

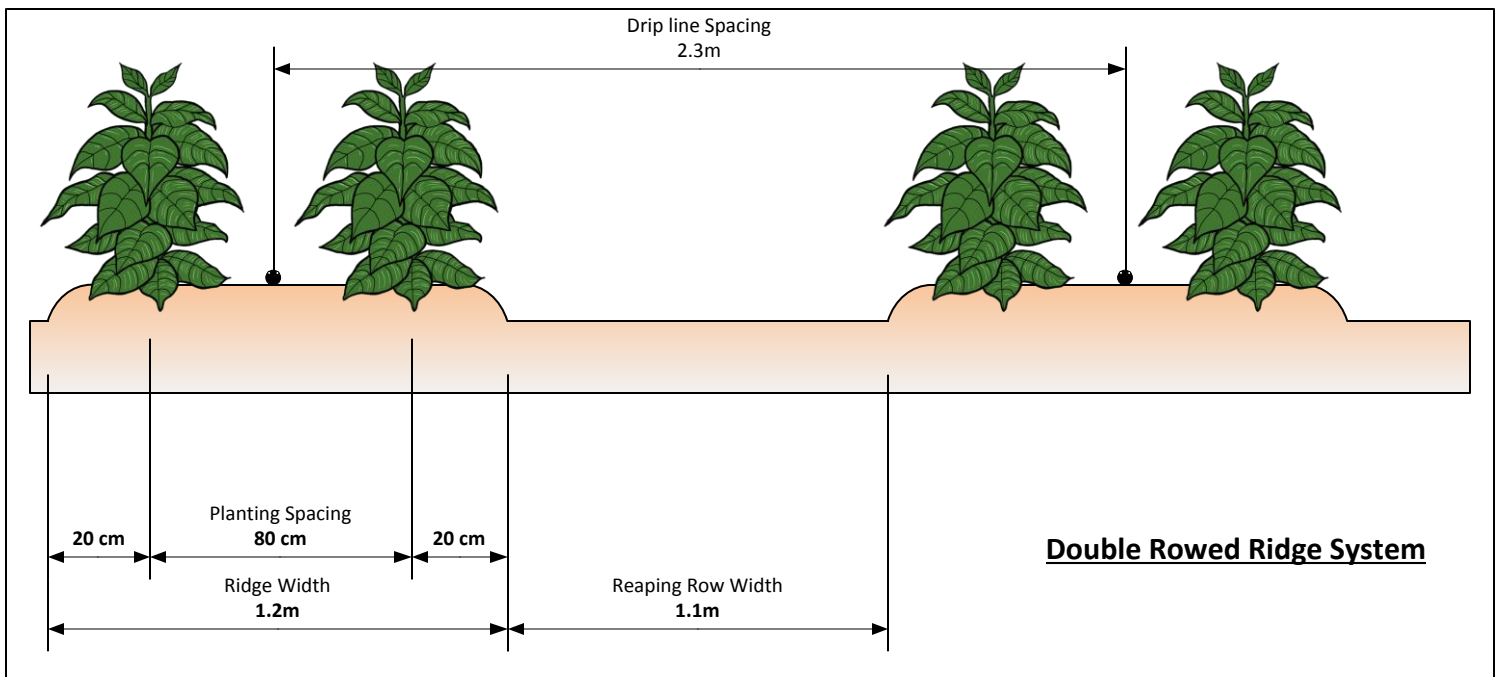
1 Ha Portable, Solid Set Tobacco Drip Kit Installation Guide

Congratulations on purchasing your new Driptech 1 Ha Portable Tobacco Drip Kit. Please follow the below installation steps to ensure that each kit gives you the optimal distribution. This manual can also be found on our website, www.driptech.co.zw/resources.

