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生物质锅炉

Biomass Firing Boilers



无锡中正锅炉有限公司
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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）许可钢印，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型新型水水管大型热水锅炉、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 Zozhen 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!



SHL

系列生物质散装蒸汽、热水锅炉
series biomass firing bulk steam & hot water boilers

概述:

SHL型系列散装蒸汽/热水锅炉系双锅筒横向布置自然循环水管锅炉。横置上、下锅筒与水冷壁管形成竖井式炉膛，与对流管束集箱等组成锅炉本体。尾部设有省煤器、空气预热器；可在炉膛内设置过热器，燃烧设备为鳞片式炉排，无级调速控制，散装出厂，现场组装砌筑，烟气流程为多回程。

该型锅炉具有如下优特点：锅炉具有超出力能力。升温快，热效率高，占地小；炉排采用鳞片式炉排，运行可靠性极大提高；炉拱炉墙可采用浇筑方式。密封性能好，着火条件改善，环保节能，燃烧强烈；自动化程度高，运行平稳，安全可靠，使用寿命极高。

该型锅炉具有出力足，热效率高，安全可靠，消烟除尘好等特点。

INTRODUCTION:

SHL series of boiler is the bulk industrial boiler with dual boiler cylinders and transverse arranged, as well as the natural cycling water pipe boiler. The transverse upper and lower boiler cylinders and water cooling pipe walls together form the silo type furnace, together with convection pipe bundle and collection chest to form the boiler body frame. At the rear part, there is a coal saver air pre-heater; It is available to set up superheater inner furnace. The combustion equipment is squama grating, free timing control. Exit shop in bulk type for site assembly and construction. The smog flow is a type of multi-backhaul.

This type of boiler has the following characteristics: capable of over duty, quick in temperature rise, high in heat efficiency, less land keeping; Squama grating makes greatly enhanced reliability in performance, Furnace arch and wall can be built in casting way, good in block out performance, which betters ignition conditions, environment protective and energy saving, fierce combustion, high extent in automation, stable in performance sate and reliable, together with very long working life.

This type of boiler features are in sufficient output and high efficiency, safe and reliable, good in duster and de-smog and etc.



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，对流管加工均采用先进的数控工艺。
- 省煤器蛇形管加工由本公司的全自动蛇形管生产线完成。
- 更能保证质量和交货期。

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 and convection tube processing are all adopted advanced CNC process.
- The economizer coiled tube processing will be finished by automatic coiled tube production line of our company.
- Ensure the quality and delivery time.

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。
- 管座法兰焊接，采用机器人焊接。
- 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 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.
- Tube flange weld adopts robot welding.
- The chain grate panel, front and rear smoke chamber panel adopts CNC plasma cutting machine to cut orderly and beautifully.

水循环 •

- 锅炉水循环采用全自然循环，各受热面均有相对独立的下降管供水，确保整体水循环的安全。

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.

大炉膛设计 •

- 使烟气在炉膛内停留时间加长，使飞灰、可燃气体得到充分燃烧，提高锅炉热效率。
- 烟气在炉膛上升速度低，使其携带的飞灰量大大减少，降低锅炉原始排放浓度。

Large furnace design

- Make flue gas stay longer in furnace and make ash and combustible gas firing sufficiently to improve boiler heat efficiency.
- Decrease the flue gas rising speed in furnace to reduce the ash quantity and decrease boiler original emission concentration.

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.

播料器 •

- 播料器，均匀给料，防止回火。

Sow feeder

- Sow feeder feed fuel equally to avoid flashback.

