKS3000	CKS6000
开水量 Boiling water output (L/h)	240	360	500	700	1000	1500	2000	3000	6000
Δt=25℃ 浴水量 Δt=25℃ Bath water output L/h	600	900	1300	1800	2500	3750	5000	7500	15000
水容积 Water volume (m³)	0.089	0.15	0.25	0.25	0.5	0.5	0.75	1.35	1.46
柴油耗量 Diesel consumption (Kg/h)	2	3.1	4.2	5.9	8.4	12.7	16.9	25.3	50.5
天然气耗量 Natural gas consumption (Nm³/h)	2.38	3.6	5	7	10	15.1	20.1	30.1	60.2
煤气耗量 Gas consumption (Nm³/h)	5.39	8.15	11.32	15.84	22.63	34.17	45.49	68.12	135.8
热效率 Thermal efficiency (%)	90% ~ 92%								
电源 Power supply (V/Hz)	220/50								380/50
开水口 Boiling water outlet (mm)	DN25	DN25	DN25	DN25	DN40	DN40	DN40	DN40	DN80
进水口 Water inlet (mm)	DN15	DN15	DN20	DN20	DN25	DN25	DN25	DN25	DN40
通大气口 Atmospheric vent (mm)	DN80	DN80	DN80	DN80	DN65	DN65	DN65	DN80	DN80
清洗口 Cleaning port (mm)	DN50	DN50	DN80	DN80	DN80	DN80	DN80	DN80	DN100
烟囱 Chimney mm (φ)	108	108	159	159	159	159	219	219	325
外形尺寸 Overall dimensions (mm)	长L	660	660	753	753	1000	1000	1120	1380
	宽W	672	672	822	822	1072	1072	1244	1556
	高H	1138	1138	1488	1488	1840	1840	2116	2586
重量 Weight(t)	0.23	0.25	0.27	0.29	0.53	0.57	0.85	1.18	1.51

备 注: 1、燃料耗量均为锅炉满负荷时耗量，根据工况不同，实际耗量将不同。
2、上述参数仅供参考，保留在不事先通知的情况下重新定义更改产品信息权利（包括外形、技术、内部结构等）具体以提供图纸为准。

Notes: 1. The fuel consumption is the consumption at full load of the boiler, and the actual consumption will vary depending on the operating conditions.
2. The above parameters are for reference only. We reserve the right to redefine and modify product information (including appearance, technology, internal structure, etc.) without prior notice. Please refer to the provided drawings for specific details.

福士德锅炉多功能控制系统 Firstd Boiler Multi-Functional Control System

► 液晶五键全自动控制器（<4吨热水锅炉标配）

LCD five key fully automatic controller (standard for <4-ton hot water boilers)

全自动锅炉控制器是针对热水锅炉的专业控制器产品，集成度高、可靠性高、智能化程度高、抗干扰能力强、操作简单、人机对话友好，能够在各种恶劣环境中全天候运行。

The fully automatic boiler controller is a professional controller product designed for hot water boilers. It has high integration, high reliability, high intelligence, strong anti-interference ability, simple operation, friendly human-machine dialogue, and can operate 24/7 in various harsh environments.



高性能的工业级控制芯片 High-performance industrial-grade control chip

采用美国进口工业级的高性能单片机，可靠性高、集成度高、运算速度高、功能强、体积小、功耗小。

Adopting high-performance industrial grade microcontrollers imported from the United States, it has high reliability, high integration, high computing speed, strong functionality, small size, and low power consumption.

一体化设计，操作简易 Integrated design and easy operation

一体化设计，体积小，安装方便操作简便，面板由特殊工程塑料制作防划伤，耐油，按键手感良好，坚固耐用，在炉前恶劣环境中长期可靠工作。

It features an integrated design, small size, easy installation and simple operation. The panel is made of special engineering plastic that is scratch-resistant, oil-resistant, and has a good button feel. It is sturdy and durable, and can work reliably in harsh environments in front of the boiler for a long time.

