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生物质锅炉 Biomass Firing 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!



生物质锅炉

生物质燃料是采用木屑、秸秆等农业废弃物为原料，经过粉碎、烘干、挤压等工艺制成颗粒状的可直接燃烧的一种清洁燃料，可实现二氧化碳的零排放。

我公司与上海交通大学合作研发设计制造的生物质燃料锅炉系列产品，根据各种生物质锅炉燃料特性，燃烧速率，经过数值模拟，合理布置炉拱、炉墙、炉膛受热面，确保锅炉燃烧效率及设计蒸发量。燃烧高温区炉膛有合理的保护措施，有效防止结焦结渣的产生，保证锅炉设备正常运行。

合理布置一次风和二次风，在充分燃烧的同时，有效地降低NO_x的排放。在“十三五规划”中，加大了生物质能源的支持力度，所以生物质锅炉将得到更广泛的应用。

BIOMASS BOILER

Biomass fuel is a kind of clean fuel which is directly burned. It is adopted agricultural wastes like wood chip, straw as raw material. It is formed perlite fuel through the processing of grinding, drying and extrusion, etc. It could make no discharge of carbon dioxide.

Our company designed and manufactured the biomass fuel series boiler with Shanghai Jiaotong University. Arrange furnace arch, furnace wall, furnace heating surface reasonably according to various biomass fuel characteristics, combustion speed to ensure the boiler combustion efficiency and design evaporation. High temperature area furnace is set reasonable protection measure for combustion to avoid coking or lagging effectively.

Reasonably arrange initial air and secondary air to make combustion sufficiently and reduce the discharge of NO_x effectively. The 13th Five-year Plan increased the support of biomass energy. So the biomass boiler will be widely used.

DZL

系列生物质卧式蒸汽、热水锅炉

series biomass firing horizontal type steam & hot water boilers

概述:

