PROVISIONAL COPY

Grant Biomass Storage Solutions

Pellet Stores

Installation and User Instructions

DOC99 Rev00 - October 2014

Contents

Important note

After installing the pellet store, leave these instructions with the householder.

1 Introduction

This manual is intended to guide engineers in the installation of Grant Pellet Stores.

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

WARNING
Warning of possible human injury as a consequence of not following the instructions in the warning.

CAUTION
Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

NOTE
Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader

1.1 General

Our range of pellet stores are designed and manufactured in the UK by Grant and are suitable for both internal and external use to maximise pellet storage.

All Grant pellet stores (excluding pre-assembled) are fitted with a unique cyclone unit to dampen pellet velocity on delivery minimising damage to the pellets and reducing dust creation.

The pellet stores come flat-packed for assembly on-site with the exception of the 0.5 and 0.75 tonne stores which are delivered pre-assembled.

NOTE
Failure to install and commission the pellet store in accordance with these installation and servicing instructions will invalidate the guarantee.

1.2 Safekeeping of the Installation Instructions

These Installation & User Instructions must be handed over to the householder on completion of the installation. They should be kept for future reference as necessary.

1.3 Construction

The pellet stores are constructed from 100% galvanised steel.

1.4 Installation

Installation must be carried out by a competent installer in compliance with all current local planning requirements, Building Regulations, codes of practice, Health and safety legislation, and any relevant local Bylaws and regulations in force at the time.

NOTE
Installation of a pellet store is considered to be Permitted Development, not requiring an application for planning permission. However, it is advisable to check with your local planning authority.

The installation should also be in accordance with the latest editions of the following standards and codes of Practice:

- Recommendations for storage of wood pellets (UK Pellet Council)
- HSE Safety Notice OPSTD 3-2012 (Health and Safety Executive)
- HSG103 Safe Handling of Combustible Dust – precautions against explosions (Health and Safety Executive)
- Confined Spaces Regulations 1997 (Health and Safety Executive)
- Work at Height Regulations 2005 – WAHR (Health and Safety Executive)
- ONORM M7137 standard should be used as a guideline for bulk storage units

1.5 Connections

The flat packed pellet stores are fitted with fill and vent pipes for bulk filling and dust extraction.

The pre-assembled (500 and 750kg stores) do not have fill and vent pipes and can only be bag-filled.

1.6 Location

The pellet store must be mounted on a solid, level surface (concrete or paving slabs with hard core base) at least 200mm larger than the footprint of the pellet store.

It is recommended that the pellet store is located in an easily accessible area for the delivery vehicle as the further the pellets have to be blown, the more dust is generated.

NOTE
If taking delivery of bulk bags, please ensure the delivery vehicle has a pump truck or fork lift truck to transport the pellets to the final delivery point.

1.7 Filling

The pellet stores are fitted with a dust extraction connection. We would recommend using a delivery vehicle which can offer the facility of dust removal during filling. If this is not possible, then dust extraction cap should still be opened during the filling process and a filter sock should be used to trap the dust generated.

It is recommended that the filling pressure from the delivery vehicle does not exceed 2 bar. For further information, refer to Section 8.

1.8 Ventilation

Wood pellets do give off carbon monoxide, so certain precautions should always be taken. For further information, refer to Section 10.

1.9 Pellet Specification

There are a wide range of wood pellets, of differing qualities, available on the UK market. However, if the pellet store is being used in conjunction with a wood pellet boiler receiving RHI payments, only 6mm wood pellets that conform to EN Plus Grade A1 standard EN14961-2 can be used.

For more information, refer to Section 8.5.

2 Technical Data

2.1 Pellet Store Technical Data

Product code	Size**	Exterior finish	Footprint	Height	Volume	Weight (empty)	Weight (full)
Units	Tonnes	Not applicable	Metre (m)	Millimetres (mm)	Cubic metre (m^3)	Kilogram (kg)	Kilogram (kg)
WPXG05T*	0.5	Galvanised	1 x 1	1375***	0.76	70	570
WPXG05TP*	0.5	Powder Coated	1 x 1	1375***	0.76	70	570
WPXG75T*	0.75	Galvanised	1 x 1	1715***	1.15	83	833
WPXG75TP*	0.75	Powder Coated	1 x 1	1715***	1.15	83	833
WPXG15T	1.5	Galvanised	2 x 1	2395	2.30	310	1810
WPXG2T	2	Galvanised	2 x 1	2700	3.08	360	2360
WPXG25T	2.5	Galvanised	2 x 1	2900	3.85	375	2875
WPXG3T	3	Galvanised	2 x 2	2395	4.61	410	3410
WPXG35T	3.5	Galvanised	2 x 2	2700	5.38	472	3972
WPXG4T	4	Galvanised	2 x 2	2900	6.16	493	4493
WPXG5T	5	Galvanised	2 x 2	3200	7.70	555	5555
WPXG6T	6	Galvanised	2 x 2	3400	9.23	577	6577

* Delivered pre-assembled. 1½ to 6 tonne pellet stores are supplied flat-packed for on-site assembly
** Size of store in tonnes is based on a bulk density of 650kg/m^3
*** Allow a clearance of 450mm for lid

Table 2-1: Technical data

2.2 Pellet Store Components

Please refer to the component list supplied with your pellet store to ensure all parts have been received.

NOTE

Any claims in respect of goods damaged in transit or shortages in delivery must be made to Grant Engineering (UK) Limited within three days of delivery.

2.3 Exploded View

Awaiting image

2.4 Height to Fill Points

Size	Height to fill point (mm)
0.5 tonne	1371*
0.75 tonne	1711*
1.5 tonne	1600
2 tonne	1326
2.5 tonne	1530
3 tonne	1597
3.5 tonne	1329
4 tonne	1528
5 tonne	1333
6 tonne	1533