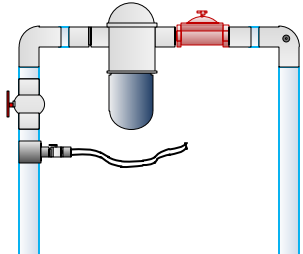



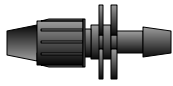



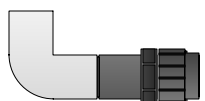

Ridging System Used For Kit

This kit requires the tobacco to be planted on a double rowed ridge system (as shown below in the diagram). This system allows one drip line to be used to water two rows of plants. This reduces the pumping requirements and cost of the drip kit. In addition, this method achieves a greater plant density per Ha, thus improving yield.

NB This kit can only be installed once ridging has been complete (ridging method shown below)



Contents of Kit

- 1 x Filter & PRV Manifold Assembly 
- 1 x 100 m roll 63 mm HDPE poly pipe 
- 1 x 63 mm HDPE end cap 
- 2 x 3000 m rolls of Tal 8 1L/hr drip line 
- 43 x poly to drip line connectors 
- 1 x 63 mm (2") HDPE male adaptor 
- 43 x rubber gaskets 
- 1 x 16 mm Pipe drill bit 
- 2 x Main and sub-mainline to manifold HDPE connectors 
- 43 x cable ties to be used as end lines 

All contents of this kit are supplied by Driptech Irrigation

Installation Steps

Step 1: Positioning of Filtration and Pressure Regulating Manifold

Only commence installation after the completion of ridging

A: Measure out 1 Ha Block

Using either a tape measure or click wheel measure and mark out a 100 m by 100 m block.

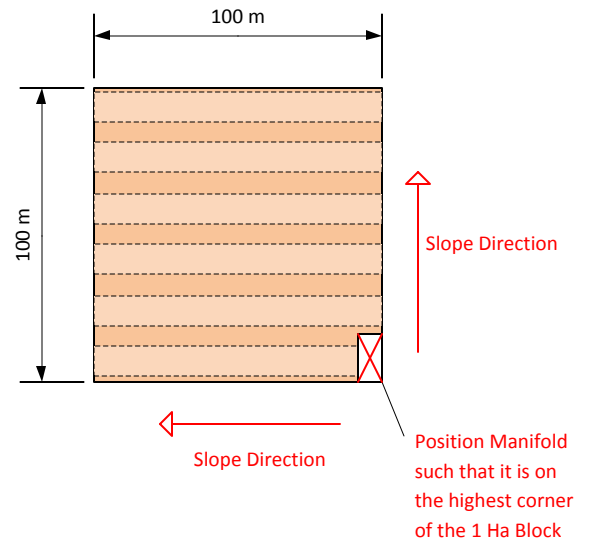
B: Find the highest corner of the block

Once the block is marked locate the highest corner of the block such that the land slopes away from this corner in both directions (As shown in the diagram 1).

C: Position Manifold on highest corner of Block (Very Important)

Ensure that the manifold is positioned on the highest corner of the block. This ensures a good, even distribution across the block.

Diagram 1: Manifold Positioning

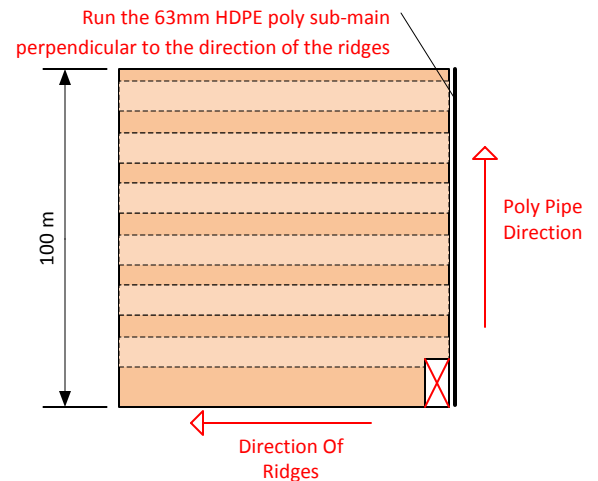


Step 2: Positioning Sub-main Line

Lay the 63mm HDPE poly sub-main perpendicular to the direction in which the tobacco ridges are running (as shown in the diagram 2). Ensure that one end of the sub-main starts at the Manifold, which has been positioned at the highest corner of the field.

