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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!





DZL 系列新型水火管热水锅炉

series new type water-fire pipe hot water boilers

概述 \ INTRODUCTION

DZL系列新型水火管锅炉是无锡中正锅炉有限公司与北京之光锅炉研究所开展了全面的技术合作，引进了北京之光锅炉研究所新型（新VI型水火管热水锅炉、新VII型水火管蒸汽锅炉）水火管锅炉的全套技术，并聘请李之光教授担任技术总监。

DZL系列新型水火管锅炉，是博国内外水管和火管锅炉所长，针对我国工业锅炉量大，面广技术落后的现状，集国内大专院校、科研院（所）的科研成果，而开发出来的换代产品。其显著特点是：技术含量高，比现有的工业锅炉增加10项新技术，因而形成强化燃烧，强化传热，水循环安全可靠，出力足，效率高，并且出力和效率终生不变；新型，是国内外所没有的申报的炉型；有很好的环保效果和节能效果；对用户有显著的经济效益和社会效益。

DZL new type water tube boiler is co-productd by Wuxi zezen boilers Co.,Ltd. and Beijing Zhiguang Boiler Research Institute based on full aspects of technical cooperation. The technology of new type water tube boiler of Beijing Zhiguang Boiler Institute is adopted and Professor Li Zhiguang is invited to hold technology Supervision..

DZL new type water tube boiler integrates all advantage of water and fire boiler in home and abroad. As the industrial boilers in china covers wild fields of big quantity with a behindhand technology,thus,this new type is a new generation product and a scientific fruit of domestic colleges and research institutes. It features in high technology content,which is 10 items of new technology increased comparing with current industrial boiler, therefore, it intensity the burning and heat conducting. Water cycling is safe and reliable with enough output force and high efficiency. The output force and efficiency will not reported boiler type in home and abroad. It has good environment protection and energy conservative effect; It has great economic and social benefits.

DZL系列新型水火管热水锅炉参数表

PARAMETER OF NEW TYPE WATER-FIRE PIPE HOT WATER BOILER

参数项目 Item	锅炉型号 Model	DZL14-1.0/115/70-AII	DZL21-1.0/115/70-AII	DZL29-1.0/115/70-AII	DZL46-1.25/130/70-AII	DZL58-1.25/130/70-AII	DZL70-1.6/150/90-AII
额定热功率(MW) Rated thermal power		14	21	29	46	58	70
额定工作压力(MPa) Rated working pressure		1.0	1.0	1.0	1.25	1.25	1.6
额定出口水温度(°C) Rated output water temperature		115	115	115	130	130	150
额定进口水温度(°C) Reted imported water temperature		70	70	70	70	70	90
受热面积(m ²) Heating area	本体 Boiler Proper	473.9	878	1006.6	1396	2103	2713
	炉排面积(m ²) Effective area of great	21	27	36	58	77	89
适用燃料 Fuel available	设计煤种 Designed coal	II类烟煤	II类烟煤	II类烟煤	II类烟煤	II类烟煤	II类烟煤
	应用基低位发热值(kJ/kg) Low heating value	17700	17700	17700	17700	17700	17700
锅炉燃料消耗量(kg/h) Fuel consumption		3445	5130	6890	10638	13785	16190
锅炉热效率(%) Thermal efficiency		≥80	≥81	≥81	≥81	≥81	≥81.8
部件最大运输重量(kg) Weight of biggest part of transportation		18924	26000	19680	28796	31000	31000
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled		8.97×3.37×3.68	7.94×2.45×2.57	9.57×2.04×2.57	9.00×2.44×3.07	9.62×2.90×2.44	9.62×2.90×3.15
锅炉主机安装后最大外形尺寸(m) Max outside dimension after installation of boiler		9.97×4.87×7.61	10.40×5.62×7.59	11.18×6.27×8.66	11.15×8.33×11.08	12.44×10.36×11.08	13.25×10.99×12.49
鼓风机 Forced draft fan	型号 Model	G4-73 No9D	G4-73 No10D	G4-73 No11D	G4-73 No18D	G4-73 No16D	G4-73 No20D
	风量(m ³ /h) Flow rate	35052-44128	31554-60533	53124-80570	92648-177730	85571-164150	127080-243800
	风压(Pa) Wind pressure	1775-2440	2194-3301	2695-3943	1800-2705	2465-3709	2225-3347
	转速(r/min) Rotation speed	1450	1450	1450	730	960	730
	电动机功率(kW) Electric motor power	37	55	90	132	185	220
	电机型号 Model	Y225S-4	Y250M-4	Y315M-8	Y315M-8	Y355M2-6	Y355L1-8
引风机 Induced draft fan	型号 Model	Y5-47 No12.4D	GY40-13 No14D	Y4-73 No14D	Y4-73 No20D 右0°	Y4-73 No20D 右0°	Y4-73-11 No25D
	风量(m ³ /h) Flow rate	36762-69347	131940	120740-166100	167130-254670	167130-254670	292000-356000
	风压(Pa) Wind pressure	2824-3874	3872	2676-3864	3290-3598	3290-3598	3079-3187
	转速(r/min) Rotation speed	1450	1450	1450	960	960	730
	电动机功率(kW) Electric motor power	110	180	220	355	355	450
	电机型号 Model	Y315-4	JS117-4	Y355M1-4	Y4004-6	Y4004-6	Y4503-8
调速箱 Governor	型号 Model	GL-20P	GL-30P	ZJ40W-1	ZJ50W-1	ZJ60W	ZJ80W
	电动机功率(kW) Electric motor power	1.5	2.2	3.0	4.0	5.5	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.

