FULL-AUTOMATIC ELECTRIC BOILER

INSTRUCTIONS FOR USE
MAINTENANCE AND
INSTALLATION

NORTH SPECIAL EQUIPMENT B.V.
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MODEL: FLORENZIA
CODE: NEQ-9-45

Energy saving type Steam generator

★★★ Main features of the product

✪ The inner liner of the boiler adopts the "hot-dip galvanizing" process and is equipped with a stainless steel water tank, which will never rust and has a long service life;

✪ Adopting customized high-pressure hot water multi-stage pumps to achieve the reuse of steam return water, energy conservation and environmental protection;

✪ Strictly manufacture according to the production regulations and standards of Class C boilers;

✪ Widely used in industries such as clothing production, washing, food processing, electroplating, pharmaceuticals, etc., medium heating, sterilization and disinfection are indispensable steam source equipment;

★★★ Main technical parameters

Model	Unit	NEQ 9-0.45
Voltage	KW	3/6/9
Working voltage	V	380
Operation stem pressrure	Mpa	0.45
Water Capacity	L	27
Rating steam output	Kg/h	12
Net weight	KG	85

* Due to continuous updates and upgrades of product technology, some parameters may change without further notice. Please confirm the details before purchasing!

You are welcome to be a user of our company. In order that you should better enjoy the services rendered by this product, please be sure to read this operating manual carefully before using this machine and then keep it properly. As one of the ironing machines produced by our company, this machine is a vapor source device essential for laundry and dyeing industry, and an ideal tool for the rise of ironing level.

Now the product performance and usage are described below:

I. Technical parameters

Model	Power	Voltage	Pressure	Water capacity	Steam output	Net weight
NEQ3-0.45	3KW	220V	0.45MPa	6L	4Kg/L	53Kg
NEQ6-0.45	6KW	220/380V	0.45MPa	27L	8Kg/L	84Kg
NEQ9-0.45	9KW	220/380V	0.45MPa	27L	12Kg/L	84Kg
NEQ12-0.45	12KW	380V	0.45MPa	27L	16Kg/L	84Kg
NEQ18-0.45	18KW	380V	0.45MPa	27L	24Kg/L	84Kg
NEQ24-0.45	24KW	380V	0.45MPa	27L	32Kg/L	84Kg
NEQ24-0.5	24KW	380V	0.5MPa	40L	32Kg/L	95Kg
NEQ36-0.5	36KW	380V	0.5MPa	40L	48Kg/L	95Kg
NEQ48-0.5	48KW	380V	0.5MPa	40L	64Kg/L	95Kg

II. Featuring and use

1. Double safety device----safety valve and safety plug are installed in this machine, to ensure safety in use.

2. Automatic pressure control device is installed in this machine. When boiler pressure reaches the maximum design pressure, heater will stop heating; when boiler pressure is lower than design requirements, heater will self-heat immediately, so that the boiler can always keep up a stable pressure.

3. Apart from a water level indicator, the boiler is also equipped with a liquid level controller to control the boiler water level automatically, to make the boiler stable and horizontal.

4. The boiler is made of Q235B high-quality steel plates. Medium-frequency annealing treatment, hydrostatic test and X-ray radiographic inspection are successively carried out to ensure its safety and reliability.

III. Operating steps

1. Open the air outlet valve and blow-down valve. Close the blow-down valve and air outlet valve after the residual water inside the boiler drains.

2. Connect the power line to an air switch, which matches with the boiler's power, and connect the ground wire on the shell well.

3. Connect the boiler to a water source and pour soft water into the water tank in the boiler. Then, adjust the rate of inflow according to the water level.

4. Connect dedicated steam rubber pipes separately to the air outlet valve in the boiler and the steam inlet in the iron (or other steaming plants), and then screw down.