调速箱 •

- 根据生物质燃烧速率，设计合理转速，确保燃料燃尽。

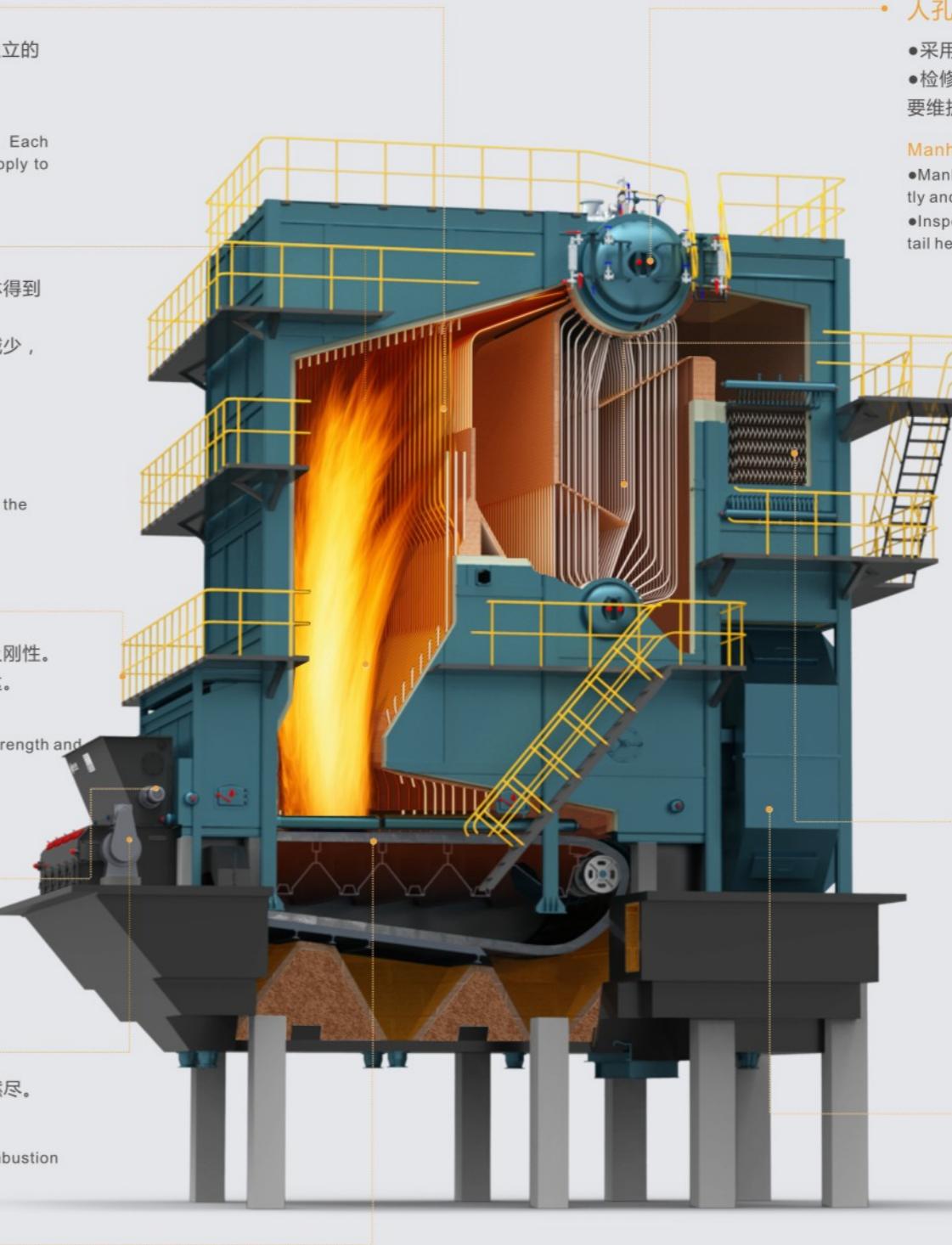
Speed control gear

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

炉排/Grate •

- 结构先进的配风系统、司炉人员可以根据燃烧情况，合理调节前后风量。

- 根据燃料的不同，我们设计了鳞片炉排、横梁炉排、往复炉排等多种型式进行配选。



• 人孔、检修门

- 采用双锅筒布置，上下锅筒均设有人孔，方便用户检修和清理。
- 检修门的设置可以保证维修人员到达炉膛尾部受热面等所有需要维护的位置。

Manhole、inspection door

- Manhole are set on upper and lower drum. Manhole opens conveniently and is good for overhaul and clean
- Inspection door makes it convenient for user to overhaul and maintain tail heating area and furnace

• 对流受热面

- 设置多道折烟板，增加烟气流程并起到除尘的作用，有效防止飞灰进入省煤器，造成省煤器的堵塞。
- 所有易积灰的部位都留有吹灰器接口，供用户选装各种形式的吹灰器。

Convection heating area

- Set multiple bend smoke plate to increase flue gas flow and fall dust. This efficiently prevents ash from entering into economizer to block economizer
- Set soot blower reserved connector for user to select various types of soot blower (eg: steam soot blowing, shock wave soot blowing, etc)

• 蛇形管式省煤器

- 蛇形管式省煤器最大限度的吸收烟气温度，提高锅炉效率。

Coiled pipe type economizer

- Coiled pipe type economizer maximum absorbs flue gas temperature

• 空气预热器

- 空预器烟气进口侧均装有防磨套管，延长了空气预热器的使用寿命。
- 提高了炉膛进风温度，降低了排烟温度，提高了热效率。

Air preheater

- Steel tube type air preheater decreases the exhausted gas temperature, improves furnace inlet air temperature and boiler heat efficiency.

