



WNS Series Gas/Oil Fired Pressurized Hot Water Boiler System

Introduction

Overview

WNS series gas/oil fired pressurized hot water boiler adopts boiler-shell type corrugated furnace structure,smoke three-pass with a wetback smoke-transfer chamber,spirally corrugated tube tech.The complete set product of boiler consists of burners,boilers,control systems and accessories.This series of products are designed to be safe,reliable,efficient,energy-saving and environmental protection.It also features convenient maintenance,long service life,automatic intelligent control,etc.



Boiler System Composition

It consists of boiler main body,control system and auxiliary equipment.

Boiler Main Body Technical Features



1.Spirally corrugated tube

Function: it can strengthen heating transfer,lessen fire tube and the shell size can be narrowed

Purpose:save steels,reduce dirt deposition,prevent tube plate from cracking

2.Wet back smoke-transfer chamber

Function:reduce high temperature of tube plate

Purpose:increase heat efficiency,reduce heat loss



3.Corrugated furnace

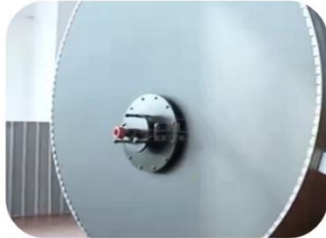
Function: enhance the boiler heat surface

Purpose:protect the boiler to avoid damage in the course of transportation and position



4.Fast hardening casting material of front and rear smoke box

Function:high temperature resistance,high coagulability,long service cycle
Purpose:avoid smoke chamber been burned out,less heat loss,increase heat efficiency



5.Anti-explosion door

Function:to release detonation energy
Purpose:guarantee boiler safety



6.Bottom blow-down

Function:achieve bottom blow-down of the boiler
Purpose:Prevent sundry precipitation, so as to form corrosion, extend the service life of the boiler

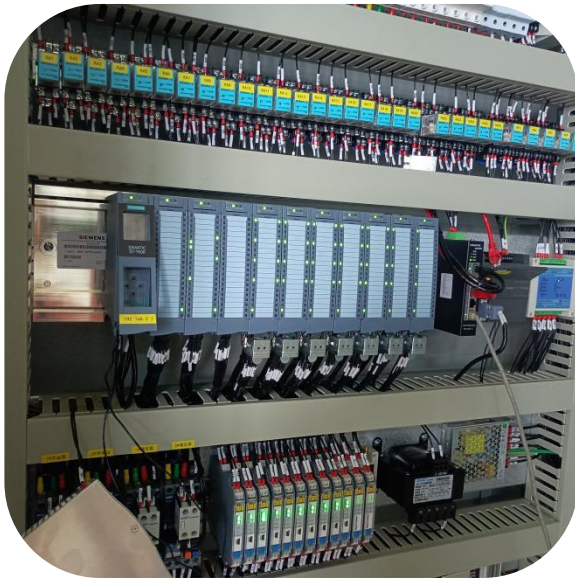
Oil/Gas Fired pressurized Boiler Control System

According to the customer's demand for thermal power,temperature,pressure and equipment configuration,the boiler control system is developed and designed to achieve the purpose of monitoring the parameters and status of the boiler,and realize the intelligent of boiler control.





The Core Control Mode of the pressurized boiler system:MCU control(Microcontroller unit), Integrated controller (All-in-one PLC,not programmable),PLC control(programmable),PLC+PC control,DCS control.



1).Main Control:liquid level control of boiler,water tank and oil tank;pressure control;boiler system pressure control;temperature control,etc.Manual/automatic control of burners, pump valves and other equipment,master and backup switching.Water pump start and delay shutdown, water pump running status detection and burner interlock.

2).Anti-freezing Functions:Make the boiler run safely and stably at night when unattended, and make the system work in an energy-saving state to prevent the pipeline from freezing.

3).Self-inspection Functions of the control system: continuous inspection.To alarm and interlock protection when abnormal.

4).It collects,records,saves and manages important information and data function.

The Remote Instrument Valves used in the Control System Include: temperature sensor,liquid level gauge,pressure transmitter,pressure controllers,flow meters,electric regulators etc.

Auxiliary Equipment Features

1)Burner

We can equip with different burner according to boiler parameter,fuel,Many burner brands meet different customers requirement.For natural gas fuel, we configure Riello, and for oil, we configure Baltur.

The burner brand:Baltur,Riello,Weishaupt,Hofamat,Honeywell,Ecoflam,Cavallo and so on.

The burner is equipped with a microelectronic control box, which can provide burner operating status and diagnosis of fault causes.

The improvement of the performance of the fan and the combustion head increases the scope of application of the burner and ensures the combustion efficiency of each operating point.

The unique design reduces the overall size, while providing ease of use and maintenance.



Feature of burner

- Automatically control
- Flame monitoring
- Automatic ignition system
- Autonomous filter



2)Water Treatment Device Technical Features

- Flow type metering, automatic recoil
- New cloth structure, uniform water distribution and stable water quality
- Resin tank made of glass fiber reinforced plastic, resistant to acid, alkali and salt, high strength and stable quality
- .Equipped with high quality resin and has a service life of more than 5 years
- .The whole set of equipment uses tap water to dispense water without pump boosting, saving energy.



