张家港威孚热能股份有限公司
ZHANGJIAGANG WILFORD THERMAL CO., LTD.
Add: No.5,Nanyuan Road Economic Development Zone Zhangjiagang, Jiangsu Province P.R.China.

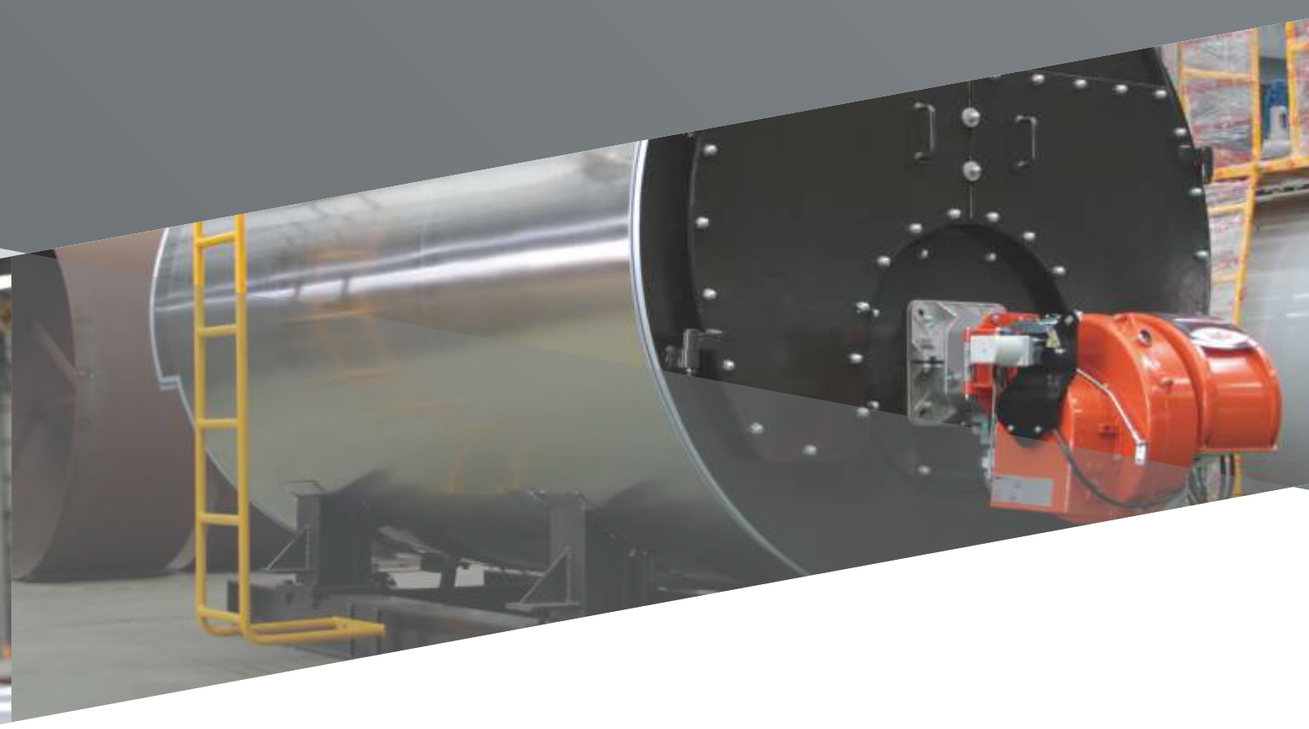
Tel: +86-512-56791900 58170166
Fax: +86-512-58698850
E-mail: manager@wilfordboiler.com
Http:// www.wilfordboiler.com
P.C.: 215600

WILFORD® 威孚热能

WILFORD JOINTLY FORGE

A New Global Thermal Ecosystem





OIL (GAS)

FIRED STEAM BOILER

威孚锅炉
Wilfordboiler
Zhangjiagang Wilford Thermal CO.,LTD
Wilford Bolier
Wilford Thermal CO.,LTD. Zhangjiagang



