

PROVISIONAL COPY

Grant Spira-Vac Pellet Feed System

Installation & User Instructions



Contents

- 1. Introduction**
- 2. Technical Specification**
 - 2.1 Kit contents
 - 2.2 Technical data
 - 2.3 System arrangement
- 3. Description & Operation**
 - 3.1 Vacuum unit
 - 3.2 Auger unit
 - 3.3 Flexible tubes
 - 3.4 Operating sequences
- 4. Installation**
 - 4.1 Auger unit
 - 4.2 Vacuum unit
 - 4.3 Flexible tubes
 - 4.4 Electrical connection
- 5. Electrical**
 - 5.1 General
 - 5.2 Connection of pellet hopper
 - 5.3 Connection of vacuum unit to pellet hopper
 - 5.4 Connection of vacuum unit to auger unit
- 6. Commissioning**
 - 6.1 General
 - 6.2 Procedure
- 7. Servicing**
 - 7.1 Vacuum unit
 - 7.2 Auger unit
 - 7.3 Pellet tubes
- 8. Warranty**
- 9. User Instructions**

1. Introduction

These Installation instructions should be read carefully before installing the Spira-Vac system and must be used in conjunction with the Grant Spira Installation & User instructions supplied with the boiler. We recommend that before installing the Spira boiler and Spira-Vac system you attend a Grant Spira boiler Installer training course.

The Grant Spira-Vac is a vacuum system for conveying wood pellets from a bulk store to the pellet hopper located adjacent to the Grant Spira boiler. It is designed specifically for use with the Grant Spira wood pellet boilers and should not be used with other wood pellet burning appliances. It is intended to convey 6mm diameter wood pellets only and should not be used for any other application.

Grant Engineering UK Ltd shall not be liable for any injury or damage arising from the incorrect use of this system. For correct usage, refer to these Installation and User instructions.

Installation of the Grant Spira wood pellet boiler, and the Spira-Vac system, must be installed by a competent person in accordance with all current legislation, codes of practice and local by-laws relating to the installation of solid fuel burning appliances.

The electrical installation must comply with the requirements of the Electricity at Work Regulations 1989 and BS7671:2008 - IEE Wiring Regulations 17th Edition (including all amendments).

All installations of Grant Spira wood pellet boilers must comply with the relevant Building Regulations.

2. Technical Specification

2.1 Kit Contents

The Grant Spira-Vac system is available in 4 different kits, containing the following:

- 1 x Auger unit
- 1 x Vacuum unit
- 1 x Pellet dam plate
- 4 x 'Jubilee' type pipe clips
- Flexible tube (length dependant on kit – see table below)
- Plastic pipe clips (quantity to suit tube length used – see table below)
- Installation & User Instructions

Note. The electrical cable required to connect the auger unit to the vacuum unit to be supplied by installer.

Spira-Vac Kit ref No.	Length of flexible tube (between auger unit and vacuum unit)	Number and lengths of tube supplied	Quantity of plastic pipe support clips
WPVKIT5	5m	1 x 10m length	10
WPVKIT10	10m	2 x 10m length	20
WPVKIT15	15m	2 x 15m length	30
WPVKIT20	20m	2 x 20m length	40

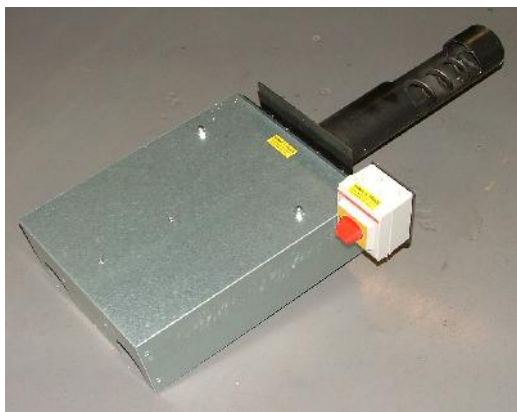


Figure 2-1. Auger unit



Figure 2-2. Vacuum unit



Figure 2-3. Flexible tube

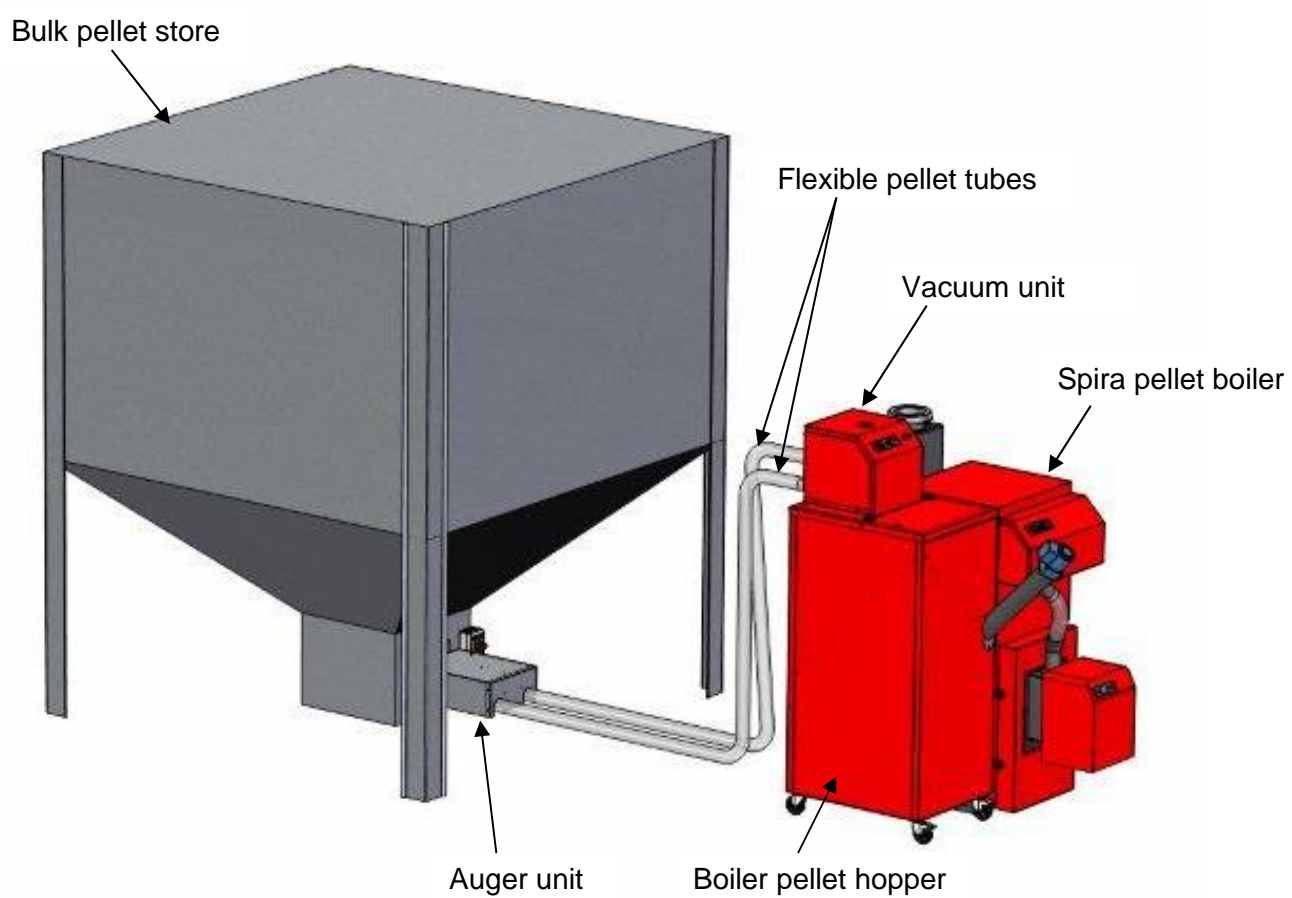


Figure 2-4. Pellet dam plate

2.2 Technical Data

	Auger unit	Vacuum unit
Weight	16.4kg	20.9kg
Supply voltage	230V 50HZ 1ph	
Power consumption	5 VA	

2.3 Spira-Vac System Arrangement



3. Description & Operation

The Grant Spira-Vac pellet feed system consists of the following items

3.1 Vacuum Unit

The vacuum unit is designed to be mounted on the top of either the single or double Spira pellet hopper. The pellet hopper supplied with the boiler has a removable panel to allow fitting of the vacuum unit. Refer to Section 4 for vacuum unit installation details.