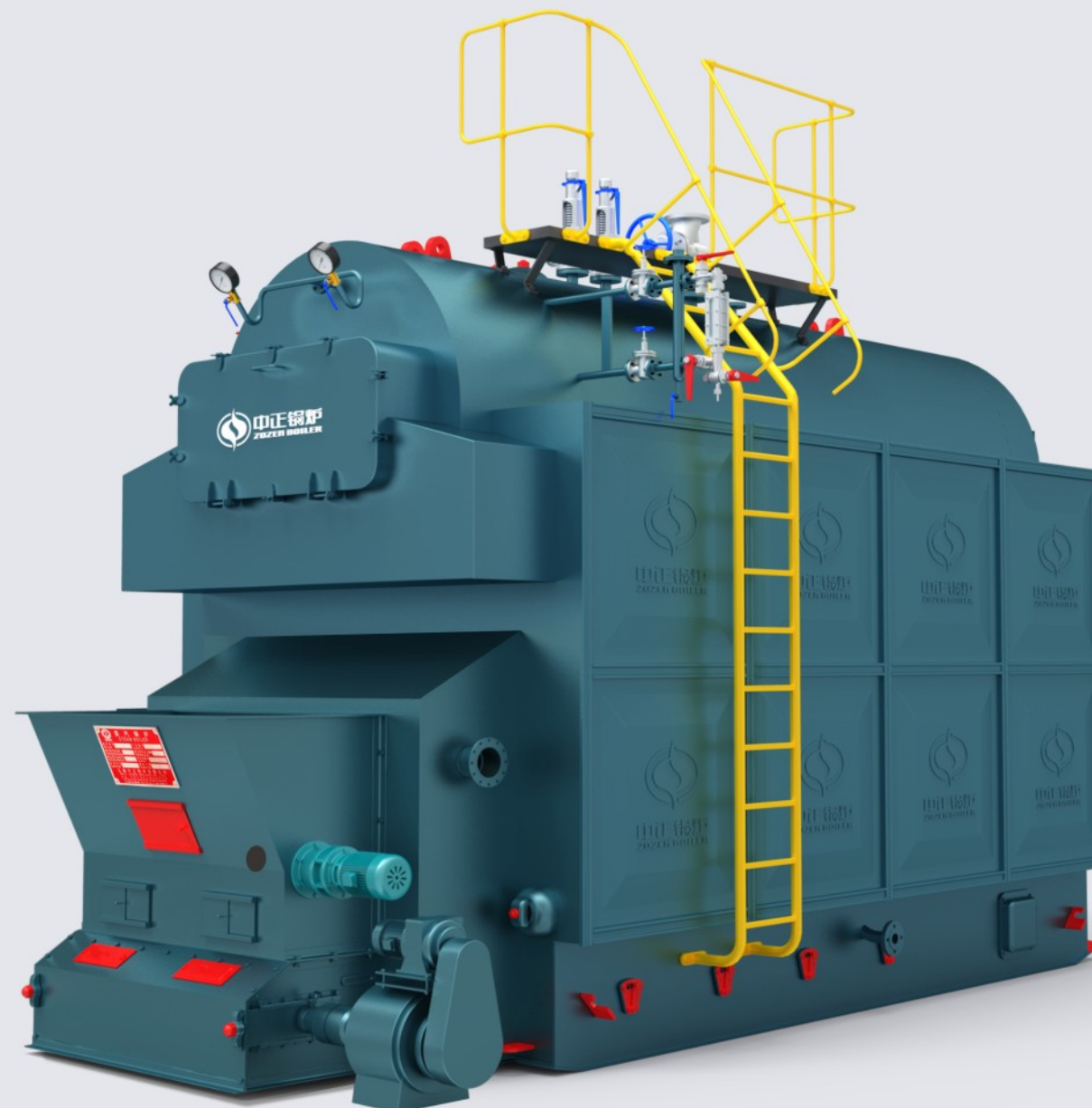
DZL型系列快装锅炉是卧式三回程水火管链条炉排锅炉，燃用颗粒成型燃料。锅炉本体为单锅筒纵向布置，锅筒内布置螺纹烟管组成对流受热面，锅筒与两侧水冷壁组成炉膛辐射受热面。燃烧设备采用轻型链条炉排；整体快装形式出厂。电气控制实现炉排无级调速，极限参数报警及联锁保护。

该型锅炉的特点：结构紧凑，体积简便，基建投资省；加料、出渣机械化；锅炉出力足，效率高。是广大中、小型工矿企业生产用汽和人民群众生活取暖深受欢迎的供热设备。

INTRODUCTION:

DZL series of quick fitting boiler is the horizontal tri-returning water and fire pipes chain grating boiler, which uses granulated fuel. The boiler body is single drum type, portrait arranged; there are left and right 2 rows of fire pipe bundles inside boiler drum to form convection heat receiving surfaces. the boiler drum and water-cooled walls at both sides shape the furnace radiation heat receiving surfaces; the combustion equipment uses light chain grating; exit shop in whole machine & quick fitting type. The electric control realizes grating step free timing, the extreme parameter alarm and inter-lock protection.

Features of this series of boiler: compact structure, small volume; convenient installation, cheap in fundamental construction; mechanized fuel feeding and cinder removing; the output of the boiler is in sufficient and high efficiency. It is the well appreciated equipment for extensive steam supplying equipment for medium and small enterprises and public heating.



制造工艺特点

MANUFACTURING PROCESS FEATURES

锅炉制造工艺

- 钢板下料、圈圆、锅筒、管板钻孔等关键加工工艺全采用先进的数控加工，减少组装应力，延长锅炉使用寿命。
- 钢管切割，螺纹管压制，对流管加工均采用先进的数控工艺。
- 在国内率先采用拱形管板和螺纹烟管结构，增加热传导，彻底解决了后管板开裂的问题。
- 链条炉排面板，前后烟箱面板采用数控等离子切割机切割，整齐美观。

Boiler manufacturing process

- Key processing technology like material preparation and circling of steel plate, drilling of drum and tube plate, etc are all adopted advanced CNC machining process to decrease the assemble stress and extend the boiler working life.
- Steel tube cutting, threaded pipe pressing and convection tube processing are all adopted advanced CNC process.
- Firstly adopt arch tube plate and threaded fire tube structure at home to increase heat conduction to solve the problem of rear tube plate cracked.
- The chain grate panel, front and rear smoke chamber panel adopts CNC plasma cutting machine to cut orderly and beautifully.