WILFORD
THERMAL

专 注 锅 炉 二 十 年

FOCUS ON
BOILER
FOR TWENTY
YEARS

WILFORD 威孚热能

威孚热能，共筑全球热力新生态

WILFORD, JOINTLY FORGE A NEW GLOBAL THERMAL ECOSYSTEM



WNS HORIZONTAL OIL (GAS) STEAM BOILER

The structural features

- Adopt the waveform furnace, which not only strengthens the disturbance of the smoke, but also increases the radiation heat transfer area.
- It not only increases the rigidity of the furnace, but also effectively reduces the thermal stress of the furnace.
- It not only enhances the heat transfer effect, but also promotes the combustion of fuel in the furnace.
- The whole heating surface is symmetrically arranged, the structural strength is reliable, and the water circulation system is reasonable.
- The furnace is low positioned and the water level is safe.
- The upper drum has large capacity of water, large steam space, good steam quality, and small fluctuation of water level during operation.
- The distance between the two kettles is large, and the diameter of the pipe is large, so that can make sure the good natural circulation.

Safe and reliable

- Optimization of the internal structure, reasonable distribution of endothermic gasification of water vapor flow rate control, balance of heat absorption in all parts, strengthen convective heat transfer.
- The boiler adopts the most mature three return full wet back structure in the world, which is safe and reliable.

Energy-saving and high-efficiency

- Horizontal structure has abundant heating area, sufficient heat transfer, stable operation and high combustion efficiency under varying load.
- The unique furnace setting and the scouring way of the flue gas to the hot surface make the heat loss of the boiler minimal.
- The preset and purging function improves the working conditions of the burner and prolongs the service life.
- It has larger steam space and better steam quality.
- The energy-saving device composed of laser finned welded pipes with advanced welding technology has high heat transfer efficiency, compact structure and can greatly increase the heat transfer area.

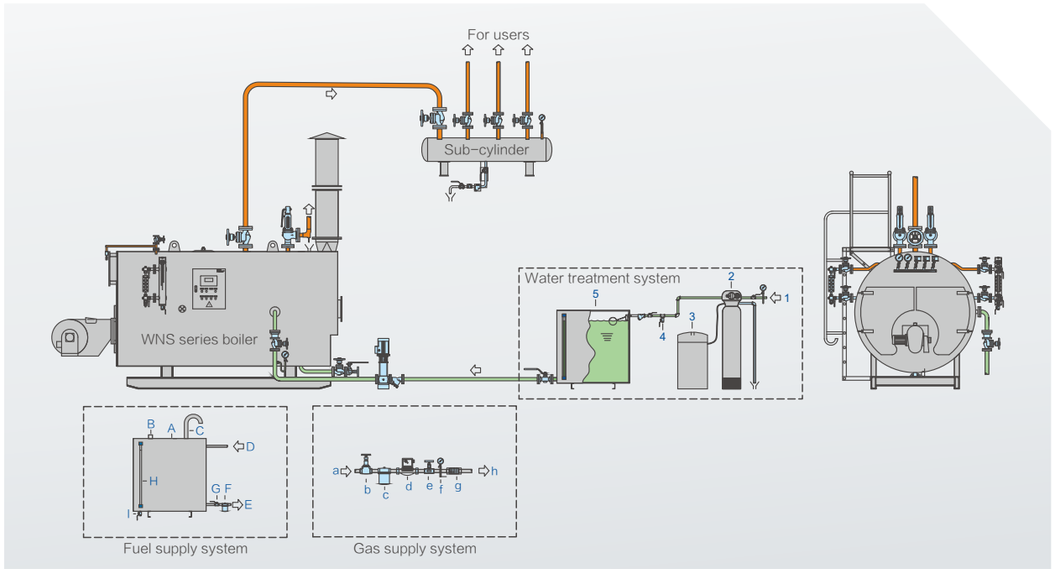
Low nitrogen and environmental

- The unique large combustion chamber design which enlarges the radiation heating area of the furnace, reduces the volume of the boiler and reduces the emission of NOx, also be comply with environmental standards.