This will allow the drip lines to run down the ridge parallel to the tobacco lines

Diagram 2: Sub-main Positioning

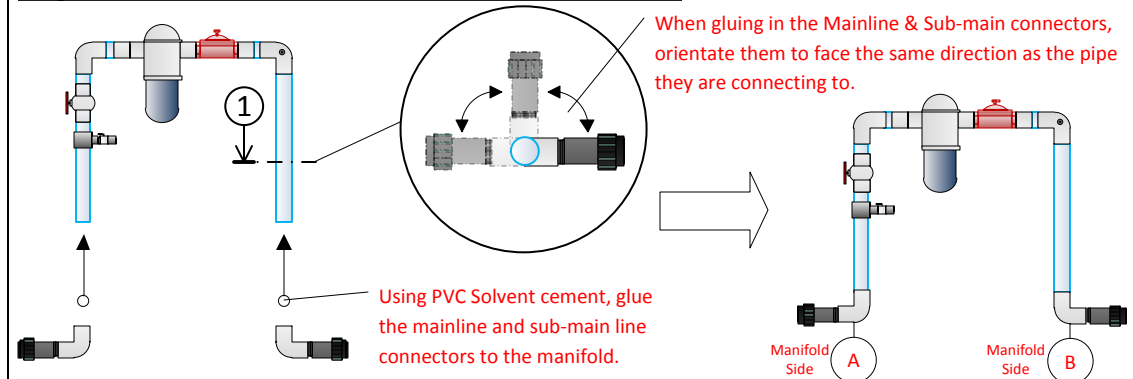


Step 3: Mainline & Sub-mainline Connection to Manifold

A: Glue Connectors to Manifold

Connect the two PVC mainline and sub-mainline adaptors to the manifold (as shown in the diagram 3). Be sure to orientate them to face their respective pipe lines to ensure simple connection of the mainline and sub-mainline

Diagram 3: Manifold Mainline and Sub-mainline Connectors



B: Connect Sub-main line & Mainline to Manifold

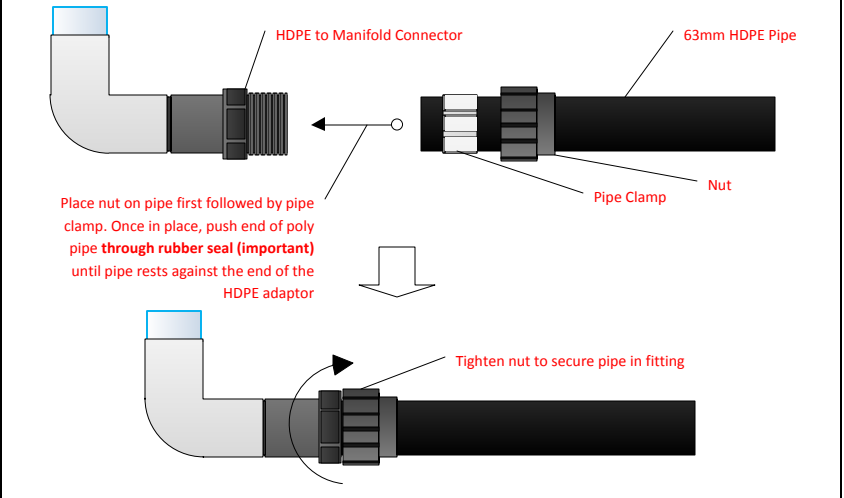
Once step 3A is completed, connect the Mainline to side A (shown in the diagram 3 in step 3A) of the Manifold and the Sub-main line to side B.

