Combustion Air Device Adaptor

Part No. 7134563

For use with:
- Vitotronic 100 GC1
- Vitotronic 300 GW2
- Vitotronic 100 GC1B
- Vitotronic 300 GW2B
- Vitotronic 300 GW5B (used in conjunction with the Combustion Air Device Integration Kit)
- Vitotronic 300 GW6B (used in conjunction with the Combustion Air Device Integration Kit)

Safety and Installation Requirements

Please ensure that these instructions are read and understood before starting any service work. Failure to comply with these instructions may cause product/property damage, severe personal injury and/or loss of life.

Working on the equipment

The installation, adjustment, service and maintenance of this product must be performed by a licensed professional heating contractor who is qualified and experienced in the installation, service, and maintenance of hot water boilers. There are no user serviceable parts on the boiler, burner or control.

Ensure that main power to the equipment being serviced is off.

Ensure that the main fuel supply valve to the boiler is closed.

Take precautions to avoid accidental activation of power or fuel during service work.

Do not perform service work on any component part without ensuring safe operation of the heating system.

When replacing parts, use original Viessmann or Viessmann approved replacement parts.

IMPORTANT

Read and save these instructions for future reference.
General Information

About these Instructions

Take note of all symbols and notations intended to draw attention to potential hazards or important product information. These include “WARNING”, “CAUTION”, and “IMPORTANT”. See below.

**WARNING**

Indicates an imminently hazardous situation which, if not avoided, could result in loss of life, serious injury or substantial product/property damage.

- Warnings draw your attention to the presence of potential hazards or important product information.

**CAUTION**

Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product/property damage.

- Cautions draw your attention to the presence of potential hazards or important product information.

**IMPORTANT**

- Helpful hints for installation, operation or maintenance which pertain to the product.

Important Regulatory and Installation Requirements

**Codes**

The installation of this unit must be in accordance with local codes.

All electrical wiring is to be done in accordance with the latest edition of CSA C22.1 Part 1 and/or local codes. In the U.S. use the National Electrical Code ANSI/MFPA 70.

The heating contractor must comply with the Standard of Controls and Safety Devices for Automatically fired Boilers, ANSI/ASME CSD-1 where required by the authority having jurisdiction.

**Working on the equipment**

The installation, adjustment, service and maintenance of this unit must be done by a licensed professional heating contractor who is qualified and experienced in the installation, service, and maintenance of hot water heating boilers. There are no user serviceable parts on the boilers or control.

**Power supply**

Install power supply in accordance with the regulation of the authorities having jurisdiction or in absence of such requirements, in accordance with National Codes. Viesmann recommends the installation of a disconnect switch in the 120VAC power supply outside of the boiler room.

- Please carefully read this manual prior to attempting installation. Any warranty is null and void if these instructions are not followed.

For information regarding other System Technology componentry, please reference documentation of the respective product.

We offer frequent installation and service seminars to familiarize our partners with our products. Please inquire.

- The completeness and functionality of field supplied electrical controls and components must be verified by the heating contractor. These include low-water cut-offs, flow switches (if used), staging controls, pumps, motorized valves, air vents, thermostats, etc.

**WARNING**

More than one live circuit. See wiring diagram in this manual. Turn off power supply to control and damper/blower before servicing. Contact with live electrical components can result in serious injury or loss of life.
Combustion Air Device Adaptor Installation and Operating

Purpose of the Combustion Air Device Adaptor

The purpose of this Combustion Air Device Adaptor is to provide the necessary interface between the boiler control and a fresh air device.

Upon a call for heat, the combustion air device, whether a damper or blower will be energized. Once air movement or damper position has been proven, the call for heat will continue to the burner.

Combustion Air Device Adaptor Installation

The module is designed to clip onto the DIN rail of the boiler control. It can control a device by itself or, when used in a multiple boiler application, it is interfaced with a Common Combustion Air Device Interface. Refer to the necessary manuals for multiple boiler applications.

For use with Vitotronic 100 GC1/GC1B and Vitotronic 300 GW2/GW2B on VD2/VD2A/CT3 only

Installation

1. Locate vacant section of the DIN rail to mount the Combustion Air Device Adaptor within the junction box below boiler control. Install Combustion Air Device Adaptor onto DIN rail. Ensure it clips securely onto DIN rail.