The vacuum unit can be fixed to the top rear panel of the pellet hopper to face in any one of three directions; forwards, right or left.

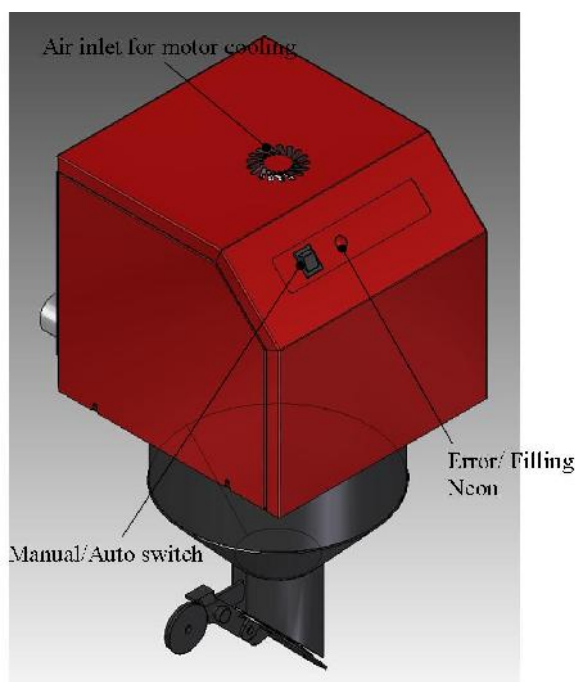


Figure 3-1. Front view of vacuum unit

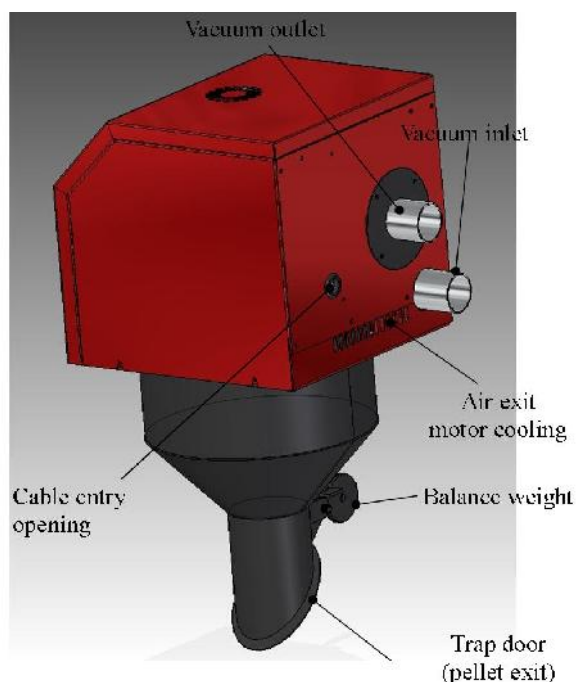


Figure 3-2. Rear view of vacuum unit

The vacuum unit contains a vacuum motor that pulls air through the cyclone. Air to cool the vacuum motor is drawn in through a vent in the top of the enclosure and exhausted through an opening in the rear. Refer to Figures 3-1 and 3-2.

IMPORTANT: Ensure that the cooling vents on the top and at the rear of the vacuum unit are not obstructed at any time.

The cyclone section of the vacuum unit is located below the enclosure (located within the top part of the pellet hopper when fitted). It is fitted with a counterbalanced trap door at the bottom. This door is drawn closed by the vacuum generated when the motor is running. When the motor stops, and the vacuum ceases, the weight of the pellets collected in the cyclone pushes the door open and the pellets are deposited into the hopper.

The unit also incorporates an air pressure switch, that is operated by the pressure produced by the vacuum motor in order for the auger unit (located on the bulk pellet store) to run. Thus the auger motor can only run when the vacuum motor is operating.

The vacuum unit is lined with acoustic insulation to reduce the noise level.

Two steel connection spigots are provided, on the rear face of the unit, for connection of the vacuum system flexible tubes. Refer to Figure 3-2.

Two pre-wired leads with plugs provide the electrical connections between the vacuum unit and auger unit (3-way plug) and also to the pellet hopper (6-way plug).

The vacuum unit has a control panel fitted with an ON/OFF switch and indicator neon. Refer to Figure 3-3.



Figure 3-3. Vacuum unit control panel

For details on the operation of these controls, refer to the User Instructions in Section 11 of these Installation & User Instructions.

3.2 Auger Unit

The auger unit has been designed to bolt directly onto the Grant bulk pellet store (with the fixings supplied on the store) using the holes already present around the rectangular outlet opening at the base of the store. It can also be fitted to other bulk pellet stores by drilling the required holes (using the auger mounting flange as a template) – refer to Section 5.1.

The unit consists of a 410mm long auger, driven by an electric motor, which delivers pellets into the suction chamber. Refer to Figure 3-5. Two steel connection spigots are provided, on the end of the suction chamber, for connection of the vacuum system flexible tubes. Refer to Figure 3-5.

The auger motor and suction chamber are enclosed beneath a removable steel cover, held in place by two nuts.

A 3-pole 16A isolator is factory fitted to the auger unit for local isolation of the auger motor when required. This isolator is pre-wired to the auger motor. An electrical supply, from the 3-way plug on the vacuum unit, must be connected by the installer to the input of the isolator. Refer to Section 5 for electrical connection details.

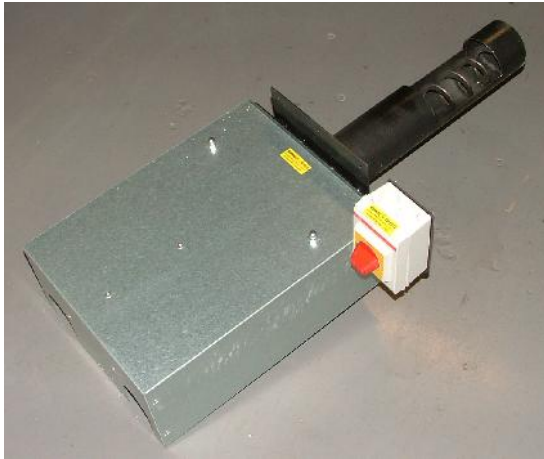


Figure 3-4. Auger unit with cover fitted



Figure 3-5. Auger unit with cover removed

3.3 Flexible Tubes

Two lengths of flexible tubes are used to connect the vacuum unit to the auger unit.

The tube supplied is a 51mm diameter reinforced Polyurethane flexible tube with a copper anti-static wire moulded into the tube wall. When fitting the tube, this wire must be exposed and placed in contact with the steel connections (on the vacuum and auger units) at each end. Refer to Section 5.3 for details.

The maximum length of tube between the vacuum and auger units is 20 metres (i.e. 2 x 20 metres lengths - one each way). The maximum rise over that length is 5 metres. No reduction in this maximum allowance is required for any changes in the height of the tube over the length of run.

Both tubes are secured at each end, to the connections on the vacuum and auger units, using the pipe clips provided with the kit. Refer to Section 5.3 for details.

Any pellet tubes run against walls **MUST** be adequately supported at no more than 1 metre centres, and at either sides of a bend in the tube, using the 50mm plastic pipe clips provided.

3.4 Operating Sequences

The vacuum unit has a 'VACUUM SYSTEM' switch on the control panel. When set to ON, the input is in series with the ON/STANDBY switch on the Spira boiler.

3.4.1 Automatic Mode

With the 'VACUUM SWITCH' switch is set to ON, the red neon on the switch is lit indicating that the vacuum system is operational.

When the weight of pellets in the pellet hopper falls below the minimum level the contents diaphragm switch will be activated. The vacuum motor will start and create a vacuum in the cyclone, closing the trap door at base of the cyclone.

The air pressure switch in the vacuum unit is also activated, switching on the pellet auger in the base of the bulk pellet store. This pulls pellets into the suction chamber of the auger unit,

where they are drawn into and through the flexible suction tube to the vacuum unit, and then deposited in the cyclone. The red indicator neon on the vacuum unit control panel will blink on and off during this process.