SHL系列生物质散装蒸汽、热水锅炉参数表

PARAMETER OF SHL SERIES BIOMASS BULK STEAM & HOT WATER BOILER

参数项目 Item	锅炉型号 Model	* SHL10-1.25-M SHL10-1.60-M SHL10-2.45-M SHL7-1.0/115/70-M	* SHL15-1.25-M SHL15-1.60-M SHL15-2.50-M SHL10.5-1.25/115/70-M	* SHL20-1.25-M SHL20-1.60-M SHL20-2.50-M SHL14-1.0/95/70-M	* SHL25-1.25-M SHL25-1.60-M SHL25-2.50-M SHL14-1.25/130/70-M	* SHL30-1.25-M SHL30-1.60-M SHL30-2.50-M SHL17.5-1.25/115/70-M	* SHL35-1.25-M SHL35-1.60-M SHL35-2.50-M SHL21-1.0/115/70-M
额定蒸发量/额定供热量(t/h/MW) Rated evaporation capacity	10/7	15/10.5	20/14	25/17.5	30/21	35	
工作压力(MPa) Pressure	1.25/1.6/2.45/1.0	1.25/1.6/2.5/1.25	1.25/1.6/2.5/1.0/1.25	1.25/1.6/2.5/1.25	1.25/1.6/2.5/1.0	1.25/1.6/2.5	
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	194/204/225/95/130	194/204/225/115	194/204/225/115	194/204/225	
给水温度/回水温度(°C) Feedwater/return water temperature	105/70	105/70	105/70	105/70	105/70	105/70	
受热面积(m ²) Heating area	本体 Proper	辐射 Radiation	辐射(Radiation) 57.5	辐射(Radiation) 63.5	辐射(Radiation) 97.5	辐射(Radiation) 87.5	辐射(Radiation) 80.7
		对流 Convection	对流(Convection) 152	对流(Convection) 178.9	对流(Convection) 243	对流(Convection) 263	对流(Convection) 315
	省煤器/空预器 Economizer/Air preheater		94.4/170	118/211	410/332	198/422	339/548
炉排面积(m ²) Effective area of great			12.2	18.07	23.2	27.7	31.0
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				
锅炉热效率(%) Thermal efficiency	81.0	81.0	81.5	81.6	82.0	82.0	
锅炉燃料消耗量(kg/h) Fuel consumption	1860	2790	3720	4650	5580	6510	
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled	5.5×1.5×16	6.2×1.5×16	6.1×1.29×1.06	6.2×1.5×1.8	5.3×4.0×4.2	7.6×1.3×1.04	
最大运输重量(t) Weight of biggest part for transportation	3.2	4.2	7.3	8.5	10.7	9.4	
安装后外形尺寸L×W×H(m) Overall dimension of boiler assembled	11.9×7.0×9.8	12.4×7.5×10.5	14.3×8.8×12.5	12.5×8.5×12.5	12.0×9.0×12.5	15.35×8.88×12.5	
引风机 Induced draft fan	型号 Model	YG10-18右0°	Y5-47 12D	YS-47NO.12.4D右0°	GY20-15	GY20-13NO.12.5右0°	Y4-73NO.14D右0°
	风量(m ³ /h)风压(Pa) Flow rate/Wind pressure	30000/4030-4120	37100-68250/3608-2471	36762-69347/2824-3874	77000/3450	102412-121272/2204-2843	86586-109550/3968-4020
	电动机 Electric motor	Y250M-4	Y280S-4	Y315-4	Y315S-4	Y315L ² -4	
鼓风机 Forced draft fan	型号 Model	GG10-1右90°	15TG 8.4D	G4-73No.9D右90°	G4-73 10D	G4-73No.10D右90°	G4-73-11No.11D右90°
	风量(m ³ /h)风压(Pa) Flow rate/Wind pressure	15012.2/2241.6	31400-19400/1421-2332	35052-44128/1775-2440	41200/3270	31554-60533/2194-31554	53124-80570/2659-3943
	电动机 Electric motor	Y160L-4	Y180L-4	Y225S-4	Y250M-4	Y250M-4	Y280M-4
一次风机 Induced draft fan	型号 Model	GG2-13 4A右90°	GG4-13 4.5A右90°	GG6-15 右0°	GG6-15 右0°	GG10-1	GG10-15
	风量(m ³ /h) Flow rate	4259	6796	9000	11000	15000	18563
	风压(Pa) Wind pressure	1984	2321	2942	2745	2470	2871
电动给水泵 Electric water pump	转速(r/min) Rotation speed	2900	2900	1450	1450	1450	1450
	电动机 Electric motor	Y112M-2	Y132S2-2	Y160M-4	Y160L-4B ₃	Y160L-4	Y180L-4B ₃
	功率(kW) Power	4	7.5	11	15	15	22
水泵 Steam pump	型号 Model	DG12-25×7	DG25-30×5	DG25-30×7	DG25-30×7	DG46-50×3	DG46-50×4
	流量(m ³ /h) 扬程(m) Water force / Lift	12.5/175	15.0/170	25/210	25/210	30/166.5	46/200
	电动机功率(kW) Electric motor power	15	22	30	30	37	45
调速箱 Governor	蒸汽泵型号/参数 Steam pump model/parameter	QB-5	QB-7	QB-7	QB-9	QB-9	QB-9
	型号/参数 Model/Parameter	DG6-25×5/H=125Q=6.3	DG6-25×5/H=125Q=6.3	DG6-25×5/H=125 Q=6.3	DG12-25×6	DG12-25×6	DG12-25×6
	电动机功率(kW) Electric motor power	Y132S1-2/5.5	Y132S1-2/5.5	Y132S1-2/5.5	Y132S2-2/15	Y132S2-2/15	Y132S2-2/15
出渣机 Ash extractor	型号/参数 Model/Parameter	GL-16P	GL-20P	GL-20P	GL-30P	GL-40P	
	功率(kW)/型号 Power/Model	1.5/1875-18750	2.2/1875-18750	2.2/1875-18750	3.0/1875-18750	4/1875-18750	
	电动机功率(kW) Electric motor power	1.5/2.2	1.5/2.2	1.5/2.2	1.5/2.2	1.5/2.2	1.5/2.2

