

# Buccaneer Chlorine Generator UNITS



**Reservoir Unit**

**Free-Flow Unit**

**Standard Unit**

## Technical Specifications

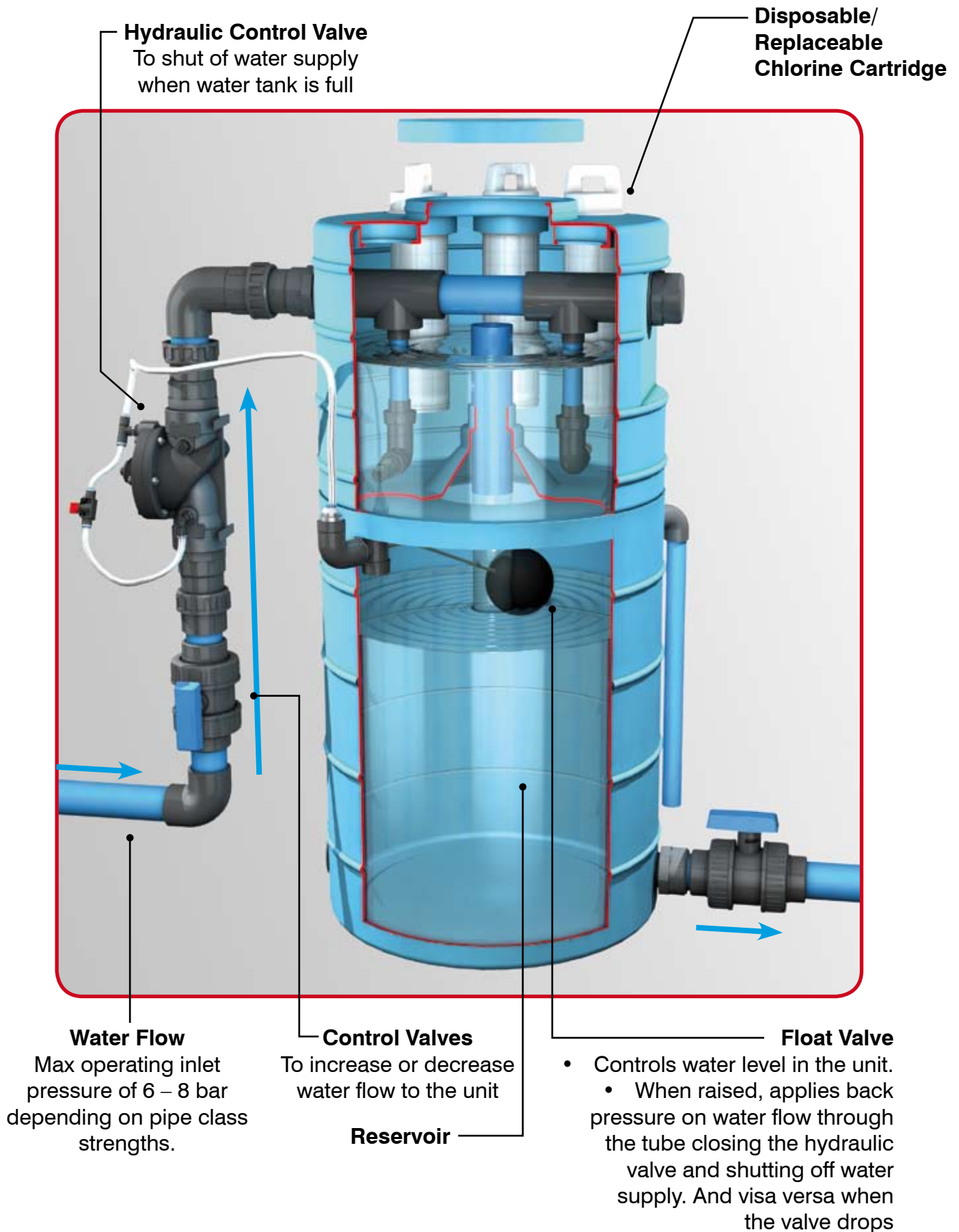
<b>ADJUSTMENT OF DOSAGE:</b>	Adjust either water pressure and / or water flow rate into generator, or vary the number of refill cartridges in the unit.
<b>OPERATING WATER FLOW RANGE:</b>	Unit is capable of feeding concentrated chlorine solution from 100 – 7200 l/hour, depending upon requirement and type of application.

