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燃煤热水锅炉

Coal-fired Hot Water Boilers



无锡中正锅炉有限公司

WUXI ZOZEN BOILERS CO.,LTD.

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公司介绍

无锡中正锅炉有限公司是中华人民共和国质量监督检验检疫总局核准的锅炉和压力容器定点制造企业。公司持有A级锅炉制造许可证，BRⅡ级压力容器制造许可证，美国ASME标准“S”（动力锅炉）、“U”（压力容器）许可印，并全面通过ISO9001:2000国际质量体系认证。公司座落于风光优美的太湖之滨，占地12万平方米，是一个具有年产12000蒸吨锅炉生产能力的现代化生产企业，为AAA级资信等级企业，历年来被评为无锡市及江苏省的重合同守信用企业、出口名牌企业、高新技术企业、优秀民营企业。

公司拥有一流的生产工艺装备，检测手段齐全，主要设备有：蛇形管生产线、数控盘管生产线、膜式壁生产线、纵环缝自动焊接生产线、钢架自动焊接生产线、数控等离子（火焰）切割机、数控锅筒钻、高速数控平面钻、高速集箱数控钻、100mm三辊数控万能式卷板机、相贯线数控切割、CNC、机器人焊接设备、Φ168数控立体弯管设备、4轴数控弯管机、3维激光切割机、管端成型设备、100T万能材料试验机、金相显微镜、射线探伤仪器、硬度计、光谱分析仪大型热处理炉、喷砂除锈房和喷漆烤漆房等等。

无锡中正锅炉有限公司全面实行计算机信息化管理和6S现场管理。目前主要产品包括工业锅炉、有机热载体锅炉、大型热水锅炉、电站锅炉、余热回收装置（HRSG）、特种余热锅炉、生物质锅炉、压力容器等系列。YLW系列和YY(Q)W(L)系列系列燃煤、燃生物质、燃气有机热载体锅炉、DZL型单锅筒纵置式链条炉排蒸汽和热水锅炉、SZL型双锅筒纵置式链条炉排蒸汽和热水锅炉、WNS型卧式三回程背式蒸汽和热水锅炉、SZS型双锅筒纵置式燃气蒸汽和热水锅炉、SHL型双锅筒横置式链条炉排蒸汽和热水锅炉、循环流化床蒸汽和热水锅炉、与西安交通大学联合研究开发的DHL型角管式大型热水锅炉、与北京之光锅炉研究所技术合作开发的DZL型新型水火管大型热水锅炉、拥有自主知识产权的DHL型单锅筒横置式P型大型热水锅炉、10-220t/h中温中压及高温高压电站锅炉、燃气-燃气轮机联合循环发电余热回收装置、金属行业、化工行业等各行业的余热锅炉、生物质燃料锅炉等400多个品种规格。

“不偏之谓中，中者天下之正道；立天下之正位，行天下之大道。”诚信与敬业为立足市场之根本，技术与质量为领先市场之前提，服务与指导为巩固市场之关键。中正人以用户利益为己任，服务于社会。

COMPANY INTRODUCTION

Wuxi Zozen Boilers Co., LTD is the government designated enterprise of A-grade boilers, BRⅡ. grade pressure containers and ASME "S", "U" manufacturing license that is approved by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China. The Company, situated at the side of beautiful Lake Taihu at Wuxi covering an area of 120,000M², is a modern enterprise with the yearly production capacity of 12000 steam ton. The company has certified for the certificate of ISO9001 quality assurance system, as well as the AAA-grade credit enterprise. It has been evaluated as the Company of Honoring the Contract & Keeping Commercial Integrity, high-tech enterprise, and excellent civil-run enterprise of Wuxi city & Jiangsu Province. Therefore, the Company relies on its professional experts, strict business management and fine production equipments, to manufacture the "ZOZEN" brand boilers and enjoy the reputation in whole China and even in the whole world.

