Boiler Condensate Freezing Pipe Solutions

OPTIONS AT A GLANCE

TIME TO FIT

EASE TO FIT

COST TO FIT

OPTION 1 **Gravity** (Internally)

OPTION 2 **Boiler Condensate Removal Pump** (Internally)

OPTION 3 **Boiler Condensate Removal Pump** (Externally)

OPTION 4 **Trace Heating**

OPTION 5-7 **BOILER BUOY**

OPTION 1 Gravity (Internally)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

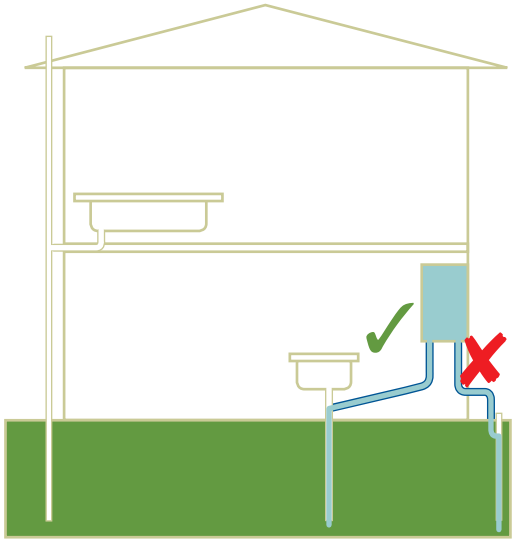
EASE TO FIT

LOW HIGH

COST TO FIT

Evaluate the existing route to see if it was essential to run the pipe work externally. If there is an option to route by gravity to an existing internal waste drain i.e: sink, shower, bath or internal soil pipe, use the products listed below.

PRODUCT DESCRIPTION
22 mm Overflow Pipe
22 mm Elbow Plastic Fitting 9 0°
22 mm Straight Plastic Fitting 45°
22 mm – Straight Connector
22 mm - 32 mm Solvent Adaptor



INSTRUCTIONS

- Disconnect external pipe.
- Connect to boiler condensate outlet and route to selected internal drain point.
- Fill hole in external wall with suitable filler.

OPTION 2 Boiler Condensate Removal Pump (Internally)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

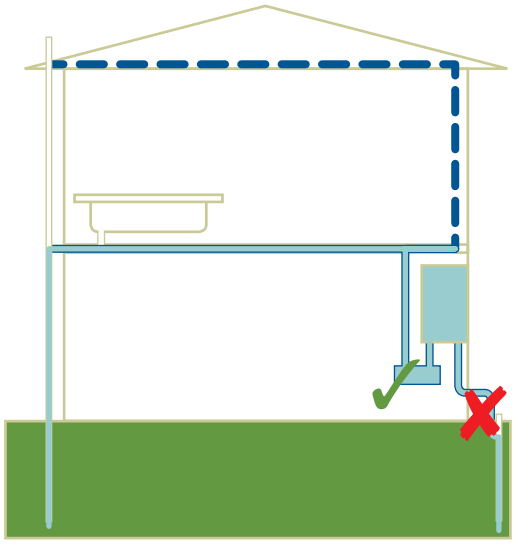
EASE TO FIT

LOW HIGH

COST TO FIT

The use of a boiler condensate tank pump allows far greater flexibility in the routing of the condensate pipe. With the ability to lift the condensate, the routing can go vertical and horizontal and can then be connected to any internal sink, bath, shower or soil pipe.

PRODUCT DESCRIPTION	Part No
Boiler Condensate Removal Pump	VCMA-2 0STA
Pump House Soil & Ventilation adaptor	VCMA-2 0STA
Pump House 3/8" Clear Braided Hose	VCMA-2 0STA
Pump House – Adaptor 3/8" to 22mm	VCMA-2 0STA
Pump House Insulated Hose	VCMA-2 0STA



INSTRUCTIONS

- Disconnect the external pipe.
- Select position for the boiler condensate removal pump.
- Route boiler condensate outlet into the 141500 boiler condensate removal tank pump.
- Route the outlet of the pump to your selected internal drain point.
- Fill the hole in the external wall with a suitable filler.

OPTION 3 Boiler Condensate Removal Pump (Externally)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

EASE TO FIT

LOW HIGH

COST TO FIT

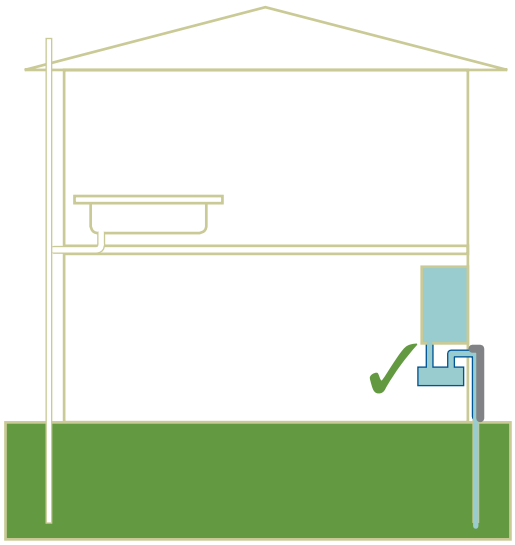
Typically a boiler produces between 600 and 1200 litres of condensate per annum. Depending on the siphon design there are a few variables on cycles from the boiler.