The pellet auger runs for 70 seconds and is then automatically switched off. The vacuum motor runs for 85 seconds before it is automatically switched off (i.e. it runs on for 15 seconds after the auger has stopped to ensure no pellet build up in the tubes).

When the vacuum unit stops, the loss of the vacuum allows the weight of the pellets to open the trap door and the pellets fall into the hopper.

If the weight of pellets in the hopper is still below the minimum level monitored by the contents diaphragm switch, then the process is repeated until sufficient pellets are deposited into the hopper to satisfy the contents switch. In the 'Night Time' mode the system will continue to operate and fill the hopper until the trap door of the cyclone is unable to close. Refer to Section 3.4.3 for details of 'Night Time' operation.

The red indicator neon on the vacuum unit control panel will then go off. The system is still operational and will start again when the weight of pellets in the pellet hopper falls below the minimum level, as monitored by the contents diaphragm switch.

The vacuum system will deliver approximately 6kg of pellets in each operation, and may therefore have to operate up to 4 times to satisfy the diaphragm contents switch in the pellet hopper.

If the pellet hopper contents switch is 'calling' for pellets and the vacuum and auger units are operating, but the pellet hopper contents switch is not satisfied after 5 minutes, then the system will go into 'fault' mode and the indicator neon on the control panel will remain on constantly. This would happen if the bulk pellet store was empty. The user can over-ride this by switching the 'VACUUM SYSTEM' switch to OFF (see below).

3.4.2 Manual Mode

With the 'VACUUM SYSTEM' switch is set to OFF, the hopper will function as if no vacuum system is fitted.

In this setting, the pellet hopper can be fed with bagged pellets for as long as required.

The switched live to the boiler will be interrupted when the weight of pellets in the pellet hopper falls below the minimum level of the contents diaphragm switch, and the burner will shut down.

3.4.3 'Night Time' mode

It is possible to set the vacuum system to automatically fill the pellet store with sufficient pellets, at a suitable time (e.g. during the evening), to avoid the automatic operation of the vacuum system during the night time.

To do this, refer to the User Instructions in Section 9 of these instructions.

4. Installation

4.1 Auger Unit

To fit the auger unit to the Grant bulk pellet store, use the following procedure:

1. Unscrew and remove the two domed nuts and remove the galvanised steel cover from the auger unit. Refer to Figure 4-1.

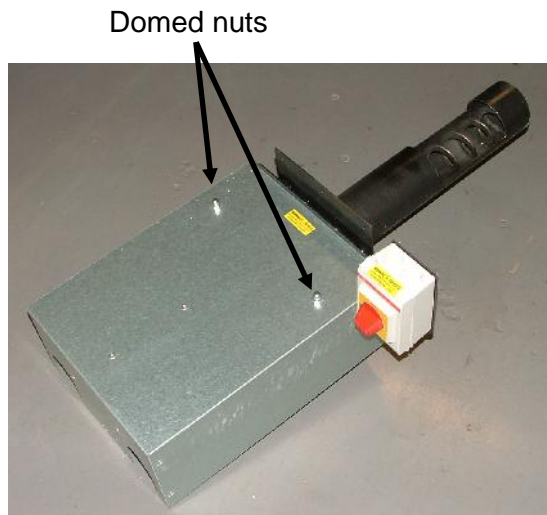


Figure 4-1A. Auger unit with cover fitted

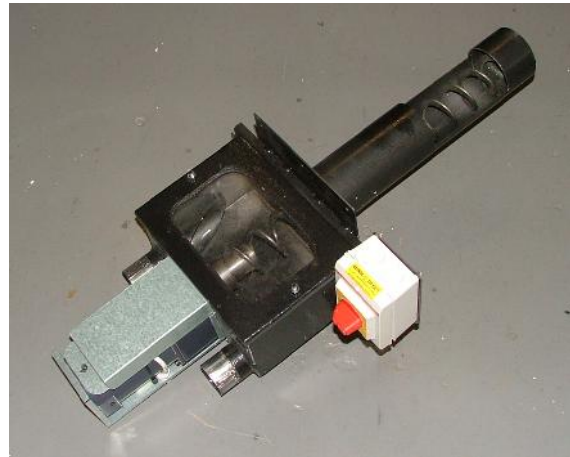


Figure 4-1B. Auger unit with cover removed

2. Unscrew and remove the four nuts holding the mounting flange to the auger unit and remove the flange over the auger. Refer to Figure 4-2. Leave the circular neoprene gasket in place on the auger.

IMPORTANT: Take care not to strain the cable between the isolator (on the mounting flange) and the auger motor (in auger unit).

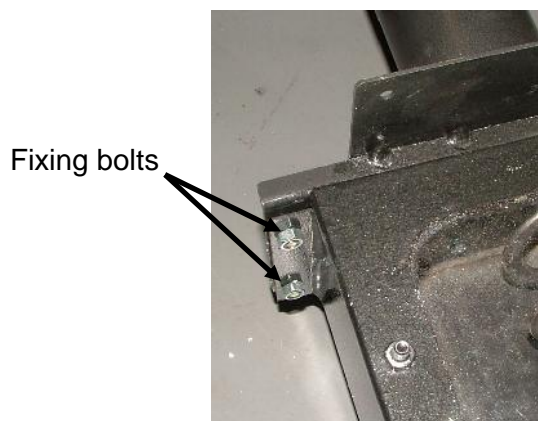


Figure 4-2A. Auger unit flange fixings - left

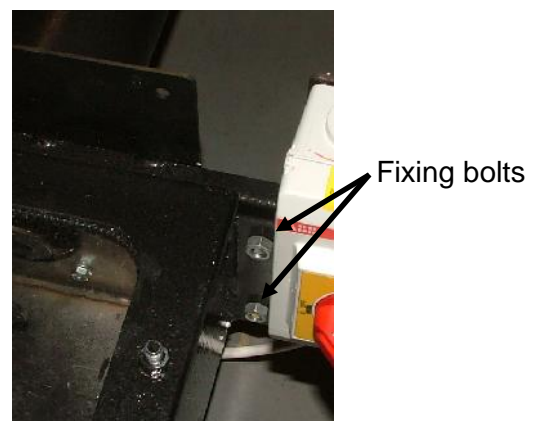


Figure 4-2. Auger unit flange fixings - right

3. On the bottom section of the bulk pellet store, unscrew and remove the eight M8 screws around the outlet opening/auger sleeve. Remove and discard the flange and auger sleeve but **keep the screws**. Refer to Figure 4-3.

4. Apply a bead of mastic sealant around the outlet opening. Refer to Figure 4-4.



Figure 4-3. Bulk store flange/sleeve



Figure 4-4. Bulk store opening

5. Position the auger unit mounting flange over the outlet opening, aligning the holes in the flange with those around the opening. Ensure that the electrical isolator is correctly positioned to the right of the hole. Refer to Figure 4-4.

IMPORTANT: Ensure that the four fixing bolts are correctly fitted through the mounting flange (from the back) before fitting the flange to the bulk pellet store.

6. Fasten the mounting flange to the bottom section of the pellet store using the eight M8 screws previously removed. Refer to Figure 4-4.



Figure 4-5. Auger unit mounting flange fitted to store



Figure 4-5. Auger unit mounted on store

7. Check that the circular neoprene gasket is correctly fitted on the auger, against the back face of the suction chamber. Fit the auger through the round hole in the mounting flange and align the four bolts on the mounting flange with the four holes on the auger unit. Fit the four nuts to secure the auger unit to the bulk pellet store. Refer to Figure 4-5.

4.2 Vacuum Unit

To fit the vacuum unit to the Grant Spira pellet hopper, use the following procedure:

1. Open the hinged door on top of the pellet hopper. Disengage the door stay from the slot (on left hand side) and lay the door flat on the rear top section.
2. Unscrew and remove the six screws and remove the steel grille from the front of the hopper. Refer to Figure 4-6.