The company has advanced production processing equipment and complete testing method. The main processing equipment are serpent tube line, CNC coiler production line, membrane wall line, vertical & circle welding line, steel frame automatic welding line, digital control plasma (flame) cutting machine, CNC drum drilling, high-speed CNC flat surface drilling, high-speed header digital control drilling, 100mm three roller CNC universal binder, intersecting lines digital control cutting, CNC, robot welding equipment, Φ 168 CNC three-dimensional bending equipment, 4 axis NC tube bending machine, 3D laser cutting machine, pipe end forming equipment, 100T universal material testing machine, metallurgical microscope, x-ray detector, hardness tester, spectrum analyzer, large scale heat treatment furnace, sand blasting and painting etc.

The company comprehensively implements computer information management and 6S site management. The main products include series of: industry boiler, organic heat carrier boilers, hot water boilers, power plant boilers, HRSG, special heat recovery boilers, Biomass boilers and pressure vessels. There are more than four hundred varieties and specifications, i.e. the steam boiler and hot water boiler of YLW series and YY(Q)W(L) series coal fired, biomass fired, gas fired organic heat carrier boiler, DZL type single drum with chain grate, the steam and hot water boilers of SZL type double drum with chain grate, the WNS type horizontal three return back steam and hot water boiler, the SZS type double drum oil/gas combustion D-type steam and hot water boilers, steam and hot water boilers of SHL type horizontal arranged double drum with chain grate, the circulating fluidized bed steam and hot water boilers designed by Tsinghua University, big size DHL corner tube hot water boiler jointly developed with Xi'an Jiao Tong University, the new DZL type water-fire tube (hybrid) hot water boiler jointly developed with the Boiler Research Institute of Beijing Light, the DHL type single horizontal drum P-type large hot water boilers which was self-developed and owns intellectual property right, 10-220t/h medium and high temperature/pressure power plant boilers, combined cycle power generation with waste heat recovery device, the waste heat boilers for the industries of metal, chemical etc. and biomass fuel boilers etc.

The "ZOZEN" people always respect sincerity and business reputation as our marketing principle, and always pursue the market-leading for our technology and product quality, as well as perfect our service and sales guide as the key for consolidating our markets as well. "ZOZEN" people shall abide the aim of protecting the interest of clients as our liability so as to serve the society by our heart!



DHL

系列角管式水管热水锅炉

series corner tube type water pipe hot water boilers

概述:

