

TECHNICAL GUIDE

Correct as at 1 September 2006
Updates: www.fertileearth.com.au

How it works

SmartFeeder is a precision fertiliser injector designed specifically for domestic and small commercial gardens. The unit dilutes liquid fertiliser with the irrigation water for optimum feeding across the garden. Water flowing through the unit powers the injector mechanism ensuring the correct ratio of fertiliser to water at all times. LiquidLife Plant Food is specially formulated to give the best results with SmartFeeder. Other plant foods may result in under/over feeding and damage unit. SmartFeeder siphons fertiliser direct from the LiquidLife bottle so there's no mixing, measuring or mess. The unit should be left 'on' at all times and will start working automatically with each watering cycle. The LiquidLife plant food bottle only needs to be checked monthly and replaced when empty.

Box contents

- Fertile Earth SmartFeeder
- Quick Connect Hose
- 2 x Flow Directors (see 'Flow Directors' below)
- Installation and User Guide

Items required for installation

- **Adaptors:** Fits 25mm poly pipe or smaller (removable adaptors recommended to allow servicing if required).
- **Valve Box:** To protect unit. Recommend rectangular with a minimum internal height of 280mm.
- **Materials:** Thread Seal Tape and PVC Solvent Cement.
- **Tools:** Shovel and PVC Cutter or Hacksaw.
- **Backflow:** For mains connected irrigation systems a compliant backflow prevention device is required. Not required with bore systems.
- **Fertiliser:** Fertile Earth LiquidLife plant food.

LiquidLife for best results

Only LiquidLife Plant Food is specially formulated to give the best results with SmartFeeder. LiquidLife contains the perfect blend of nutrients and trace elements for optimum feeding through sprinklers, drip or subsurface irrigation. Use of other liquid products in SmartFeeder may damage the injection mechanism and void the warranty.

LiquidLife coverage:

- **100sqm garden:** Up to 3 months* continuous fertilising
- **200sqm garden:** Up to 2 months* continuous fertilising
- **300sqm garden:** Up to 1 month* continuous fertilising

*Based on 3 litre LiquidLife Plant Food bottle and watering 10mm twice a week as recommended by the Water Corporation.

Flow Directors

Unit comes with a **Blue Flow Director** and a **Red Flow Director**. The **Blue Flow Director** is for use with moderate to high flow sprinkler and subsurface irrigation systems. The **Red Flow Director** is for use with low to moderate flow drip irrigation systems. See 'Operating Flow Range' for minimum and maximum flow rates for each Flow Director.

IMPORTANT: SmartFeeder is not designed to work with irrigation systems combining high flow sprinklers and low flow drippers. This will result in areas of the garden being under or over fertilised.

Installation

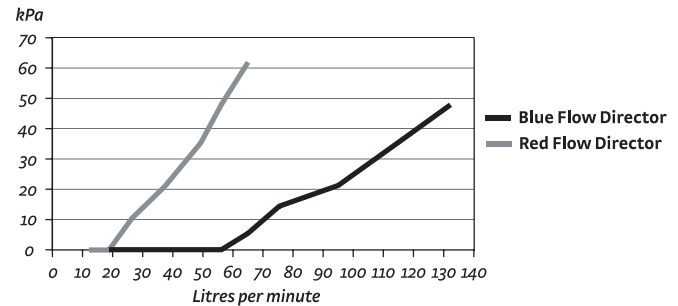
SmartFeeder can be installed on pressurised or non-pressurised reticulation systems. Install SmartFeeder between the main valve and first solenoid valve on your main line to fertilise the entire landscape. See Backflow Data Sheet if reticulation is connected to mains water supply.

Fertile Earth Australia

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Pressure Loss

Blue Flow Director: <47 kPa **Red Flow Director:** <69 kPa



Operating Flow Range

Red Flow Director: 6 min/64 max litres per minute.
Blue Flow Director: 19 min/132 max litres per minute.

SmartFeeder Injection Timing Guide

Red Flow Director Low-Moderate Flow		Blue Flow Director Moderate-High Flow		No Flow Director High Flow	
Flow Rate (Litres per minute)	Injection Timing* (Seconds)	Flow Rate (Litres per minute)	Injection Timing* (Seconds)	Flow Rate (Litres per minute)	Injection Timing* (Seconds)
6	57	Insufficient Flow			
11	30	Insufficient Flow			
19	18	19	38		
26	13	26	27	26	81
38	9	38	19	38	55
49	7	49	15	49	41
57	6	57	13	57	36
64	5	64	11	64	31
		76	9	76	27
		95	8	95	21
		114	6	114	18
		132	5	132	15
		Maximum Flow		151	13

*Elapsed time (seconds) between each injection of fertiliser.

Operating Pressure Range

Operating Pressure Range: 173 - 861 kPa.

Fertiliser Injection Rates

Blue Flow Director: 1:8000 = 0.125ml of fertiliser per 1 litre of water
Red Flow Director: 1:6000 = 0.166ml of fertiliser per 1 litre of water
SmartFeeder is a proportional fertiliser injector so dilution rate remains constant regardless of water flow. Injection rates cannot be modified.

Maintenance

SmartFeeder does not require regular maintenance. However, we recommend consumers run water through the unit to flush any fertiliser from the system if not being used for an extended period (60 days or more).

Manufacture and Warranty

SmartFeeder is made in the USA to the highest quality standards and comes with a 12 month warranty.