Circulation water Pump Features

- Compact structure and space saving
- Stainless steel,acid and corrosion resistant



- Blue spray, elegant look
- China's well-known brands, well quality
- Dual configuration, mutual backup

Energy Saver Features

- ND steel material, acid and alkali resistant, durable
- Aluminum silicate insulation, high heat exchange efficiency
- Straight-through structure, less boiler back pressure

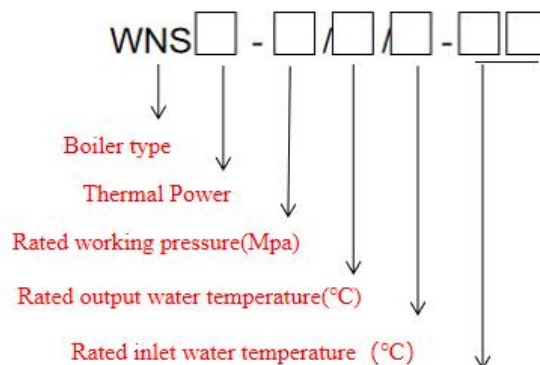


Constant pressure make-up water degassing device

This equipment is a device that integrates steam tank, constant pressure and water replenishment. It plays the role of stabilizing pressure, automatic water replenishment, expansion and automatic pressure relief in the system, and removing free gas and dissolved gas in the system. Keep the system in an efficient, environmentally friendly and energy-saving state of motion.

Parameter of WNS Series gas/oil Fired Pressurized Hot water Boiler

Model Number Key



(coal,biomass,natural gas,biogas,coke gas,light/heavy oil,methanol,diesel etc.)Fuel



Example:WNS7-0.7/95/70-Q.Y=SZS series hot water boiler,thermal power 0.7MW,rated working pressure 0.7Mpa,rated output water temperature 95°C,rated inlet water temperature 70°C,Fuel oil or gas.Q means gas,Y means oil

Model	WNS0.7-0.7/95/70-Q.Y	WNS1.4-0.7/95/70-Q.Y	WNS2.1-0.7/95/70-Q.Y	WNS2.8-0.7/95/70-Q.Y	WNS3.5-0.7/95/70-Q.Y
Rated thermal power(MW)	0.7	1.4	2.1	2.8	3.5
Rated working pressure(bar)	7	7	7	7	7
Rated output water temperature(°C)	95				
Rated inlet water temperature(°C)	70				
Main body Heating area(m ²)	26	58.8	90.65	112.59	127.68
Condenser Heating area(m ²)	14	24.7	29.6	45.6	53.5
Thermal efficiency(%)	>98				
Fuel available	natural gas.biogas、coke gas,light oil、methanol.diesel etc.				
Combustion equipment	burner				
Natural gas consumption(m ³)	72	144	216	288	360
light oil consumption(L)	66	133	196	266	332
Max Transportation Weight(t)	4	8.3	8.9	13.3	14.3
Max boiler shipping size: L×W×H(m)	3.25×1.80×2.10	4.40×2.10×2.46	4.60×2.31×2.62	4.70×2.48×2.85	5.30×2.65×3.30



Note: Parameter is for reference only, if any changes should follow the factory technical data.

Model	WNS4.2-1.0/115/ 70-Q.Y	WNS5.6-1.0/115/ 70-Q.Y	WNS7-1.0/115/ 70-Q.Y	WNS10.5-1.0/115/ 70-Q.Y	WNS14-1.0/115/70 -Q.Y
Rated thermal power(MW)	4.2	5.6	7	10.5	14
Rated working pressure(bar)	1	1	1	1	1
Rated output water temperature(°C)	115				
Rated inlet water temperature(°C)	70				
Main body Heating area(m ²)	180.91	189.87	205.57	346.19	127.68
Condenser Heating area(m ²)	78.25	108.5	148.8	192.1	330.3
Thermal efficiency(%)	>98				
Fuel available	natural gas,biogas, coke gas,light oil, methanol,diesel etc.				
Combustion equipment	burner				
Natural gas consumption(m ³)	432	576 720		1080	1440
light oil consumption(L)	397	530	656	996	1327
Max Transportation Weight(t)	19.5	22.6	25.8	33	46
Max boiler shipping size: L×W×H(m)	6.20×2.80×3.10	7.04×2.87×3.10	7.30×2.88× 3.16	8.00×3.37×3.57	7.77×3.70×3.99



Note: Parameter is for reference only, if any changes should follow the factory technical data.

Delivery Documents about Equipment

- 1.Boiler room design drawing
- 2.Boiler foundation drawing
- 3.Boiler body drawing
- 4.Boiler control system technical data
- 5.Boiler layout drawing
- 6.Valves& instruments drawing
7. Strength calculation data sheet
8. Certificate of Quality
9. Quality and Safety Inspection Certificates
10. Installation and operation instructions