5. Power it on, and the green light will be lit when the power switch is turned on; the yellow light will be lit when the stepping switch is pressed, showing that the water pump starts to be watered. Water injection will end three minutes later, and heater begins to work. At this moment, the red light is lit. Open the steam outlet valve after pressure reaches the maximum design pressure, and steam will be continuously transmitted to the iron or other steaming plants.

6. When boiler pressure reaches the maximum design pressure, pressure controller will run, to shut heater down automatically. At this point, the red light goes out. When boiler pressure is lower than the start-up heating pressure, the heater will self-heat and the red light will be lit. Transform repeatedly until the boiler keeps up a stable pressure.

7. Turn off the power and water source and drain off the residual steam in the boiler after the end of operations.

IV． Matters needing attention

1. For personal safety, users must connect the ground protection line well before using this boiler.

2. Don't adjust the safety valve or replace it with a large-number one at will.

3. While using it for the first time or reusing it after a long-term outage, open the rear cover of the pump motor and stir the cooling fan manually. The pump can't be used until it rotates flexibly.

4. When scavenging the inner wall of the boiler, please open the blow-down valve after the internal pressure of the boiler is lower than 0.1MPa, and discharge incrustation scale, etc. together with water and steam. (Keep off the drain outlet when draining contaminations)

5. To prolong the service life of the boiler's electrical heated tube, please use soft water instead of lake water, well water and underground water. To prevent the electrical heated tube from being burnt down after scaling, please drain contaminations regularly. (Every 7 to 10 days)

6. When voltage is too low, the suction force of AC contactor will decline, accompanied by intermittent abnormal sounds. To avoid damaging the machine components, please shut down the machine at once. Don't power the machine on until voltage becomes normal.

7. In thermal state, the electrified body and shell insulation resistance should be greater than 2MΩ.

8. Pressure controller, safety valve and safety plug are all the critical components for safety guarantee. These parts should be inspected and corrected in the local special equipment testing center each year.

9. Please inspect the water pipes and the joint parts of steam pipes. Clear faults in time if there are water leakages and steam leakages.

10. In maintenance process, no one is allowed to replace the charged and steamed components.

11. The longest service life of this boiler is 5 years, and it can't be used after guarantee period.

V. Common faults and elimination methods

Fault phenomena	Fault causes	Solutions
Breaker trips after startup	1. The insulation resistance of the electrical heated tube is too low or burnt out 2. The insulation resistance of the electrical circuit is too low	1. Replace the electrical heated tube with a new one 2. Check the circuit or replace the damaged cable
Power light is out	1. The light breaks down 2. No power input	1. Change the light for new 2. Check the power input
Light is still on after shutdown	The null line is broken or contacted poorly	Check all the connections on the power line and then screw down
No pressure in the due time after startup	1. The electrical heated tube is burnt out 2. The AC contactor breaks down	1. Change the electrical heated tube for new 2. Change the AC contactor for new
Pressure drops rapidly in use, in short steam supply	1. The residual steam isn't drained off after the end of the previous operation 2. A group of electrical heated tube is burnt out 3. The power supply is lack of a phase	1. Drain off the superfluous water 2. Change the electrical heated tube for new 3. Check the power supply

Steam leakage and water leakage	1. The gasket breaks down 2. The null looses	1. Change the gasket for new 2. Tighten the null up
Pressure is out of control	The pressure controller doesn't work	Change the pressure controller for new
Shortage of water. No water, the pump doesn't work	1. The liquid level controller breaks down 2. The AC contactor breaks down 3. The pump breaks down	1. Change or repair the liquid level controller 2. Replace the AC contactor with a new one 3. Change or repair the pump
The pump works, but it can't be watered	1. There is air in the pump 2. The water tank is blocked	1. Unscrew the pump to exhaust and retighten it after water flows out 2. Dredge the water outlet of the water tank
The water in the tank is heated	The check valve is dirty or leaks steam	Clean the check valve or replace it with a new one

VI. Cricuit diagram

NEQ6~12-0.45