

Pumping for pressure

Water flow is dependant upon pressure or energy. The flow can be created by gravity (height) or pump propulsion.

Gravity supply

For a supply to be gravity fed, the source needs to be at the highest point in the system.

Advantages

- No electricity used
- Minimal maintenance
- Low on-going costs

Disadvantages

- Prone to air-locks
- Limited to height of source

Pump supply

A pump is used to force or pressurise water in a pipeline.

There are many brands, types and styles.

Factors to consider:

1. A pump that best fits the situation
2. Parts and service readily available
3. Power availability or alternative power sources
4. Power consumption and water output
5. Expected water system use and duty needed from pump

Pump types

Pumps come in too many shapes and sizes.

The most commonly used for water systems are:

1. Submersible or bore pumps
2. Surface pumps – low pressure high volume
3. Surface pumps – high pressure high volume
4. Domestic, irrigation and industrial pumps
5. Pumps dependent upon power voltage available
6. Transfer or circulating pumps
7. Booster pumps
8. Dosing pumps
9. Glockemann ram pumps – no power consumption or motor at all

Pump selection

Pump selection is a process of matching, as accurately as possible, a pump that is cost effective, efficient, fit for purpose and to minimise ongoing costs.

The following is information needed for pump selection:

1. How much water is available for the system (sometimes governed by a resource consent)
2. How much water is needed (for supply or for the system)
3. What type of source is being used (extraction – bore, spring, dam)

4. What height, diameter and length of pipe is being pumped
5. What pressure is required (to an end user or point in the supply)

Summary

In all situations, it is important to find a pump supplier who will support you through the process and give you realistic costings without any surprises. Just as important is ongoing product support and service.

Worth remembering that not all pump brands can adequately offer a solution to all situations.

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