<b>DOSING CAPABILITY:</b>	One charge of 6 refill cartridges will dose 8 megalitres to 1 ppm free chlorine. Chlorine residual readings will depend upon chlorine demand of the untreated water.
<b>CONSTRUCTION:</b>	Roto-moulded polythene with PVC pipework.

<b>OPERATING WATER PRESSURE:</b>	1.5 BAR (21psi) to 7.2 BAR (100psi) at inlet, depending upon requirement and type of application.
<b>CONCENTRATED CHLORINE TO MAINSTREAM:</b>	Range 1ppm to 250ppm stable chlorine concentrate, depending upon requirement and type of application.

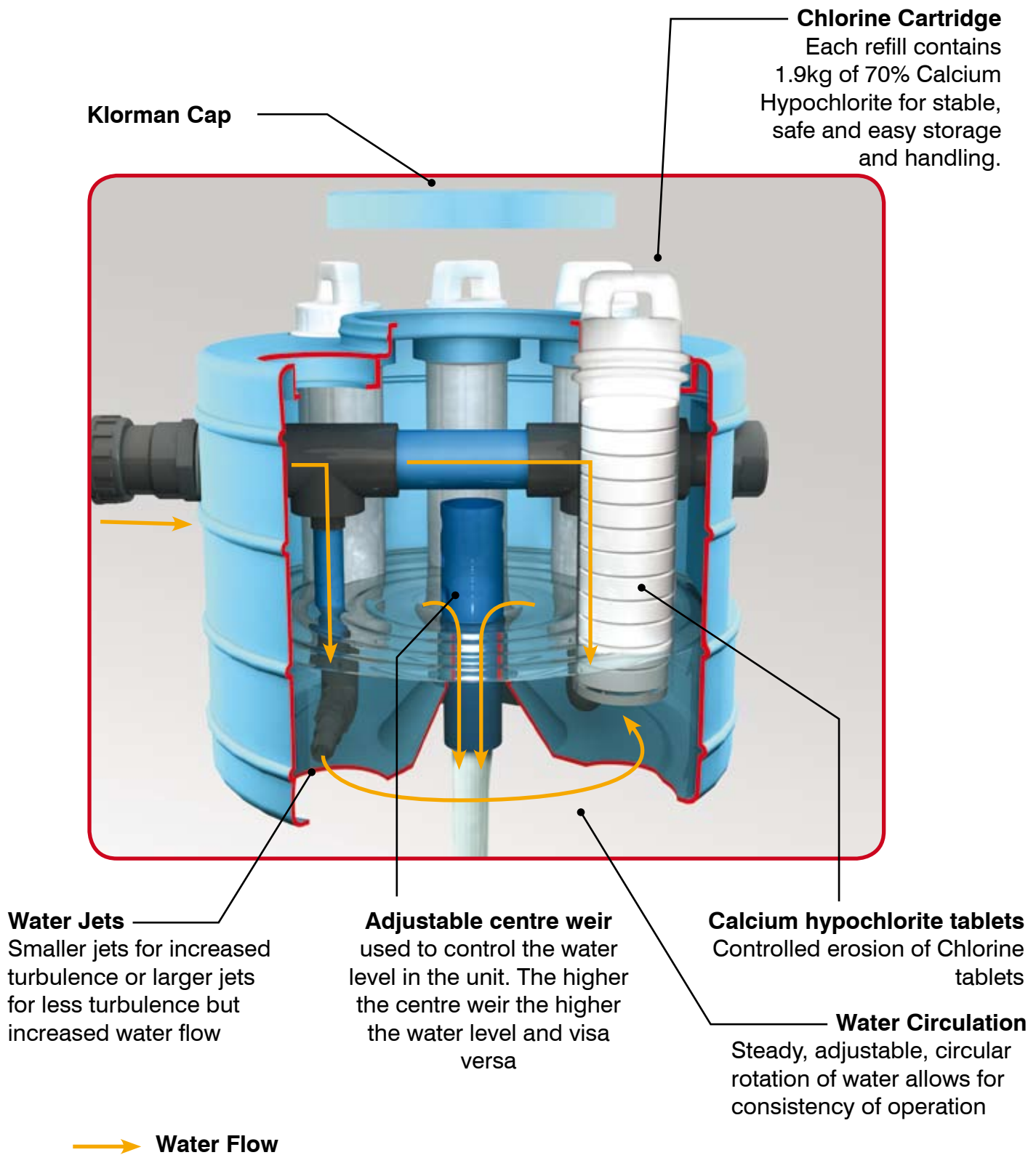
