

# The solution is clear.

Carbon Dioxide technology for pH control in pools.

## The impact of incorrect pH balance.

As the operator of a commercial swimming pool or facility that includes a pool, you definitely want optimum water conditions for your customers. Incorrect pH levels can adversely affect the disinfectant power of your chlorine as well as the health, safety and enjoyment of swimmers using your pool. Not to mention the impact on your bottom line from increased chemical and maintenance costs.

Australian Standard (AS) 3633-1989 recommends that pH be maintained between 7.0- 7.8 with the optimum range being 7.2 – 7.6.

If pH is less than 7.0	If pH is greater than 7.8
→ Eye discomfort due to accelerated formation of chloramines	→ Reduction of chlorine disinfecting agent
→ Etching of exposed cement in cement finished pools	→ Increased chlorine requirement
→ Corrosion of metal, pipes, pumps and filters	→ Eye discomfort
	→ Drying of skin
	→ Cloudy water
	→ Scale formation

Source: AS3633-1989

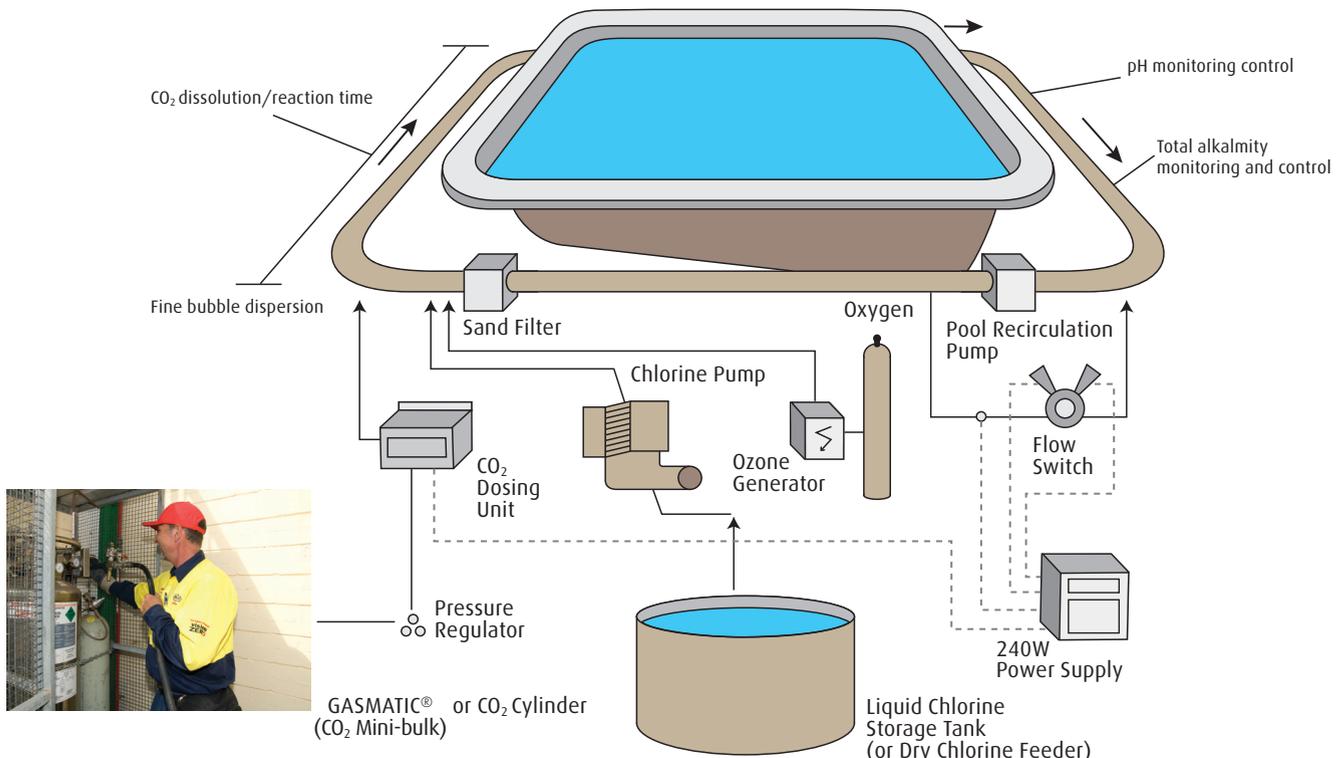
## The safe way to superior water quality.

BOC makes it safe and easy for you to maintain a perfect pH balance using food grade Carbon Dioxide (CO<sub>2</sub>) technology. When diffused in water, CO<sub>2</sub> forms a mild and safe carbonic acid, which works just as effectively as the more dangerous mineral acids, plus it forms a natural bicarbonate buffer to stabilise the pH level.

## Why is CO<sub>2</sub> better for your pool than mineral acids?

- Lower maintenance and repair costs, less corrosive than mineral acids on pools and pool equipment
- Lower operating costs from reduced chlorine consumption
- Safer handling with no chemicals involved, avoiding injuries like burns to skin and acid splashes in eyes
- Environmentally friendly.

## Example of swimming pool setup using CO<sub>2</sub> for pH control.



### Is CO<sub>2</sub> technology suitable for all pools?

CO<sub>2</sub> technology has many advantages when used to control pH; however, it is of paramount importance that pool water total alkalinity (TA) is kept in the range of 100 – 120mg/l otherwise the effectiveness for pH control is reduced substantially.

### BOC can provide the best solution to meet your requirements.

BOC provides different CO<sub>2</sub> supply systems which make it simple for you to use the CO<sub>2</sub> technology.

→ GASMATIC® – for medium to large pools. GASMATIC® is an innovative CO<sub>2</sub> Mini-bulk offer from BOC. It is designed to deliver a constant supply of food grade CO<sub>2</sub> via a range of different sized vessels. The vessels will be installed at the customers' site and will be topped up by BOC on a regular basis. GASMATIC® is a safe, efficient and peace-of-mind solution for pool operators as it eliminates the need to change heavy cylinders and reduces the risk of running out of gas.

→ Cylinder or cylinder manifold – an economical solution for smaller pools or spas. BOC delivers the cylinders to your sites on a regular basis based on your demand patterns.

To protect your staff's safety, BOC encourages customers to install a CELLAGUARD® CO<sub>2</sub> monitor in the confined space where the CO<sub>2</sub> system is installed. High concentrations of CO<sub>2</sub> can cause asphyxiation\*. The CELLAGUARD® CO<sub>2</sub> monitor delivers both an audible and visual alert when potentially dangerous levels of CO<sub>2</sub> are detected.

\* Sourced from: AS 5034-2005 installation and use of inert gases for beverage dispensing.



BOC CELLAGUARD® CO<sub>2</sub> Monitor

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