液晶图文显示，人机界面友好 LCD graphic display, user-friendly human-machine interface

液晶采用高亮度背光灯，长寿命。专为国内用户设计的液晶图文操作界面，以图形动画和中文方式显示锅炉运行工况、工作模式和控制参数等。

The LCD adopts a high-brightness backlight and has a long service life. A LCD graphic user interface designed specifically for domestic users displays boiler operating conditions, working modes, and control parameters in graphical animation and Chinese language.

专用数字滤波技术 Specialized digital filtering technology

系统对采集的温度数据进行数字滤波，保证了测量数据的稳定性和准确性。

The system performs digital filtering on the collected temperature data to ensure the stability and accuracy of the measured data.

开关量光电隔离措施 Switching quantity photoelectric isolation measures

系统所有输入输出端口都采取了专门的光电隔离措施，有效阻断干扰通道，提高抗干扰能力。

All input and output ports of the system have adopted specialized photoelectric isolation measures, effectively blocking interference channels and improving anti-interference capabilities.

福士德公司设计开发的PLC全自动智能控制系统，采用机电一体化控制设备和可编程逻辑控制器(PLC)联合控制方式。以先进的可编程逻辑控制器(PLC)为控制系统的“中央处理器”。控制系统通过触摸屏进行操作，使锅炉自动化控制程度和运行可靠程度大大提高，操作更加简便直观。

The PLC fully automatic intelligent control system designed and developed by Firstd Company adopts a combined control method of electromechanical integration control equipment and programmable logic controller (PLC). The advanced programmable logic controller (PLC) is used as the "central processing unit" of the control system. The control system operates through a touch screen, greatly improving the automation control and operational reliability of the boiler, and making the operation more convenient and intuitive.

► 可编程控制器+液晶触摸屏全自动控制器（≥4吨热水锅炉标配）

Programmable controller + LCD touch screen fully automatic controller (standard for ≥ 4-ton hot water boilers):

A / PLC可编程控制器全触摸液晶屏，采用中文操作、动态图形化显示，设备可实现自动化运行及手动运行，使操作简单轻松。

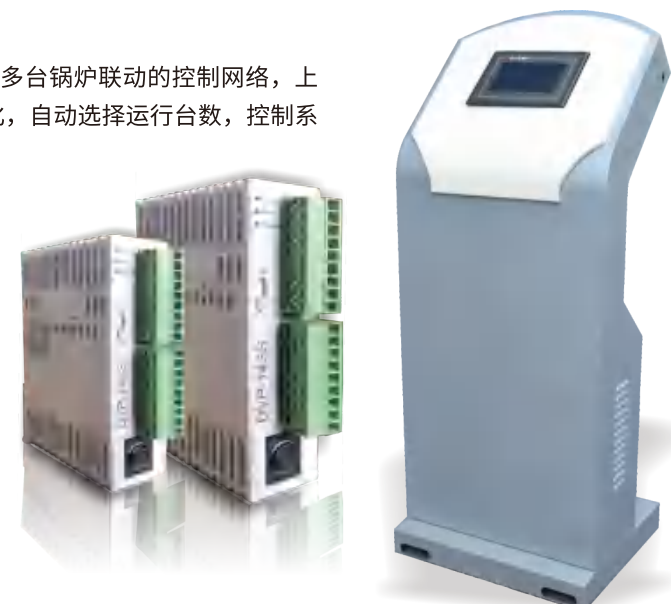
The PLC programmable controller has a full-touch LCD screen, which adopts Chinese operation and dynamic graphical display. The equipment can achieve automatic and manual operation, making the operation simple and easy.

B / 标配RS485通讯接口，通过协议与上位机软件，可组建多台锅炉联动的控制网络，上位机适时监控锅炉运行参数及负载变化，根据实时负载变化，自动选择运行台数，控制系统终端可实现集中控制和远程控制。

It is equipped with a standard RS485 communication interface. Through protocol and upper computer software, it can form a control network for linking multiple boilers. The upper computer monitors boiler operating parameters and load changes in a timely manner, automatically selects the number of operating units based on real-time load changes, and the control system terminal can achieve centralized and remote control.

