



WNS Series Gas/Oil Fired Steam Boiler System Introduction

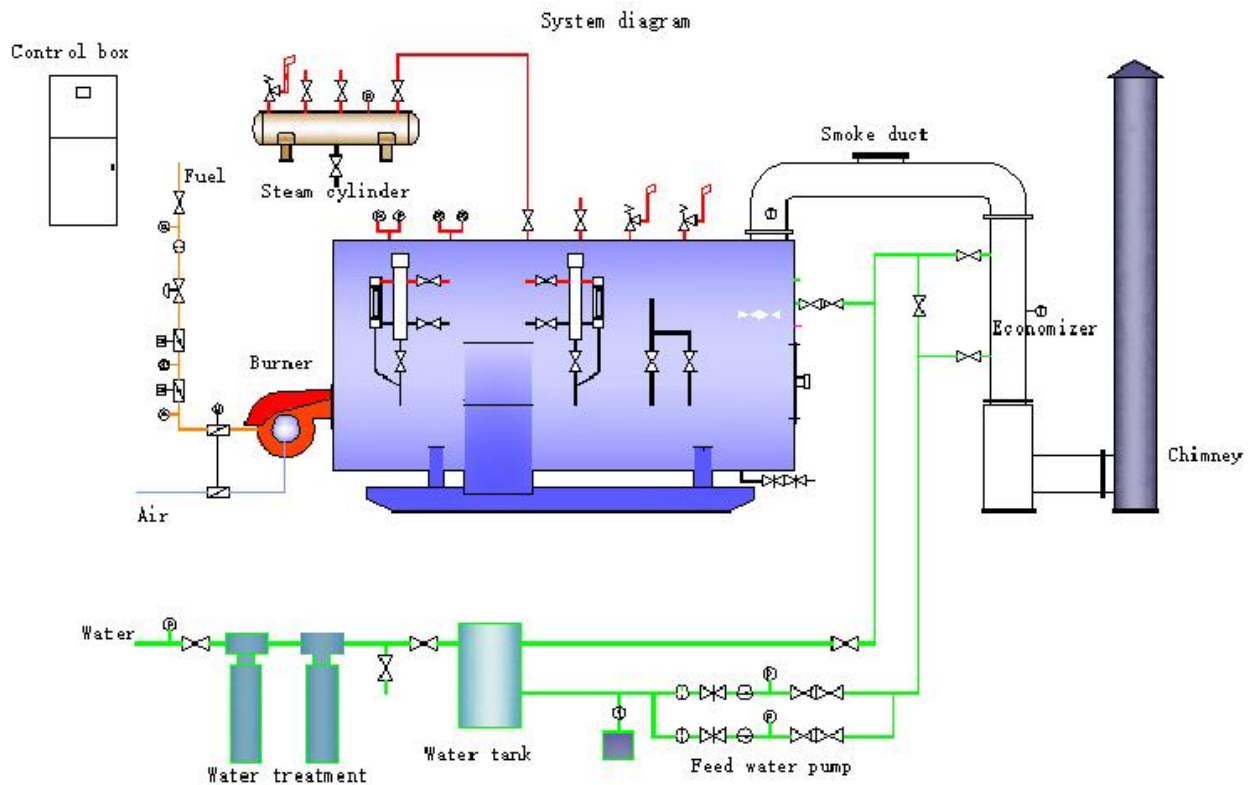
Overview

WNS series gas/oil fired steam 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.



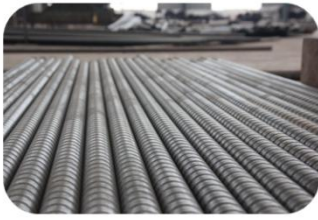
Boiler System Composition

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

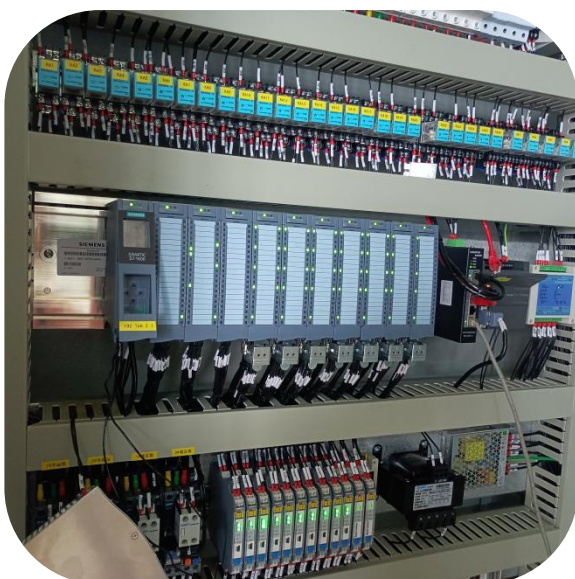


Oil/Gas Fired Steam Boiler Control System

According to the customer's demand for steam capacity,temperature,pressure and equipment configuration,the steam 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 steam 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;steam 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.