# Standard Unit - cutaway

## Principles of Operation



# Reservoir Unit - cutaway

## Principles of Operation



# Bermad Hydraulic Control Valve (SA Applications)

## Working View

**Return pipe** to the Stop cock valve in the Tank



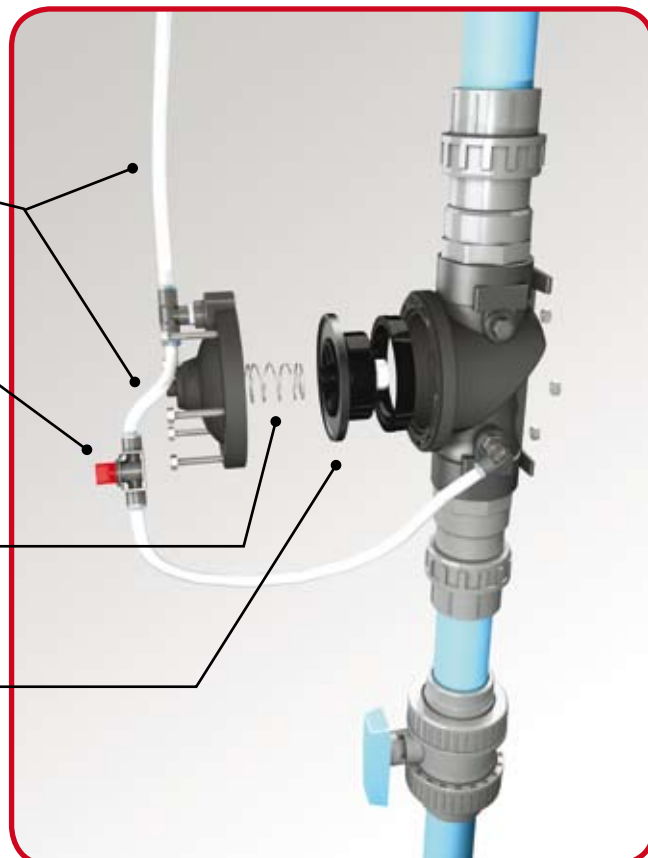
## Exploded view with components

**6mm or 8mm tubing**  
depending on  
required size of  
hydraulic pressure  
valve

**Control Tap**  
to increase/  
decrease  
pressure on the  
diaphragm

**Compression  
Spring**

**Diaphragm**  
- plastic and  
rubber



# Bermad Hydraulic Control Valve (Australian applications)



## Working View

**Return pipe** to the Stop cock valve in the Tank

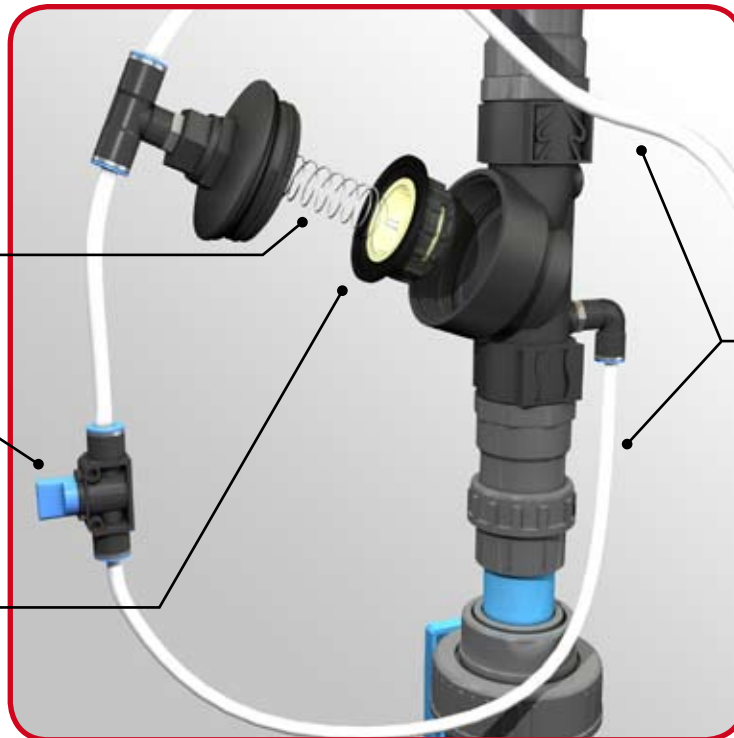