C / 触摸屏标配昆仑通态品牌，PLC标配台湾台达品牌。

The touch screen is equipped with Kunlun Tongtai brand as standard, and the PLC is equipped with Taiwan Delta brand as standard.

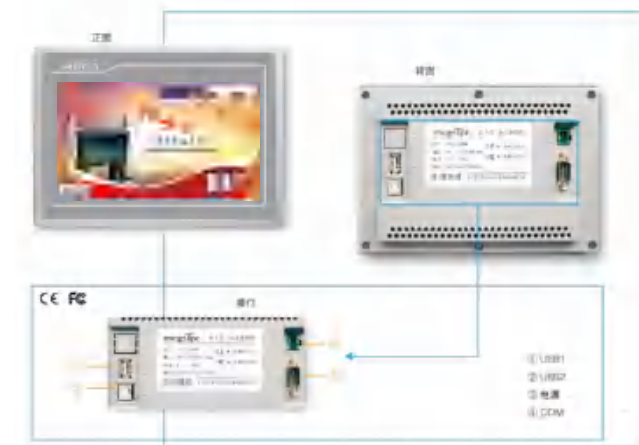


该产品是一套的已嵌入式低功耗CPU为核心（主频400MHz）的高性能嵌入式一体化触摸屏。该产品设计采用了高亮度TFT液晶显示屏（分辨率800×480），四线电阻式触摸屏（分辨率4096×4096）。同时还预装了MCGS嵌入式组态软件（运行版），具备强大的图像显示和数据处理功能。

PLC触摸屏的控制系统，具备通讯接口，通过协议与上位机软件，可实现集中和远程监控，上位机适时监控锅炉运行参数及负载变化，更可组成多台锅炉控制网路，实现根据负载变化自动选择锅炉运行台数。

This product is a high-performance embedded integrated touch screen with an embedded low-power CPU as the core (main frequency 400MHz). The product design adopts a high-brightness TFT LCD display screen (resolution 800 × 480) and a four-wire resistive touch screen (resolution 4096 × 4096). At the same time, MCGS embedded configuration software (running version) is also preinstalled, which has powerful image display and data processing functions.

The control system of PLC touch screen is equipped with a communication interface. Through protocols and upper computer software, it can achieve centralized and remote monitoring. The upper computer timely monitors the operating parameters and load changes of the boiler, and can also form a control network for multiple boilers to automatically select the number of operating boilers according to load changes.



FIRSTD 福士德全自动智能控制系统

FIRSTD FULLY-AUTOMATIC INTELLIGENT CONTROL SYSTEM

► 单台锅炉控制 Single boiler control

✓ 操作界面直观简捷，运行状态一目了然

- 1、采用高分辨率的单色液晶或彩色触摸屏（选配）。
- 2、可实时动感地显示燃烧器、水泵等的运行状况及火焰的变化状态。
- 3、全中文的多级弹出式菜单，使锅炉的监控简单化、条理化、智能化。
- 4、中文故障维修指南，操作简单。
- 5、生成分析报表。
- 6、实现锅炉系统优负荷调节和自动故障报警
- 7、具有标准的RS232/485接口，采用MODEBUS协议，可以实现与楼宇自控或DCS的连接，实现多台锅炉的群控功能。提高锅炉节能运行；
- 8、适合任何文化层次的人。

✓ 全自动运行，操作轻松自如

- 1、具有火焰自动调节和火焰自动检测功能。
- 2、具有水位低限的自动检测及报警功能；

✓ 高品质硬件，周全的软件，确保优化的系统高效可靠

- 1、采用抗干扰性强、使用寿命长的PLC；
- 2、多种连锁保护并存，保证了系统的高可靠性和高安全性；
- 3、设有系统调试口令，没有权限的人无法更改系统运行参数；

✓ 记录故障历史，方便维护检修

- 1、自动累录水泵运行时间及燃烧器运行时间；
- 2、锅炉发生故障，先安全停炉并弹出画面，记录前几十次故障发生的时间和故障内容，用户可根据维修指南很快查出故障原因；