* Height to lid

Table 2-2: Height to fill points

2.5 Dimensions

IMAGE OF PREASSEMBLED STORES TO BE CONFIRMED

Figure 2-3: 0.5 and 0.75 tonne pellet stores

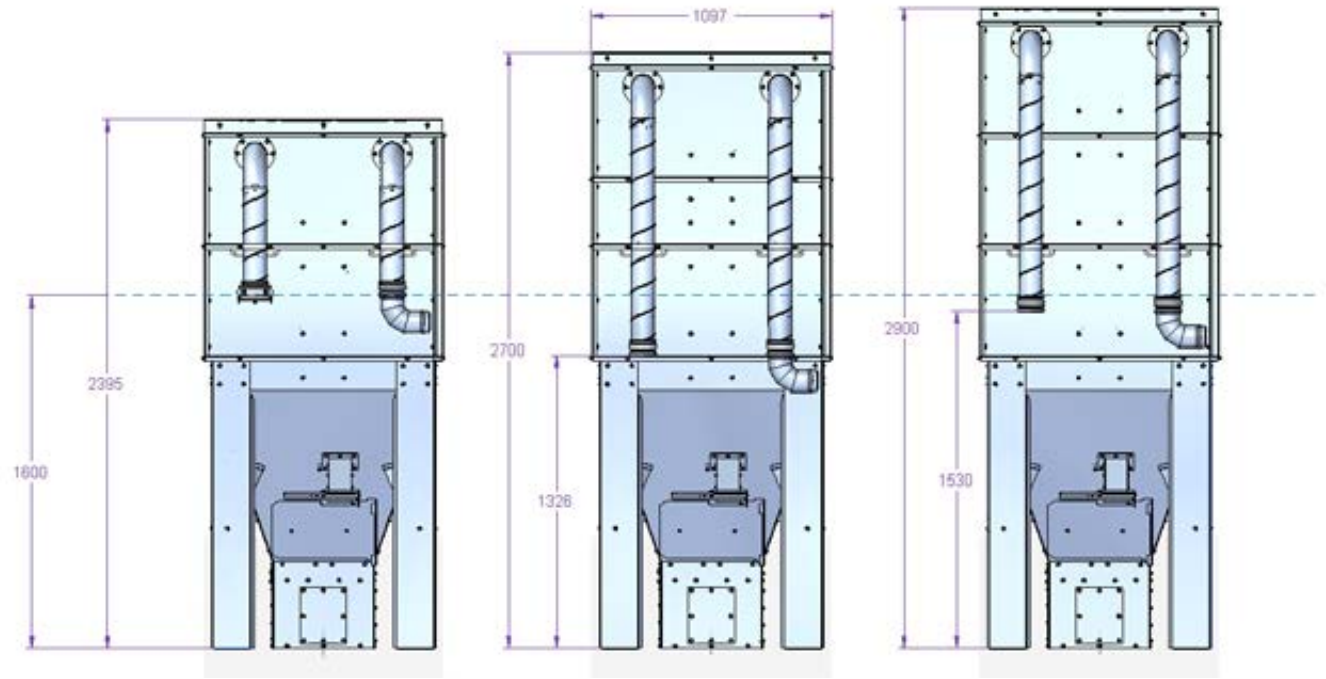


Figure 2-4: 1.5, 2.0 and 2.5 tonne pellet stores

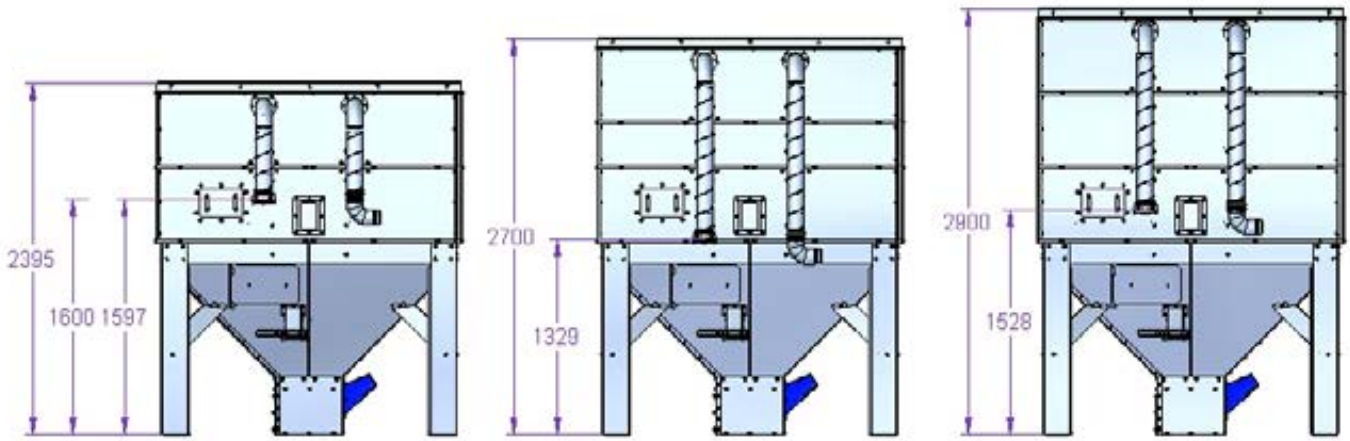


Figure 3, 3.5 and 4 tonne pellet stores

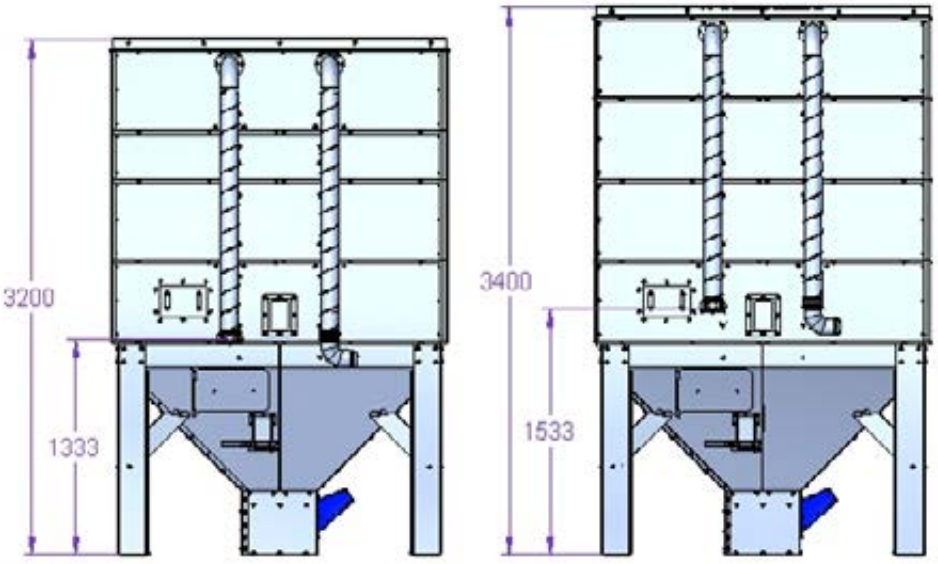


Figure 2-6: 5 and 6 tonne pellet stores

2.6 Clearances

Consideration must be given to the following clearances:

- Auger or vacuum system
- Overhead clearance, i.e. telephone wires and power lines
- 1 metre clearance in front of fill/vent pipes
- 200mm clearance on footprint of pellet store

3 Installation Information

3.1 Introduction

Assembly and installation should be performed by two or more people and protective gloves should be worn at all times when lifting the individual panels.

The pellet stores come flat-packed for assembly on-site with the exception of the 0.5 and 0.75 tonne stores which are delivered pre-assembled.

NOTE
Consideration should be given to weather conditions on the day of assembly, i.e. high winds when moving large sheets of steel.

Before starting any work on the pellet store please read the Health and Safety information given in Section 10

3.2 Water Ingress

IMPORTANT
In order to prevent the possibility of water ingress, all funnel sections MUST be connected to the sump box assembly with the flange bolted to the OUTSIDE face of the sump box.

Silicone must therefore be applied along the top edge of the outer face of the sump box on all four sides.
Refer to Figure 4.2.

The pre-assembled pellet stores are delivered with no further work required.

3.3 Pellet Store Location

The pellet store must be mounted on a level, solid surface, i.e. concrete or paving slabs with a hard core base to a depth of at least 200mm. This must extend past the footprint of the pellet store by at least 200mm.

This base if constructed of concrete, it must be fully cured prior to be pellet store being installed upon it.

It is recommended that the pellet store is located in an easily accessible area for the delivery vehicle as the further the pellets have to be blown, the more dust is generated.

NOTE
If taking delivery of bulk bags, please ensure the delivery vehicle has a pump truck or fork lift truck to transport the pellets to the final delivery point.

3.4 Preparation for Installation

With the units on the pallet, remove all outer packaging from the units.

Unpack the unit and/or accessories box supplied with the pellet store and check the component list against all items present.

With the flat packed pellet stores, all of the required components, i.e. pipe clamps, etc., are located in the sump box.

It is recommended to group quantities of the same components together beforehand for ease when assembling the pellet stores.

NOTE
Any claims in respect of goods damaged in transit or shortages in delivery must be made to Grant Engineering (UK) Limited within three days of delivery.

3.5 Tools Required for Installation

3.5.1 Flat Packed Pellet Store

- Protective gloves
- Knee pads
- Safety glasses
- 10mm spanners and ratchets
- Bradawl
- Rubber mallet
- Silicone gun
- Scissors
- Stanley knife

3.5.2 Pre-assembled Pellet Store

Details TBC

3.6 Equipment Required for Installation

3.6.1 Flat Packed Pellet Store

- Ladders
- Platform (dependent on height of pellet store)

3.6.2 Pre-assembled Pellet Store

Details TBC

3.7 Silicone and EPDM tape

The EPDM tape must be used during the assembly as per the instructions.

The EPDM tape must be fitted ‘sticky side’ down.

When the EPDM been applied, the tape will need to be pierced using a bradawl where bolts are required.

It is recommended that this is done as each strip of EPDM is applied rather than when the component is installed in position.

The silicone must be applied to any joins where there may be possibility of moisture ingress.

It is vital that this is done correctly for pellet stores located indoors to prevent the escape of dust during filling and for outside pellet stores to prevent the ingress of moisture into the store.

3.8 Nuts and bolts

The nut must always be installed internally with the bolt external to the pellet store.

CAUTION
Please take care to ensure no loose nuts and bolts are left in the pellet store as these will contaminate any wood pellet deliveries and will result in damage to the auger, vacuum system and burner.

3.9 Number of Side Panel Levels

The number of side panel levels vary dependent on the pellet store. Refer to Figures 2-4 to 2-6.

Size	Number of Side Panel Levels
1.5 tonne	2 (2 large)
2.0 tonne	3 (2 large, 1 small)
2.5 tonne	3 (3 large)
3 tonne	2 (2 large)
3.5 tonne	3 (2 large, 1 small)
4 tonne	3 (3 large)
5 tonne	4 (3 large, 1 small)
6 tonne	4 (4 large)

Pre-assembled stores are excluded from this table.

3.10 Orientation

Consideration must be given to the orientation of the sump assembly, the fill and vent pipes, viewing window and the bucket fill funnel section prior to installation.

The orientation of the sump assembly is dependent on which direction the pellets are to be taken from the pellet store. Consideration must be given to the shut-off slider so this can be easily accessed.

The fill and vent pipes must be installed so that they are easily accessible by the delivery driver.

It is also recommended that the bucket fill assembly is installed on the same side as the fill and vent pipes.

IMPORTANT
The final funnel section to install must always be the bucket fill funnel section due to the ‘lips’ on the panels.

4 Assembly of Flat Packed Pellet Store

4.1 Assembly Sequence

Step 1
Place the sump assembly on to the flat surface which the pellet store is being installed upon.

IMPORTANT
It is recommended that the pellet store is assembled in its final position and orientation to save manoeuvring the pellet store after assembly. Refer to Section 3.10.

The orientation of the sump assembly, the fill and vent pipes, viewing window and bucket fill funnel section will differ on each installation. These illustrations shown a 3.5 tonne store and are for guidance purposes only.

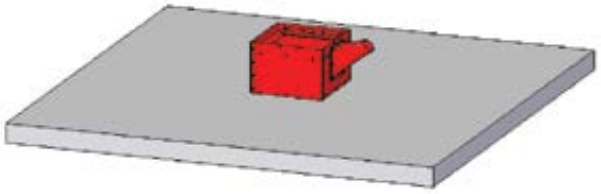


Figure 4-1: Placing the sump box

Step 2
Apply silicone along the top edge on the outside of all four faces of the sump box assembly, as shown in Figure 4-2.

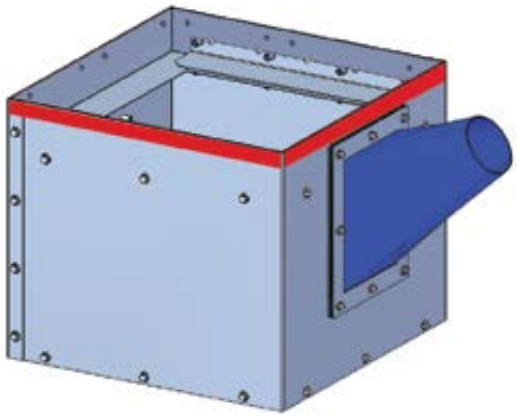


Figure 4-2: Applying silicone to sump box

Step 3
Place the first outer leg in position, ensuring the fixing flanges are facing inwards.

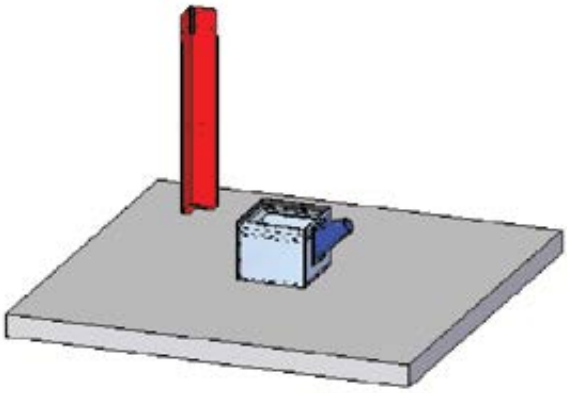


Figure 4-3: First outer leg

Step 4
Apply 180mm of EPDM tape to the leg ensuring its overlaps onto both panels.