Intelligent control

- Automatic microcomputer program control, pressure digital display and PID linear adjustment.
- When several boilers are connected to the network, the main console can automatically select the number of boilers and distribute the load of each boiler according to the actual working conditions, and run on average.
- Date transmission based on the internet of things on the cloud and can be remote controlled。

WNS SYSTEM DIAGRAM



OIL SUPPLY SYSTEM

A. Daily-use oil tank
B. Oil inlet
C. Atmospheric connector
D. Return oil connect burner
E. Oil out connect burner
F. Filter bowl
G. Outlet valve
H. Liquid level meter

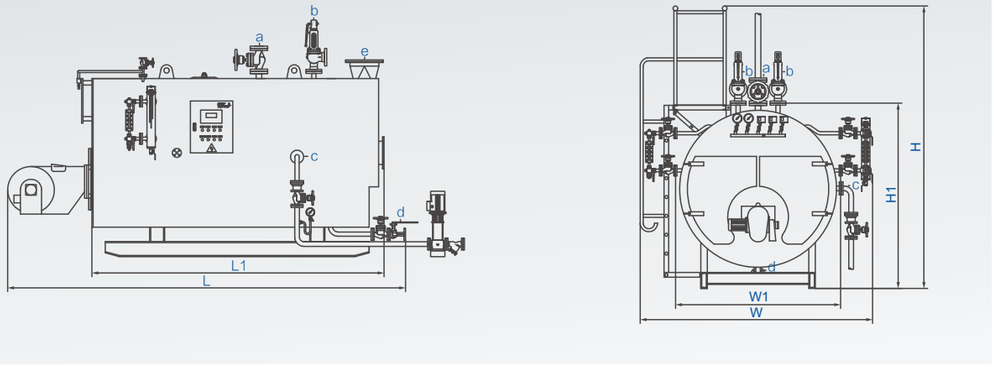
GAS SUPPLY SYSTEM

a. Gas supply
b. Stop value
c. T type filter
d. Flow meter
e. Pressure Stabilizing Valve
f. Pressure gauge
g. Wave expansion joint
h. Connect burner

WATER TREATMENT SYSTEM

1. Source water
2. Water softener
3. Salt box
4. Soft water sampling
5. Soft water tank

WNS SHAPE SIZE DIAGRAM



HORIZONTAL OIL (GAS) STEAM BOILER

Item \ Model		Unit	WNS 0.5	WNS 1	WNS 1.5	WNS 2	WNS 3	WNS 4	WNS 6	WNS 8	WNS 10	WNS 12	WNS 15	WNS 20
Rated evaporation		T/h	0.5	1	1.5	2	3	4	6	8	10	12	15	20
Rated working pressure		Mpa	0.7	1	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Staturated steam temperature		℃	170	184	184	184	184	193	193	193	193	193	193	193
Weight		T	3.2	4.6	5.6	6.8	7.9	11.5	15.5	18.4	23	30.1	36.5	49.5
Fuel consumption	Diesel oil	Kg/h	30	60	90	120	180	240	360	480	600	720	900	1200
	Natural gas	Nm^3/h	39	77	120	152	230	311	449	614	766	921	1140	1525
	LPG	L/h	61	120	187	236	358	484	699	957	1194	1435	1777	2377
Main steam valve	a	mm	50	65	65	80	80	100	125	150	150	200	200	250
Safety valve	b	mm	40	50	50	40×2	50×2	50×2	65×2	65×2	80×2	80×2	80×2	80×2
Water inlet	c	mm	25	25	25	40	40	40	40	50	50	65	65	80
Drain valve	d	mm	40	40	50	50	50	50	50	50	50	65	65	65
Chimney	e	mm	250	300	350	400	450	500	600	650	750	1000	1000	1250
Overall size	L	mm	3150	4080	4720	5220	5600	6500	7470	7950	8600	8740	10730	11250
	W	mm	2150	2660	2610	2980	3120	3280	3000	3200	3400	7450	8110	8360
	H	mm	2820	3050	3420	3320	3420	3650	4070	4100	4300	3475	3850	4395
Transportation size	L1	mm	2600	3280	3610	4020	4350	5250	6120	6700	7350	2700	2950	3250
	W1	mm	1550	2060	1900	2040	2130	2240	2400	2600	2800	4050	4210	4650
	H1	mm	1870	2230	2165	2430	2430	2750	3100	3070	3470	3280	3510	3820

Could customized steam boilers according to special requirement of steam capacity and working pressure .