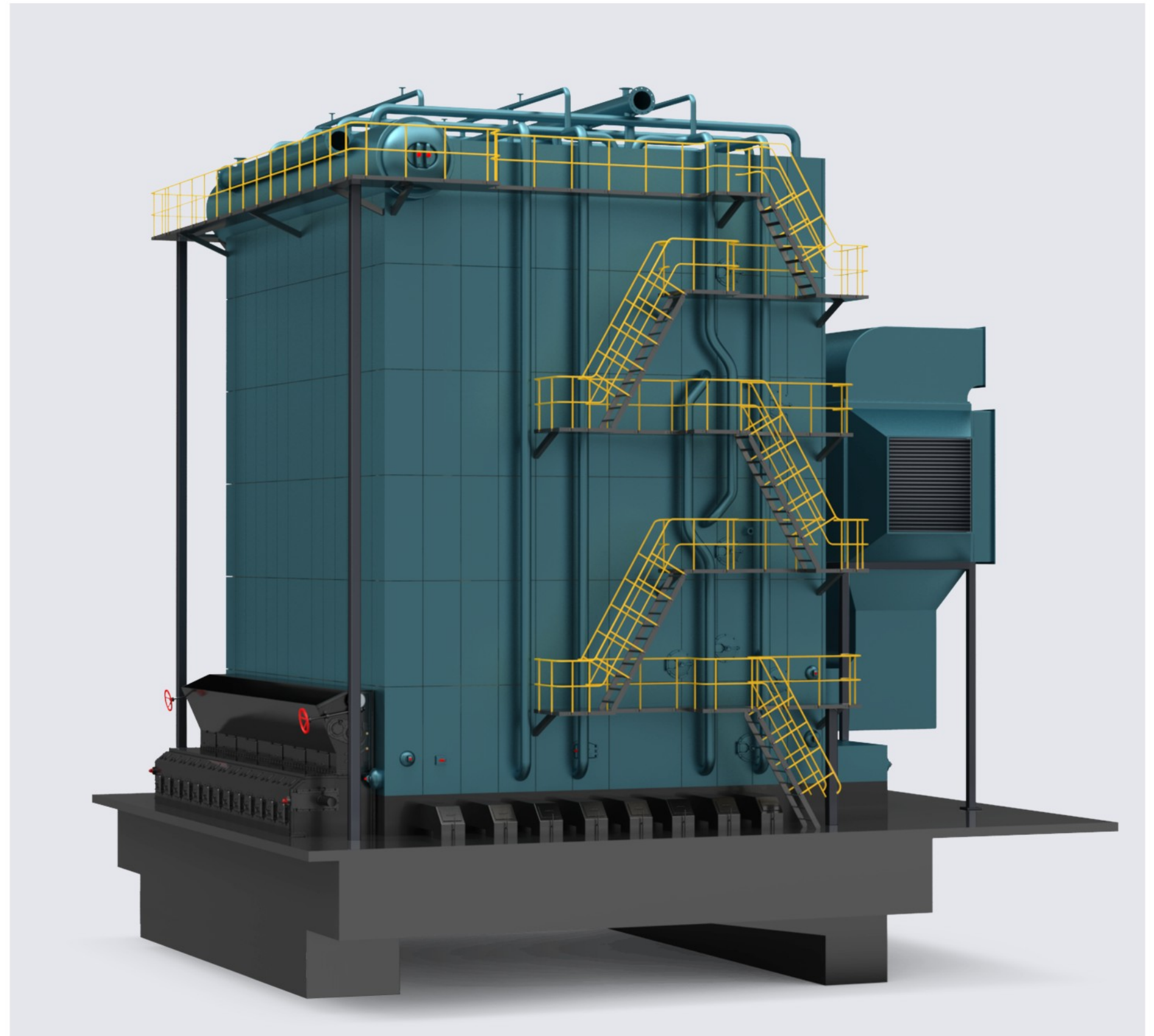
无锡中正锅炉有限公司于2006年和西安交通大学锅炉研究所赵钦新博士达成合作协议，决定联合研究开发第二代70MW角管式热水锅炉产品，为全面贯彻中共中央在第十六届五中全会上提出的努力建设资源节约型、环境友好型社会的中长期规划战略任务，第二代70MW角管式热水锅炉产品以高效节能和降低原始烟尘排放浓度作为主要突破口，力图设计出热效率最高的热水锅炉产品。

第二代70MW角管式热水锅炉产品，综合了国内外大容量热水锅炉的技术特点，采用西安交通大学和无锡中正锅炉有限公司联合申请的发明专利和实用新型专利，秉承“结构简单合理，性能优异，运行可靠，环境友好”的产品设计理念，其水循环结构可靠性和先进性为国内首创，其综合性能超过国内外同类产品。

INTRODUCTION:

Wuxi Zozen Boiler Co.,Ltd has achieved the cooperative agreement that we will study and develop the second generation of 70MW corner tube hot water boiler together in 2006 with the doctor named Zhao qinxin of Xi'an Jiaotong University. To fully implement the long-term planning strategic task of to build a resource-saving and environment-friendly society put forwarded by CPC Central Committee at the Fifth Plenary Session of the Sixteenth , the second generation of 70MW corner tube hot water boiler takes high efficiency and energy-saving and reducing the original dust emission concentration as major breakthrough, attempting to design the highest efficient hot water boiler.