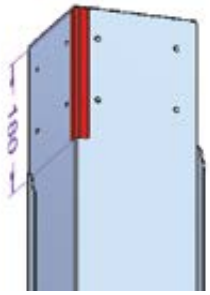


Figure 4-4: Applying EPDM to outer leg

Step 5
You will now start placing the funnel sections into position.
There are a total of eight funnel sections consisting of three different types.
You can differentiate between the different sections by the lasered squares and circles on the top left/right outer lip.
Refer to Figure 4-9 to view the installation sequence of the funnel sections

Step 6
Apply EPDM to the two lips of a '4 hole' funnel section.

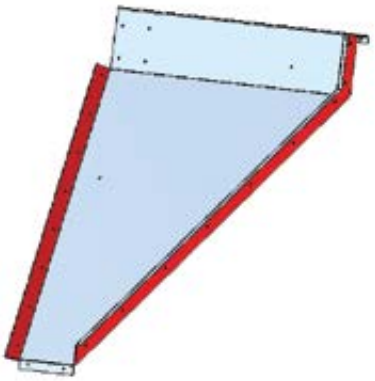


Figure 4-5: Applying EPDM to funnel section

Step 7
Place a 'four hole' funnel section into position against the sump assembly, with the lower flange against the OUTSIDE face of the sump box.

Secure with four nuts and bolts on the outer leg and two on the sump assembly.

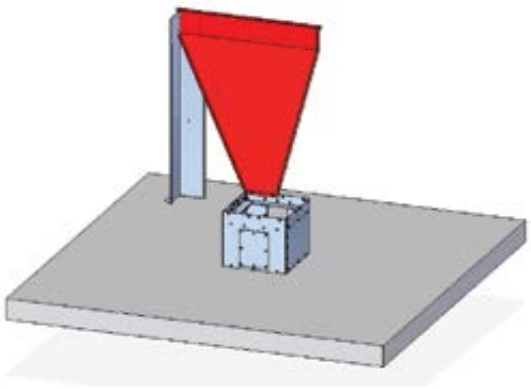
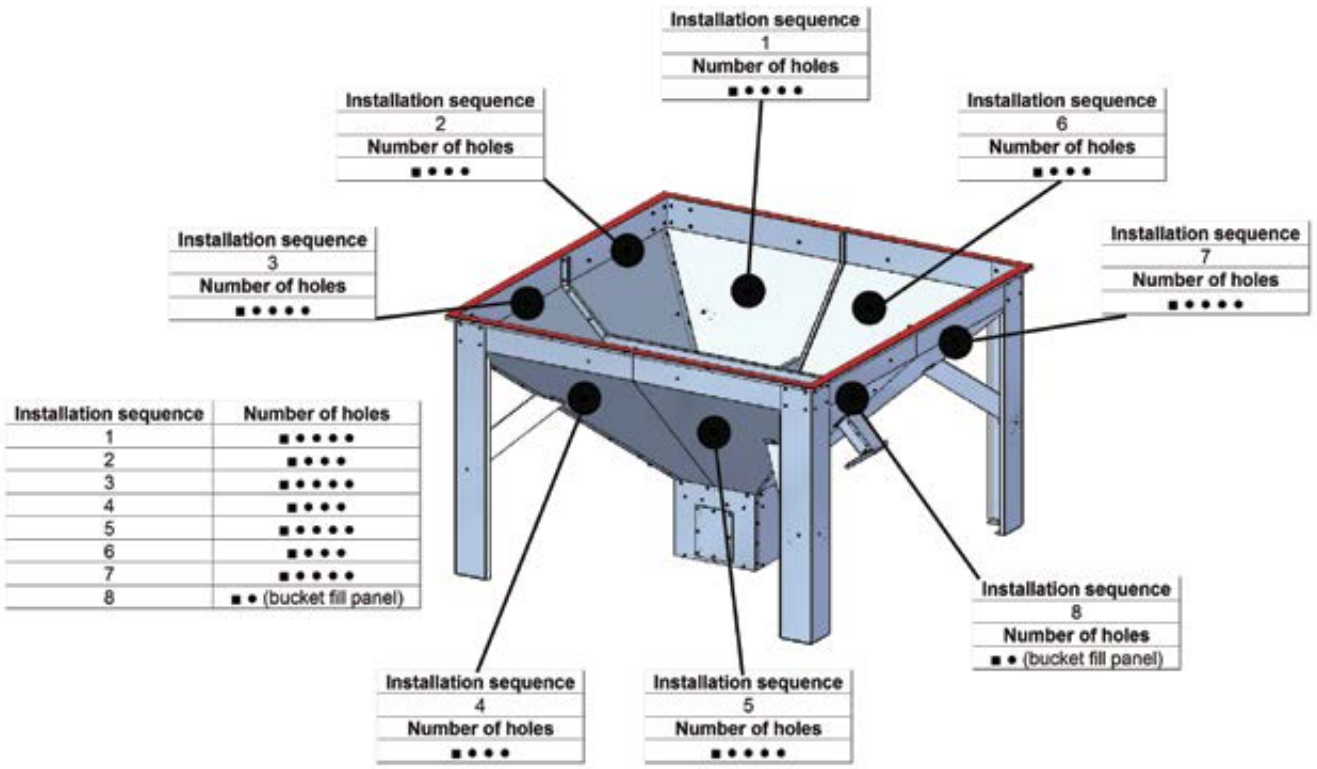


Figure 4-6: Fitting first funnel section



Installation sequence	Number of holes
1	■●●●●
2	■●●●
3	■●●●●
4	■●●●
5	■●●●●
6	■●●●
7	■●●●●
8	■● (bucket fill panel)

Figure 4-9: Installation sequence

IMPORTANT
The final section to be installed MUST be the bucket fill section.

Step 8
Place a 'three hole' funnel section into the next position working in an **anti-clockwise** direction, with the lower flange against the OUTSIDE face of the sump box.
Secure with four nuts and bolts on the outer leg, two on the sump assembly and nine on the funnel section joins.

NOTE
This section does not require the EPDM tape to be applied as it is on the lip of the previous and next funnel sections.

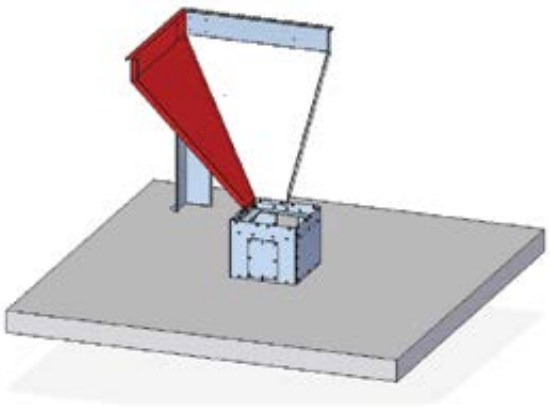


Figure 4-7: Fitting second funnel section

Step 9
Place the second outer leg in position, ensuring the fixing flanges are facing inwards.

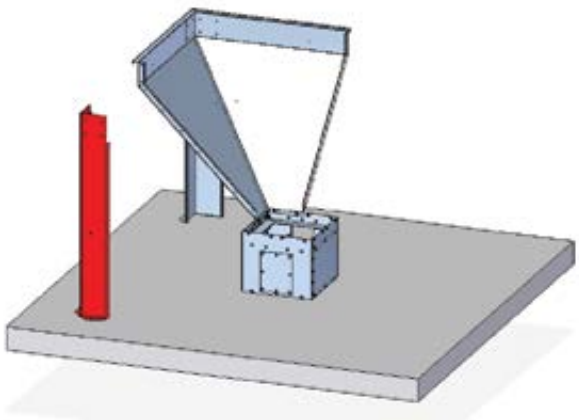


Figure 4-8: Second outer leg

Step 10
Apply 180mm of EPDM tape to the leg ensuring its overlaps onto both panels.

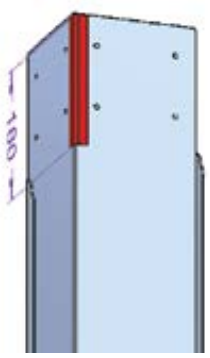


Figure 4-10: Applying EPDM to outer leg

Step 11
Apply EPDM to the two lips of a '4 hole' funnel section.

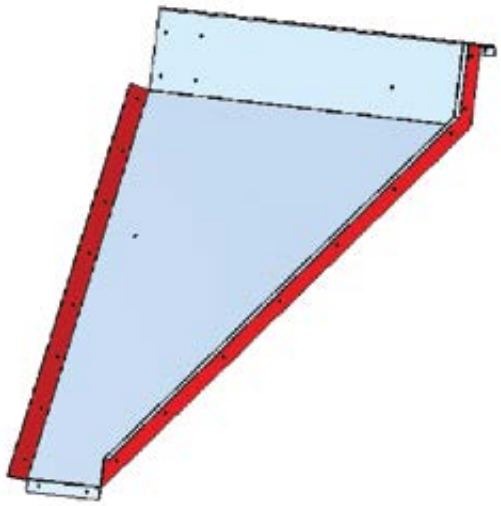


Figure 4-11: Applying EPDM to funnel section

Step 12
Place funnel section into position against the sump the assembly, with the lower flange against the OUTSIDE face of the sump box.

Secure with four nuts and bolts on the outer leg and two on the sump assembly.
Secure with six nuts and bolts on the join, four from the top of the join and two from the bottom, leaving the third, fourth and fifth holes from the bottom clear. Refer to Figure 4-12.

These will be utilised when fitting the cross braces later on. Refer to Steps 17 and 18.

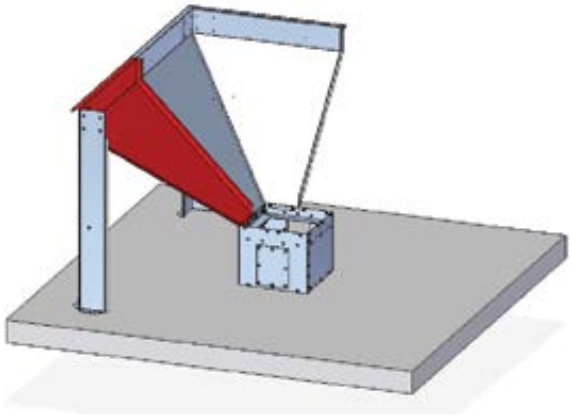


Figure 4-12: Fitting third funnel section

Step 13
Place a 'three hole' funnel section into the next position working in an **anti-clockwise** direction, with the lower flange against the OUTSIDE face of the sump box.