✓ 多方案的控制功能选择和丰富的扩展功能，让客户更多选择

- 1、PLC积木式的扩充模块和充足的预留端口，减少了用户对特殊需要开发的重复投资；
 - 2、可方便地与目前的办公自动化网络(WINDOWS9X、WINDOWSNT、NOVELL等)、工厂自动化控制网络互联，实现锅炉运行状况的远程监视功能；
 - 3、可选配电脑作为监控画面。
- （部分功能为选配）

► 多台锅炉群控 Multiple boiler group control

系统采用RS485接口和通讯协议，通过PLC下位机控制柜将锅炉的运行工况、重要参数、重要数据和报警记录等上传至上位机，工作人员通过鼠标和键盘操作控制来查询各个设备的状态，方便管理人员实现对锅炉操作系统的实时监测、集中控制，实现现代化的管理。群控设备留有以太网或RS485的BA接口，并提供支持OPC方式的开放软件，可以由BA系统进行监控。具有友好的人机界面，图形化显示，自动数据采集、处理，负荷调节，故障跟踪监控，报表以及数据打印，系统通讯网络连接等功能。

The system adopts RS485 interface and communication protocol, and uploads the operating conditions, important parameters, important data, and alarm records of the boiler to the upper computer through the PLC lower computer control cabinet. The staff can query the status of each device through mouse and keyboard operation, which facilitates the management personnel to achieve real-time monitoring and centralized control of the boiler operating system, realizing modern management. The group control equipment is equipped with Ethernet or RS485 BA interfaces and provides open software that supports OPC mode, which can be monitored by the BA system. It has a friendly human-machine interface, graphical display, automatic data collection and processing, load adjustment, fault tracking and monitoring, report and data printing, system communication network connection and other functions.

The operation interface is intuitive and simple, and the operating status is clear at a glance:

1. It adopts a high-resolution monochrome LCD or color touch screen (optional).
2. It provides real-time dynamic display of the operating status of burners, water pumps, and the changing status of flames.
3. The multi-level pop-up menu in full Chinese simplifies, organizes, and intelligently optimizes boiler monitoring.
4. It is equipped with a Chinese troubleshooting guide, making operation simple.
5. It can generate analysis reports.
6. It can realize optimal load regulation and automatic fault alarm for the boiler system
7. It is equipped with standard RS232/485 interfaces and adopts the MODEBUS protocol. It can connect with building automation systems or DCS, achieve group control function for multiple boilers, and improve the energy-saving operation of the boilers;
8. Suitable for people of any cultural level.

Fully automatic operation, making operation easy and effortless.

1. It has the functions of automatic flame adjustment and automatic flame detection.
2. It is equipped with automatic detection and alarm function for low water level limit;

High-quality hardware and comprehensive software ensure the efficient and reliable optimized operation of the system.

1. It adopts a PLC with strong anti-interference performance and long service life;
2. Multiple chain protections coexist, ensuring high reliability and safety of the system;
3. A system debugging password is provided, and people without permission cannot change the system operating parameters;

Fault history record for easy maintenance and repair.

1. It automatically records the operating time of the water pump and burner;
2. If the boiler malfunctions, it will be safely shut down and a screen will pop up to record the time and content of the previous dozens of malfunctions. Users can quickly identify the cause of the malfunction by referring to the maintenance guide;

Multiple control function options and rich expansion functions provide customers with more choices.

1. The PLC modular expansion modules and sufficient reserved ports reduce the repeated investment of users in the development of special needs;
2. It can be conveniently interconnected with current office automation networks (WINDOWS9X, WINDOWSNT, NOVELL, etc.) and factory automation control networks to achieve remote monitoring of boiler operation status;
3. An optional computer can be used as a monitoring screen.