The second generation of 70MW corner tube hot water boiler, a combination of domestic and international large-capacity hot water boilers' technology characteristics, adopts the invention patent and utility model patents jointly applied by Xi'an Jiaotong University and Wuxi Zozen Boilers Co., Ltd., adhering to the "simple and reasonable structure, high performance, reliable running, environmentally friendly "product design concept.It initiatively develops reliable and advanced water circulation system in domestic.its comprehensive performance is better than similar products at home and abroad.



锅炉特点

BOILER FEATURES

完全可靠的停电保护能力

- 自然循环过渡，水冷壁全部上升流动，超大水容量。

Entirely reliable power protection

- Natural circulation, water cooled wall flows upwards, large water capacity.

锅炉本体水流程

●回水 → 锅筒 → 炉膛前后墙水冷壁(上升) → 两侧水冷壁(上升) → 锅筒 → 竖井后墙通道下部集箱 → 三级旗式受热面(上升) → 至炉顶出口集箱

Boiler water flow

●Return water → Drum → Water cooled wall at the front and rear of furnace (Rising) → Water cooled wall at both side (Rising) → Drum → Lower header at the channel Shaft of back wall → Third level flag heating surface (Rising) → Outlet header at the top of furnace

锅炉烟风流程

●冷空气 → 空气预热器 → 热风管道 → 炉排配风 → 燃烧室烟气上升 → 凝渣管 → 转向室 → 旗式受热面 → 空气预热器 → 烟气排出(上出口)

Boiler flue gas flow process

●Cold air → Air preheater → Hot air tube → Grate sending with wind → Flue gas rising in combustion chamber → Slag screen → Reversing chamber → Flag heating surface → Air preheater → Exhausting(Upper outlet)

水循环

- 单横锅筒辅助强制水循环方式: 本锅炉采用的水循环方式, 同时具有强制和自然循环的优势, 以强制循环实现水冷壁较高的质量流速, 在强制循环的同时, 以自然循环作为辅助的水动力。

Water circulation

- Boiler water circulation adopts natural circulation. Each heating area has independent downcomer for water supply to make sure the whole water circulation is safe.

高效燃烧节能

- 等压统仓送风, 微区调节配风, 减少炉渣含炭量。
- 宽煤种炉拱设计, 提高炉温, 提高整体燃烧效率。
- 二次风湍动设计, 减少气体不完全燃烧损失和飞灰损失。
- 飞灰高温分离 + 内循环流化再燃, 减少飞灰含炭量。
- 旗式对流受热面采用等流速设计, 减少积灰, 提高传热系数。

High-efficiency combustion and energy-saving

- Equal pressure storehouse send the wind, microzone adjust the wind, reduce the amount of containing carbon of slag.
- Wide coal furnace arch design, improve temperature and improve overall combustion efficiency.
- Design of secondary air turbulence, reduce incomplete combustion of gas losses and fly ash loss.
- High temperature separation of fly ash + inner circulating fluidized reburning to reduce containing carbon of fly ash.
- Flag convection heating surface design with equal velocity, reduce fouling and improve the heat transfer coefficient.

检修平台

- 平台、扶梯采用格栅板, 保证了平台扶梯的强度及刚性。
- 合理的布局保证每一处操作, 维修点都可方便到达。

Overhaul platform

- Platform and ladder adopt grating plate to ensure the strength and rigidity of platform ladder.
- Reasonable arrangement ensure all the operation and maintenance site are easy to reach.

燃烧设备/Combustion equipment

- 本锅炉的燃烧设备选用正转单幅横梁式链条炉排结构。该炉排是西安交通大学锅炉研究所和无锡中正锅炉有限公司在市场充分调研的基础上, 为追求大容量热水锅炉的高效节能而联合开发新型的漏煤少, 炉渣含炭量低的新型炉排结构, 目前已经申请专利。

●The boiler combustion equipment used single beam type bar and key grate. The boiler grate is a new type of less coal leaking, low carbon content of slag Grate in pursuit of high—efficiency and energy-sacving large-capacity hot water boiler, based on full investigation of the market done by Boiler Study Institute of Xi'an Jiaotong University and Wuxi Zhongzheng Boiler Co., Ltd, and jointly developed by them, which has already been applied for a patent.