To connect the HDPE pipe to the HDPE fitting, start by placing the fitting nut and pipe clamp on the HDPE pipe (as shown in Diagram 4). Once the nut and pipe clamp are in place, push the end of the poly pipe into the HDPE adaptor taking care to ensure the pipe is **pushed through the rubber seal** of the HDPE adaptor (**Very important to prevent leaks**)

C: Paint Blue PVC Pipes on Manifold Black

Once Step 3B is complete, paint all the blue PVC pipes on the manifold with black enamel. This will prevent algae from growing in the manifold.

Diagram 4: Fitting of HDPE pipe to HDPE Adaptors



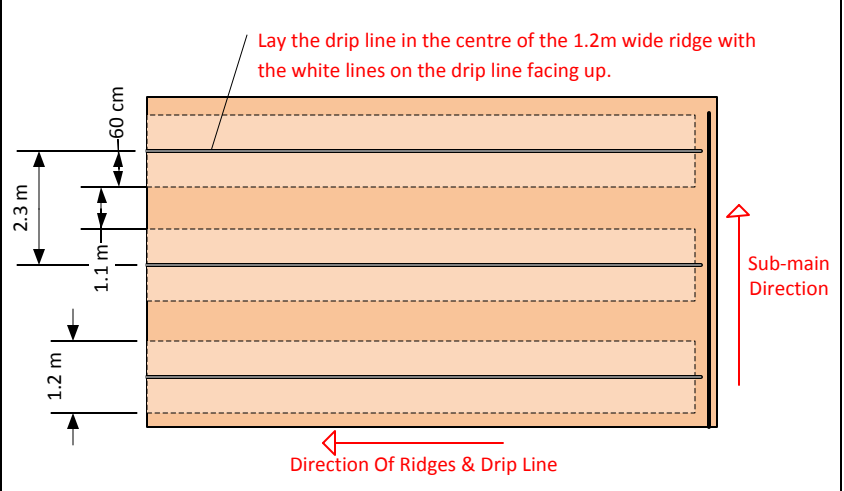
Step 4: Laying of Drip Line on Tobacco Ridges

Roll the drip line along the middle of each 1.2 m wide ridge. It is very important that the **two white lines** on the drip line **face upwards** to prevent dirt entering the drippers.

Each drip line should only be made **100m long**. Drip lines can be made shorter than 100 m to fit a field. Lines should not be made longer than 100 m as this will affect the kits distribution.

Total Number of Drip lines = 43

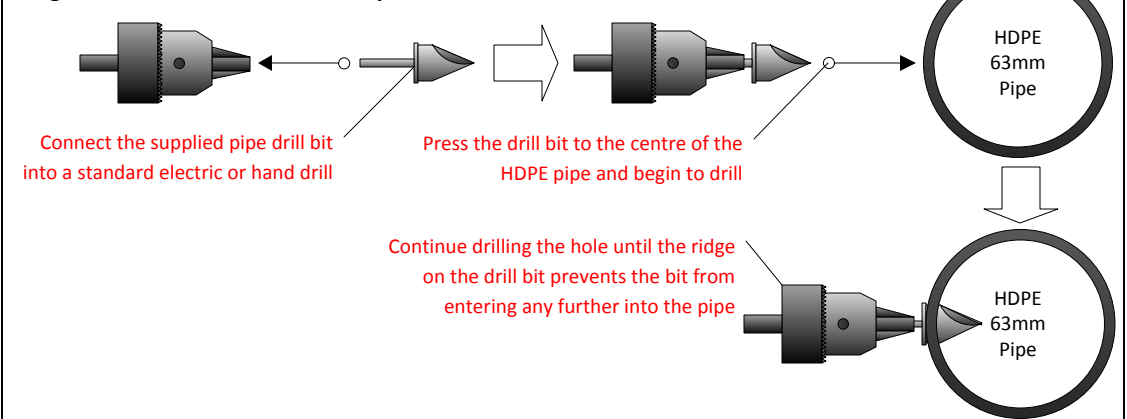
Diagram 5: Drip Line Positioning



Step 5: Drilling of drip line connection points in Sub-main Line

- Mark the point where each drip line meets the sub-main line.
- Making sure the marks are in the centre of the poly pipe, drill holes on the mark using the 16 mm pipe drill bit (method described in diagram 6)