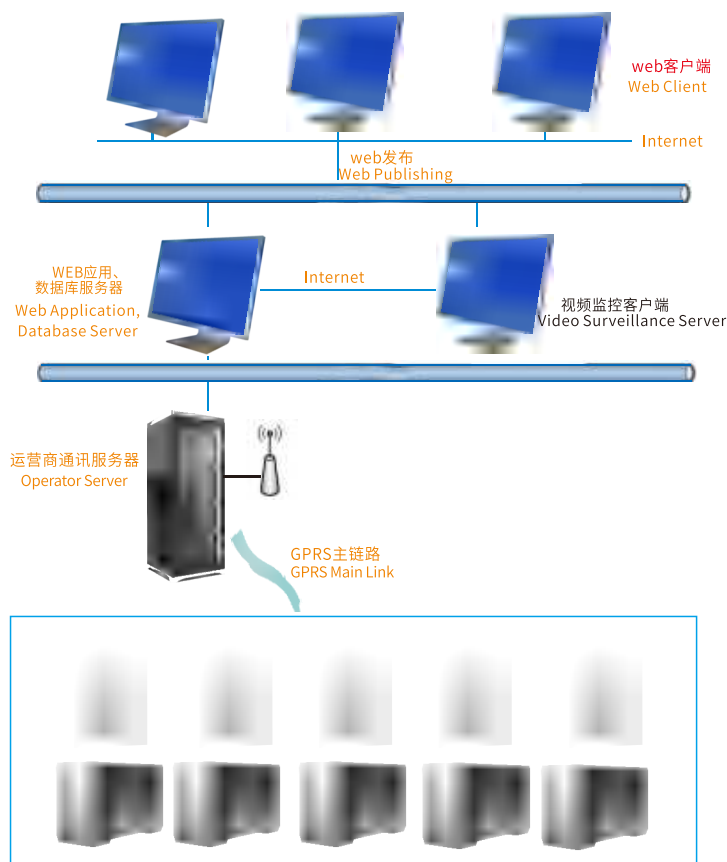
► 锅炉远程控制 Boiler remote control

福士德锅炉的远程监测系统采用先进成熟的触摸屏4G模块为远程数传模块，运营商的GPRS 4G网络、wifi网络，组成的一套无线数据传输网络或有线物联网组成的远程传输网络实时监测系统；远程监测中心采集锅炉出力、排烟温度、进出水温度、燃烧器的启停等数据做成曲线图进行分析，对异常情况进行告警，向用户提出合理的建议，确保锅炉安全、高效的运行，同时定期为用户提供远程监测分析报告，指导用户及时进行维护保养。用户可以通过福士德网站网页查看自己锅炉的运行状态。

The remote monitoring system of Firstd Boiler adopts advanced and mature 4G Touch Screen module as the remote data transmission module, and a set of real-time monitoring system composed of a wireless data transmission network or a wired IoT remote transmission network formed by the operator's GPRS 4G network and WiFi network. The remote monitoring center collects data such as boiler output, exhaust gas temperature, inlet and outlet water temperature, and burner start and stop to generate curve charts for analysis. It alerts users of abnormal situations and provides reasonable suggestions to ensure the safe and efficient operation of the boiler. At the same time, it regularly provides remote monitoring analysis reports to guide users in timely maintenance. Users can check the operating status of their boilers through the website of Firstd.

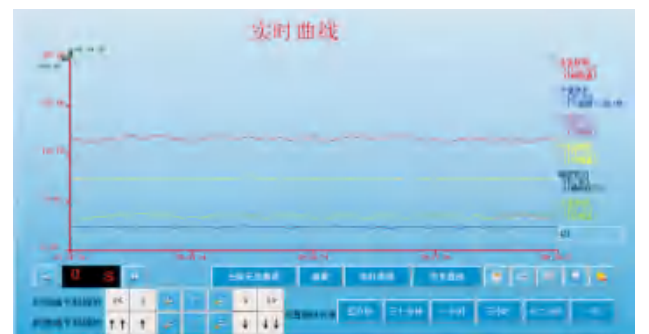
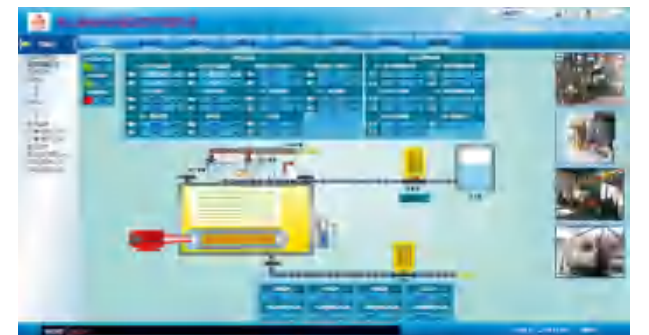
远程监测示意图