LSS TUBULAR OIL (GAS) STEAM BOILER

LSS series products ––water tube structure, vertical three return and burner on top design. The fire from top to down, fully expanded. Flame processes long and in full combustion, each part of the flue gas go through three return for heat transfer, greatly reducing the exhaust gas temperature, save heat loss and improve thermal efficiency. The boiler has controller protection and automatic recovery of the contactor to prevent electric shock function. It also has dual anti reflux and exhaust heat protection devices, which, strengthen the safety function.

- Quickly startup,achieving high temperature and pressure in short time.
- Nature circle, could undertake large temperature difference.
- With multi chain protection for water level and steam pressure .
- Vertical structure, compact and beautiful, elegant style, classic color,save room space and easily installation.

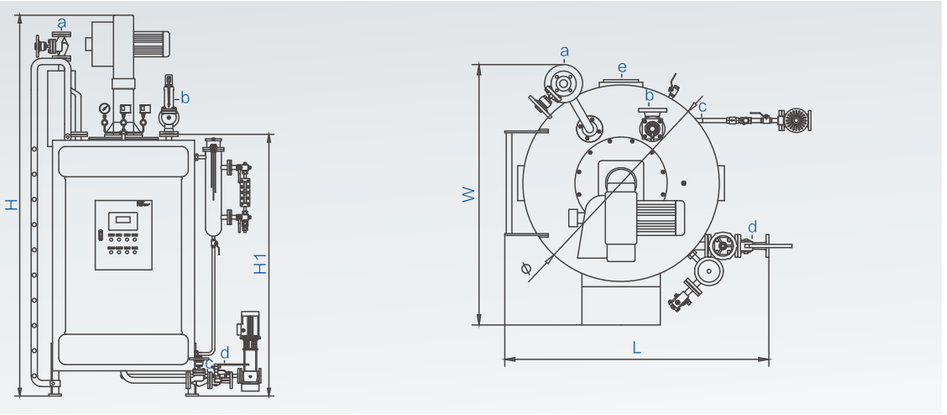


LWS SHELL TYPE OIL (GAS) STEAM BOILER

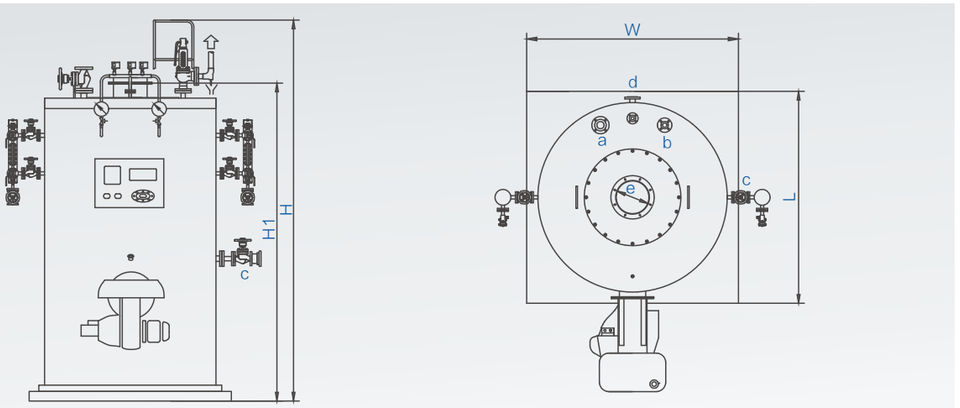
The product uses the built–in furnace pipe, vertical non–pipe, smoke four–pass structure, which effectively increases the heat transfer of smoke to the furnace water with high thermal efficiency and good energy–saving effect Non–pipe design can protect the product from scaling and burning, and transfer heat even! To the wall and heat–transfer fins, avoiding stress and extending service life.

