# Technical service bulletin
# Condensate Tee Installation

Buderus
Bosch Group

## Introduction

The correct location of the condense tee in the vent exhaust system is extremely important to ensure the longevity of the vent system. If the condense tee is incorrectly positioned or not installed at all, there can be situations that can cause a reduction in the boiler‘s life and premature failure of some components.

When a burner operates in a condensing boiler it is designed that the flue gases will cool to allow as much heat as possible to be extracted from the amount of fuel burnt. The Buderus GB142 heat exchanger is designed to be as efficient as possible and will cope with the amount of condense that will be produced during the operation of the burner. This condense is removed from the boiler via the internal boiler trap that is connected to a condense drain. The remaining flue gases are removed via the vent system to outside the property.

Depending on the vent length and the actual flue gas temperature, there will be more condensate produced within the exhaust vent, as the flue gases cool further, and due to the recommended <3° fall back to the boiler, of the exhaust vent, this will cause condense to run back towards the boiler. If there is no condensate drain tee installed in the exhaust vent then excessive condense will run across the aluminum vent adaptor and though the heat exchanger. Also, if the condense tee is installed incorrectly and not to the required specifications, then excessive condense can be drained through the boiler, rather than the condense drain.

Condense is acidic in its properties and may cause excessive wear on the components within the boiler, so the correct installation of the condense tee is extremely important.

The function of the condense tee and drain is to allow the draining of any condense that will be in the vent exhaust system during the operation of the boiler. Effectively the boiler will be by-passed by the drain. The condense that is formed, is fed back towards the tee by gravity (due to the <3° incline of the vent pipe back to the boiler), then fed out through the condense drain/trap.

## Installation requirements

The correct materials for the condense tee are PVC or C-PVC, and the tee should be a swept tee of 3” x 1½” x 3” dimensions. The 1½” Ø outlet of the tee must be situated vertically down, to enable all the condense to be collected by the drain. A 1½” x ¾” reducer can be then used to enable a ¾” drain pipe be installed. The drain must also contain a ‘U’ bend that acts as a trap to prevent any flue gases from escaping from the vent into the interior of the property.

The tee must be installed within 24” of the boiler itself on a horizontal section of exhaust vent. Even when installing a vertical vent installation there must be a horizontal section of pipe in the system to allow the fitting of the condense tee.

The vent system is to be assembled and connected to follow local building codes and vent manufacturer’s instructions, and the boiler must be installed to published Buderus instructions.

Figure 1 shows the correct location (within 24” of the boiler vent adaptor) of the condense tee with a horizontal termination.

**Figure 1**

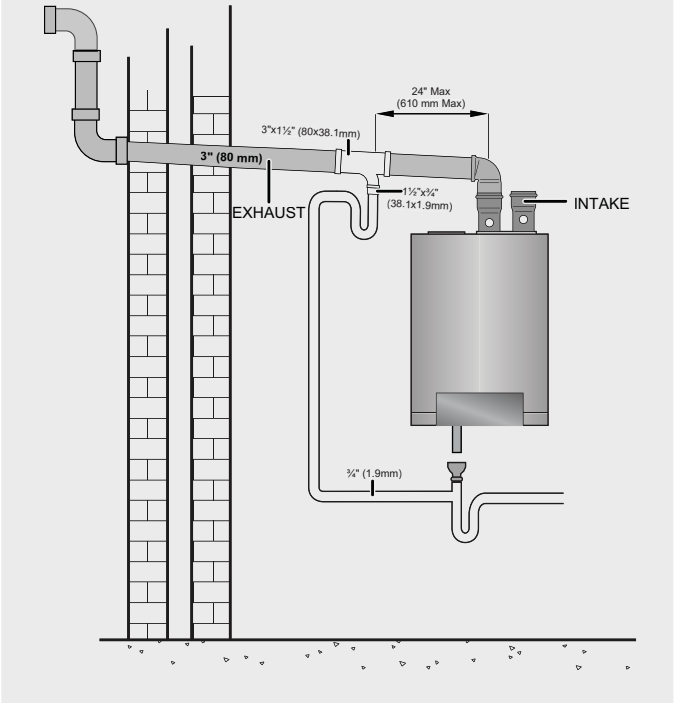
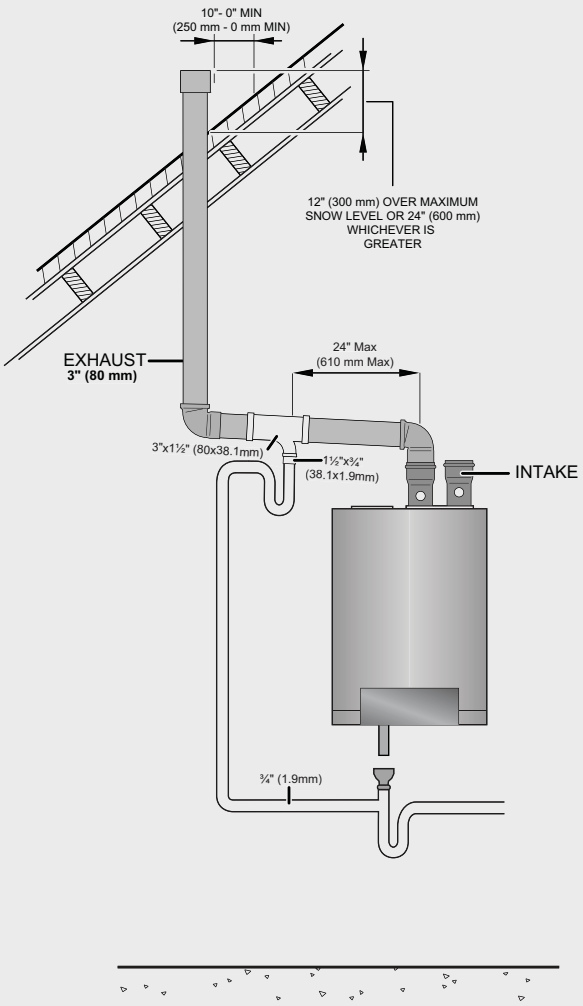


Figure 2 shows the correct location (within 24” of the boiler vent adaptor) of the condense tee with a vertical termination. The tee must be installed in the horizontal section of the vent exhaust, and be situated so the drain is at the lowest point of the tee.

**Figure 2**

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