八大优点

EIGHT ADVANTAGES

出力足而且持续不变

●因采用高效传热螺纹烟管并严格保证螺纹高度，则此炉型锅炉的实际出力一般均能超出铭牌出力10~15%；由于烟速选择合理，锅炉正常运行时，螺纹烟管不存在积灰现象，因而锅炉出力与热效率不随运行时间延长而有所下降，具备理想的可持续运行出力 and 效率。

外形尺寸小，使锅炉房投资大幅度降低

●因采用高效传热螺纹烟管，所以出水温度 $\leq 150^{\circ}\text{C}$ 的各种容量热水锅炉与容量较小的蒸汽锅炉均可取消尾部受热面，使锅炉长度明显减小，而且锅炉高度在同容量炉型中又明显偏低，故外形尺寸最小，使锅炉房投资至少降低1/3。

突然停电无需专门保护

●因热水采用混合循环，而且锅炉水容大，当突然停电时，无需采取专门保护措施，便可防止受热面与锅壳介质因可能汽化所导致的损坏事故。

锅炉效率高

●因主要对流受热面——螺纹烟管设置于锅壳内，则不会向烟气侧漏入冷空气，另外，因取消尾部受热面也使锅炉漏入冷空气量减少，并减少散热损失，其次，热水采用混合循环，又取消了省煤器，则锅炉本体的水阻力损失甚小——不超过0.05MPa，使系统循环能耗大为下降，其下降值明显大于因采用螺纹烟管使锅炉烟气阻力损失的能耗增加值，在锅炉尾部布置了铸铁空气预热器，既提高了煤种的适应性和煤的完全燃烧，又降低了排烟温度，则锅炉运行效率达84%。

锅炉升温快

●由于锅炉钢材与耐热、绝热材料总重量少于其它锅炉以及大量高效传热螺纹烟管置于锅壳介质中，而且近一半锅壳表面受热等原因，致使锅炉升温时间明显缩短——约比水管锅炉缩短1/3。

安全可靠切实保证

●采用无拉撑凸型管板与螺纹烟管相配合结构，使管板的烟管区热应力明显下降；下集箱回水引射与侧墙水冷壁前边缘上升管冲刷高温管板相配合新措施等，使水冷壁与高温管板在正常水质条件下，不可能爆管、开裂。锅炉安全可靠得到切实保证。

锅炉原始排尘浓度低

●由于炉膛后部设置灰尘粗分离转向室，而且炉膛容积大，则可确保锅炉原始排尘浓度低于标准允许值。

安装简单

●安装周期与安装费用比单锅筒水管锅炉约减少一半，一般从制造开始当年即可投入运行。



Large and constant force

●Since high efficiency heat conductive screw thread duct is used and the height of screw thread is guaranteed, the actual force is this boiler is 10%-15% than that indicated on nameplate. Since the speed of fume is rational and the boiler can work normally, therefore, the duct is free of accumulated dust. The force of boiler and the heat efficiency will not reduce because of the extension of operation time. It has a ideal constant force and efficiency.

Outside dimension size, the boiler chamber investment is largely reduced

●since high efficiency heat conductive screw thread duct is used, then, various capacity of hot water boiler with the output water temperature 150°C and the smaller capacity steam boiler can be free of tail heating face, and the length of boiler can be reduced largely. Also the height of boiler is rather short comparing with other boiler type with same capacity. Thus, it has the smallest outside dimension and the investment of boiler room reduce at least 1/3.

No need for special protection of power failure

●Adopt combination cycle because of hot water and because of the large volume of boiler, when the power fails, it is no need to take special protection measures. Therefore, damage of heating surface and media caused by vaporization may be prevented.

High efficiency of boiler

●Since the main convection heating surface-screw thread duct is equipped in shell, then cool wind will not come into the side of duct. Besides, since the removing of tail heating surface also reduce the quantity of cool air, and heat dissipation is reduced. Besides, adopt combination cycle because of hot water, and economizer is not used. Thus, the water resistance of boiler body is less, which is no more than 0.05MPa, the energy consumption of boiler also reduced largely. The dropping value is obviously larger than the increasing value of fume resistance loss because of application of screw thread duct. The tail of boiler is set with casting air preheater, which not only increase the adaptability of different type of coal and the complete burning of coal, but also reduce the discharge temperature, the operation efficiency of boiler is up to 84%.

Quick temperature rising of boiler

●Since the total weight of boiler steel material, heat resistance and insulating material are less than of boilers, and large quantity of high efficiency heat conductive screw thread duct is equipped in shell, and almost half of shell surface is heated, thus, the time required by temperature rising is largely shortened, which is 1/3 less comparing with water boiler.

Safety and reliability

●Adopting protruding panel plate free structure together with screw thread duct, the thermal stress of duct of panel plate is obviously reduced; because the spraying of backwater of lower tank, the brushing of front edge of side wall, and the reason of high temperature plate, it will not broke and cracked because the water cooling wall and high temperature panel plate are working under normal situations. The safety and reliability of boiler is ensured.

The initial dust discharge concentration of boiler is low

●Since rear part of hearth is set with dust separation steering chamber; and the volume of hearth is big, then the initial dust discharge concentration of boiler is lower than the allowed value of standard.

Easy installation

●Installation duration and installation costs are 1/2 of that of single water boiler. It can be put into operation from the year of manufacturing.