Remote Monitoring Diagram



远程监测实时曲线图

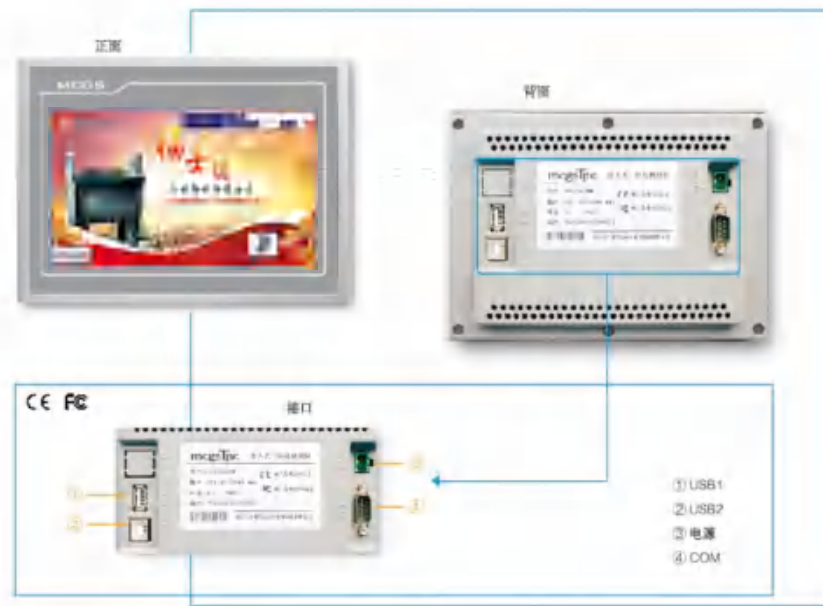
Real-Time Curve Graph for Remote Monitoring



全自动智能控制系统 >>>> FULLY AUTOMATIC INTELLIGENT CONTROLLERS

福士德公司拥有完全知识产权自主设计开发的PLC全自动智能控制系统，采用机电一体化控制设备和可编程逻辑控制器(PLC)联合控制方式。以先进的可编程逻辑控制器(PLC)为控制系统的“中央处理器”。控制系统通过触摸屏进行操作，使锅炉自动化控制程度和运行可靠程度大大提高，操作更加简便直观。

Firstd Company possesses a fully automatic intelligent PLC control system independently designed and developed with complete intellectual property rights. It adopts a joint control mode combining electromechanical integration control equipment and programmable logic controller (PLC). The advanced programmable logic controller (PLC) serves as the "central processing unit" of the control system. The control system is operated via a touch screen, which greatly improves the automation control level and operational reliability of the boiler, and makes the operation more convenient and intuitive.



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PLC触摸屏的控制系统，具备通讯接口，通过协议与上位机软件，可实现集中和远程监控，上位机适时监控锅炉运行参数及负载变化，更可组成多台锅炉控制网路，实现根据负载变化自动选择锅炉运行台数。

This product is a high-performance embedded all-in-one touch screen centered on an embedded low-power CPU (with a clock frequency of 400MHz). It is designed with a high-brightness TFT LCD display (resolution: 800×800) and a four-wire resistive touch screen (resolution: 4096×4096). Additionally, it comes pre-installed with MCGS embedded configuration software (operational version), featuring powerful image display and data processing capabilities.

The control system of the PLC touch screen is equipped with a communication interface. Through a protocol with the host computer software, it can realize centralized and remote monitoring. The host computer can monitor boiler operating parameters and load changes in real-time, and can also form a control network for multiple boilers, realizing the automatic selection of the number of operating boilers based on load changes.