锅炉焊接工艺

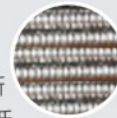
- 锅炉纵、环缝焊接均采用先进的埋弧自动焊工艺，保证焊接质量，所有纵、环焊缝均进行100%的射线探伤。
- 烟管与管板的焊接采用先预胀，消除管与管板的间隙，再采用氩弧自动焊的焊接工艺。有效的消除应力，延长锅炉使用寿命。
- 管座法兰焊接，采用机器人焊接。
- 链条炉排均为本厂制造，出厂前均试运转72小时，确保炉排的松紧度适中且不走偏。

Boiler welding process

- The boiler vertical and circular seam adopts advanced unionmelt welding process to ensure the welding quality. All the vertical and circular seams will be done 100% radiographic inspection.
- The weld of smoke tube and tube plate will be pre-expanded first to remove the gap between tube and tube plate. And then adopt argon arc automatic welding process. This may relief stress efficiently and extend the boiler working life.
- Tube flange weld adopts robot welding.
- Chain grate are all manufactured by ZOZEN and be test running for 72 hours before leaving the factory to make sure that the degree of tightness is moderate.

螺纹烟管

- 制造工艺先进，采用流水线全自动旋压作业。
- 强化传热，提高锅炉热效率。
- 螺纹烟管为我公司多年研究的高效传热元件，经不断优化，在螺纹槽深与节距的选取上，达到满足流阻最低时，传热系数比普通烟管高1.8倍。



Thread smoke tube

- Advanced manufacturing process. Adopt assembly line automatic spinning work.
- Strengthen heat transfer to improve boiler heat efficiency.
- Thread smoke tube is efficient heat transfer component researched by our company for years. After constantly optimization, the selection of thread groove depth and pitch could reach the following result: when meeting the lowest flow resistance, heat transfer coefficient is 1.8 times higher than common smoke tube.

二次进风

- 进行炉膛烟气扰动，保证挥发份完全燃烧。
- 风量占总风量30%左右，风速约为50m³/s。
- 独立二次风机，风量风压易控制和调整。

Secondary ail inlet

- Disturb the furnace flue gas to ensure the total combustion of volatile matters.
- Air volume makes up 30% of total air volume. The air speed is around 50m³/s.
- Air volume and air pressure of separate secondary fan are easy to be controlled and adjusted.

播料器

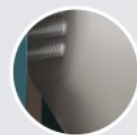
- 播料器，均匀给料，防止回火。

Sow Feeder

- Sow feeder feed fuel equally to avoid flashback.

拱形管板

- 彻底地改善了平管板人孔上方的高应力状态。
- 管板下方圆弧板边处外壁最大应力。
- 抗疲劳强度大大超过平管板。
- 为工业锅炉采用国际标准创造了条件。



Arch tube plate

- Thoroughly improve the high stress state on the flat tube plate manhole.
- Outer wall under tube plate and near round arch plate has maximum stress.
- Fatigue resistance largely exceeds flat tube plate.
- Create condition for industrial boiler adopting international standard.

弹簧全启式安全阀

- 当系统压力超过规定值时，安全阀自动打开泄压，从而保证系统不因压力过高而发生事故。

Spring full lift safety valve

- When the system pressure exceed rated value, safety valve will open decompression automatically to make sure that no accident will occur because of high system pressure.