## Exploded view with components

**Compression Spring**

**Control Tap**  
to increase/  
decrease  
pressure on the  
diaphragm

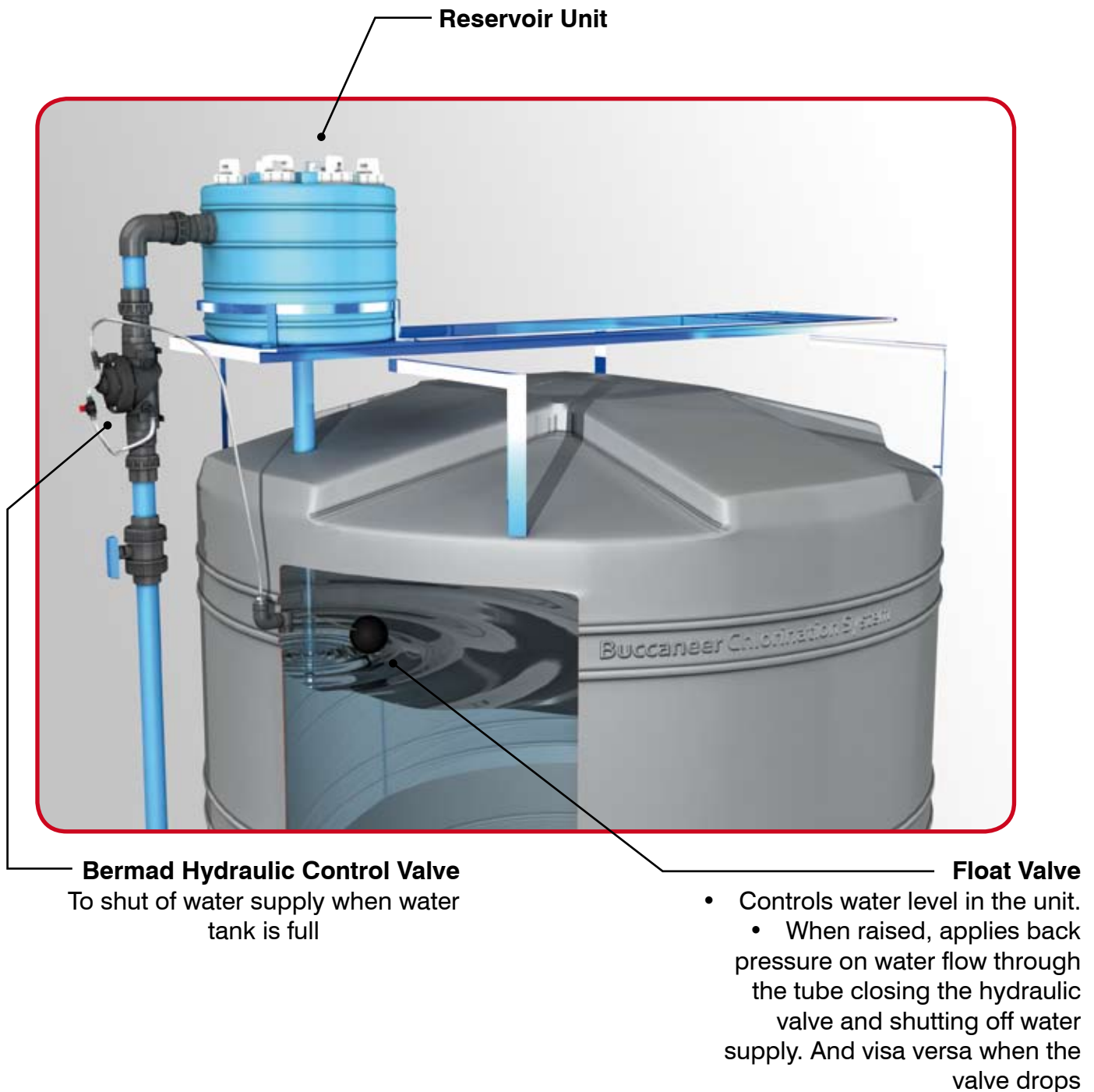
**Diaphragm**  
- plastic and  
rubber



**6mm or  
8mm tubing**  
depending on  
required size  
of hydraulic  
pressure valve

# Reservoir Unit Mounted on a Water Tank

## Principles of Operation



**Max Water Flow:** 7200l/h per reservoir unit

**Max Chlorine:** 250 ppm per reservoir unit

- There can be up to 4 Reservoir heads per tank/frame.
- Tank sizes vary from 1000l to 20000l depending on mixing time requirements and concentrations required.