Diagram 6: How to Use 16 mm Pipe Drill Bit

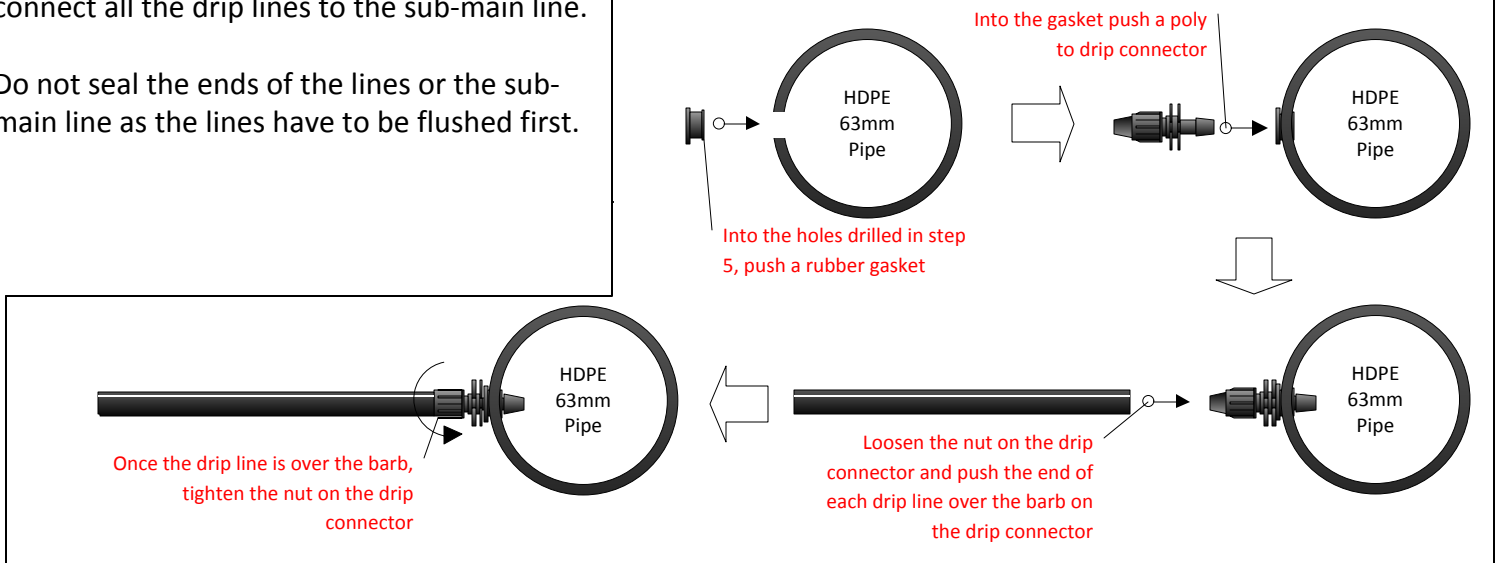


Step 6: Connection of Drip Line to Sub-main Line

Following the steps shown in diagram 7, connect all the drip lines to the sub-main line.

Do not seal the ends of the lines or the sub-main line as the lines have to be flushed first.

Diagram 7: Connection of Drip Line to Sub-main Line



Step 7: Flushing and Sealing of Sub-main and Drip Lines

Before sealing the drip and sub-main lines they must be flushed to remove any dirt that may have entered the lines during installation. To flush the lines follow the below steps.