极低水位电极(蒸汽锅炉)

- 有效防止极低水位在手动模式操作造成锅炉缺水事故，加强水位控制的安全保护。

Extreme low water electrode (steam boiler)

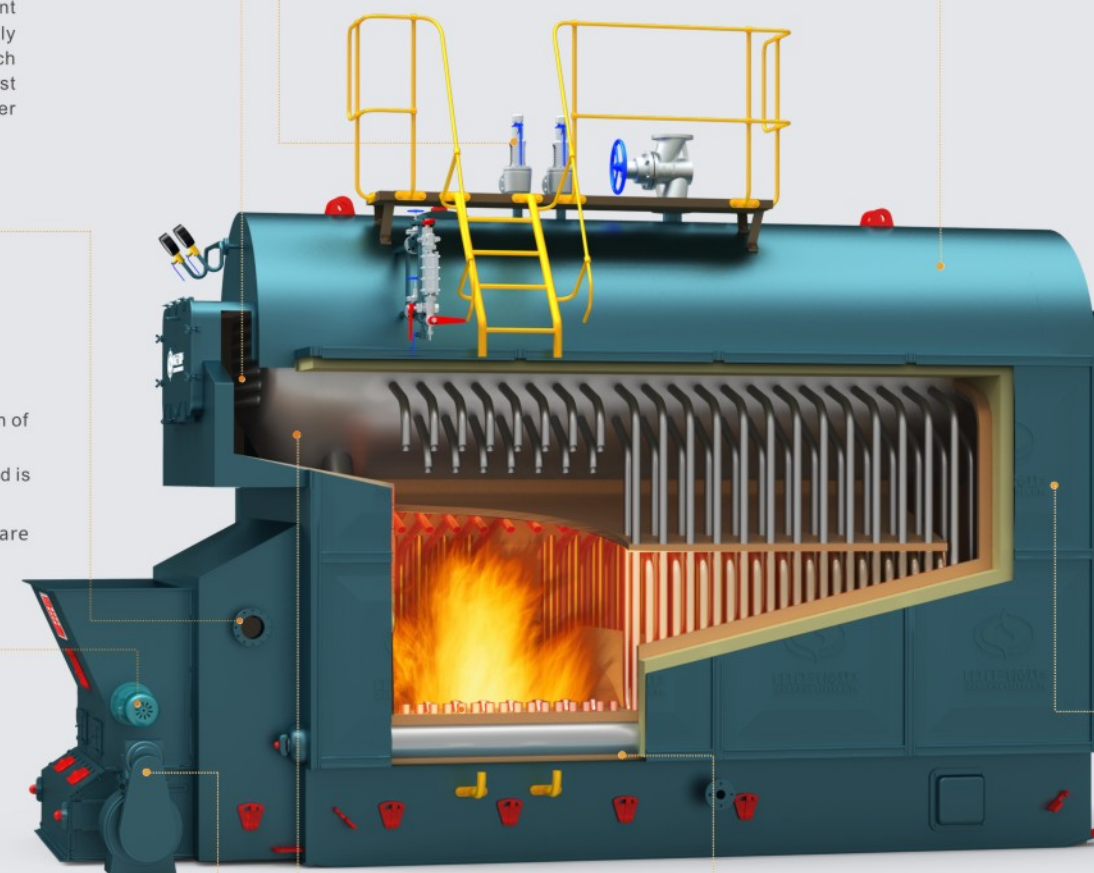
- Prevent boiler water shortage caused by extreme low water being operated in manual mode and reinforce the safety protection of water level control.

独特的水火管三回程设计

- 燃烧产生的高温烟气首先从尾部进入本体两侧的八字烟道，(此时为水管式)，烟气在管外流动。
- 经过八字烟道冷却的烟气再由前烟箱进入布置在锅筒内的螺纹烟管(此时为火管式)。
- 从后烟箱排出，这一设计从根本上解决了纯火管锅炉的管板开裂问题。

Unique water fire tube tri-backhaul design

- High temperature flue gas produced by firing enters into flue gas duct of boiler body two sides from tail part (this moment is water tube type). Flue gas flows at the outside of tube.
- Flue gas cooled by flue gas duct enters into thread smoke tube in drum through front smoke chamber (this moment is fire tube type).
- The design, exhausting from rear smoke chamber, fundamentally solves the problem of tube plate cracking.