触摸屏

Touch Screen

智能可编程控制器全触摸液晶屏,采用中文操作、动态图形化显示,设备可实现自动化运行及手动运行,使操作简单轻松。

The intelligent programmable controller features a full-touch LCD screen, allowing for Chinese-language operation and dynamic graphical display. The device can operate automatically or manually, making the operation simple and easy.

**远程
监控**

Remote Monitoring

标配RS485通讯接口,通过协议与上位机软件,可组建多台锅炉联动的控制网络,上位机适时监控锅炉运行参数及负载变化,根据实时负载变化,自动选择运行台数,控制系统终端可实现集中控制和远程控制。

Equipped with a standard RS485 communication interface, a control network for multiple boiler linkage can be formed through a protocol and host computer software. The host computer monitors boiler operating parameters and load changes in real time, automatically selects the number of operating boilers based on real-time load changes, and the control system terminal can achieve centralized control and remote control.

**优质
配件**

Premium Accessories

触摸屏标配昆仑通态,控制使用智能可编辑控制器。

The touch screen is equipped with Kunlun Tongtai as standard, and the control system utilizes an intelligent editable controller.

优质服务 >>> HIGH-QUALITY SERVICE



优质的产品更需要优质的服务 High-quality products require even higher-quality services

出现故障的时候，您是否需要快捷、专业的帮助，因为故障意味着昂贵的成本！
在对既有的系统进行更新升级的时候，您是否需要支持！
福士德技术将随时待命，
为您提供高效、安全、专业的服务！

When a malfunction occurs, do you need prompt and professional assistance? Because malfunctions mean high costs!

Do you need support when updating and upgrading your existing system?

Firstd Technology will be on standby at all times to provide you with efficient, safe, and professional services!



全国布局客服中心,服务更便捷 Nationally Distributed Customer Service Centers Ensure More Convenient Service

只有站在顾客的角度为顾客着想，才能赢得市场。福士德严格按照国家规定的三包政策做好售后服务。在全国设立了33个客户服务中心，200多个售后服务网点,全程支持您在使用过程中遇到的任何问题。

Only by standing in the customers' shoes and thinking for them can we win the market. Firstd strictly adheres to the three-guarantee policy stipulated by the state to provide quality after-sales service. We have established 33 customer service centers and more than 200 after-sales service outlets across the country, providing full support for any issues you may encounter during use.