- Set the pressure regulating valve (PRV, shown in diagram 8) on the manifold to open.
- Turn on your pump and open the manifold main valve. Allow the water to run through the pipes for 5 minutes.
- After 5 minutes, **turn off** the **main valve** and seal the sub-main line using the **HDPE 63mm end cap**.
- Once the sub-main line is sealed, open the main valve and continue flushing the drip lines for a further 5 minutes.
- After further flushing, turn off the manifold main valve and seal the ends of the drip lines by folding the line on itself twice and then tying the line with a cable tie (method shown in diagram 9).

Diagram 8: Manifold main valve and PRV

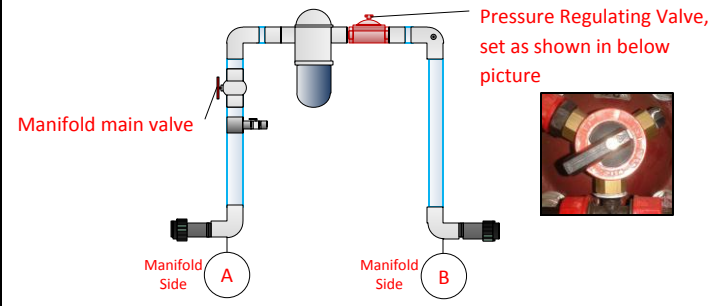
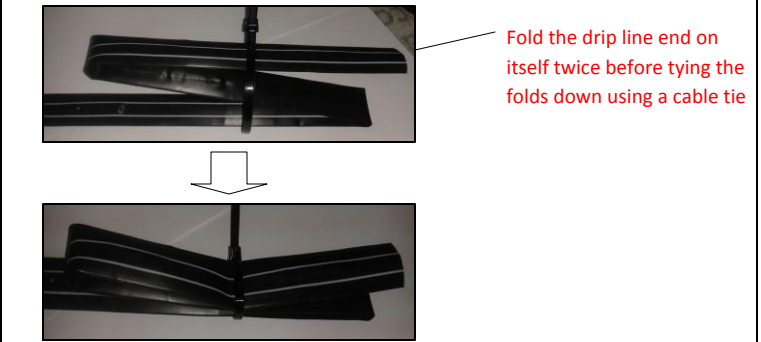


Diagram 9: Folding and Tying of Drip Line Ends



Step 8: Setting of Pressure Regulating Valve

Once all the drip and sub-main lines are sealed, the final step of the installation is to set the pressure regulating valve to regulate the pressure of the water entering the drip lines to 1.1 bar. This is done as follows:

- Set the PRV to auto (as shown in diagram 10)
- Once set to auto, loosen the control nut on the PRV pilot by turning the nut anti-clockwise (as shown in diagram 10). The nut should be loosened to the point where it is about to fall out of the pilot
- Insert the pressure gauge needle with pressure gauge attached into the pressure check point (as shown in diagram 10). The pressure gauge will be used to read the pressure.
- Once the above three steps are complete, start your pump and open the manifold main valve.
- Give the system 5 minutes to equilibrate and then check the pressure gauge reading. The reading should be less than 1 bar. If not, loosen the pilot control bolt further.
- Once checked, begin to tighten the pilot control bolt by turning it clockwise. Do this in small increments until the pressure gauge reading is 1.1 bar. If your pressure surpasses 1.1 bar, loosen the control bolt slightly. The PRV usually takes a few minutes to adjust to changes in the pilot settings so wait a couple minutes between adjustments for the system to equilibrate.
- Once the correct pressure of **1.1 bar** has been achieved, tighten the lock nut on the control bolt to lock this setting in place.

Once the above steps have been completed the drip kit is ready for irrigation.

Daily usage Tips:

- Clean the filter on daily basis before irrigation. This ensures that no dirt will enter the drip lines while maintaining a constant pressure
- Check the pressure exiting the PRV daily to ensure that no settings have been altered and your drip line runs constantly at 1.1 bar.
- Check your lines for leaks on a daily basis to avoid overwatering your crop in certain places.

If you have any queries with the installation or running of this kit, please contact us on the details below

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Diagram 10: Setting Invoice