燃烧室及燃尽冷却室部份

- 该锅炉本体四周及中间隔墙均采用膜式水冷壁全密封结构。
- 本锅炉为前后拱覆盖式炉膛结构, 在炉膛前壁下段筑有耐火混凝土前拱作为着火拱, 后拱为引燃拱。

Combustion chamber and cooling room

- Around and in the middle of the boiler walls of this boiler proper are sealed with membrane wall structure.
- The boiler is designed with the mulching furnace structure of the front and rear arch, masonry with refractory concrete at the lower anterior wall in the furnace as caught fire arch, the rear arch as the ignition arch.

旗式受热面

- 旗式受热面采用变截面等烟速专利技术设计, 使高温区和低温区受热面烟气流速均匀, 设计烟速均为7.5m/s。

Entirely reliable power protection

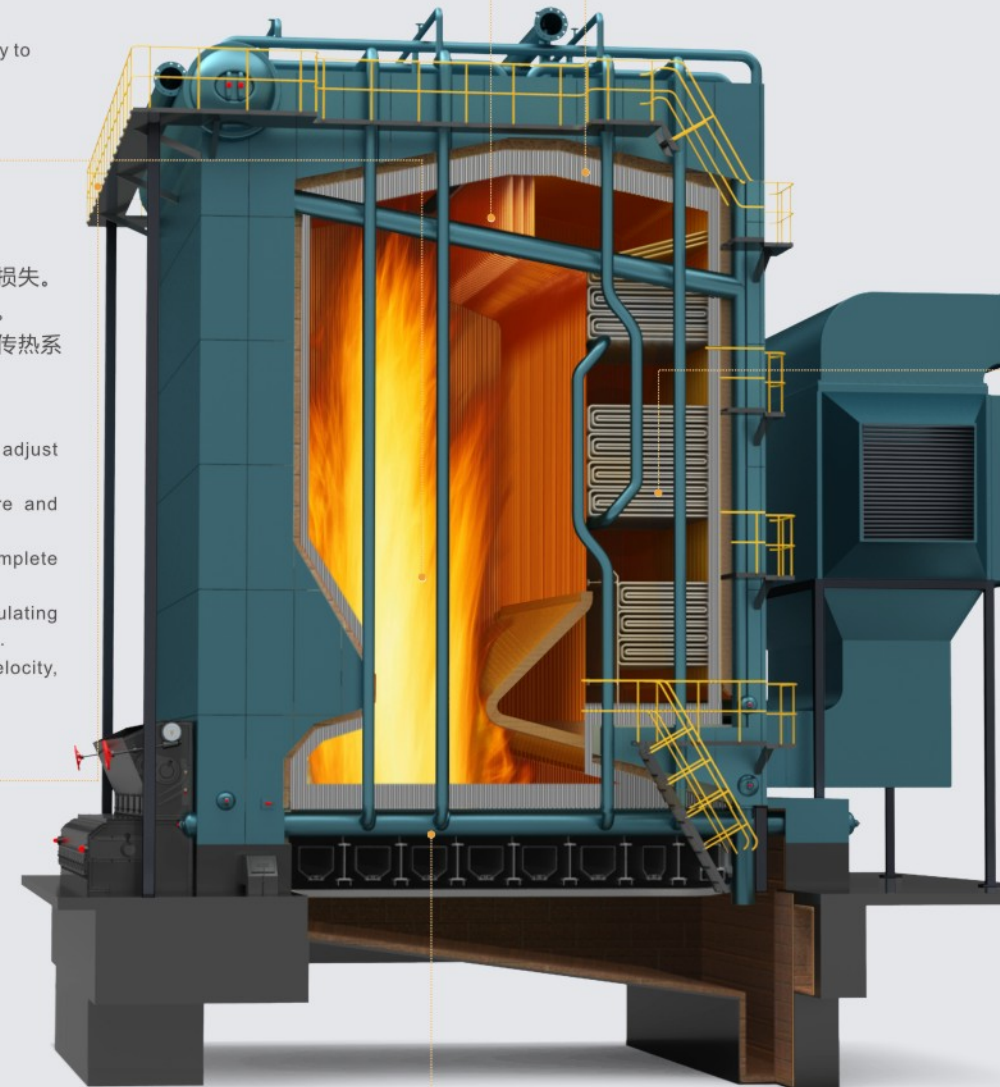
- Flag type heating surface adopts the patented technology design of variable cross-section and equal flue gas speed to keep the flue gas flow speed of high-temperature region and low-temperature region heating surface on average. The design flue gas speed is 7.5m/s.