Figure 4-6. Hopper door opened flat

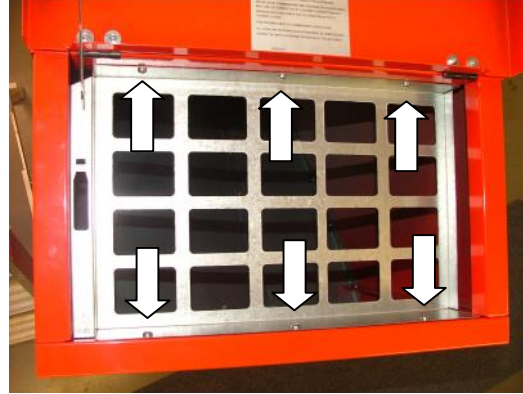


Figure 4-7. Hopper grille fixings

3. Close the door. Unscrew and remove the four screws holding the top rear panel to the hopper. Remove the complete top panel assembly (including hinged door) from the hopper.
4. Unscrew and remove the four nuts holding the square cover panel in place on the rear top panel of the hopper. Remove the cover panel from the hopper. Refer to Figure 4-8.



Figure 4-8. Hopper top panel



Figure 4-9. Panel and vacuum unit

5. Carefully place the vacuum unit, top down, on something to protect the paint finish. Invert the top panel and place it over the cyclone of the vacuum unit. Position the top panel so that the vacuum unit faces in the required direction – forwards or to the left or right. Refer to Figure 4-9.

6. Fix the panel to the underside of the vacuum unit using the four screws supplied with the vacuum unit – screwing through the panel into the threaded inserts in the base of the vacuum unit.

7. Unscrew and remove the three screws and nuts holding the pellet deflector channel inside the rear of the hopper. Take care not to drop the small nuts into the hopper! Remove the deflector channel from the hopper and replace the screws and nuts to block off the holes. Refer to Figure 4-10.

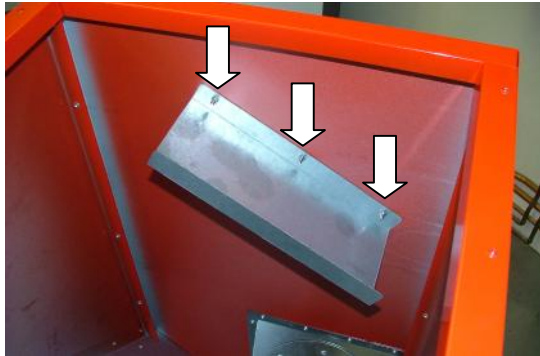


Figure 4-10. Pellet deflector channel



Figure 4-11. Vacuum unit on hopper

8. Re-fit the top panel (complete with vacuum unit) back on top of the hopper. Secure top panel using the four screws previously removed. Refer to Figure 4-11.

NOTE: THIS IS A 'TWO-MAN' JOB AS THE VACUUM UNIT IS HEAVY!

9. Open the hinged door on top of the pellet hopper and rest it against the front of the vacuum unit. To prevent the door from dropping closed whilst fitting the pellet dam plate, secure it to the vacuum unit using duct tape or similar.

8. Fit the pellet dam plate into the hopper with the bracket (on the back of the plate) facing toward the back of the hopper and the three fixing holes at the top. Refer to Figure 4-12. Align the three holes with the three corresponding grille fixing holes in the front edge of the hopper rear top panel.

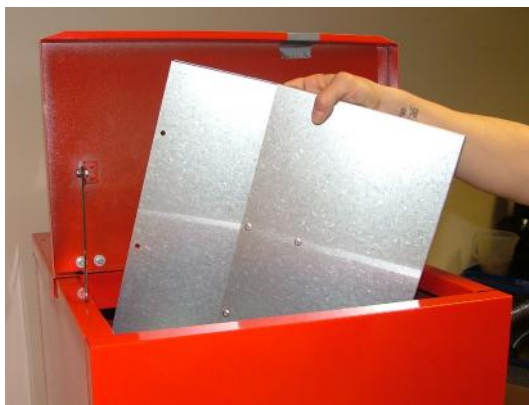


Figure 4-12. Pellet dam plate



Figure 4-13. Fitting dam plate and grille

9. Whilst holding the dam plate with one hand, insert the grille into the hopper opening (with the door stay opening to the left) and align the three holes in the rear flange of the grille with those in the pellet dam plate. Refer to Figure 4-13.

10. To initially hold both the grille and dam plate in position, fit one of the screws (previously removed) in the centre hole. Screw it in enough to hold, but do not fully tighten at this time. Refer to Figure 4-14. Fit a second screw in the centre hole in the front flange of the grille. Again, screw in enough to hold, but do not fully tighten at this time. Refer to Figure 4-15.



Figure 4-14. Fix dam plate and grille

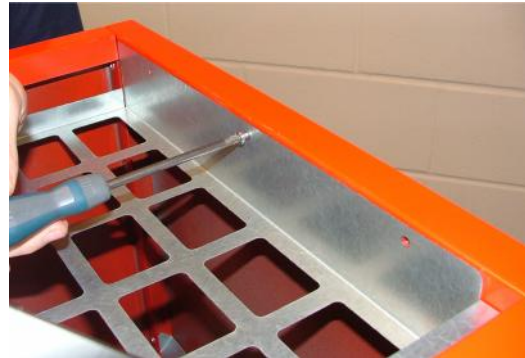


Figure 4-15. Fix grille at front edge

12. Fit the remaining four screws, but do not fully tighten initially. When all six are fitted tighten to secure both grill and pellet dam plate in place.

IMPORTANT: ENSURE THAT SCREWS ARE NOT DROPPED INSIDE HOPPER!

13. Locate the door stay in the slot (on left hand side) and check the door opens and closes correctly. Refer to Figure 4-16.



Figure 4-16. Grille and dam plate fitted

4.3 Flexible Tubes

Two flexible tubes must be used to connect the Vacuum and Auger units.

IMPORTANT:

The connection marked 'VACUUM FLOW' on the auger unit must be connected to the corresponding 'VACUUM FLOW' connection on the vacuum unit. Similarly, the 'VACUUM RETURN' connections on the auger and vacuum units must be connected together.

All connections must be made using the following procedure:

1. Cut the two flexible tubes to the required length.

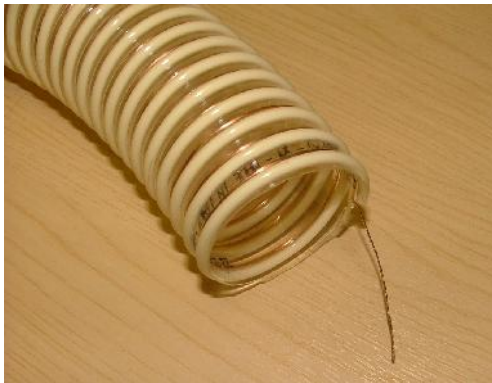


Figure 4-9. Anti-static wire exposed

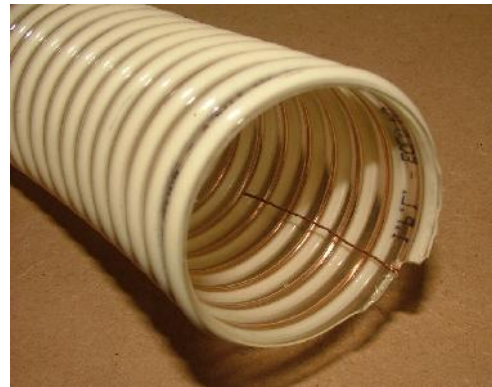


Figure 4-10. Anti-static wire folded in

2. At each end of the tube, cut back to expose approximately 40-50mm of the copper anti-static wire. Refer to Figure 4-9.
3. Place one of the jubilee clips provided over the end of the tube. Fold the anti-static wire back inside the tube. Refer to Figure 4-10.
4. Push the tube fully onto the connection spigot, ensuring that the anti-static wire is in contact with the unpainted steel surface of the connection spigot. Tighten the jubilee clip to secure the tube in place and clamp the anti-static wire to the spigot. Refer to Figure 4-11.



Figure 4-11. Tube secured with clip

4. Repeat this process for the other three tube connections.

5. Electrical

5.1 General

The electrical installation, including internal and external wiring and supplementary earth bonding, must be installed by a competent person to comply with the requirements of the Electricity at Work Regulations 1989 and BS7671:2008 – IEE Wiring Regulations 17th Edition (including all amendments).

5.2 Connection to Pellet Hopper

The Grant Spira pellet boiler requires a 230V ~ 50 Hz supply.