2. Route the cabling behind the terminal blocks and out from the bottom to be connected to the [150] terminal block.

3. Remove the jumper between terminals 16 and 17.

4. Connect the wires from Combustion Air Device Adaptor to the respective terminal, ensure correct termination.

   BK1 wire to terminal 14 (Neutral)
   BK2 wire to terminal 16
   BK3 wire to terminal 17

WARNING

DO NOT REVERSE BK2 AND BK3 WIRES. Failure to do so will prevent operation of damper/blower.
Combustion Air Device Adaptor Installation (continued)

For use with Vitotronic 100 GC1 or Vitotronic 300 GW2 boiler controls on CM2-186, -246, -311 only.

Installation

1. Locate a vacant section of the DIN rail to mount Combustion Air Device Adaptor within the junction box at rear of the boiler. Install the Combustion Air Device Adaptor onto the DIN rail. Ensure it clips securely onto the DIN rail.

2. Connect the wires from the Combustion Air Device Adaptor to the respective junction box DIN rail terminals as follows:
   - BK1 wire to the bottom of the DIN rail terminal 16 (Neutral)
   - BK2 wire to the bottom of the DIN rail terminal 18
   - BK3 wire to the bottom of the DIN rail terminal 19

WARNING

DO NOT REVERSE BK2 AND BK3 WIRES. Failure to do so will prevent operation of damper/blower.

Refer to the Combustion Air Device Integration Kit Installation Instructions for internal connections on boilers equipped with the Vitotronic 300 GW5B/GW6B.

Refer to this manual for connections between the Combustion Air Device Adaptor and the Vitotronic control and between the Combustion Air Device Adaptor and the combustion air device for the Vitotronic 300 GW5B/GW6B (starting on page 6).
3. Remove the jumper between the TR terminals. Make field connections to the [150] plug to terminals TR, TR/ON and N. Insert plug [150] into the control.

4. Route the cable through the base of the control, over the heat shield, along the cable tray and through the opening at the top of the junction box.

5. Connect the wires from the [150] plug to respective junction box DIN rail terminals as follows:
   - TR wire from the [150] plug to the top of the DIN rail terminal 18
   - TR/ON wire from the [150] plug to the top of the DIN rail terminal 19
   - N wire from the [150] plug to the top of the DIN rail terminal 16 (Neutral)
Connecting the Combustion Air Blower Motor

Combustion Air Blower Motor
Upon call for heat from the boiler control, contact L/L closes and allows 120VAC to power blower motor for combustion air blower or field supplied 120VAC relay for damper control to be energized. The air proving switch for the combustion air blower will close upon movement of air. Once the proving switch has closed, the call for heat will initialize the burner firing sequence.

Specifications
Rated Voltage: 120VAC
Connection cabling: 14AWG
Control Input from boiler control: 120VAC, 0.02A
Dry contact output L-L: 120VAC, 12FLA max.
Input NO-NO: 120VAC, 0.01A

1. Wire combustion air blower to terminals on Combustion Air Device Adaptor. The four terminals allow for dry contact switching of blower as well as connection of air proving switch.
2. Diagram shows connection of combustion air motor and air proving switch. Ensure the air proving switch is rated for 120VAC.
   Note: Provide disconnect means and over-current protection as required by code requirements.
   Refer to manufacturer specific manual for fuse selection of combustion blower.

IMPORTANT
Once installation has been completed, ensure all connected components are tested for proper operation and mechanical functionality.

Connecting the Combustion Air Damper

Combustion Air Damper
Upon call for heat from the boiler control, contact L/L closes and allows 120VAC to power the field supplied relay coil. Contact switching will provide a open signal for the damper. When the damper is fully open, the proving switch will close and the call for heat will initialize the burner firing sequence.

When the call for heat is finished, power to the blower or damper will be removed. Spring loaded dampers will close by mechanical force.

Specifications
Rated Voltage: 120VAC
Connection cabling: 14AWG
Control Input from boiler control: 120VAC, 0.02A
Dry contact output L-L: 120VAC, 12FLA max
Input NO-NO: 120VAC, 0.01A

1. When installing a combustion air damper, make connection as shown in the diagram.
   A Combustion Air Device Adaptor
   B Relay 120VAC (field supplied)
   C Combustion air damper
   D Proof of open end switch rated for 120VAC.

Note: Provide disconnect means and over-current protection as required by code requirements.
Note: Spring return air dampers do not require field supplied relay. Refer to combustion air blower diagram.
Testing

Refer to the manual of respective boiler control for complete relay test procedures.

Perform relay test of the burner to ensure operation of Combustion Air Device Adaptor. Secondary to the relay test is to place the boiler control override switch in the override position.

1. Control panel section housing override switch.
2. Place override switch into ON position. All control outputs will turn ON. Closure of control door will turn switch OFF.

Verify operation of blower/damper.

Once a flame has been established, opening of the proving switch during burner operation will disable call for heat to the burner. The burner must shut down immediately.