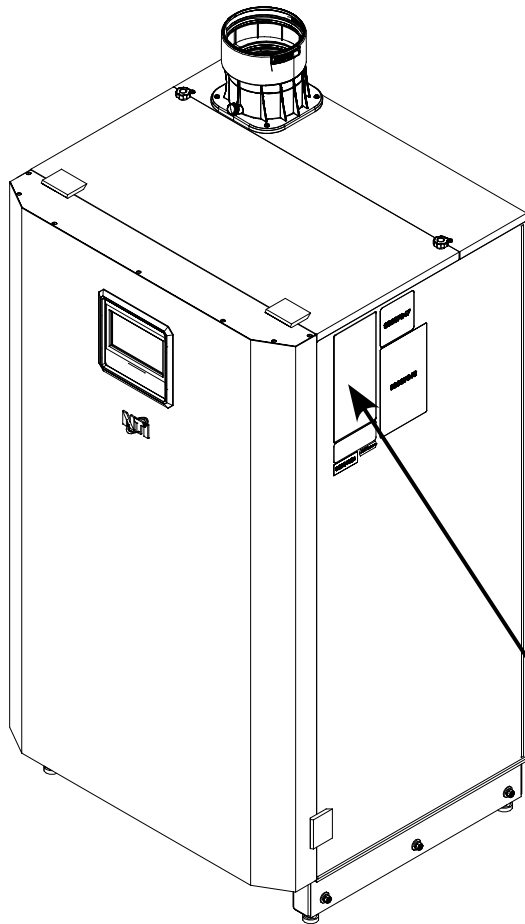


## Upgrade Instructions – For all FTG boiler models (FTG600 - FTG2400)

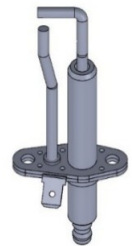
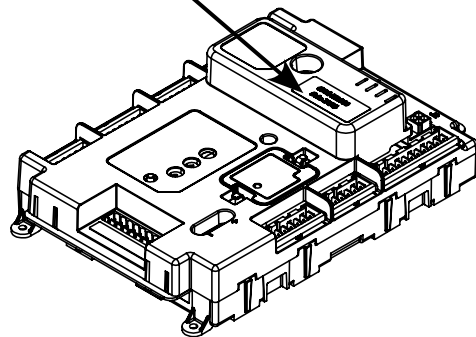


Part No. 6501412000 – FTG Upgrade Kit Contents:

- Replacement Sola control PCB (+ return label)
- New ignition electrode w/ gasket (+ 2x screws)

6501412000  
Sola FTG

Contact NTI if the replacement control  
does not have this exact decal.



**Note:** Due to the potential safety concern, the old control and electrode **MUST** be returned to NTI using the return label provided. The boiler's S/N (embedded in the label) will be flagged until the control is received.

### Tools required:

- Screwdrivers (T20; PH; ¼" Hex)
- Gas analyzer (CO; CO<sub>2</sub>)

### **WARNING**

The controller (Part No. 6501412000) is configured specifically for use with FTG series boilers only, FTG600-2400 inclusive. This controller shall NOT be used with non-FTG series boilers. Use of this controller on boiler models other than the FTG series will override some safety features and may lead to unsafe operation resulting in fire, explosion, property damage or death.

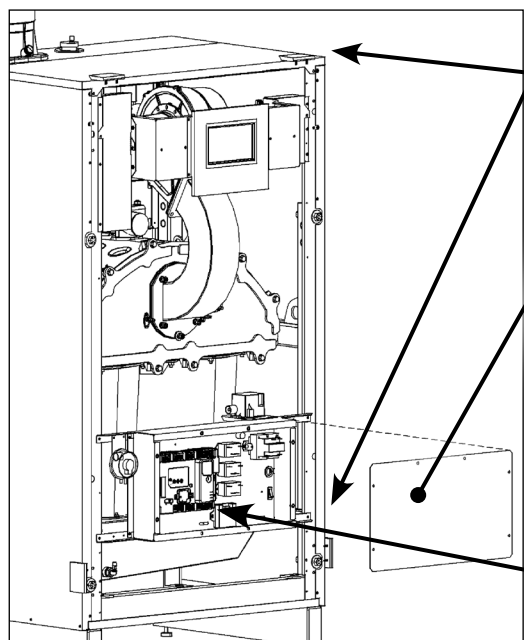
### **WARNING**

These instructions must only be used by a qualified installer / service technician. Read all steps of these instructions before continuing. Perform ALL steps in the given order. Failure to do so could result in property damage, severe personal injury, or death.