Secure with four nuts and bolts on the outer leg, two on the sump assembly and nine where the funnel section joins.

NOTE
This section does not require the EPDM tape to be applied as it is on the join of the previous and next sections.

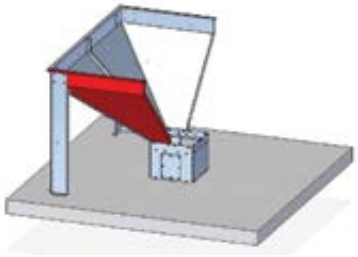


Figure 4-13: Fitting forth funnel section

Step 14
Apply EPDM to the two lips of a '4 hole' funnel section.

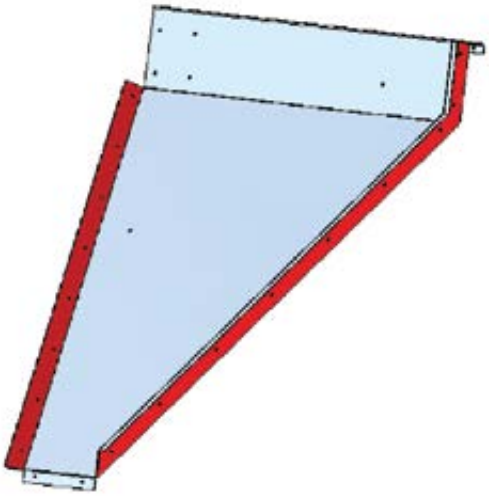


Figure 4-14: Applying EPDM to funnel section

Step 15
Place funnel section into position against the sump the assembly, Apply EPDM to the two lips of a '4 hole' funnel section.

Secure with two nuts and bolts on the sump assembly.

Secure with six nuts and bolts on the join, four from the top of the join and two from the bottom, leaving the third, fourth and fifth holes from the bottom clear. Refer to Figure 4-15.

These will be utilised when fitting the cross braces later on. Refer to Steps 17 and 18

NOTE
The perspective of the sequential drawing has changed.
Ensure the funnel section is being installed in the correct position.

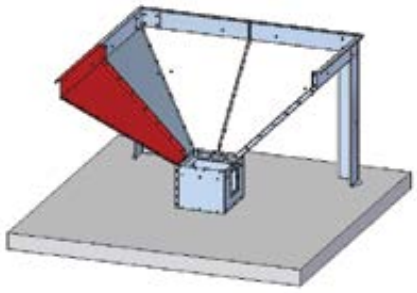


Figure 4-15: Fitting fifth funnel section

Step 16
The next funnel section to be installed, is to be positioned next to the first funnel section that was installed. Refer to Figure 4-16.

Place a 'three hole' funnel section into position against the sump the assembly, with the lower flange against the OUTSIDE face of the sump box.

Secure with two nuts and bolts on the sump assembly.

Secure with six nuts and bolts on the join, four from the top of the join and two from the bottom, leaving the third, fourth and fifth holes from the bottom clear. Refer to Figure 4-16.

These will be utilised when fitting the cross braces later on. Refer to Steps 17 and 18.

NOTE
The perspective of the sequential drawing has changed.
Ensure the funnel section is being installed in the correct position.

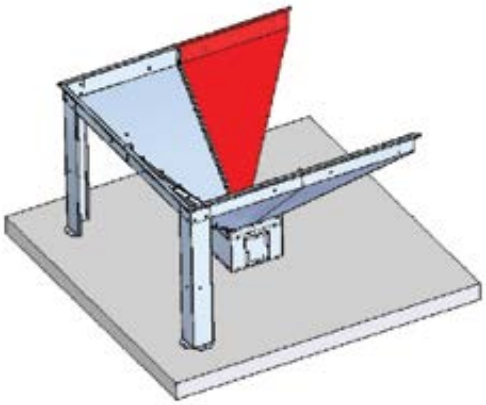


Figure 4-16: Fitting sixth funnel section

Step 17
Place the lower cross section brace into position and secure with four nuts and bolts (two on each side) into the empty holes. Fill the empty holes with a nut and bolt.
Ensure you are installing the correct cross brace so the upper cross brace can interlock into the lower cross brace. Refer to Figure 4-17.

Step 18
Place the upper cross section brace into position and ensure it interlocks into the lower brace.

Secure one end of the upper cross section brace with two nuts and bolts. Fill the empty hole with a nut and bolt.

You will secure the other side of the cross brace in Step 22.

NOTE
The perspective of the sequential drawing has changed.
Ensure the funnel section is being installed in the correct position.

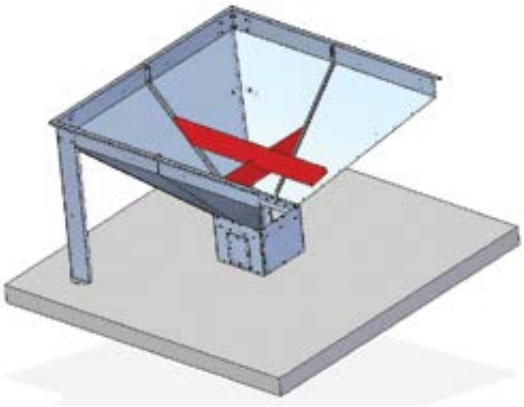


Figure 4-17: Fitting cross braces

Step 19
Apply EPDM to the two lips of a '4 hole' funnel section.

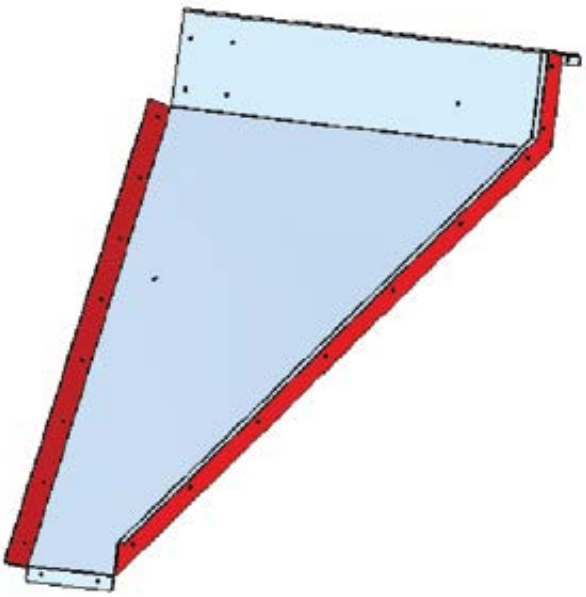


Figure 4-18: Applying EPDM to funnel section

Step 20
Place a 'four hole' funnel section into the next position working in a **clockwise** direction from the previously installed panel, with the lower flange against the OUTSIDE face of the sump box.

Secure with two nuts and bolts on the sump assembly and eight where the funnel sections join together.

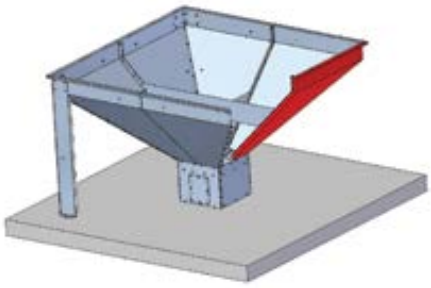


Figure 4-19: Fitting seventh funnel section

Step 21
Place the 'one hole' funnel section into position, with the lower flange against the OUTSIDE face of the sump box. This funnel section has the bucket fill

Secure with two nuts and bolts on the sump assembly.

Secure the two joins with a total of fourteen nuts and bolts leaving three clear to secure the upper cross brace in the next step.

NOTE
This section does not require the EPDM tape to be applied as it is on the join of the previous and next sections.

Do not install the bucket filler assembly at this point.

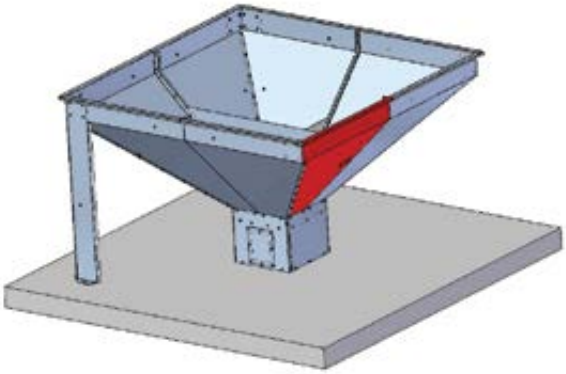


Figure 4-20: Fitting final funnel section

Step 22
Carefully lower the pellet store as shown in Figure 4-21 and secure the upper cross section brace with two nuts and bolts. Fill the empty hole with a nut and bolt.

At this point, a check should be made that all holes have been filled by a nut and bolt with the exception of the following:

- Eight holes on each of the legs yet to be installed. Refer to Steps 23 and 24.
- The corner reins holes. Refer to Step 25.
- The bucket fill assembly holes. Refer to Step 26.
- Two holes on each of the internal braces yet to be installed. Refer to Step 28.

Ensure all fitted nuts and bolts are tightened.

It is recommended that a check is made to ensure there are no loose nuts and bolts within the pellet store.

At this stage, silicone should be applied to the join between the sump box and the funnel section.

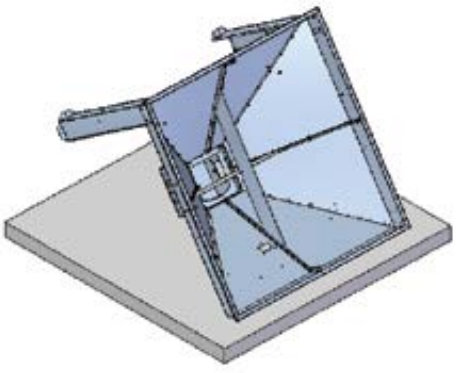


Figure 4-21: Pellet store lowered onto one side

Step 23
Apply 180mm of EPDM tape to the two remaining legs ensuring its overlaps onto both panels.