The electrical supply to the boiler is connected to the pellet hopper. Refer to either Figure 5-2 (for single boiler hopper) or Figure 5-3 (for double boiler hopper) for the electrical wiring diagram for the pellet hopper.

Note: The hopper is fitted with a selector switch (located inside the wiring centre). Ensure that this switch is set to the 'BULK STORE' position when connecting the 6-way pre-wired plug from the hopper to the Vacuum unit. See Figure 5-1.

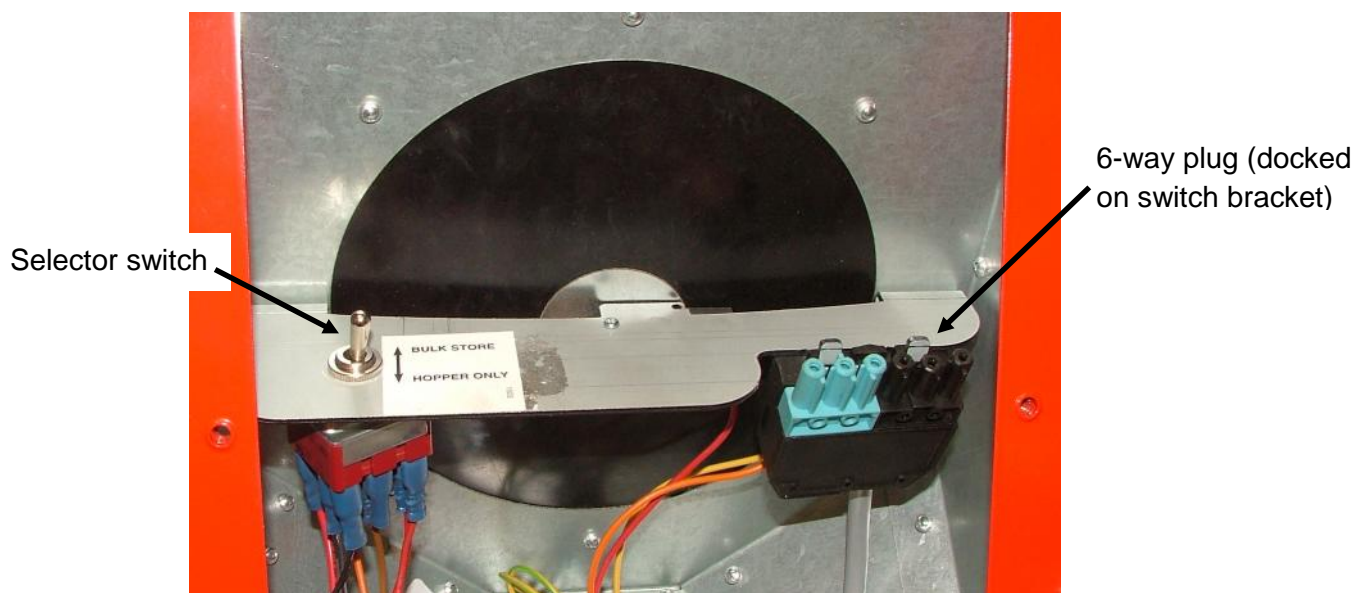


Figure 5-1. Location of selector switch (inside hopper wiring centre)

The supply to the hopper/boiler must be fused at 5 Amp. There must only be one common fused double pole isolator providing complete electrical isolation for the control system, Spira hopper/boiler and Spira-Vac system.

The power supply cable to the hopper should be at least 0.75 mm² PVC as specified in BS 6500, Table 16.

Refer to the main Installation Instructions, supplied with the boiler, for further details on the wiring of the electrical system controls and the other electrical connections on the boiler to be made during installation.

5.3 Connection of Vacuum Unit to Pellet Hopper

The 230V ~ 50 Hz electrical supply, required to operate the Grant Spira-Vac system, is provided from the boiler pellet hopper.

This power supply and switched live (to start the vacuum system when the contents switch in the hopper detects a minimum pellet level) is provided from the hopper via a pre-wired flying lead and 6-way plug. Note that when supplied, the 6-way plug and lead is located inside the hopper wiring centre.

This plug connects to a corresponding 6-way socket on the pre-wired flying lead from the vacuum unit. Refer to Figure 5-4.

To connect the hopper to the Vacuum unit:

- Remove the wiring centre cover from the rear of the hopper.
- Unclip the 6-way plug from diaphragm switch bracket.
- Pass the 6-way plug lead through the grommet just below the wiring centre cover.
- Set the selector switch on the diaphragm switch bracket to the 'BULK STORE' position. See Figure 5-1.
- Replace the wiring centre cover and fasten in place using the screws previously removed.
- Connect the 6-way plug to the corresponding 6-way connector on the pre-wired flying lead fitted to the Vacuum unit. Ensure that the plug and socket are fully pushed together until the small catch clicks into place.

5.4 Connection of Vacuum Unit to Auger Unit

The auger unit is supplied with a factory fitted isolator, which is pre-wired to the auger motor.

The electrical supply to operate the auger unit is supplied from the vacuum unit. The connection is made via the 3-way plug (on the pre-wired flying lead from the vacuum unit).

The corresponding 3-way socket (to fit the power supply plug from the vacuum unit) is supplied with the Spira-vac system. This should be fitted to the supply cable used to connect the vacuum system to the electrical isolator mounted on the auger unit. Refer to Figure 5-5 for details of the plug and socket connection between the vacuum unit and auger unit.

The cable between the 3-way plug connection (at the vacuum unit) and the electrical isolator (on the auger unit) must be made using a suitable size and type of cable, dependant on the cable length and the route taken to the auger unit. Where this is external to the building this cable must be of a suitable specification, e.g. UV stabilised PVC sheath, SWA cable, etc. depending on the application.