- Containing no water pipes or fire tubes, which is exempt from; exploding of tubes;
- Boiler will not burn because of scaling, which reduces the maintenance cost;
- The upper ring large steam room and separation measures for boiler and steam below water can ensure the availability of high–quality steam; Double W–shaped four pass has big heat transfer coefficient and full heat exchange. Low exhaust temperature, high thermal efficiency and long service life. (Patent is protected);
- The vertical structure is compact and beautiful, which saves space and easy for installation.

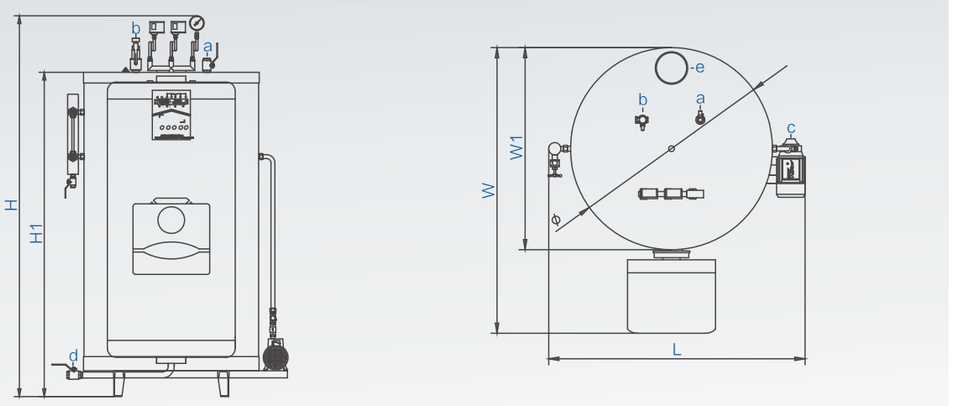
LSS



LHS



LWS

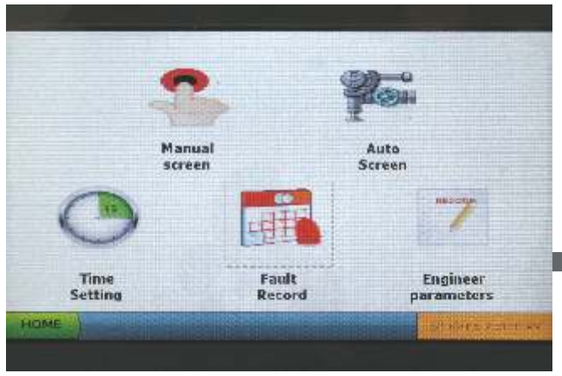


Item \ Model		Unit	LWS 0.1	LWS 0.15	LWS 0.2	LWS 0.3	LSS 0.5	LHS 1	LHS 1.5	LHS 2.0
Rated evaporation		T/h	100	150	200	300	500	1000	1500	2000
Rated working pressure		Mpa	0.7	0.7	0.7	0.7	0.7/1.25	1/1.25	1/1.25	1/1.25
Staturated steam temperature		℃	170	170	170	170	170/193	184/193	184/193	184/193
Feed water temperature		℃	20	20	20	20	20	20	20	20
Weight		T	0.6	0.68	0.8	1.1	1.8/2.2	2.4/3.8	4.9/5.6	5.7/6.5
Water capacity		L	49	190	220	280	1680	2450	3500	3200
Fuel consumption	Diesel oil	Kg/h	6	9	12	18	30	60	90	120
	Natural gas	Nm^3/h	9.1	13.7	18.2	27.3	44.3	85.4	128	170.2
	LPG	L/h	14.2	21.3	28.4	42.5	69	133.1	199.5	265.2
Main steam valve	a	mm	25	25	32	32	40	50	65	65
Safety valve	b	mm	25	25	25	25	40	40	40×2	40×2
Water inlet	c	mm	15	15	15	15	25	25	40	40
Drain valve	d	mm	20	25	25	25	40	40	40	40
Chimney	e	mm	133	159	159	219	250	300	300	350
Overall size	L	mm	1020	1150	1150	1270	1830	1750	2000	2200
	W	mm	1080	1260	1260	1570	1780	1750	2000	2200
	H	mm	1750	1840	2140	2400	2650	2900	3370	3370
	H1	mm	1480	1520	1820	2090	2100	2570	3030	3030

Could customized steam boilers according to special requirement of steam capacity and working pressure .