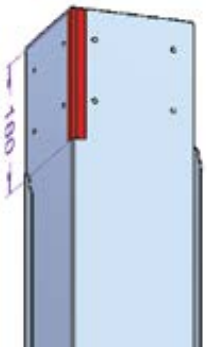


Figure 4-22: Applying EPDM to outer leg

Step 24
Position the remaining legs into place and secure with eights nuts and bolts on each leg, ensuring the fixing flanges are facing inwards.

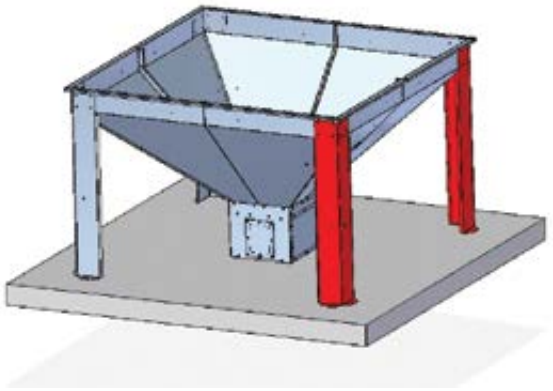


Figure 4-23: Third and fourth outer leg

Step 25
Position the four corner reins between the outer legs and the pellet store and secure each with four nuts and bolts.

The corner reins can only be installed in one position. However, each corner rein has a 'four hole' cut-out which correspond to the 'four hole' funnel sections above.

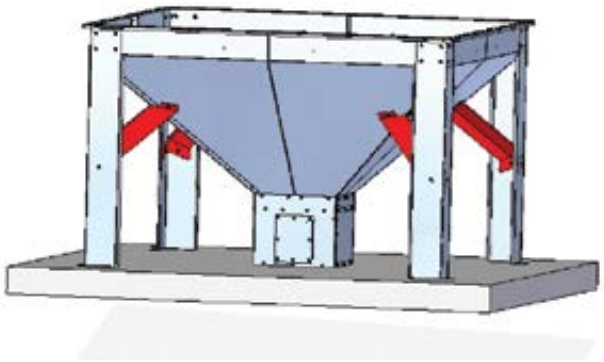


Figure 4-24: Fitting the corner reins

Step 26
Place the bucket filler assembly into position and secure with six nuts and bolts.

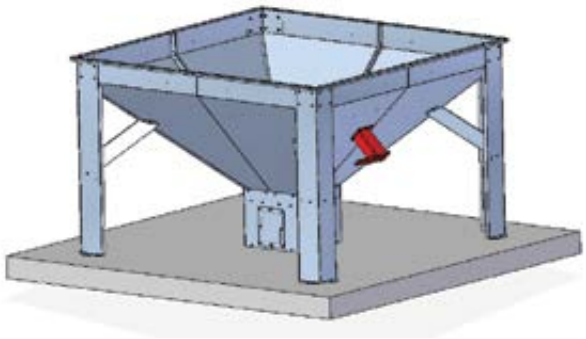


Figure 4-25: Fitting bucket filler assembly

Step 27
Apply EPDM to the join between the funnel sections and the side panels. Refer to Figure 4-26 and 4-27.

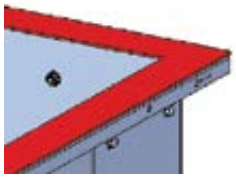


Figure 4-26: Applying EPDM

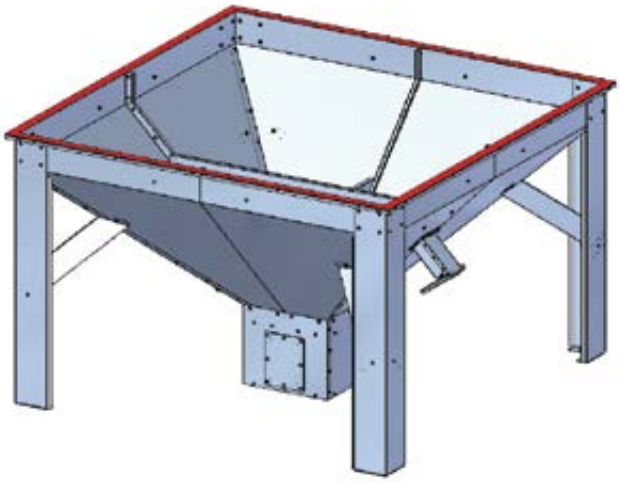


Figure 4-27: Applying EPDM

Step 28
Place four internal braces (first level) into position and secure with two nuts and bolts on the bottom section of each brace.

At this point, a check should be made that ALL holes have now been filled by a nut and bolt.

Ensure all fitted nuts and bolts are tightened.

At this stage, it is recommended that another check is made to ensure there are no loose nuts and bolts within the pellet store.

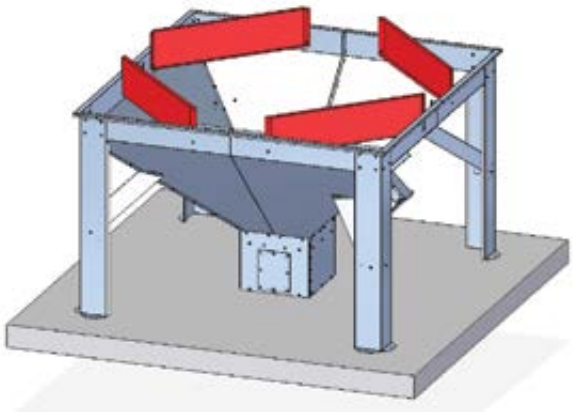


Figure 4-28: Fitting internal braces

Step 29
The number of side panel levels vary dependent on the pellet store. Refer to Section 3.9 and Figures 2-4 to 2-6.
Apply EPDM to sides and place the first side panel section into position. Secure with 6 nuts and bolts.

NOTE
Ensure the side panels are going to be installed in the correct position/orientation. This may differ from the images shown below.

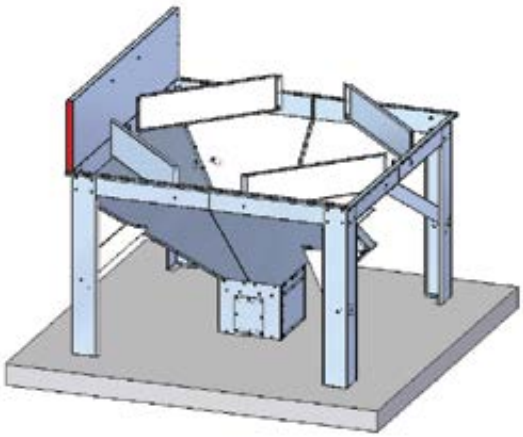


Figure 4-29: Fitting first side panel

Step 30
Apply EPDM to the sides of three side panels and place into position ensuring that the panel with the viewing window is installed in the correct position, i.e. the same aspect as the fill and vent pipes.
Secure with nuts and bolts, two/three* for each corner join and six for the each side panel/funnel section joins.
*two for small sections, three for large sections.

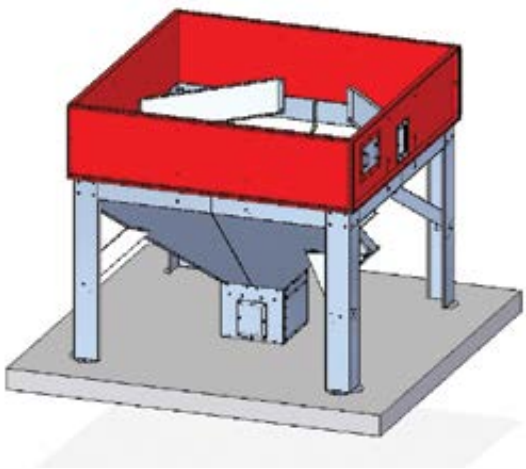


Figure 4-30: Fitting three side panels

Step 31
Secure the top sections of the internal braces (first level) with two nuts and bolts per brace,

Step 32
Position the two pipe clamp assemblies into place and secure with two nuts and bolts per pipe clamp.

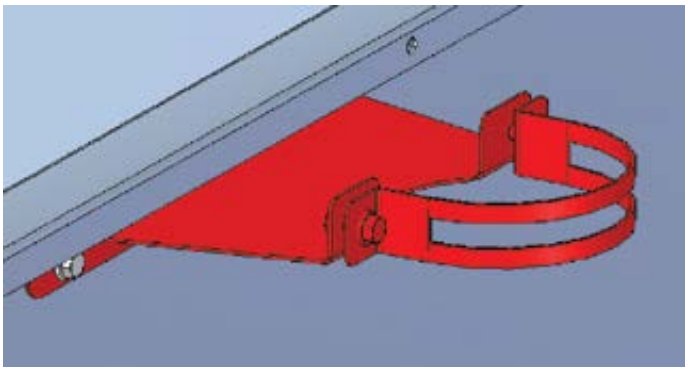


Figure 4-31: Pipe clamp assembly

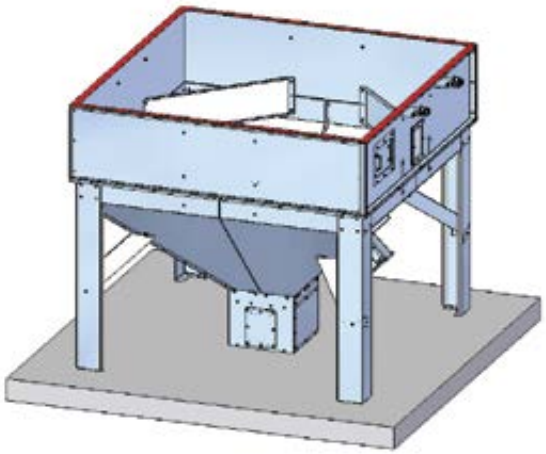


Figure 4-32: Fitting pipe clamps

Step 33
Apply EPDM to the join between the first layer of side panels and the second layer of side panels. Refer to Figure 4-33 and 4-34.

