



Steam Boiler Quality Difference

蒸汽锅炉质量对比

1. Front tube sheet-drilling and welding 前管板钻孔和管板焊接

Front tube sheet is a very important component, where more than 90% quality problems occur. ZOZEN drills on the sheet by a full-automatic drilling machine exported from America. While some other boiler factories drill by hand, which is easy to have a big deviation. It can absolutely cause the sheet crack. especially for the boilers with big heat capacity.

前管板是锅炉结构中最重要的一部分，几乎 90% 以上的锅炉质量问题都发生于此。中正采用引进美国的全自动钻孔机给管板钻孔，而锅炉大部分锅炉厂采用手工钻孔或者外加工，这样极易产生误差，这些细小的误差绝对会导致管板开裂，特别是在大锅炉上尤其明显。



ZOZEN Full-automatic Drilling Machine 中正全自动钻孔机



ZOZEN welds tubes and sheets together with a small and automatic welding machines exported from Germany, while some other boiler factory do it by hand. Boilers working after a period of time will probably have quality problem.

中正采用德国进口的小型自动焊接机对管板焊接，而其他小厂采用手工焊接，这样的锅炉在使用一段时间后很容易发生质量问题



ZOZEN Small and Automatic Welding Machine. Welding Effect

中正小型自动焊接机

焊接效果



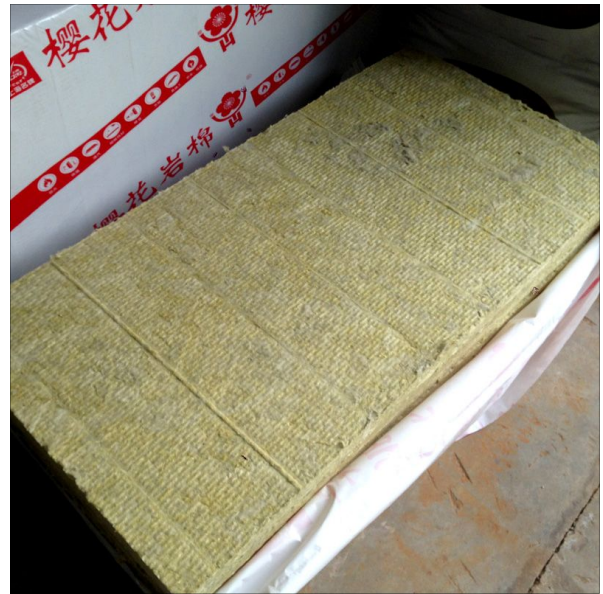
Welding effect from some other boiler factories.

其他厂手动焊接的效果

2. Insulation layer 保温层

ZOZEN purchase the best rock wool in China with the brand "Yinghua", and we have one more job to put refractory cement on the rock wool. It can keep the water away from the rock wool. Keep the rock wool dry. Only 2-3 boiler factories in China do the job.

中正采用国内最好的岩棉做保温层，品牌是“樱花”。中正还多做一道保温工作，即在岩棉上浇筑一层耐高温水泥，这样既可以降低锅炉外表的温度又可以防止雨水潮气侵入锅炉保温层内部，国内目前只有 2-3 家做此工序。



ZOZEN Boilers' Insulation Material 1.



ZOZEN Boilers' Insulation Material 2. (Refractory cement on the rock wool)



Some other factories' insulation material and effect

其他厂的保温材料和保温效果



3. High heat efficiency and low temperature of exhaust smoke

热效率高和排烟温度低

What ZOZEN offers is top-set condensing economizer (with insulation layer) . It can save house space. And the heat efficiency of our steam boiler can get 97% ~ 98% and the temperature of exhaust smoke can be 95oC, Inside the condensing economizer, we use the ND fin tubes to exchange heat. While some other common economizer can get most 92%~93% heat efficiency and least 130oC exhaust smoke.

因为我们使用自己生产的冷凝式节能器，所以中正燃气蒸汽锅炉的热效率可以达到 97%-98%，而且可以使排烟温度降到 90 °C ~100 °C。而其他厂的热效率在 93%左右，排烟温度在 130 °C 左右。中正冷凝式节能器采用 ND 耐腐蚀钢管进行换热，其他形式节能器采用普通碳钢钢管。

Natural gas saving (Taking 5T gas steam boiler as an example)

节省天然气 (以 5T 燃气蒸汽锅炉为例)

5T gas steam boiler, 93% heat efficiency, gas consumption=379.5 Nm³/hr ,

5T gas steam boiler, 98% heat efficiency, gas consumption=360.2 Nm³/hr ;

5T 燃气蒸汽锅炉，93%的热效率，天然气消耗是 379.5 Nm³/hr ,

5T 燃气蒸汽锅炉，98%的热效率，天然气消耗是 360.2 Nm³/hr ,

We say the boiler work 3000 hrs/year and the gas cost is 4.5RMB/Nm³, so in one year, our boiler can save the gas cost for you :

$$(379.5-360.2) \times 3000 \times 4.5 = 260,550 \text{ RMB (42,700 USD)}$$

假设一台锅炉一年工作 3000 个小时，天然气成本是 4.5 元/立方，一年里我们的锅炉能为您节省天然气 260,550 元,大约是 42,700 美元。

Pictures of ZOZEN condensing economizer (with insulation)

ZOZEN 的冷凝式节能器图片 (已做保温)

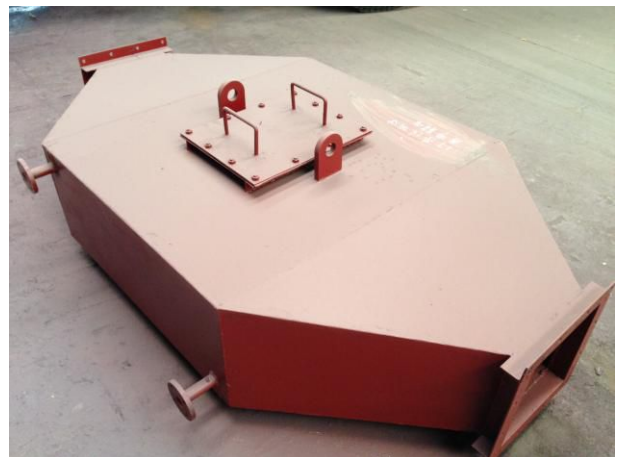


ND FIN TUBES



Some pictures of other common economizer

其他普通节能器的图片





Made by common carbon steel tubes.

用普通碳钢钢管制作。

4. Second seal for the burner. 燃烧器二次密封

In China, only ZOZEN makes a second seal for the burner. Our boilers are much safer than those without second seal for the burner.

国内目前只有 ZOZEN 对燃烧器做二次密封，这样安全性远远高于不做二次密封的锅炉。

5. Easy maintenance and repair 保养检修方便

ZOZEN boiler's front face-plate can open and is detachable. It is easy for user to maintain and repair the boiler.

中正锅炉前面板设计成可自由开关和和拆装，这样对方便对锅炉内部保养检修。



ZOZEN Boiler



Other factory's boiler



6. Auxiliary equipments in good quality 高质量的辅机配件

ZOZEN has very strict procurement rules. We make sure every auxiliary equipment is of good quality. More than 50% problems are due to auxiliary equipment with bad quality.

中正锅炉有着非常严格的采购条款，我们必须保证每一个辅机配件质量合格。锅炉使用中，50%的问题是由于低劣的辅机配件导致的