面板

- 冷轧压膜凹凸面板，强度大，美观大方。

Panel

- Cold rolling pressed film concave-convex panel has great strength and is beautiful.

调速箱

- 根据生物质燃烧速率，设计合理转速，确保燃料燃尽。

Speed Control Gear

- Design reasonable rotating speed according to the combustion speed of biomass to make sure the fuel burning out.

链条炉排

- 链条炉排层燃燃烧，科学的炉拱，合理的配风，颗粒燃料燃烧充分。

Chain grate

- Chain grate layer burning, scientific furnace, reasonable air distribution, full combustion of pellets fuel.

人孔、检修门

- 合理的人孔和手孔布置，检修方便。炉膛设置了检修门，方便检修与保养。

Manhole, inspection door

- Reasonable arrangement of manhole and handhole make maintenance convenient. The inspection door set in furnace make it easy to overhaul and maintain.

DZL系列生物质卧式蒸汽、热水锅炉参数表

PARAMETER OF DZL SERIES BIOMASS HORIZONTAL TYPE STEAM & HOT WATER BOILER

参数项目 Item	锅炉型号 Model	* DZL1-0.7-M DZL1-1.0-M DZL0.7-0.7/95/70-M			
		* DZL2-1.0-M DZL2-1.25-M DZL2-1.57-M DZL2-2.45-M DZL1.4-0.7/95/70-M	* DZL4-1.25-M DZL4-1.57-M DZL4-2.45-M DZL2.8-0.7/95/70-M	* DZL6-1.25-M DZL6-1.60-M DZL4.2-1.0/115/70-M	
额定蒸发量/额定供热量(t/h/MW) Rated evaporation capacity		1/0.7	2/1.4	4/2.8	6/4.2
工作压力(MPa) Pressure		0.7/1.0/0.7	1.0/1.25/1.57/2.45/0.7	1.25/1.57/2.45/0.7	1.25/1.6/1.0
蒸汽温度/额定出水温度(°C) Steam temperature / Rated output water temperature		170/184/95	184/194/204/225/95	194/204/225/95	194/205/115
给水温度/回水温度(°C) Feedwater/return water temperature		20/70	20/70	20/70	20/70
受热面积(m²) Heating area	本体 Body	32.4	46.0	106.89	126.7
	省煤器(m²) Economizer	12.51	35.2	38.5	78.5
炉排面积(m²) Effective area of grate		2.05	3.70	5.30	8.32
适用燃料 Available Fuel	生物质 Biomass	生物质成型颗粒燃料/Biomass particle fuel			
应用基低位发热值(kJ/kg) Low heating value		16240			
锅炉燃料消耗量(kg/h) Fuel consumption		196	392	784	1176
锅炉热效率(%) Thermal efficiency		79.00	79.00	79.00	79.00
最大运输重量(t) Weight of biggest part for transportation		13	22	30	23
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled		5.2×2.0×2.9	5.7×2.5×3.5	6.6×2.6×3.6	7.3×3.2×3.6
安装后外形尺寸L×W×H(m) Overall dimension of boiler assembled		6.0×3.5×4.1	6.0×3.9×5.0	7.2×4.0×4.9	8.0×5.1×6.0
引风机 Induced draft fan	型号 Model	YX9-35-12NO:5C右0°	GY2-18右0°	GY4-18右0°	GY6-1右0°
	风量(m³/h) Flow rate	6610-7902	5000-9000	11000-14000	12000-24000
	风压(Pa) Wind pressure	2089-2138	3340-3100	3920-3930	3980-4245
	转速(r/min) Rotation speed	2240	1450	1450	1450
	电动机 Electric motor	型号 Model Y132S2-2 功率(kW) Power 7.5	Y160M-4B3 11.0	Y180L-4B3 22.0	Y225S-4B3 37.0
鼓风机 Forced draft fan	型号 Model	4-72-11NO:3.2A左225°	4-72-11NO:3.6A右315°	T4-72NO:4A右315°	GG6-1右225°
	风量(m³/h) Flow rate	1630-3600	2664-5268	3742-7226	12000-7000
	风压(Pa) Wind pressure	650-1040	986-1578	1275-2036	1442-2109
	转速(r/min) Rotation speed	2900	2900	2900	1450
	电动机 Electric motor	型号 Model Y90L-2 功率(kW) Power 2.2	Y100L-2 3.0	Y132S1-2 5.5	Y132M-4 7.5
二次引风机 Second draft fan	型号 Model	/	GG0.5-15右90°	GG1-15右90°	GG2-1
	风量(m³/h) Flow rate	/	1906	1765	3000
	风压(Pa) Wind pressure	/	1321	2800	2130
	电动机 Electric motor	型号 Model /	YL100L-2 1.5	YL100L-2 3.0	YL100L-2 3.0
给水泵 Feed Water pump	型号 Model	1W2.4-10.5	1½GC-5×5	1½GC-5×7	DG6-25×7
	转速(r/min) Rotation speed	2900	2950	2950	2950
	扬程(m) Lift	105	115	161	175
	电动机功率(kW) Motor power	2.2	7.5	7.5	7.5
调速箱 Governor	型号 Model	ZW-766A	GL-5P	GL-5P	GL-10P
	电动机 Electric motor	型号 Model YD90L-8/4 功率(kW) Power 0.75	YCT100-4A 0.75	YCT100-4A 0.75	YCT112-4B 1.1
	转速(r/min) Rotation speed	1035~2070	1875~18750	1875~18750	1875~18750
出渣机 Ash extractor	型号 Model	CZX-3.1	CZX-3.1	CZX-3.1	CZX-4.0
	电动机 Electric motor	型号 Model Y90L-6 功率(kW) Power 1.1	Y90L-6 1.1	Y90L-6 1.1	Y100L-6 1.5
		转速(r/min) Rotation speed 960	960	960	960