- **TRAP ONLY DESIGN** produces a constant trickle of condensate during operational hours of the boiler - HIGH RISK
- **SIPHON & TRAP DESIGN** will typically deposit 100ml at a time, resulting in 6,000-12,000 cycles per annum - MEDIUM RISK
- **A 2 LITRE BOILER CONDENSATE REMOVAL PUMP** will deposit 750ml per operation at around 6-8 psi resulting in 800-1600 cycles per annum - MEDIUM/LOW RISK
- **A 2 LITRE BOILER CONDENSATE PUMP & INSULATED PIPE** by increasing the size of the external pipe to 32 mm, insulating with 19 mm thick weather proof insulation and reducing the cycle frequency by using a condensate pump will heavily reduce the risk of the condensate freezing - VERY LOW RISK

PRODUCT DESCRIPTION	Part No
Boiler Condensate Removal Pump	VCMA-2 0STA
Length of 32 mm pipe insulation	
Length of 22 mm pipe insulation	

INSTRUCTIONS

- Disconnect the internal connection from the boiler to the external pipe.
- If the external pipe is only 22 mm - increase it to 32 mm.
- Insulate the pipe work with suitable EXTERNAL insulation with a minimum wall thickness of 19mm.
- Select a suitable position for the boiler condensate removal pump.
- Route the boiler condensate outlet into the tank of the pump.
- Route the outlet of the pump to the existing external connection.



OPTION 4

Trace Heating
(If gravity or boiler pump options are not viable)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

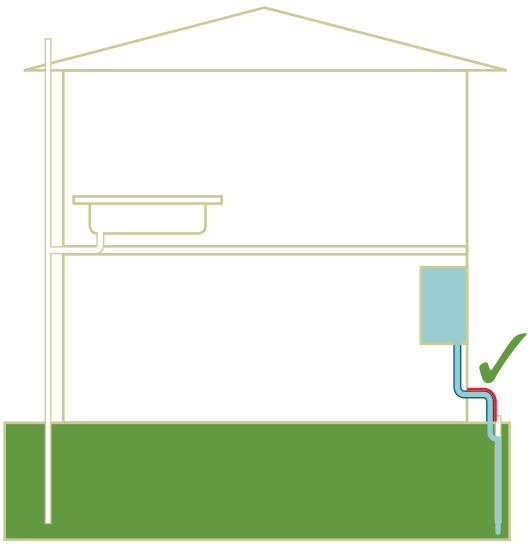
EASE TO FIT

LOW HIGH

COST TO FIT

If external pipe runs are unavoidable the fitting of a trace heating kit can provide a solution. These typically come with a preset external thermostat which switches on the trace wire providing a small steady supply of heat to the pipe. The trace heating works similar to an electric blanket, but to retain heat the pipe needs to be insulated.

PRODUCT DESCRIPTION
Trace Heating 1.5 metres
Aluminium Foil
Length of 32 mm pipe insulation
Length of 22 mm pipe insulation



INSTRUCTIONS

- Identify an external wall location for the trace heating thermostat.
- Run the trace heating on the full run of external outside pipe.
- Cover the trace wire with adhesive aluminium tape (which helps heat distribution around the pipe).
- Insulate with suitable EXTERNAL insulation.
- Test and connect to an electrical point via a suitable plug or fused spur.

BOILER BUOY
(Straight vertical pipe run)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

EASE TO FIT

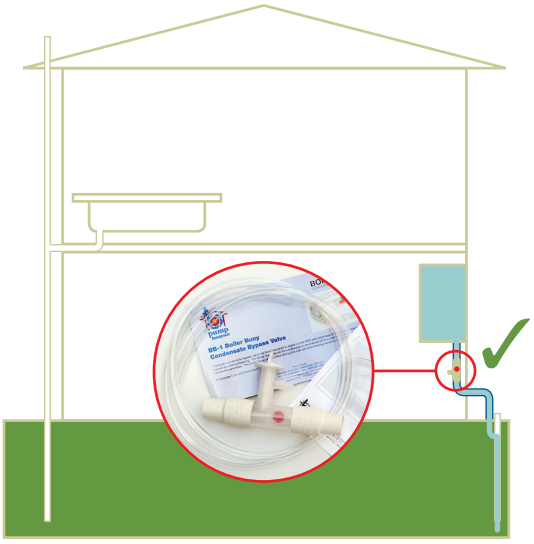
LOW HIGH

COST TO FIT

£0 £50 £100 £150 £200

The boiler condensate bypass valve has been designed to signal a blockage in the boiler condensate pipe caused by external freezing. The Boiler Buoy allows the condensate to be drained off in a controlled way using the valve connection and hose. The Boiler Buoy can be fitted during first call out when freezing occurs or during annual service visits. The condensate from the boiler is typically run through a 22 mm overflow pipe. The Boiler Buoy is designed to fit vertically in-line with the overflow pipe. Three types of installation options are available to ensure compliance with standards.