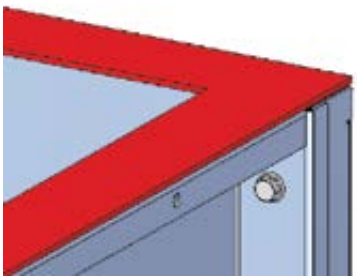


Figure 4-33: Applying EPDM

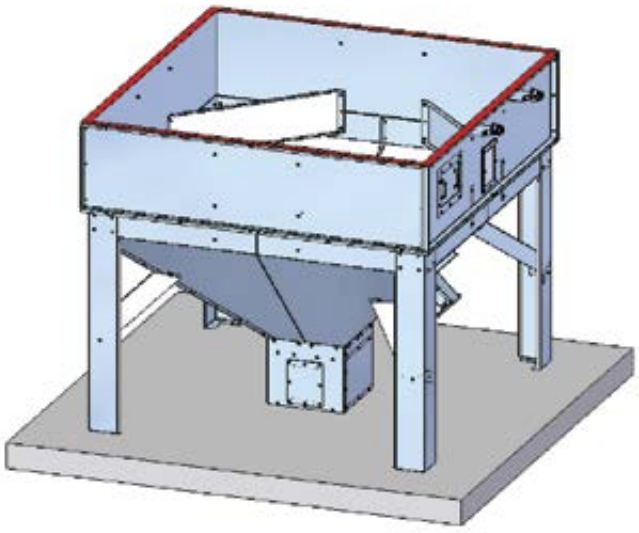


Figure 4-34: Applying EPDM

Step 34
Place four internal braces (second level) into position and secure with two nuts and bolts on the bottom section of each brace.

AWAITING IMAGE

FIGURE 4-35 - Fitting internal braces

Step 35
Apply EPDM to sides and place four side panels into position.
Secure with nuts and bolts, two/three* for each corner join and six for the each side panel/funnel section joins.
*two for small sections, three for large sections.

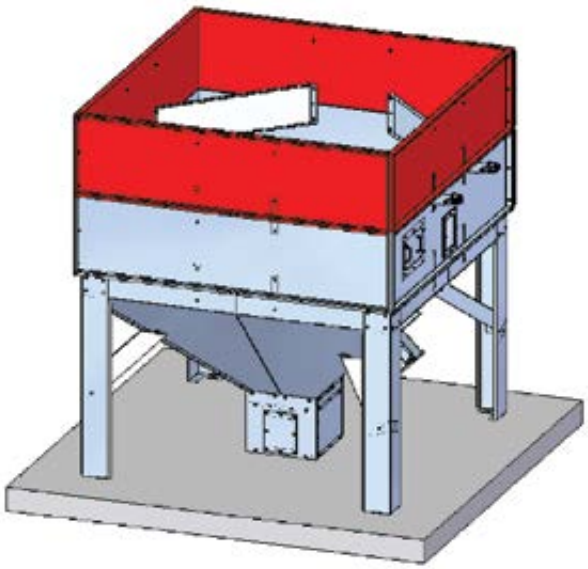


Figure 4-36: Fitting side panels

Step 36
Secure the top sections of the internal braces (second level) with two nuts and bolts per brace.

Step 37
Place four internal braces (third level) into position and secure with two nuts and bolts on the bottom section of each brace.

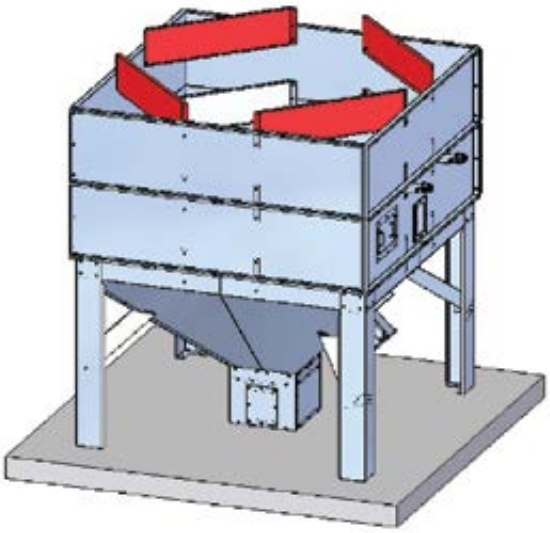


Figure 4-37: Fitting internal braces

Step 38
Apply EPDM to the join between the second layer of side panels and the third layer of side panels. Refer to Figure 4-38 and 4-39.

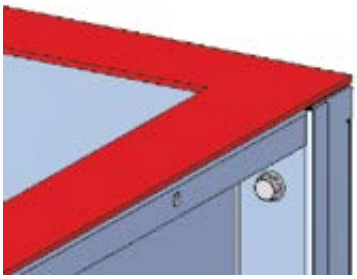


Figure 4-38: Applying EPDM

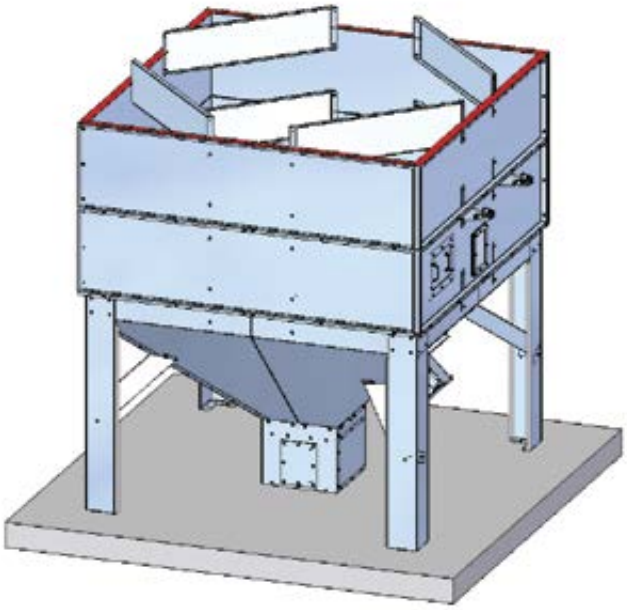


Figure 4-38: Applying EPDM

Step 39
Apply EPDM to the sides of four side panels and place into position ensuring the side panel with the fill and vent holes are installed in the correct position. Refer to Figure 4-40.
Secure with nuts and bolts, two/three* for each corner join and six for the each side panel/funnel section joins.
*two for small sections, three for large sections.

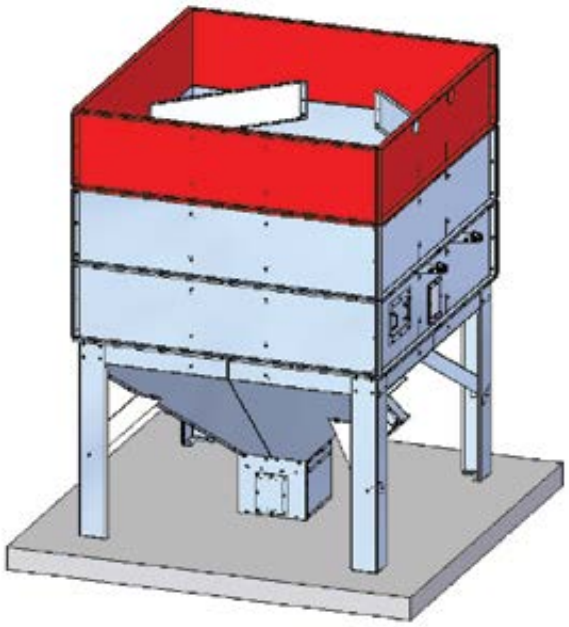


Figure 4-39: Fitting side panels

Step 40
Secure the top sections of the internal braces (third level) with two nuts and bolts per brace,

Step 41
Unscrew one screw on each of the two pipe clamp assemblies. Refer to Figure 4-31.
Install the fill and vent pipes and secure with six nuts and bolts on each.
Secure the pipe clamps around the fill and vent pipes.

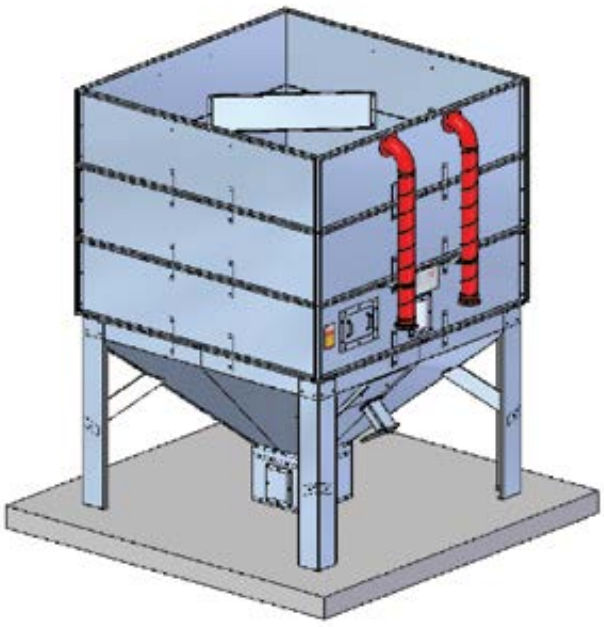


Figure 4-40: Fitting feed and vent pipes

Step 42
Fill a total of six empty holes (two on each blank panel) with a nut and bolt.
Failure to do this will result in the pellet store not being waterproof.

At this point, a check should be made that ALL holes have now been filled by a nut and bolt.

Ensure all fitted nuts and bolts are tightened.

At this stage, it is recommended that another check is made to ensure there are no loose nuts and bolts within the pellet store.

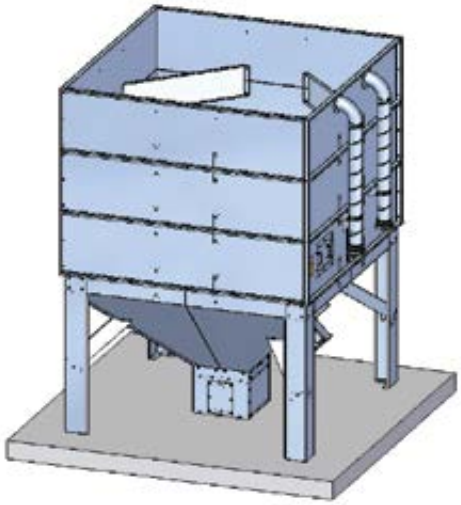


Figure 4-41: Filling empty holes

Step 43
Apply EPDM to the join between the third layer of side panels and the top. Refer to Figure 4-42 and 4-43.