The instructions provided in this document are a supplement to the Installation and Operating Manual (IOM) originally provided with the boiler. Failure to follow the Installation and Operating Instructions may result in fire, explosion, property damage, physical injury or loss of life.

## **BEFORE YOU START — De-energize the boiler and close the gas shut-off valve to the unit**

### **STEP 1 — Replace Control (Sola)**



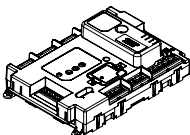
**1** Remove Front Panel  
(4 latches)

**2** Remove Control  
Panel Cover  
(4 PH screws)

**3** Disconnect harnesses  
from control  
(connectors are keyed to  
prevent misconnection)

**4** Remove old control  
(4 (four) ¼" Hex screws)

**5** Install and  
connect new  
control

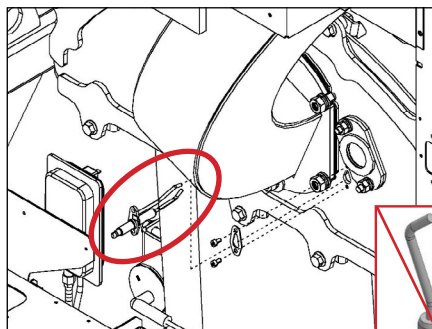


**Tip:** Make sure to note or record the system-specific settings (e.g. DHW and CH parameters) before removing the old control. These settings can then be applied to the new control.

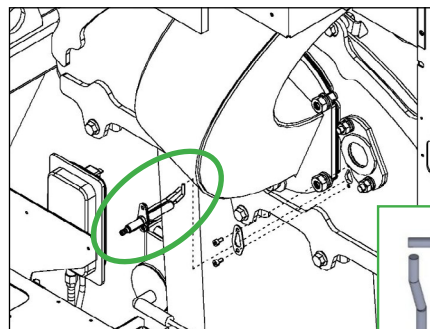
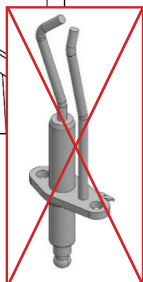
#### **Note:**

Pack the old control and electrode into the box and return them to NTI for reimbursement, using the return label provided.

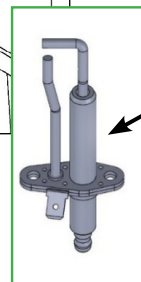
### **STEP 2 — Replace ignition electrode**



**1** Remove existing  
electrode (2 T20 screws)  
and discard gasket



**2** Install new electrode  
with new gasket  
(2 T20 screws)



Longer ceramic  
insulation for  
better spark  
characteristics

## **CAUTION**

Failure to replace the ignition electrode with the new electrode illustrated above may increase the risk of delayed ignition.

**Re-energize the boiler and proceed to STEP 3**  
**The gas shut-off valve must remain OFF until STEP 4**

## ! WARNING

The parameters described in the following paragraphs **MUST** be properly adjusted. Failure to correctly adjust the control parameters as required for the respective boiler model, specifically the **Modulation Rate** and fan **Pulses per Revolution**, will cause the boiler to operate at the incorrect firing rate thereby creating a risk of fire or explosion that could result in property damage, physical injury or loss of life

## STEP 3 — Adjust Controller Settings

### 1 Control Configuration Verification



Configure

System Identification & Access

Replacement controls intended for use on FTG series boilers will have a 'version ID' (OEM ID) beginning with "FTG Gen v". If the date code isn't 01-30-26 or newer, DO NOT use the control – contact NTI for a replacement.

FTG Generic  
System Identification & Access

FTG Gen v01-30-26

Product type Commercial Hydronic Boiler  
OS number R7910A1001 R7910A1001s1q  
Software Version 4110.2909 Date code 2519  
Application revision 19 Safety revision 13 Model 268

Boiler name FTG Generic

Installation

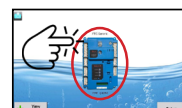
OEM ID FTG Gen v01-30-26

MB1 Modbus address 1

MB2 Modbus address 1

Adjust 'Boiler name' as desired (e.g. FTG600)

### 2 Modulation Rate Adjustment



Configure

Modulation Configuration

Since the replacement control is generic to all FTG series boiler models, the minimum and maximum modulation rates must be set to the applicable values in the table below.