5.5 Wiring Diagrams

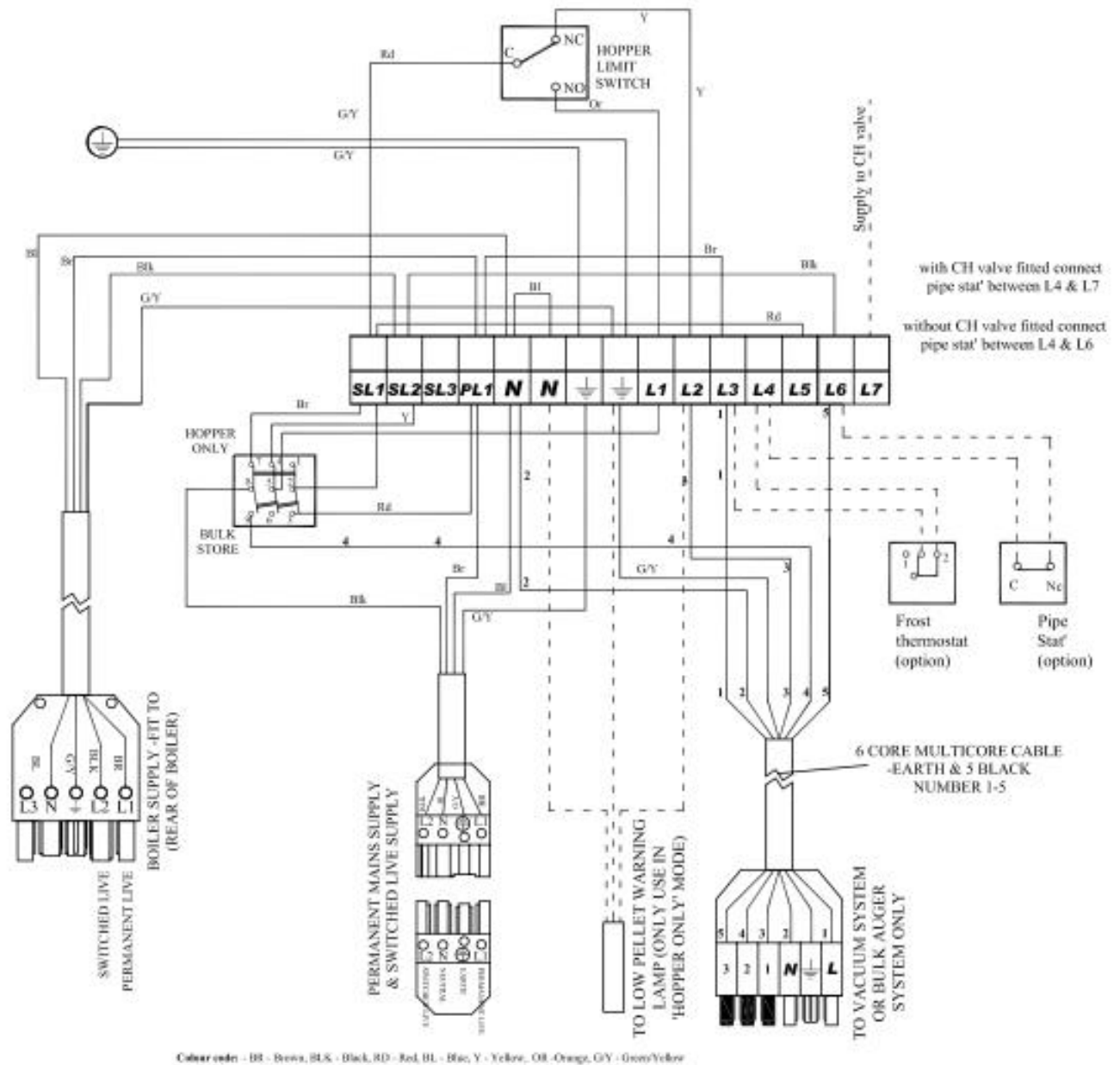


Figure 5-2. Spira pellet hopper wiring diagram – single hopper.

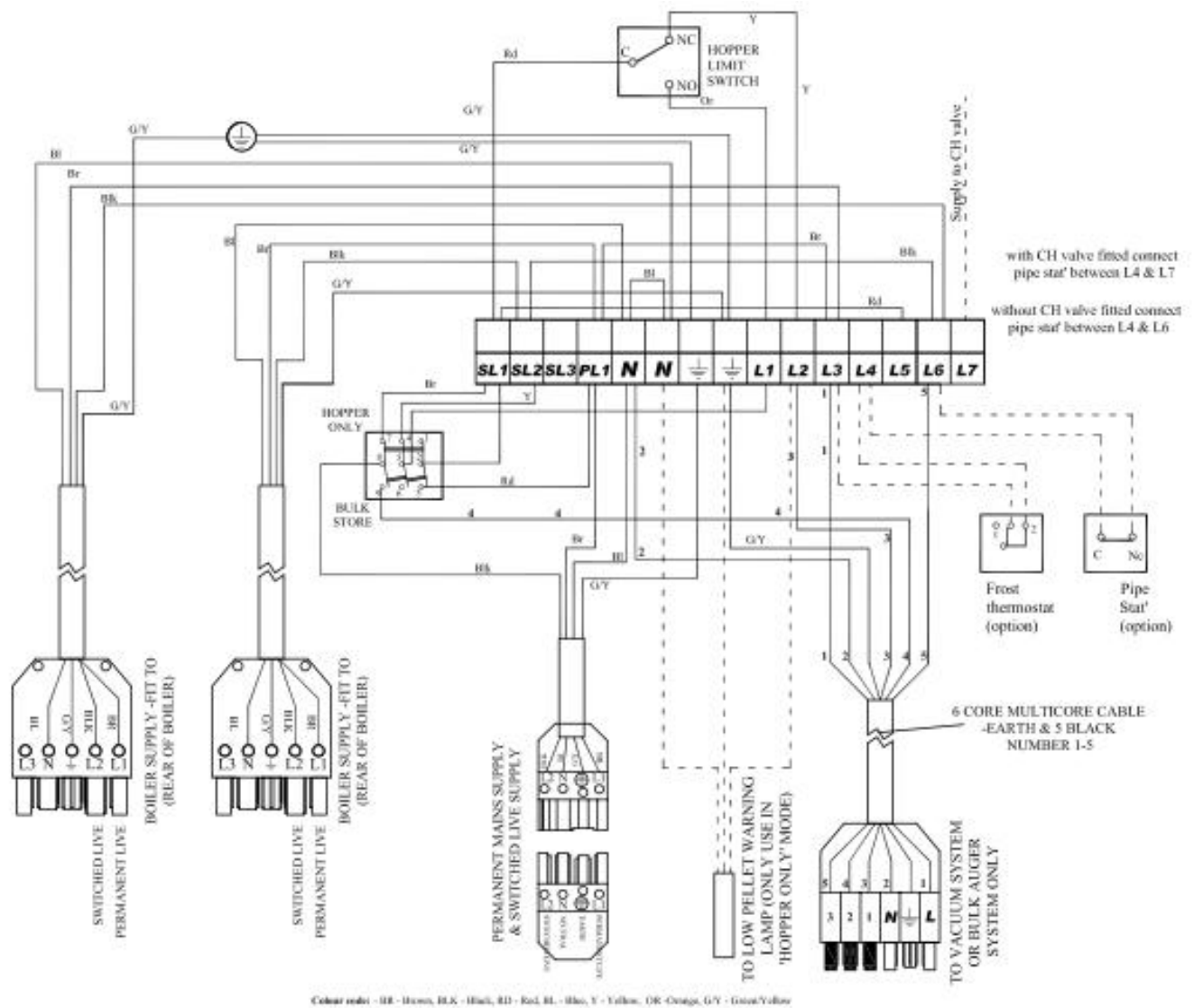


Figure 5-3. Spira pellet hopper wiring diagram – double hopper.

VACUUM AUGER UNIT

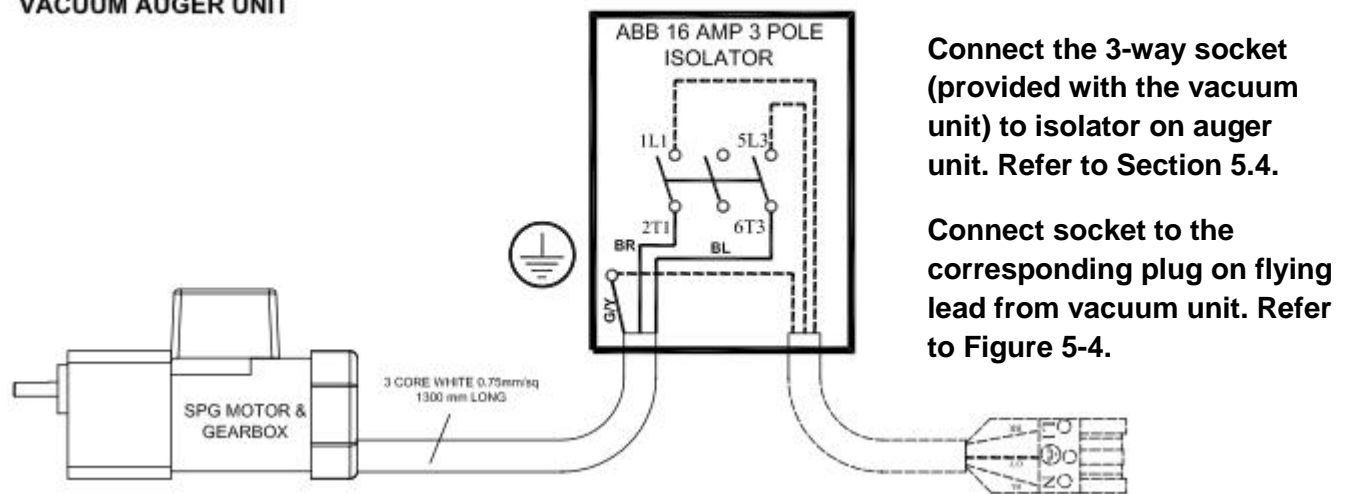


Figure 5-5. Connection between vacuum unit and auger unit.

6. Commissioning

6.1 General

The Grant Spira-Vac system should be commissioned as part as the overall commissioning of the Grant Spira boiler to which it is fitted. Reference must be made to Section 9 of the main Installation instructions supplied with the boiler.

