

## SUPPLY FONTERRA Water Use Management



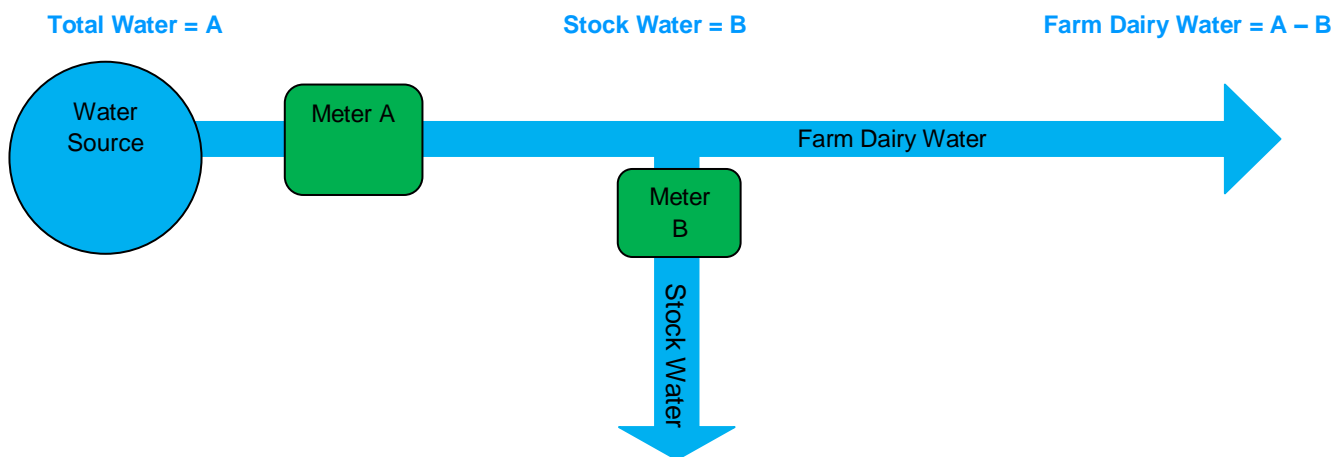
### Installing water meters

Installing water meters to measure and monitor your water use leads to additional benefits for your business:

- Reduced pumping costs, both for extracting water and disposing of effluent
- Minimised effluent storage
- Better management of nutrient loss by avoiding over-irrigating
- Knowing you meet national and regional council regulatory limits
- Meeting conditions of your regional council water consents (where applicable)

### How many water meters do I need?

All water sources must be measured to determine total water take. Once you establish total water take, you can determine water volumes for stock water, farm dairy and irrigation use (if applicable). This diagram shows a simple meter placement for one water source:



### What type of water meter do I need?

There are 3 main types of water meters available:

1. Mechanical – These meters use an impellor or turbine which rotates as water is passed through it. The mechanism of the meter converts the rotations into a volumetric reading.
2. Electromagnetic – These meters use an electromagnetic field to detect voltage differences which are proportional to flow.
3. Ultrasonic – Ultrasonic meters measure the time an impulse travels between two transducers to detect flow rate.

	<b>Electromagnetic</b>	<b>Mechanical</b>	<b>Ultrasonic</b>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• High degree of accuracy (+/- 0.15 - 2%)</li> <li>• No obstructions to flow</li> <li>• Minimal maintenance required</li> <li>• No moving parts</li> <li>• Performance not affected by water quality</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable and accurate measurement if installed correctly</li> <li>• Relatively low cost</li> <li>• Easily maintained</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate measurement</li> <li>• Minimal maintenance</li> <li>• No moving parts</li> <li>• Simple installation</li> <li>• Performance not affected by water quality</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Power supply required</li> <li>• Repairs require a skilled technician</li> </ul>	<ul style="list-style-type: none"> <li>• Prone to wear in poor quality water</li> <li>• Mechanical parts are easily damaged</li> <li>• Frequent accuracy testing required</li> </ul>	<ul style="list-style-type: none"> <li>• Power supply required</li> <li>• Repairs require a skilled technician</li> </ul>

It is important to purchase the type of meter that best meets your needs. It is best to install a meter that will easily display water use data (this may take the form of manual readings or a telemetry option sends the data through to a computer based system). If water use data is required as a condition of your resource consent, ensure that the data collection method meets these conditions.

### How do I purchase and install my water meters?

Fonterra strongly recommends that you contact an IrrigationNZ Blue Tick accredited installer. This will ensure that you purchase the right meter for the right application and that it is installed in the correct place for the most accurate reading and reporting. A list of approved installers can be found by searching for 'Water Management' at [www.irrigationnz.co.nz](http://www.irrigationnz.co.nz)

This fact-sheet is produced as part of Supply Fonterra's Water Use Management Programme. This programme aims to help farmers understand when their regional rules are changing and encourages water measurement and monitoring as part of industry wide commitments to better manage this precious resource.

Other fact sheets in this series:

- The Water Use Management Programme
- Regional consent process for water access
- Water use efficiency