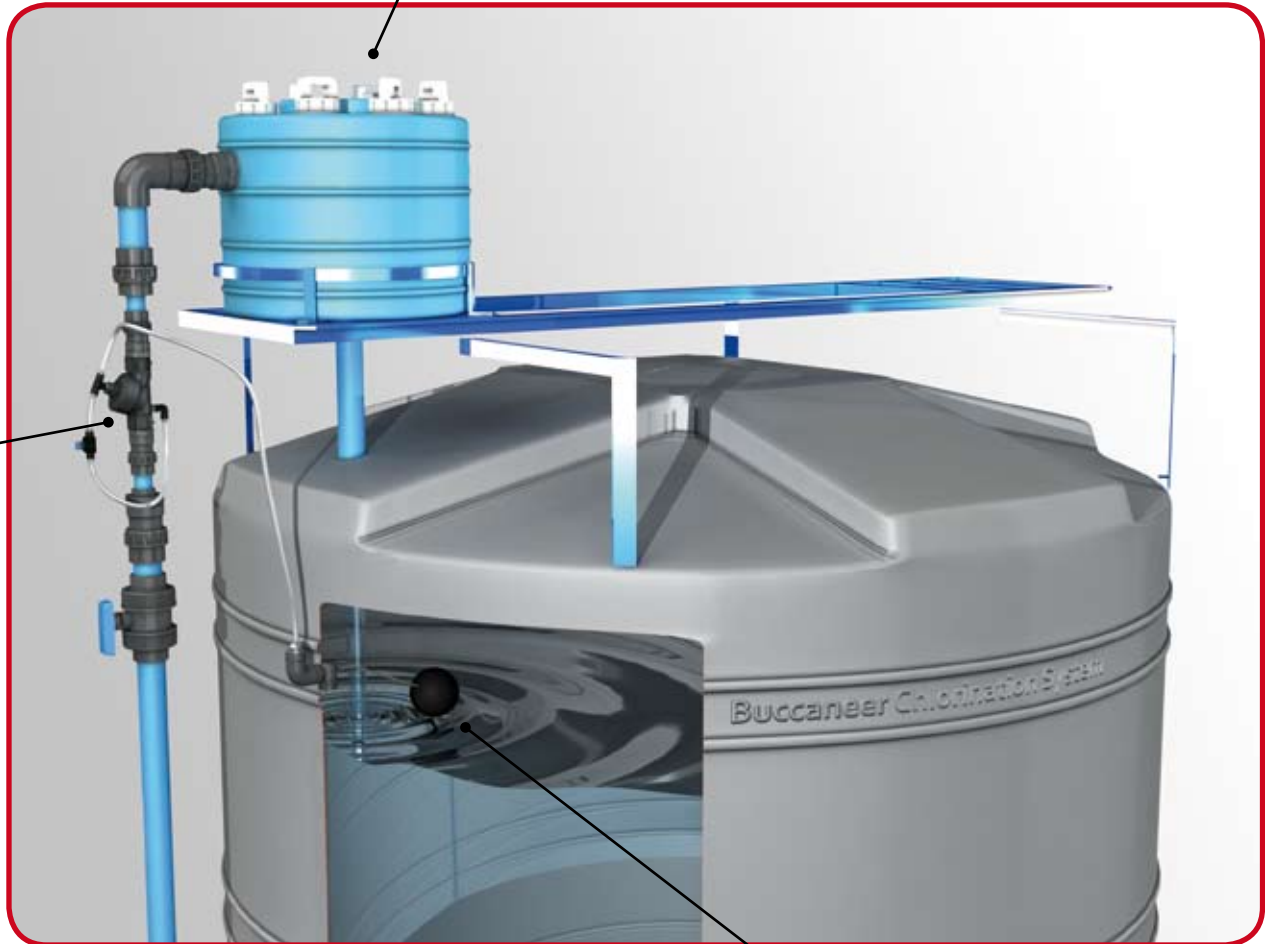


# Components

## Principles of Operation



Reservoir Unit



**Bermad Hydraulic Control Valve**  
To shut of water supply when water tank is full

- Float Valve**
- Controls water level in the unit.
    - When raised, applies back pressure on water flow through the tube closing the hydraulic valve and shutting off water supply. And visa versa when the valve drops

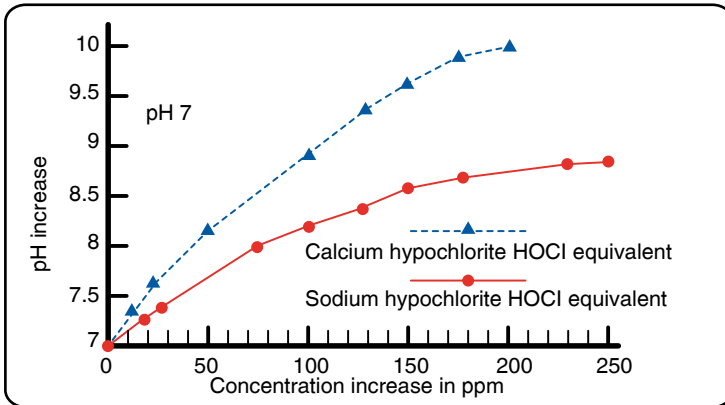