IMPORTANT

BEFORE attempting to prime the pellet hopper auger (as covered in Section 9.3 of the main Installation instructions provided with the boiler) it is essential to first transfer pellets from the bulk store into the pellet hopper using the Spira-Vac system

6.2 Procedure

To commission the vacuum system for the first time follow the procedure below:

1. Check the electrical supply to the hopper/boiler is isolated, i.e. switched off at the fused isolator.
2. Check the boiler ON/STANDBY switch to STANDBY.
3. Set the vacuum system switch (on the vacuum unit) to OFF.
4. Check that both vacuum system tubes are correctly fitted between the vacuum unit and auger unit. Refer to Section 4.2 for details.
5. Check that there is a sufficient quantity of pellets in the bulk pellet store.
6. Switch the electrical isolator (on the auger unit) to ON.
7. Switch on the electrical supply to the hopper/boiler at the fused isolator.
8. Switch the vacuum system switch to ON. The vacuum unit should now start and the RED indicator neon will blink on and off indicating that pellets are being delivered to the pellet hopper from the bulk store. Refer to Section 9 (User Instructions) for further details.

The vacuum system will operate several times to deliver enough pellets to satisfy the contents switch in the pellet hopper. Once this has been done the vacuum system will stop and the RED indicator neon on the vacuum unit will go out.

The pellet hopper auger can now be primed. Follow the procedure given in Section 9.3 of the main Installation Instructions provided with the boiler.

NOTE

During the priming process the pellet level in the hopper will fall. The contents switch will automatically start the vacuum system to top up the pellet level in the hopper. It will automatically stop when the contents switch is satisfied.

After the pellet hopper auger is fully primed, leave the vacuum system switch set to ON.

7. Servicing

IMPORTANT Before commencing any service work on the Grant Spira-Vac system, ensure that the electrical supply from the pellet hopper is isolated, as follows:

- Set the On/Off switch on the Spira-Vac vacuum unit control panel to OFF.
- Disconnect the 6-way connector between the pellet hopper and the vacuum unit.

This will enable the boiler to be left operating whilst the Spira-Vac system is serviced.

On completion of the service work, re-connect the electrical supply from the pellet hopper using the reverse of the above procedure.

7.1 Vacuum Unit

1. Remove the cover from the vacuum unit, as follows:

- Unscrew and remove the two upper outer screws at the rear of the vacuum unit. Refer to Figure 7-1.
- Slacken off the four screws – two on each side, at the bottom of the cover sides. Refer to Figure 7-2.
- Carefully lift the cover up and off the vacuum unit taking care to disconnect 'in-line' connection in the earth wire before completely removing the cover from the vacuum unit. Refer to Figure 7-3.



Figure 7-1. Cover fixing screws - rear

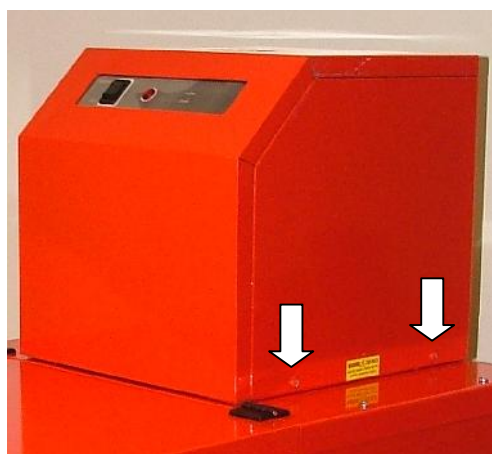


Figure 7-2. Cover fixing screws - sides



Figure 7-3. Earth wire connector

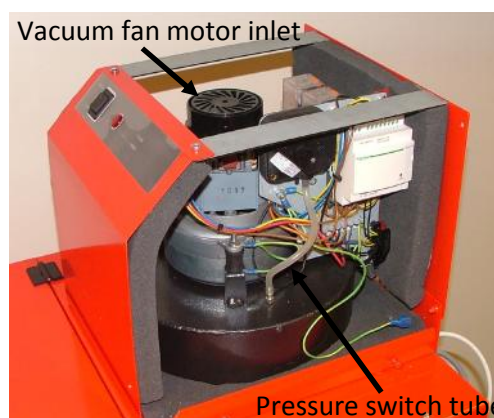


Figure 7-4. Vacuum unit without cover

2. Carefully clean out any dust and fluff from within the vacuum unit enclosure. In particular ensure that the inlet to the vacuum fan motor is clear. Refer to figure 7-4.
3. Check the vacuum unit cover, remove any dust and fluff from the inner surfaces taking care not to damage the acoustic lining. Check that the inlet grille in the top surface is clear.
5. Check the condition of the pressure switch tube.
6. Replace the vacuum unit cover using the reverse of the removal procedure.

IMPORTANT: Ensure that the 'in-line' connection of the earth wire is remade before fitting the cover. Refer to Figure 7-3.

7.2 Auger Unit

1. Isolate the electrical supply to the auger motor using the remote isolator mounted on the auger unit. Set the isolator to OFF and lock it off.
2. Unscrew and remove the two domed nuts and remove the galvanised steel cover from the auger unit. Refer to Figure 7-5.
3. Inspect the suction chamber through the glass panel. Check for any signs of blockage that could interfere with the operation of the auger. Refer to Figure 7-6.
4. If necessary, unscrew and remove the two nuts and remove the top cover from the suction chamber. When replacing the cover ensure that it is correctly fitted before tightening nuts.

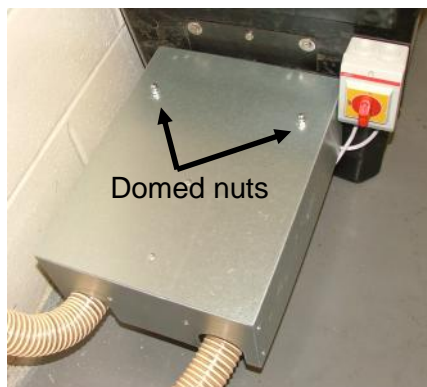


Figure 7-5. Auger unit with cover



Figure 7-6. Suction chamber window

7.3 Pellet Tubes

1. Check that BOTH pellet tubes are securely connected at both the vacuum unit and auger unit ends, and that the anti-static wire is in contact with the unpainted steel surface of the connection spigot. Refer to Section 4.3 for details.
2. If necessary, tighten the jubilee clip to secure the tube in place and clamp the anti-static wire to the spigot. Refer to Figure 4-11.
2. Check along the entire length of both pellet tubes for
 - a) Any signs of damage or wear – either internal or external.
 - b) Any signs of a blockage – rectify as necessary.

8. Warranty

The Spira-Vac Warranty

Dear Customer

You are now the proud owner of a Grant Spira Vac wood pellet supply system from Grant Engineering (UK) Ltd, which has been designed to give years of reliable, trouble free operation.

Grant Engineering (UK) Ltd. Guarantees the manufacture of the Spira-Vac vacuum system including all electrical and mechanical components for a period of twelve months from the date of installation, unless the installation was more than six months from the date of purchase, in which case the warranty period will commence six months from the date of purchase, provided the boiler is installed in full accordance with the installation instructions provided.

This will be extended to a period of two years if the boiler and Spira-Vac system is registered with Grant UK within thirty days of **installation** and it is serviced at twelve month intervals. See Main Terms and Conditions below.

IMPORTANT

Please register your Grant Spira Wood Pellet boiler and Spira-Vac system with Grant UK within thirty days of installation. To do so visit www.grantuk.com and follow the links to the 'Householder Zone', where you can register your boiler for a further one year warranty (giving two years from the date of purchase). This does not affect your statutory rights.

Breakdown during the Manufacturer's Warranty

If your Grant Spira-Vac system should fail within the warranty period, you must contact Grant Engineering (UK) Ltd, who will arrange for the repair under the terms of their Warranty, providing that the boiler and vacuum system has been correctly installed, commissioned and serviced (if the appliance has been installed for more than twelve months) by a competent person and the fault is not due to tampering, running out of fuel, the use of unapproved wood pellets, misuse, or the failure of any external components not supplied by Grant UK (e.g. electrical connections, etc.). This extended two year warranty only applies if the boiler and vacuum system is registered with Grant UK within thirty days of installation.

In the first Instance:

Contact your installer or commissioning engineer to ensure that the fault does not lie with the system or any other components, or any incorrect setting of the system controls that falls outside of the manufacturer's warranty otherwise a service charge could result.

If a fault covered by the manufacturer's warranty is found:

Ask your installer to contact Grant Engineering (UK) Ltd Service Department on 01380 736920 who will arrange for a qualified service engineer to attend to the fault.