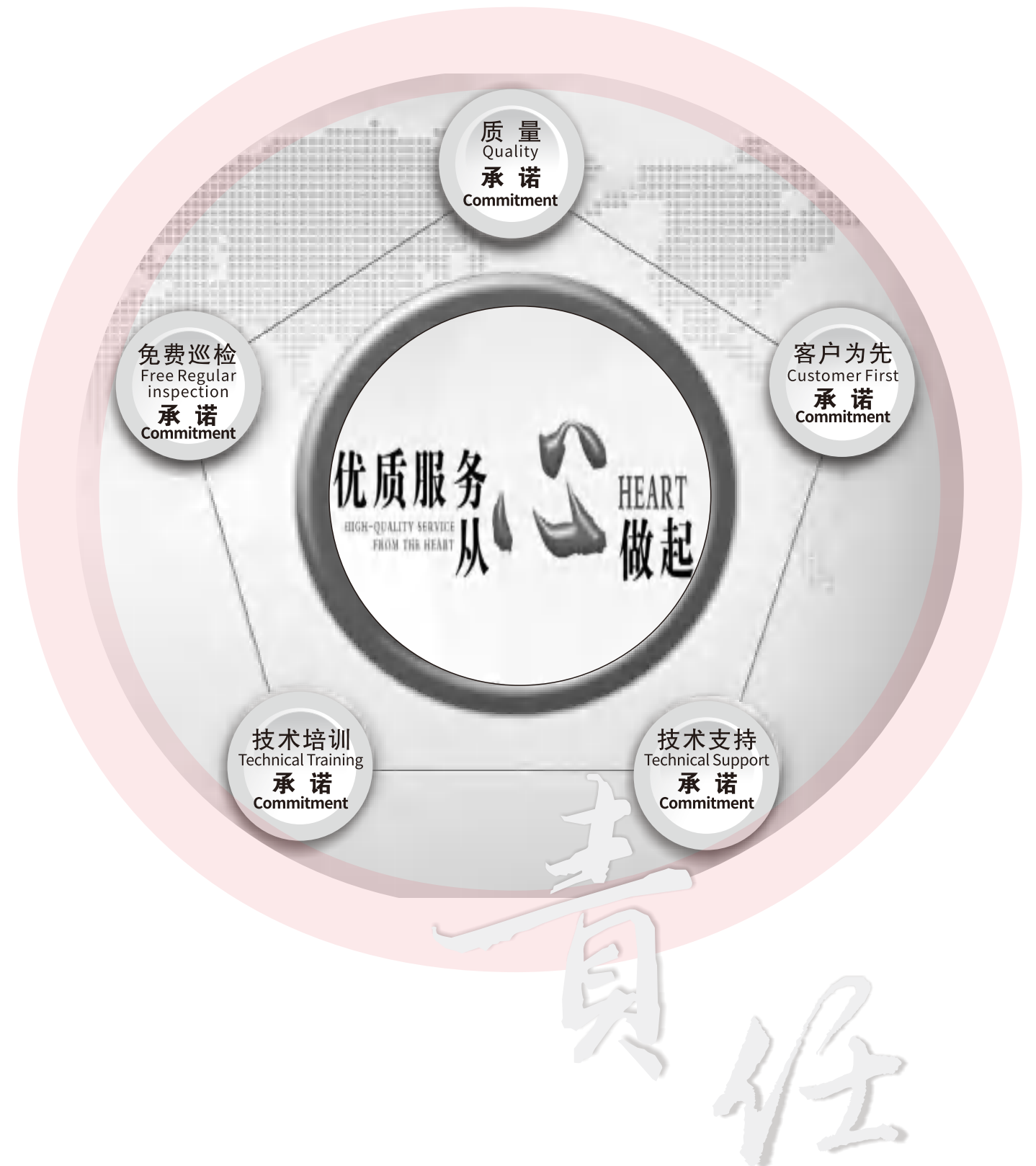
随时待命：专业的服务 On Call: Professional Service

我们的客户服务每天24小时时刻待命。得益于我们精心编织的服务区域网络，我们能够确保最短的反应时间，除了维护服务，故障跟踪和维修，我们还为您提供系统常规检查支持，如果您不确定您的系统是否稳定，是否依旧高效运转，那么我们也将十分乐意协助您，我们将会对您的系统进行分析，如果需要的话，还会对其进行更新升级。

在正常的工作时间内，您可以直接联系当地的客户服务工程师，直接与当地的客户服务工程师联系，可以为您节省大量宝贵的时间。当地客户服务工程师解决不了的问题，客户可以拨打我们的24小时：服务专线400-180-1966，我们将通过电话对于您的问题给予专业的、合理化建议，定制化的解决方案。

Our customer service is available 24/7. Thanks to our meticulously established service area network, we can ensure the shortest response time. In addition to maintenance services, fault tracking and repairs, we also provide you with regular system inspection support. If you are unsure whether your system is stable and still operating efficiently, we will be more than happy to assist you. We will analyze your system and, if necessary, perform updates and upgrades.

During regular working hours, you can directly contact your local customer service engineer, which can save you a significant amount of valuable time. If the local customer service engineer is unable to resolve the issue, you can call our 24-hour service hotline at 400-180-1966. We will provide professional and reasonable suggestions as well as customized solutions for your problems over the phone.



合作客户 >>>

COOPERATIVE CLIENTS

近30年来，我们以卓越的产品质量、优质的全方位服务、合理的产品价格不断赢得客户的信赖，产品远销到非洲、欧洲、大洋洲等十几个国家和地区，累计销售锅炉10000多台/套。

Over the past 30 years, we have continuously earned the trust of our customers with our excellent product quality, high-quality comprehensive services, and reasonable product prices. Our products are exported to more than a dozen countries and regions in Africa, Europe, Oceania and other regions, with a cumulative sales volume of more than 10,000 boilers/units.