说明：1. 表中水泵及外形尺寸数据为★号锅炉；2. 最终数据以蓝图为准。
Note: 1. The date of water pump and overall dimension in this form belong to the boiler model marked ★; 2. The final data is subject to the blueprint.

SZL系列生物质卧式蒸汽、热水锅炉参数表

PARAMETER OF SZL SERIES BIOMASS HORIZONTAL TYPE STEAM & HOT WATER BOILER

参数项目 Item	锅炉型号 Model	* SZL6-1.25-M(组) SZL6-1.60-M SZL6-2.45-M SZL4.2-1.0/115/70-M				
		* SZL8-1.25-M SZL8-1.60-M SZL8-2.45-M SZL5.6-1.0/115/70-M SZL5.6-1.25/130/70-M	* SZL10-1.25-M SZL10-1.60-M SZL10-2.45-M SZL7.0-1.0/115/70-M SZL7.0-1.25/130/70-M	* SZL20-1.25-M SZL20-1.60-M SZL20-2.45-M SZL14-1.0/115/70-M SZL14-1.25/130/70-M	* SZL30-1.25-M SZL30-1.60-M SZL30-2.45-M SZL21-1.0/115/70-M SZL21-1.25/130/70-M	
额定蒸发量/额定供热量(t/h/MW) Rated evaporation capacity		6/4.2	8/5.6	10/7.0	20/14	30/21
工作压力(MPa) Pressure		1.25/1.6/2.45/1.0	1.25/1.6/2.45/1.0/1.25	1.25/1.6/2.45/1.0/1.25	1.25/1.6/2.45/1.0/1.25	1.25/1.6/2.45/1.0/1.25
蒸汽温度/额定出水温度(°C) Steam temperature / Rated output water temperature		194/204/225/115	194/204/225/115/130	194/204/225/115/130	194/204/225/115/130	194/204/225/115/130
给水温度/回水温度(°C) Feedwater/return water temperature		20/70	20/70	20/70	20/70	20/70
受热面积(m²) Heating area	本体 Proper	24.5	26.1	23.4	61.5	109.21
	辐射 Radiation 对流 Convection	119.0	184.0	227.9	346.2	549.8
省煤器(m²) Economizer		130.8	130.8	244.16	472.0	330.4
炉排面积(m²) Effective area of grate		7.62	10.5	11.8	20.8	28.1
适用燃料 Available Fuel	生物质 Biomass	生物质成型颗粒燃料/Biomass particle fuel				
应用基低位发热值(kJ/kg) Low heating value		16240				
锅炉燃料消耗量(kg/h) Fuel consumption		1122	1488	1860	3600	4340
锅炉热效率(%) Thermal efficiency		82.8	83.2	83.2	85.8	86.0
最大运输重量(t) Weight of biggest part for transportation		21	25	28	30	31
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled		7.0×2.7×3.5	6.9×3.2×5.3	7.9×3.3×3.5	11.0×3.2×3.5	9.9×3.3×3.6
引风机 Induced draft fan	型号 Model	GY6-1 右0°	10TY-9.5D右0°	10TY-9.5D右8	Y5-47NO:12.4D左0°	Y5-47 13.5D
	风量(m³/h) Flow rate	12000-24000	27045-31554	30000	36762-69347	71830
	风压(Pa) Wind pressure	3980-4245	3895-3932	4030-4120	2824-3874	4370
	转速(r/min) Rotation speed	1450	1450	1450	1480	960
	电动机 Electric motor	型号 Model Y200L-4 功率(kW) Power 37	Y250M-4 55	Y250M-4 55	Y315S-4 110	Y315M-4B3 132
鼓风机 Forced draft fan	型号 Model	GG6-1 右225°	10TG8.1D右225°	10TG8.1D右225°	G4-73NO:9D右225°	G4-73-11 10D
	风量(m³/h) Flow rate	12000-7000	14840-16281	15012.2	23003-32079	41200
	风压(Pa) Wind pressure	1442-2109	3151-2843	2241.6	2559-2668	3270
	转速(r/min) Rotation speed	1450	1450	960	1450	1450
	电动机 Electric motor	型号 Model Y160M-4B3 功率(kW) Power 11	Y160L-4 15	Y160L-6 15	Y200L-4 30	Y250M-4 55
二次引风机 Induced draft fan	型号 Model	GG2-1	GG2-1	GG2-15 4A右90°	GG6-15 右0°	GG10-1
	风量(m³/h) Flow rate	3000	3370	4259	9000	15000
	风压(Pa) Wind pressure	2130	1960	1984	2942	2470
	电动机 Electric motor	型号 Model YL100L-2 功率(kW) Power 3	YL100L-2 3	Y112M-2 4	Y160M-4 11	Y160M-4 15
给水泵 Feed Water pump	型号 Model	DG6-25×6	DG12-25×7	DG12-25×7	DG25-30×6	DG46-30×6
	转速(r/min) Rotation speed	2950	2950	2950	2900	2900
	扬程(m) Lift	150	175	175	180	180
	电动机功率(kW) Motor power	7.5	15	15	30	37
调速箱 Governor	型号 Model	GL-10P/II	GL-16P	GL-16P	GL-20PW/II	GL-30P
	电动机 Electric motor	型号 Model YCT112-4B 功率(kW) Power 1.1	YCT132-4A 1.5	YCT132-4A 1.5	JZTY22-4 2.2	YCT160-4A 3.0
	转速(r/min) Rotation speed	1875~18750	1875~18750	1875~18750	1875~18750	1875~18750
出渣机 Ash extractor	型号 Model	CZX-4	CZX-4.6	CZX-4.6	GBL-20	GBL-30
	电动机 Electric motor	型号 Model Y100L-6 功率(kW) Power 1.5	Y100L-6 1.5	Y100L-6 1.5	Y100L-6 2.2	Y100L-6 3.0
		转速(r/min) Rotation speed 960	960	960	960	960

说明：1. 表中水泵及外形尺寸数据为★号锅炉；2. 最终数据以蓝图为准。
Note: 1. The date of water pump and overall dimension in this form belong to the boiler model marked ★; 2. The final data is subject to the blueprint.