Free of Charge Repairs:

During the first two years no charge for parts or labour will be made provided that the boiler and vacuum system has been installed and commissioned correctly in accordance with the manufacturer's instructions, it was registered with Grant UK within thirty days of installation and, for boilers over twelve months old, details of annual maintenance is available.

The following documents must be made available to Grant UK on request:

- Proof of purchase
- Grant Commissioning report form
- Service documents

Chargeable Repairs:

A charge may be made (if necessary following testing of parts at Grant UK) if the breakdown is due to any faults caused by the plumbing or heating system, e.g. contamination of parts due to system contamination, sludge, scale, debris or trapped air. See Extent of Manufacturer's Warranty below.

Extent of Manufacturer's Warranty

The Manufacturer's Warranty does not cover the following:

- If the boiler has been installed for over two years.
- If the boiler has not been commissioned, or serviced by a competent person in accordance with the installation and servicing manual.
- Faults due to tampering, unauthorised adjustment, neglect, misuse or operating the boiler contrary to the manufacturer's Users Instructions.
- Damage due to external causes such as bad weather conditions (flood, storms, lightening, frost, snow, ice), fire, explosion, accident or theft.
- Faults due to incorrectly sized expansion vessel(s) or incorrect vessel charge pressure.
- Faults caused by external electrics and external components not supplied by Grant UK.
- Problems caused by lack of pellets, the use of unapproved pellets or faults with the pellet storage and supply system (if not supplied by Grant UK).
- The vacuum system has been installed for over two years.
- Faults due to contamination of the pellet storage, e.g. water or debris.
- Priming of any pellet augers or removing any blockages from pellet supply tubes.
- Problems due to the flue system being incorrectly fitted or not installed to meet installation requirements.
- Boiler servicing, de-scaling or flushing.
- Cleaning condensate traps and thawing frozen condensate pipework.
- Checking and topping-up system pressure.
- Cleaning out or thawing out of condensate discharge pipes and traps.
- Electrical cables and plugs, external controls not supplied by Grant UK.
- Heating system components, such as radiators, pipes, fittings, pumps and valves not supplied by Grant UK.
- Consumable items including, but not limited to, gaskets.

Remember - before you contact Grant:

Ensure the boiler and vacuum system has been commissioned and serviced by a competent person in accordance with the Installation and servicing manual.

Ensure there is an adequate quantity of the approved type of pellets in the hopper (and bulk store if fitted) to supply the burner.

Consult the User Instructions supplied with the boiler for guidance.

NOTE

Do not wait until your wood pellet supply runs out before you order some more.

Dust in the bottom of the pellet store or hopper may prevent the supply of pellets to the burner. It is important that this is checked for and, if dust is present, removed on an annual service to prevent nuisance stoppage of the boiler.

Terms of Manufacturer's Guarantee

1. The Company shall mean Grant Engineering (UK) Limited.
2. The vacuum system is guaranteed for two years from the date of purchase providing that after twelve months the annual service has been completed and the boiler/vacuum system registered with the Company within thirty days of the installation date. Any work undertaken must be authorised by the Company and carried out by an approved service agent.
3. This guarantee does not cover breakdowns caused by incorrect installation, neglect, misuse, accident or failure to operate the boiler and/or vacuum system in accordance with the manufacturer's instructions.
5. The boiler and vacuum system is registered with the Company within thirty days of installation. Failure to do so does not affect your statutory rights.
6. This guarantee is not transferable unless sanctioned by the Company.
7. The Company will endeavour to provide prompt service in the unlikely event of a problem occurring, but cannot be held responsible for any consequences of delay however caused.
8. This guarantee applies to Grant boilers installed on the UK mainland, Isle of Man and Channel Islands only. Provision of in-warranty cover elsewhere in the UK is subject to agreement with the Company.
9. All claims under this guarantee must be made to the Company prior to any work being undertaken. Invoices for call out/repair work by any third party will not be accepted unless previously authorised by the Company.
10. Proof of purchase and date of installation, commissioning and service documents must be provided on request.
11. If a replacement vacuum system is supplied under the warranty (due to a manufacturing fault) the product warranty continues from the installation date of the original vacuum system, and not from the installation date of the replacement.

9. User Instructions

9.1 Introduction

This information is intended to assist the User in the operation of the Grant SPIRA-VAC wood pellet supply system when used in conjunction with a Grant SPIRA wood pellet boiler.

These instructions must be read and used in conjunction with the User Instructions supplied with the Grant Spira wood pellet boiler.

The Installers information for the installation and maintenance of this vacuum system is attached to the reverse of these instructions.

The following special text formats are used in this manual for the purposes listed below.

9.2 About the Spira-Vac system

The vacuum unit (mounted on the top of the pellet hopper) is connected to the auger unit (mounted on the bulk pellet store) by two flexible tubes.

When the level of the pellets in the pellet hopper fall to a minimum level the contents switch (built into the hopper) is activated. This in turn starts the vacuum motor in the vacuum unit and also the auger in the auger unit. The auger pulls pellets from the base of the pellet store and the vacuum draws the pellets through the suction flow tube to the vacuum unit.

Here the pellets are collected in the cyclone unit (beneath the vacuum unit - within the pellet hopper). After running for 85 seconds the vacuum motor stops. The trap door at the base of the cyclone opens and the pellets stored within fall into the hopper.

This process will be repeated several times until the contents switch in the bottom of the pellet hopper detects that the required amount of pellets have been delivered to the hopper.

10.3 Controls

The vacuum unit has a control panel with fitted with an ON/OFF switch and indicator neon. Refer to Figure 9-1.



Figure 9-1. Vacuum system control panel

Vacuum system ON/OFF Switch

When set to ON the vacuum system is operational and will start when the contents switch (in the hopper) detects minimum pellet level.

When set to OFF the vacuum system will not be operational and the small red neon on the switch will not be lit.

RED INDICATOR NEON

With the VACUUM SYSTEM switch is set to ON - This neon indicates any one of THREE conditions when the vacuum system is operational:



Blinking on and off – indicates that the vacuum system is operating and pellets are being delivered to the pellet hopper.



Off (not lit) – indicates that the vacuum system is not delivering pellets to the pellet hopper.



On (continuous) – indicates that there is a fault with the pellet delivery system

NOTE: If the VACUUM SYSTEM switch is set to OFF – the red neon will be off as the vacuum system is not operation.

11.4 Starting the system

Switch the VACUUM SYSTEM switch to ON. The vacuum system is now operational and will automatically operate when the pellet level in the pellet hopper falls to the minimum level.

11.5 'Night time' operation

It is possible to set the vacuum system to automatically fill the pellet store with sufficient pellets, at a suitable time (e.g. during the evening), to avoid the automatic operation of the vacuum system during the night time.

To do this, simply switch the VACUUM SYSTEM switch to OFF and then back to ON at the time you wish the store to be pre-loaded. This time will be automatically stored in the memory of the system control and the store will then fill at the same time every day (i.e. at 24 hour intervals).

If you wish to change the time the store is pre-loaded, then simply repeat the process at a different time and then this filling operation will be repeated at this new time every 24 hours.

During this filling operation the red indicator neon will blink intermittently (on for 0.5 seconds and off for 3 seconds). This differs from the normal automatic operation of the vacuum system where the neon blinks on and off for one second.

Once the vacuum system has filled the hopper with sufficient pellets to prevent operation during the night time period, the vacuum system will stop.

11.6 Manual operation

If you run out of pellets in your bulk pellet store the vacuum system cannot operate as there are no pellets to deliver to the pellet hopper.

Until the pellet store can be re-filled, the pellet hopper can be hand fed with bagged pellets.

To do this, set the VACUUM SYSTEM switch to OFF. The pellet hopper will now operate as if no vacuum system is installed.

The hopper can hold up to 110kg of pellets (small single boiler hopper), 200 kg (large single boiler hopper) or 140kg (double boiler hopper). The level of pellets in the hopper needs to be monitored and topped up as necessary to keep the boiler in operation.

If the level of pellets in the hopper falls to the minimum level the contents switch (built into the hopper) will automatically switch the boiler off. In this case simply put more pellets (at least 20kg) into the hopper to satisfy the contents switch and the boiler will start again.



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