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.

SHL系列生物质散装蒸汽、热水锅炉参数表

PARAMETER OF SHL SERIES BIOMASS BULK STEAM & HOT WATER BOILER

参数项目 Item	锅炉型号 Model	* SHL40-1.25-M SHL40-1.60-M SHL40-2.50-M SHL29-1.25/130/70-M	* SHL45-1.25-M SHL45-1.60-M SHL45-2.50-M SHL35-1.25/130/70-M	* SHL50-1.25-M SHL50-1.60-M SHL50-2.50-M SHL46-1.25/130/70-M	* SHL65-1.25-M SHL65-1.60-M SHL65-2.50-M SHL46-1.25/130/70-M	* SHL75-1.25-M SHL75-1.60-M SHL75-2.50-M SHL75-1.25/130/70-M	
额定蒸发量/额定供热量(t/h/MW) Rated evaporation capacity	40/29	45	50/35	65/46	75		
工作压力(MPa) Pressure	1.25/1.6/2.5/1.25	1.25/1.6/2.5	1.25/1.6/2.5/1.25	1.25/1.6/2.5/1.25	1.25/1.6/2.5		
蒸汽温度/额定出水温度(°C) Steam temperature/Rated output water temperature	194/204/225/130	194/204/225	194/204/225/130	194/204/225/130	194/204/225		
给水温度/回水温度(°C) Feedwater/return water temperature	105/70	105	105/70	105/70	105		
受热面积(m ²) Heating area	本体 Proper	辐射 Radiation	辐射(Radiation) 133.5	辐射(Radiation) 139.2	辐射(Radiation) 142.6	辐射(Radiation) 172.6	
		对流 Convection	对流(Convection) 428.2	对流(Convection) 541.9	对流(Convection) 617.6	对流(Convection) 936.3	
	省煤器/空预器 Economizer/Air preheater		306.6/650.4	431.3/889	504.9/628.75	554.1/794.2	
炉排面积(m ²) Effective area of great			44.0	47.60	48.0	61.0	
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				
锅炉热效率(%) Thermal efficiency	82.0	82.0	82.0	82.0	82.0	82.0	
锅炉燃料消耗量(kg/h) Fuel consumption	7440	8370	9300	12090	13950		
最大运输尺寸L×W×H(m) Overall dimension of boiler assembled	8.2×1.6×1.8	8.5×1.6×1.8	8.8×1.6×1.8	9.0×1.6×1.8	9.0×1.6×1.8		
最大运输重量(t) Weight of biggest part for transportation	11.0	12.0	12.0	12.0	12.0		
安装后外形尺寸L×W×H(m) Overall dimension of boiler assembled	15.0×9.6×12.5	15.5×10.3×13.5	15.9×10.56×13.5	16.5×11.5×14.0	17.0×12.5×15.0		
引风机 Induced draft fan	型号 Model	Y4-73 14D	Y4-73 14D	Y5-51 19D	Y4-73 19D	GY75-13NO.20D	
	风量(m ³ /h)风压(Pa) Flow rate/Wind pressure	120740-131940/3864-3683	135000/3500				