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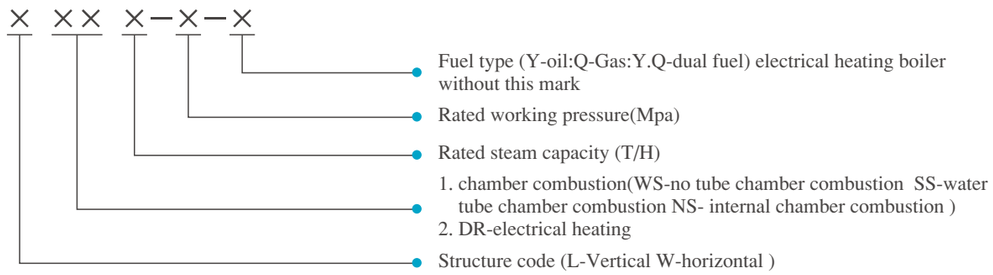




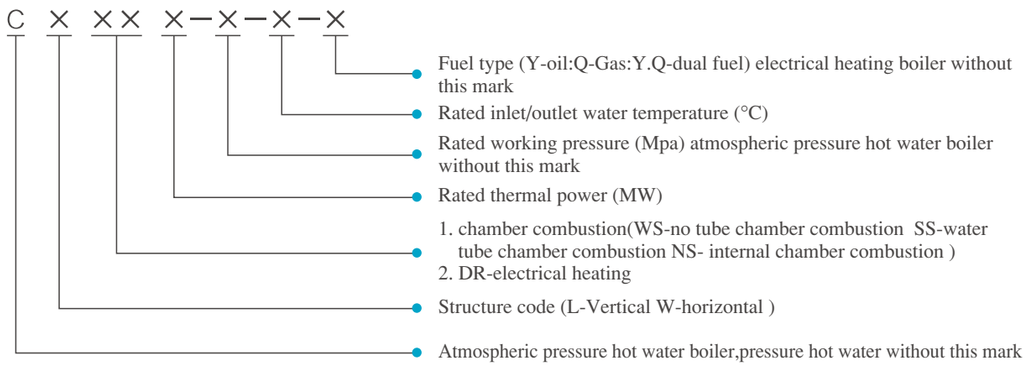


PRODUCT MODEL DESCRIPTION

STEAM BOILER



HOT WATER BOILER



General Parameters conversion

- 1T/h≈60×10⁴kcal/h≈0.7MW
- One kilogram hot water rises 1 degree need 1 Kcal heat
- One British thermal units (BTU) = 0.252 kilocalorie (Kcal)
- One kilocalorie (Kcal)≈4.2kilojoule(KJ)
- Commonly used steam pressure corresponding to Saturated temperature value as following

Pre	0.4Mpa	0.7Mpa	1.0Mpa	1.25Mpa	1.6Mpa	2.0Mpa	2.5Mpa
Tem	151℃	170℃	184℃	194℃	204℃	215℃	226℃

- 1Mpa≈10kg/cm²≈10 bar
- 1mbar≈100Pa≈0.1KPa

Reference fuel's net heating value under standard condition

- 8,550kcal/m³ = 35.8MJ/m³ Natural gas
- 9,600kcal/kg = 40.19MJ/kg Heavy oil (mazout)
- 10,900kcal/kg = 46MJ/kg Light oil
- 22,000kcal/m³ = 92MJ/m³ Liquefied Petroleum Gas

备忘录 Memos

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