Feedwater 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

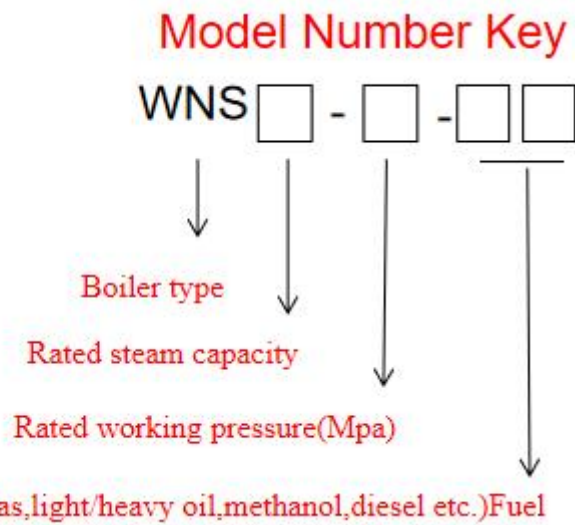


Steam Header Features Remark:customizable



- Pressure container, national inspection, quality stability
- Output can be customized accprding to customer's requirement.
- Factory configuration does not contain relevant valves

Parameter of WNS Series gas/oil Fired Steam Boiler



Example:WNS7-1.0-Q.Y=WNS series steam boiler,Rated steam capacity 7t/h,rated working pressure 1.0Mpa,Fuel gas or oil;Q means gas,Y means oil

Model	WNS1-0.7-Q.Y WNS1-1.0-Q.Y	WNS1.5- 1.25-Q.Y	WNS2-1.0-Q.Y WNS2-1.25-Q.Y	WNS3-1.0-Q.Y WNS3-1.25-Q.Y	WNS4-1.25-Q.Y WNS4-1.6-Q,Y	WNS5-1.25-Q.Y WNS5-1.6-Q.Y
Rated steam capacity(t/h)	1	1.5	2	3	4	5
Rated working pressure(Bar)	7/10	12.5	10/12.5	10/12.5	12.5/16	12.5/16
Rated steam temperature(°C)	170/184	184/194	184/194	184/194	194/204	194/204
Feed water temperature °C	20					



Boiler Main						
Body Heating Area(m ²)	24.06	27.33	58.15	89.99	112.59	163.1
Condenser Heating area(m ²)	15.4	20.5	29.64	45.6	53.54	65.89
Thermal Efficiency(%)	>98					
Fuel available	natural gas、 biogas、 coke gas, light oil, methanol. diesel etc.					
Combustion equipment	burner					
Total power(kW)	3.6	4.8	7.0	10.5	13	16.5
Feedwater pump model	C2-8×16	C2-8×16	C2.4-8×18	C4-8×18	C4.8-8×22	C6-8×18
Fuel--Natural gas(m ³)	72	108	144	216	288	360
Fuel--light oil (L)	66	99	113	196	266	332
Max Transportation Weight(t)	4	4.5	8.5	8.9	13.3	14.3
Max Dimension of Boiler:L×W×H (m)	3.25×1.80×2.10	3.00×1.80×2.01	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	WNS6-1.25-0.Y WNS6-1.6-Q.Y	WNS8-1.25-Q.Y WNS8-1.6-Q.Y	WNS10-1.25-Q.Y WNS10-1.6-Q.Y	WNS15-1.25-Q.Y WNS15-1.6-Q.Y	WNS20-1.25-Q. WNS20-1.6-Q.Y
Rated steam capacity(t/h)	6	8	10	15	20
Rated working pressure(Bar)	12.5/16	12.5/16	12.5/16	12.5/16	12.5/16
Rated steam temperature(°C)	194/204				



Feed water temperature °C	20				
Boiler Main Body Heating Area(m ²)	181.17	190.77	229.95	346.2	467.6
Condenser Heating area(m ²)	78.25	108.5	165.3	216.2	360.3
Thermal Efficiency(%)	>98				
Fuel available	natural gas, biogas, coke gas, light oil, methanol, diesel etc.				
Combustion equipment	burner				
Total power(kW)	19.5	29.5	33	90.5	
Feedwater pump model	C6-8×19	C9-15×10	C12.5-15×11	C16-15×12	C25-35×5
Fuel--Natural gas(m ³)	432	576	720	1080	1440
Fuel--light oil (L)	399	532	660	997	1204
Max Transportaton Weight(t)	19.5	22.6	25.8	34.7	46
Max Dimension of Boiler:L×W×H(m)	5.93×2.60×3.02	5.85×2.80×3.10	7.65×2.81×3.10	6.95×3.10×3.60	8.30×3.40×4.02
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