

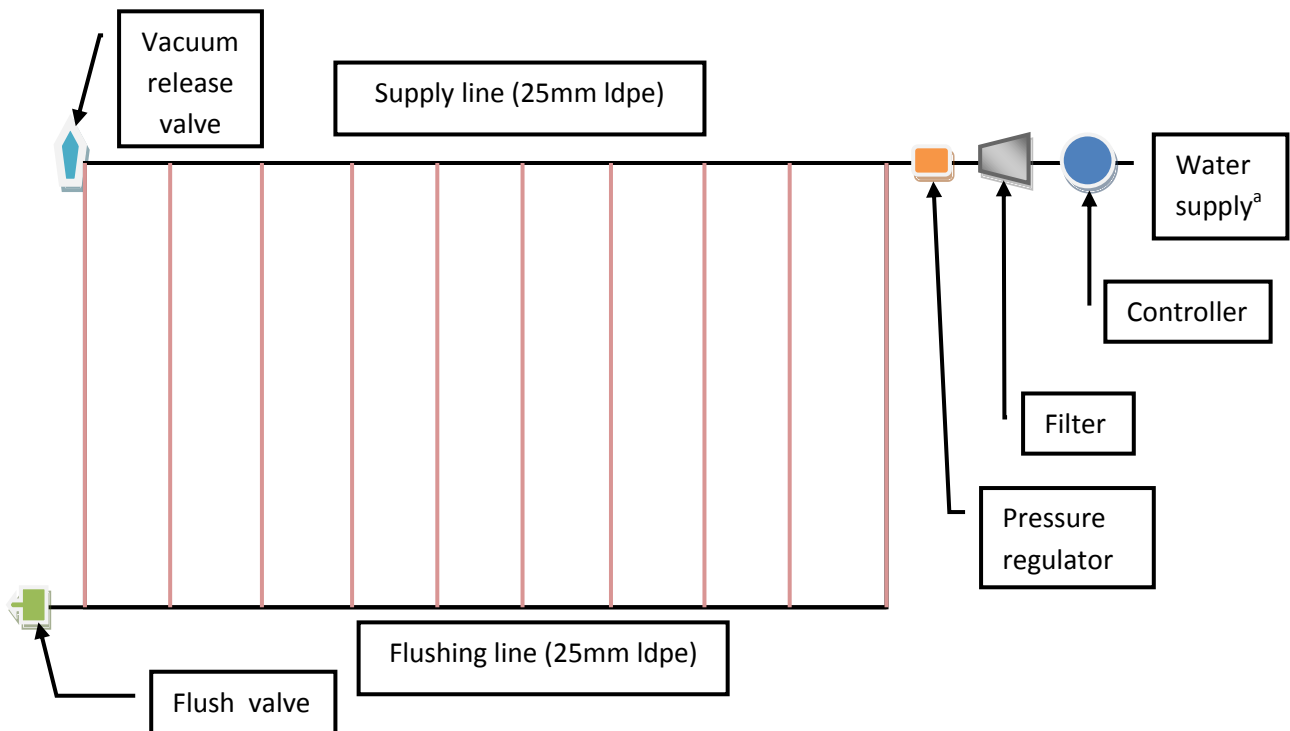
These instructions apply to the use of **KISS Flat** and **KISS Wrap** under a residential lawn or garden. For commercial installations please contact Irrigation & Water Technologies, email info@iwtech.com.au or call +61 2 9679 0111.

KISS Flat is the most water efficient product and must be laid in straight lines with the black plastic facing down and the white geo-textile facing up (Photo 1).



Photo 1: *KISS Flat must be installed with the black base layer of plastic down and the white geo-textile facing up.*

Layout of irrigation zone



^aA backflow prevention device may be required. Consult your local water

New turf

1. Make up the irrigation grid as shown above ensuring that the:
 - a. Irrigation lines are parallel and no further apart than 0.6m
 - b. Irrigation lines run across any slope (not up and down the slope)
2. Pin the lines down to the soil.
3. Turn on the water supply and open the Flush valve for a minute or so to clean out the lines.
4. Turn the Flush valve off and look for any leaks in the system once the lines have come to full pressure. Repair leaks if necessary.
5. Carefully cover the system with soil to a depth of at least 100mm
6. Lay the turf

Existing turf

1. Mark out the position of the supply and flush lines
2. Cut the KISSS lines into the turf by hand or using an appropriate machine with:
 - a. lines 100mm deep
 - a. lines parallel and no further apart than 0.6m
 - b. lines running across any slope (not up and down the slope)
3. Dig trenches and install the supply and flush lines
4. Connect the KISSS lines to the supply and flush lines using the correct fittings (Photo 1)
5. Turn on the water supply and open the Flush valve for a minute or so to clean out the lines.
6. Turn the Flush valve off and look for any leaks in the system once the lines have come to full pressure. Repair leaks if necessary.
7. Fill in all trenches and use a light roller to level the area

8. Trenches may settle a little over time and could need extra top soil after 6 months

Scheduling

Once the system is installed, irrigate the site generously until the soil is uniformly moist to root depth. After this, the system should be operated as frequently as needed to just maintain soil moisture between the lines.

It is essential when establishing grass from seed or using cut rolls of turf that the area is also watered from above several times over the first week. This can be done with a hand held hose or sprinkler and can be discontinued when the seed has germinated and when the cut turf has grown new roots into the soil.

The KISSS system works best when the water is provided as a few short pulses rather than as one long irrigation. A pulse length of 10 -15 minutes is recommended.

Start with an *initial* generous irrigation schedule and then gradually reduce the operating time over a few weeks. Check soil moisture between the lines to be sure that adequate water is supplied.

Vary the schedule according to weather and seasonal conditions. For example, in summer three 10 minute or two 15 minute pulses a day may be adequate. Whereas in winter, less than half this may be satisfactory.

A guide to the initial irrigation schedule is provided in table 1. For most areas in Australia the irrigation volume will be overly generous and can be reduced with experience either by cutting out a pulse or by reducing the pulse length from 15 minutes to 10 minutes.

Water restrictions apply to the use of potable water on domestic lawns. Consult your local authority for details.

It is a good idea to install a moisture probe in circuit with the controller to ensure overwatering does not occur. Consult your local irrigation specialist.

Table 1 **Initial irrigation schedules** for a lawn where 4L/m/hr KISSS lines have been installed at 0.6m spacing between lines. **Lower rates** of application will generally be achieved with experience (See notes).

Schedule	Pulse 1 8:00am	Pulse 2 12:00pm	Pulse 3 4:00pm	Pulse 4 8:00pm	Application rate (mm/day)
Wetting up phase	15mins	15mins	15mins	15mins	6.7
Summer	15mins	15mins	15mins		5
Winter	15mins				1.7

Maintenance

1. Open the flush valve after 1 week and then as needed to remove sediment in the line. Run the system in this state until the water appears clear. If you are using drinking quality water then it should be enough to flush the system once a year.
2. Check and clean the filter as required. Once again if you are using drinking water then the filter should remain clean for a long time. Check after the first week of operation and then at least annually. A blocked filter will naturally have a negative impact on irrigation performance and is often the cause of colour variation and stress in a lawn.

Fittings



Flush valve fitting



Filter



Tee and clips
25mm Idpe



Punch used to cut 7mm hole into



13mm start connector



KISS line attached to 25mm Idpe
with start connector



13mm end plug and clip

Flush valve installation:



Dig hole for flush valve



Protect valve with valve box



Cover flush valve with cap and back fill soil (cap remains visible at ground level)