FTG Generic  
Modulation Configuration

CH maximum modulation rate 5600 RPM

DHW maximum modulation rate 5600 RPM

Minimum modulation rate 1150 RPM

Rate assigned to 0V/4mA 100%

CH slow start enable Disabled

Slow start degrees 5°F

Slow start ramp 200 RPM/min

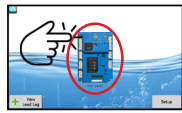
Analog rate tracking Disabled

| Parameter                | Description                                                                     | Settings (rpm) |        |         |         |         |         |         |
|--------------------------|---------------------------------------------------------------------------------|----------------|--------|---------|---------|---------|---------|---------|
|                          |                                                                                 | FTG600         | FTG800 | FTG1200 | FTG1400 | FTG2000 | FTG2200 | FTG2400 |
| CH max. modulation rate  | Maximum permissible blower speed during CH demand. Setting is model dependent.  | 5600           | 7450   | 8100    | 7800    | 7100    | 7200    | 8000    |
| DHW max. modulation rate | Maximum permissible blower speed during DHW demand. Setting is model dependent. | 5600           | 7450   | 8100    | 7800    | 7100    | 7200    | 8000    |
| Minimum modulation rate  | Minimum permissible blower speed. Setting is model dependent.                   | 1150           | 1150   | 1050    | 1050    | 1050    | 1050    | 1050    |



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### 3 Pulses per Revolution Adjustment



Configure



Fan Configuration



FTG Generic  
Fan Configuration

Pulses per revolution

Since the replacement control is generic to all FTG boiler models, the blower tachometer feedback "Pulses per revolution" setting must be set to the appropriate values in the table below.

| Parameter             | Description                                                                               | Settings (pulses per revolution) |        |         |         |         |         |         |
|-----------------------|-------------------------------------------------------------------------------------------|----------------------------------|--------|---------|---------|---------|---------|---------|
|                       |                                                                                           | FTG600                           | FTG800 | FTG1200 | FTG1400 | FTG2000 | FTG2200 | FTG2400 |
| Pulses per revolution | Number of feedback pulses produced for each revolution of the combustion blower impeller. | 3                                |        |         |         | 2       |         |         |

## STEP 4 — Perform Combustion Analysis

As part of any boiler service or maintenance, it is crucial that the boiler undergo a Combustion Calibration Procedure, as detailed in Section 9 of the IOM: Gas Valve and Burner Setup.



## WARNING

Set-up of the FTG gas valve must be performed by a licensed Gas Technician. Failure to perform the set-up correctly may result in incorrect operation, component failure, property damage, serious injury or death.

**Combustion Calibration** is mandatory upon installation and during each annual service. Failure to perform the Combustion Calibration in accordance with these instructions may result in incorrect combustion leading to burner damage or excessive Carbon Monoxide concentrations causing property damage, personal injury or death.

**Carbon Monoxide** – Never leave the unit operating while producing Carbon Monoxide (CO) concentrations in excess of 175 ppm. It is required that CO detectors be installed in the boiler room, as well as in each unit or living space in the building. Failure to follow this warning may result in serious injury or death.

**Venting Support** – Inspect the venting to ensure it is properly supported as per venting manufacturer's instructions. At a minimum, all interior vent pipe shall be supported every 36 in. ; elbows within 12 in. (each side).

## STEP 5 — Return old Controller and Electrode to NTI for Reimbursement

To obtain reimbursement for completing this Upgrade procedure as instructed:

1. Return the old controller and electrode to NTI (using the supplied shipping label).
2. Go to <https://ntiboilers.com/safety-recalls/ftg-advisory> and submit the Reimbursement Form.



For technical support, or if you have any questions about these instructions, please contact us at [FTGupgrade@ntiboilers.com](mailto:FTGupgrade@ntiboilers.com), visit our website: [www.ntiboilers.com](http://www.ntiboilers.com), or call us toll-free: 1-800-688-2575[opt1].