PRODUCT DESCRIPTION	Part No
Boiler Buoy Condensate Bypass Valve	BB-1
22 mm Overflow Pipe	
22 mm Elbow Plastic Fitting 90°	
22 mm T Plastic Fitting	



INSTRUCTIONS

- Measure a 120 mm gap in the existing pipe.
- Cut the pipe and remove the condensate pipe.
- Insert the Boiler Buoy in the gap.
- Ensure the rubber sleeve joint is sealed.
- Leave the installation instructions with the boiler.
- Explain the operation to the occupier.

OPTION 6 BOILER BUOY
(Direct through the wall pipe run behind the boiler)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

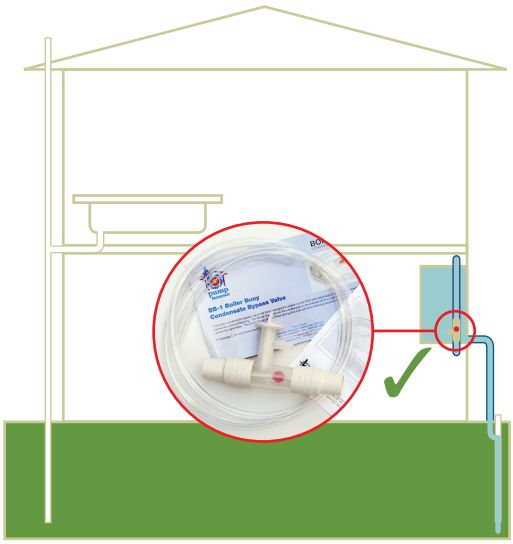
EASE TO FIT

LOW HIGH

COST TO FIT

Where the discharge is through an external wall directly from the rear of the boiler or is less than 200mm below the boiler before exiting the property use overflow fittings to construct a TRAP design. (It is IMPORTANT to locate the tap outlet of the boiler buoy level with the outlet of the boiler trap or siphon).

PRODUCT DESCRIPTION	Part No
Boiler Buoy Condensate Bypass Valve	BB-1
22 mm Overflow Pipe	
22 mm Elbow Plastic Fitting 90°	
22 mm T Plastic Fitting	



INSTRUCTIONS

- Cut the existing pipe and insert a T-piece below the boiler
- Drop the pipe work and form a 75mm trap below the T-piece.
- Install so that the bottom of the Boiler Buoy is level with the top of the discharge pipe that exits the property.
- Install a vertical length of pipe to the top of the boiler to allow for venting.
- Leave the installation instructions with the boiler.
- Explain the operation to the home owner.

OPTION 6 BOILER BUOY
(Straight vertical pipe run exiting less than 175mm from boiler)

With increasing occurrences of freezing condensate pipes on boilers during the cold months, the following options below are proposed to enable deciding on an easier solution. We have provided a rating so you can see at a glance the ease of installation, time and cost for each option available. The rating system of each option is based on GREEN being the most cost and time effective and RED being the least cost and time effective.

TIME TO FIT

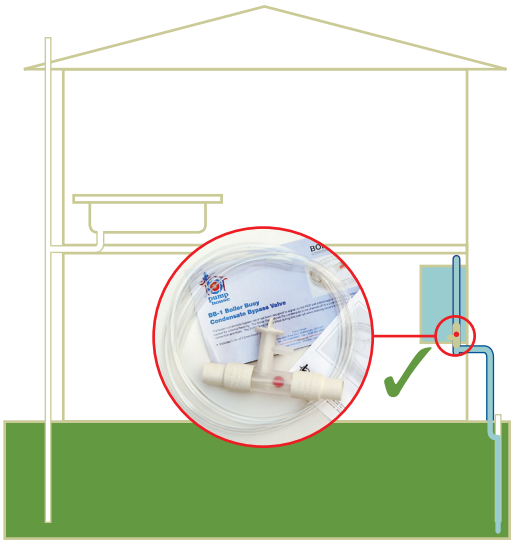
EASE TO FIT

LOW HIGH

COST TO FIT

Use overflow fittings to construct trap design where discharge is less than 175mm below the boiler before exiting the property. (It is IMPORTANT to locate the tap outlet of the boiler buoy level with the outlet of the boiler trap or siphon).

PRODUCT DESCRIPTION	Part No
Boiler Buoy Condensate Bypass Valve	BB-1
22 mm Overflow Pipe	
22 mm Elbow Plastic Fitting 90°	
22 mm T Plastic Fitting	



INSTRUCTIONS

- Cut existing pipe work and insert a T-piece below the boiler.
- Use overflow fittings to construct a 75mm trap design
- Install so that the bottom of the Boiler Buoy is level with the top of the discharge pipe that connects to side branch of the T-piece.
- Install a vertical length of pipe to the top of boiler to allow for venting.
- Leave the installation instructions with the boiler.
- Explain the operation to the home owner.