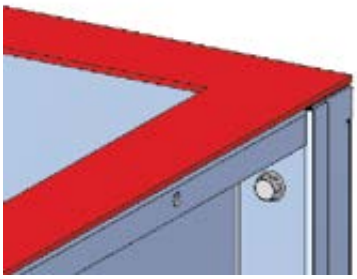


Figure 4-42: Applying EPDM

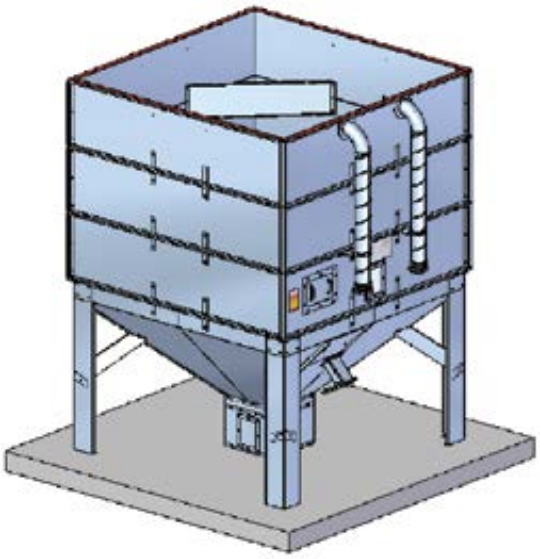


Figure 4-43: Applying EPDM

Step 44
Install the first section of the top (lid).

This panel will have small lasered cuts on the lip which correspond to the cyclone assembly and damper.

Secure with a total of eleven nuts and bolts. Five on the long section and three on each side.

NOTE
Do not tighten the nuts and bolts at this point.

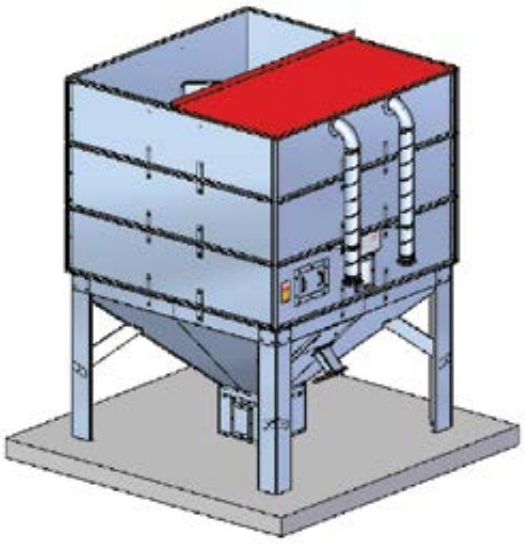


Figure 4-44: Fitting top panel

Step 45
Apply EPDM to the lip of the installed top section (lid).

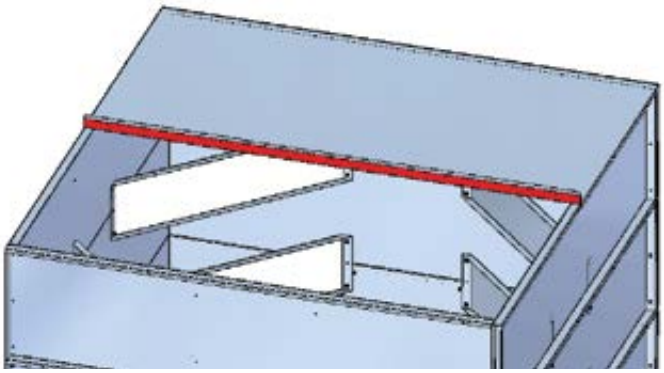


Figure 4-45: Applying EPDM

Step 46
Fit the cyclone assembly into place over the feed tube inlet ensuring the lip is positioned correctly on the top panel.

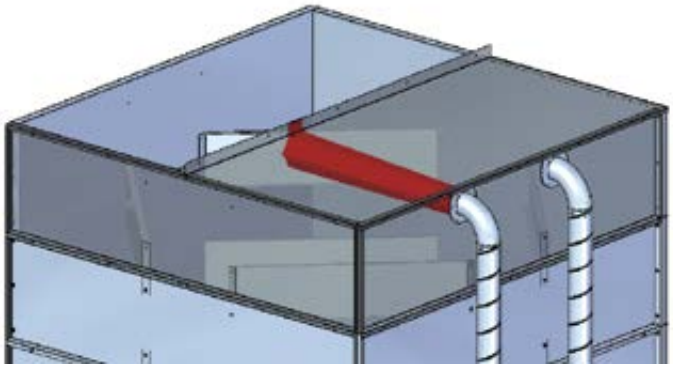


Figure 4-46: Fitting cyclone assembly

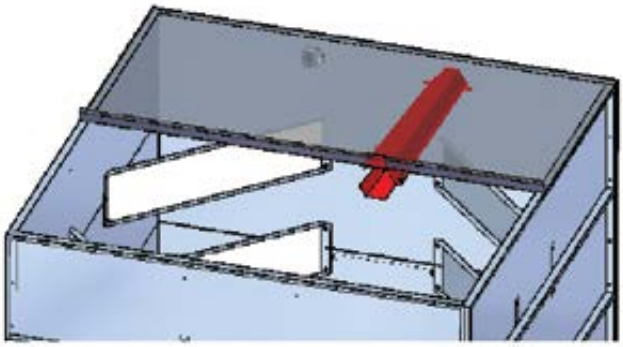


Figure 4-47: Fitting cyclone assembly

Step 47
Fit the cyclone damper into position ensuring the lip is positioned correctly on to the panel.

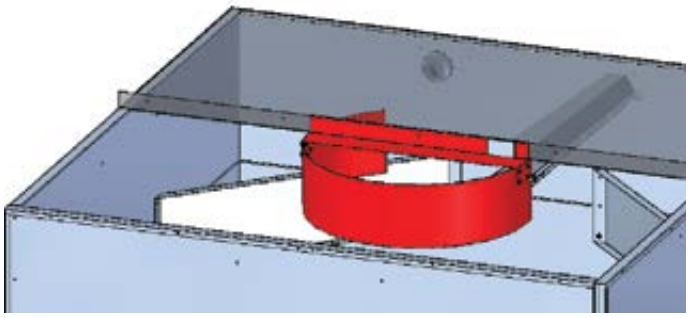


Figure 4-48: Fitting cyclone damper.

Step 48
Apply EPDM to the lip of the second section of the top (lid) and place into position.

Secure with a total of eleven nuts and bolts. Five on the long section and three on each side.

Tighten nuts and bolts of both top lids.

Secure the two tops (lids) with a total of nuts and bolts.

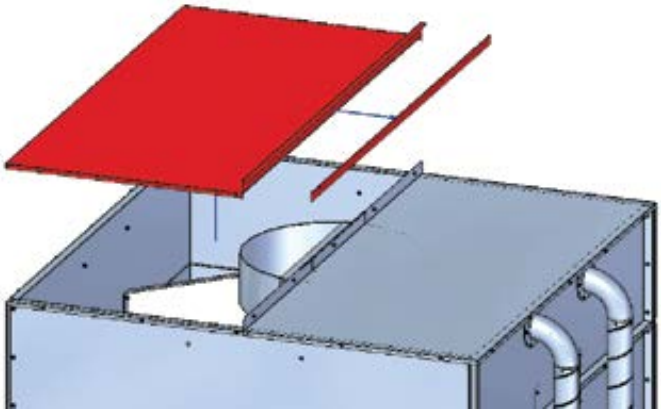


Figure 4-49: Applying EPDM and fitting top panel

Step 49
Using the silicone provided, seal all joins where there is a possibility of water ingress paying particular attention to the funnel section joins.

Step 50
The pellet store is supplied with a shut-off slider which should be fitted into position during filling.

To fit the shut-off slider, remove the blanking plate on the sump box and slide into position.

When not in use, secure to the pellet store on to the slot provided on the bucket fill funnel section.

NOTE
When removing the shut-off slider from the sump box, it is imperative that the blanking plate is re-fitted.
Failure to do so, will result in water ingress which will contaminate the pellet store.

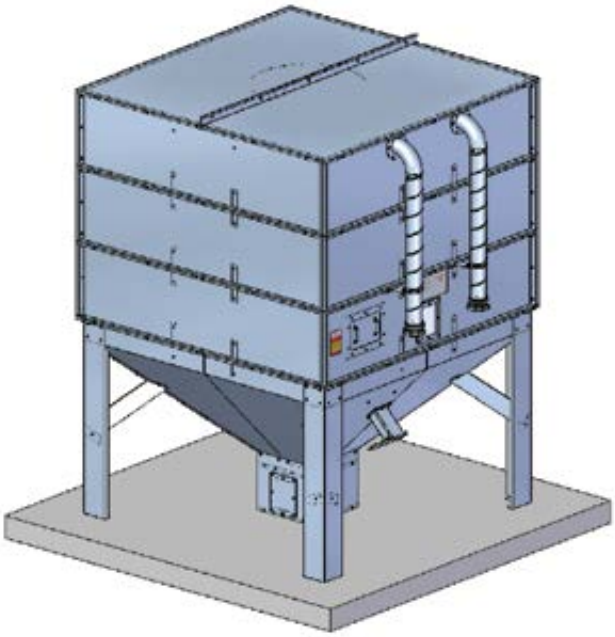


Figure 4-50: Shut-off slider

Figure 4-51: Shut-off slider

Step 51
Fit the two fill/vent cap grills to the feed and vent pipes by sliding into position from the right.
It is recommended that the fill/vent grills are secured with the chain and ring. This will prevent the grills dropping when removed.