凝渣管部分

- 燃尽冷却室产生的高温烟气从炉膛出口折转180°, 横向冲刷由后墙水冷壁拉稀成的三排凝渣管束, 该凝渣管束第一排为光管, 第二和第三排沿垂直于流动的方向分别在光管的两侧焊接了能够随受热发生自由膨胀的8mm厚的耐热耐磨的1Cr20Ni14Si2或1Cr20Ni20Si2的不锈钢扁钢肋片, 由凝渣管和扁钢肋片组成冲击型飞灰高温分离器, 使50%~60%的飞灰产生高温分离。

Slag screen

- The high temperature flue gas generated by the cooling chamber turn 180° from the furnace outlet, lateral eroding three rows of slag screen at the back water cooled wall, the first row of which are smooth tubes, the second and third rows of which along the direction perpendicular to the flow, respectively, on both sides of the smooth tubes welding heat-resistant and wear resistance stainless steel flat steel 1Cr20Ni14Si2 or 1Cr20Ni20Si2 that can occur with the free expansion of 8mm. Shock-type high-temperature separation consisted of slag screen and flat steel fins, to make 50% to 60% of the high temperature separation of fly ash.



DHL系列角管式水管热水锅炉参数表

PARAMETER OF CORNER TUBE TYPE WATER PIPE HOT WATER BOILER

参数项目 Item	锅炉型号 Model	DHL29-1.25/130/70-AII	DHL46-1.6/150/90-AII	DHL58-1.6/150/90-AII	DHL70-1.6/150/90-AII
额定热功率(MW) Rated thermal power		29	46	58	70
额定工作压力(MPa) Rated working pressure		1.25	1.6	1.6	1.6
额定出口水温度(°C) Rated output water temperature		130	150	150	150
额定进口水温度(°C) Rated imported water temperature		70	90	90	90
受热面积(m ²) Heating area	本体 Boiler Proper	915	1631	1983	2345
炉排面积(m ²) Effective area of grate		35.7	58.5	71.6	90.0
适用燃料 Fuel available	设计煤种 Designed coal	AII	AII	AII	AII
	应用基低位发热值(kJ/kg) Low heating value	17700	17700	17700	17700
锅炉燃料消耗量(kg/h) Fuel consumption		7101	11265	14204	17142
锅炉热效率(%) Thermal efficiency		≥83	≥83	≥83	≥83
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled		7.57×2.00×1.70	9.52×2.00×1.70	11.10×2.00×1.70	12.70×2.00×1.70
锅炉主机安装后最大外形尺寸(m) Max outside dimension after installation of boiler		13.81×9.97×12.81	15.62×12.03×14.27	16.17×13.47×14.87	16.05×16.00×15.50
强制鼓风 Forced draft fan	型号 Model	G4-73-12 14D	G4-73-12 14D	G4-73-12 16D	G4-73-12 16D
	风量(m ³ /h) Flow rate	48083	79944	108270	130390
	风压(Pa) Wind pressure	3018	2716	3653	3391
	转速(r/min) Rotation speed	1450	960	960	960
	电动机功率(kW) Electric motor power	55	90	185	185
诱导引风 Induced draft fan	型号 Model	Y4-73 12D	Y4-73-11 20D	Y4-73-11 22D	Y4-73-11 22D
	风量(m ³ /h) Flow rate	83088	167130	214000	244670
	风压(Pa) Wind pressure	2697	3598	3545	4500
	转速(r/min) Rotation speed	1450	960	960	960
	电动机功率(kW) Electric motor power	110	355	355	500
调速箱 Governor	型号/参数 Model / Parameter	ZJ40W-1	ZJ60W	ZJ60W	ZJ80W
	电动机功率(kW) Electric motor power	3	4	4	5.5