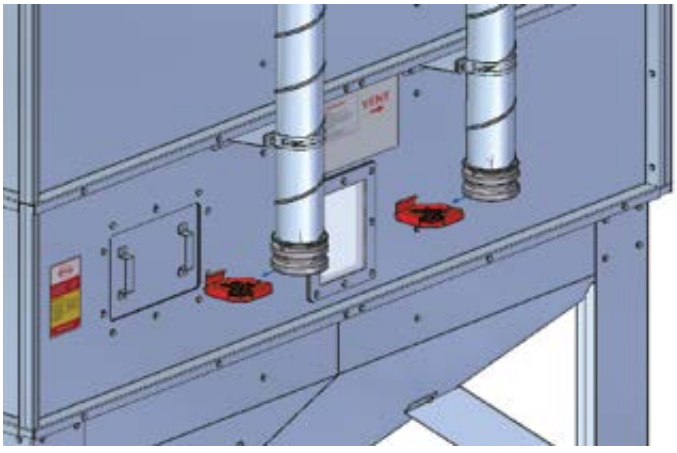


Figure 4-52: Fitting fill/vent grills

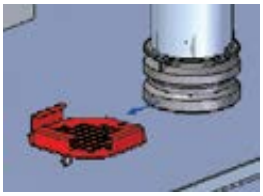


Figure 4-53: Fill/vent grills

Step 52
Secure the pellet store to the base.

Step 53
- If you are connecting the pellet store to an auger, refer to Section 4.2.
- If you are connecting the pellet store to an vacuum system, refer to Section 4.3.

4.2 Connecting to an Auger

Step 1
Place the auger into position ensuring it is installed correctly into the sump assembly.

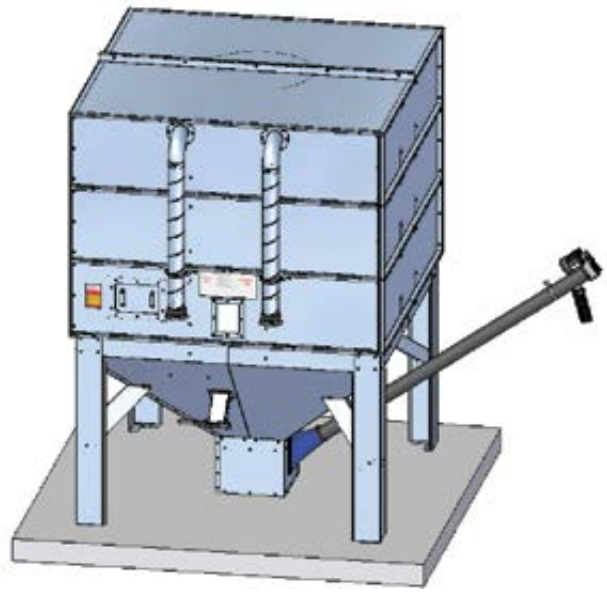


Figure 4-53: Fitting an auger to the pellet store

Step 2
Secure the gator around the auger and secure with the jubilee clip provided.

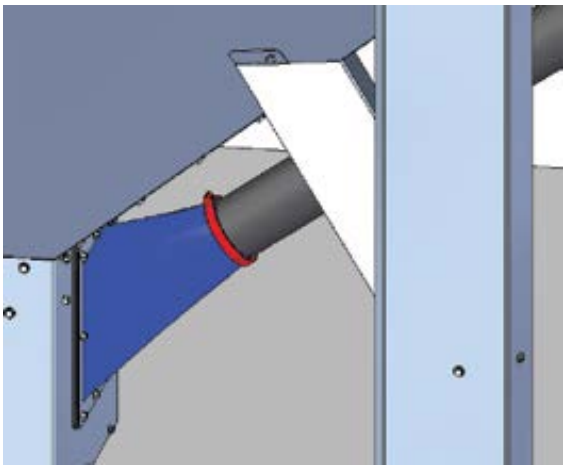


Figure 4-54: Jubilee clip securing the gator.

4.3 Connecting to a Vacuum System

Step 1
TBC

5 Installation of Preassembled Pellet Store

TBC

6 Commissioning

6.1 General

TBC

6.2 Customer Handover

These Installation & User Instructions must be handed over to the householder on completion of the installation. They should be kept for future reference as necessary.

7 Cleaning and Servicing

The pellet store should be emptied completely and cleaned at least once a year to facilitate the removal of dust from the sump assembly, pellet store and whatever pellet transfer system is being used.

8 Delivery Information

8.1 Vehicular Access

The figures below are a rough indication of the dimensions of delivery vehicles:

	4 wheeler	6 wheeler
Width (metres)	3.05	3.05
Height (metres)	4.20	4.20
Length* (metres)	8.00	10.00
Track (metres)	2.50	2.50
Wall to wall turning circle	9.00	10.00

* Dependent on the supplier, the vehicle may be up to 15 metres in length.

NOTE

It is the pellet store owner's responsibility to ensure there is sufficient clearance for the delivery vehicle.
Please check with your pellet supplier for their vehicle dimensions.
The weight of the vehicle must also be taken into consideration.

WARNING

Consideration must be given to overhead electricity and telephone lines.

The pellet store should be located no more than 20 metres from the delivery vehicle. The longer the distance the pellets have to cover through the hoses and pipes to get to the store and the more curves and variations there are in diameter, the more the pellets will be manipulated as they are blown in (abrasion). Any obstacle during the blow-in process increases abrasion. Therefore, under no circumstances should there be any 90° bends in the hose/supply pipe. There must be no tight bends in delivery pipes. Any corners should be gentle curves with a radius not less than 0.5 metres. The number of bends must be kept to an absolute minimum.

There should be a parking space accessible on arrival. Delivery vehicles cannot block roads, park on a junction or on red or yellow lines. There should also be a clear line of sight from the parking space to the inlet on the pellet store.

8.2 Connections

The correct fill and vent nozzle position must be observed.

To facilitate attaching pipes, there should be 1 metre clearance in front of the fill and vent pipes.

8.3 Filling

Pellets can be delivered in one of the following ways:

- Blown via a specialist delivery vehicle/ tanker
- 15-25kg bags
- 1m^3 bulk bags

NOTE

If taking delivery of bulk bags, please ensure the delivery vehicle has a pump truck or fork lift truck to transport the pellets to the final delivery point.

All of our pellet stores are fitted with a dust extraction connection. We would recommend the use of a pellet delivery vehicle which can offer the facility of dust removal during filling. The filling pressure from the delivery vehicle must not exceed 2 bar.

Delivery pipework must be internally smooth to minimize abrasion during delivery, must be made of metal or conductive material and securely earthed to avoid the build-up of static charge, potentially giving rise to a source of ignition. The pipes should only be made of metal as plastic ones can cause a static charge in the pellets as they are blown in.

NOTE

If the boiler needs to be switched off before delivery, consideration must be given to how this can be achieved if attendance at the time of delivery cannot be guaranteed.

8.4 Dust

The pellet stores are fitted with a dust extraction connection. We would recommend using a delivery vehicle which can offer the facility of dust removal during filling. If this is not possible, then dust extraction cap should still be opened during the filling process and a filter sock should be used to trap the dust generated.

It is recommended that the pellet store is located in an easily accessible area for the delivery vehicle as the further the pellets have to be blown, the more dust is generated.

8.5 Biomass Supplier List (BSL)

From Spring 2015 all biomass fuel used by households, businesses and other organisations claiming the RHI (Renewable Heat Incentive) must source their wood pellets through a company registered on the 'Biomass Supplier List'. This is the list of supplier of wood fuel who have been accredited as demonstrating that their fuel meets the sustainability criteria required under the RHI.
For more information, please visit: www.gov.uk/find-fuel-supplier

9 Spare Parts

TBC – awaiting confirmation of spares.

10 Health and Safety Information

10.1 General

Both the store itself and the pellet delivery vehicle should be earthed during filling in order to prevent the build-up of static electricity.

No electrical items such as lights, sensors or transport systems should be installed within the pellet store unless done so by a registered installer. In general, installation of electrical equipment in any areas with a substantial risk of dust accumulation should be avoided.

The pellet store and its immediate vicinity should be clear of any fire hazards.

Duty holders who store wood pellets, particularly in bulk should have a suitable risk assessment and safe system of work in place.

10.2 Warning Signs and Labels

10.2.1 Warning Sign

A warning label is supplied with the pellet store which is fitted to the viewing window side panel.

10.2.2 Fill and Vent Label

A fill and vent label is supplied with the pellet store which is fitted to the viewing window side panel.

10.3 Carbon Monoxide

As with all fuel stores, you need to treat your wood pellet store with care and attention. Wood pellets do give off carbon monoxide, so certain precautions should always be taken (see HSE Safety Notice OPSTD 3-2012 for more details).

Key considerations are:

- Pellets stored in a poorly ventilated space can let off a dangerous quantity of odourless carbon monoxide.
- Check the atmosphere with an appropriate device before entry into the pellet store
- No entry for unauthorised persons. Keep children away from the storeroom.
- No smoking, fires or naked flames.
- The room should be adequately ventilated before entering. Keep the door open whilst inside.
- There is a danger of injury from movable parts.

No personnel should enter the pellet store unless fully trained and competent in confined space entry procedures. Controls should be put in place to ensure safe entry as per the HSE's Code of Practise for Working in Confined Spaces. This should include adequately ventilating the storage area and checking Carbon Monoxide and Oxygen levels with an appropriate device prior to entry. It is recommended when a pellet store is located internally that the room is ventilated at all times, either mechanically or by being designed to have a through draught.

10.4 Dust

Wood pellets do not offer a significant risk of explosion if in a pristine condition but can become a risk if degradation leads to dust and the pellet is handled in a situation where there might be a source of ignition, e.g. static build-up.

The dust explosion risk can be minimised by:

- Electrically earthing of all steelwork, especially delivery pipes
- Using appropriately rated electrical equipment
- Filtered venting during blown delivery
- Sourcing pellets that conform to EN Plus Grade A1 standard EN14961-2.

There is HSE guidance on the prevention of static discharge during materials handling (HSG103 Safe Handling of Combustible Dust – precautions against explosions).

10.5 Personal Protective Equipment (PPE)

Appropriate PPE should be worn.

11 Guarantee

Please contact the Grant UK office on +44 (0)1380 736920 for details of the pellet store guarantee.

Notes

Notes

GRANT ENGINEERING (UK) LIMITED
Hopton House, Hopton Industrial Estate, Devizes, Wiltshire, SN10 2EU
Telephone: +44 (0)1380 736920 Fax: +44 (0)1380 736991
Email: info@grantuk.com Website: www.grantuk.com