说明：1、上述风机只适宜海拔小于1000m，大于1000m需修正；2、最终数据以蓝图为准，鼓、引风机型号和参数以设计院设计为准。
Note: 1, The fans mentioned above shall be used when altitude is less than 1000m, if altitude is more than 1000m, fans must be rechosen; 2, The terminal parameters shall be as per blueprint paper, and the model and parameters of forced draft fan and ID fan shall be as per the design of design institute.

DHL系列角管式水管热水锅炉参数表

PARAMETER OF CORNER TUBE TYPE WATER PIPE HOT WATER BOILER

参数项目 Item	锅炉型号 Model	DHL84-1.6/150/90-AII	DHL91-1.6/150/90-AII	DHL116-1.6/150/90-AII	DHL140-1.6/150/90-AII
额定热功率(MW) Rated thermal power		84	91	116	140
额定工作压力(MPa) Rated working pressure		1.6	1.6	1.6	1.6
额定出口水温度(°C) Rated output water temperature		150	150	150	150
额定进口水温度(°C) Rated imported water temperature		90	90	90	90
受热面积(m ²) Heating area	本体 Boiler Proper	2787	3230	4070	5968
炉排面积(m ²) Effective area of grate		100.0	116	150.4	190
适用燃料 Fuel available	设计煤种 Designed coal	AII	AII	AII	AII
	应用基低位发热值(kJ/kg) Low heating value	17700	17700	17700	17700
锅炉燃料消耗量(kg/h) Fuel consumption		20570	22285	28407	34284
锅炉热效率(%) Thermal efficiency		≥83	≥83	≥83	≥83
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled		13.40×2.00×1.70	14.40×2.25×1.90	11.00×2.20×2.00	13.00×2.20×1.70
锅炉主机安装后最大外形尺寸(m) Overall dimension of boiler assembled		17.36×16.28×16.00	18.36×17.28×16.20	18.99×21.00×17.00	20.00×25.76×17.00
强制鼓风 Forced draft fan	型号 Model	G4-73-12 18D	G4-73-12 18D	G4-73-12 18D	
	风量(m ³ /h) Flow rate	169910	169910	217980	
	风压(Pa) Wind pressure	4518	4518	5099	
	转速(r/min) Rotation speed	960	960	960	
	电动机功率(kW) Electric motor power	315	315	315	
诱导引风 Induced draft fan	型号 Model	Y4-73-11 22D	Y4-73-11 22D	Y4-73 11 22D	
	风量(m ³ /h) Flow rate	320610	320610	405000	
	风压(Pa) Wind pressure	2392	2392	3373	
	转速(r/min) Rotation speed	960	960	960	
	电动机功率(kW) Electric motor power	630	630	630	
调速箱 Governor	型号/参数 Model / Parameter	ZJ130W	ZJ130W	ZJ160W	ZJ160W
	电动机功率(kW) Electric motor power	5.5	5.5	7.5	7.5

说明：1、上述风机只适宜海拔小于1000m，大于1000m需修正；2、最终数据以蓝图为准，鼓、引风机型号和参数以设计院设计为准。
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