**Max Water Flow:** 7000lt

**Max Chlorine:** ppm 100 - depending on water quality

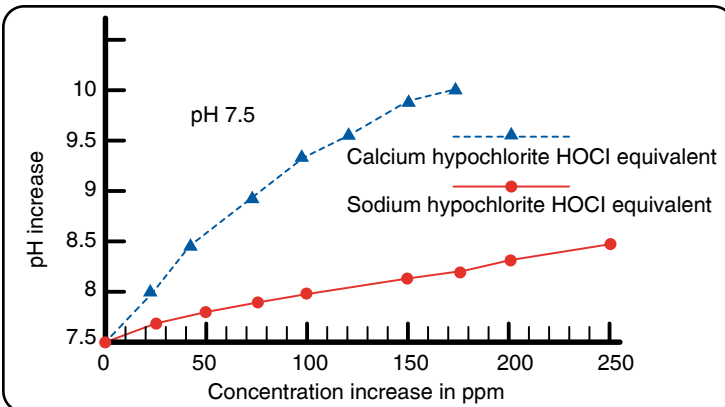
# Technical and Use Applications

## Technical Applications

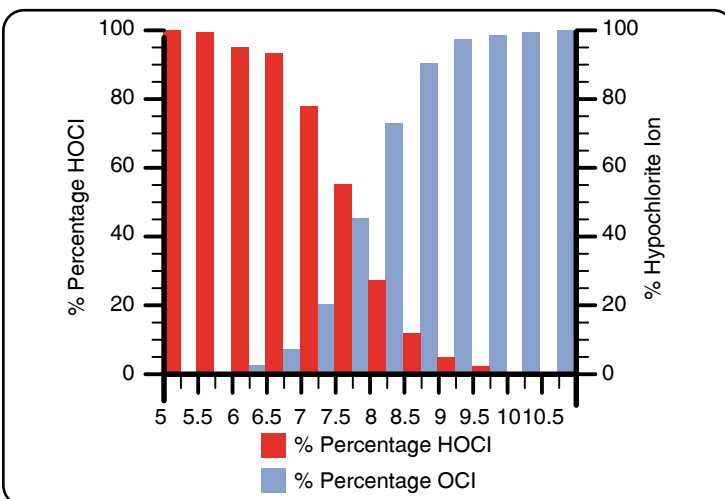
Comparison of HOCl presence between Liquid Chlorine and Buccaneer at pH 7 vs concentration increase



Comparison of HOCl presence between Liquid Chlorine and Buccaneer at pH 7.5 vs concentration increase



Hypochlorous acid and hypochlorite ion as function of pH at 20°C



Concentration of forms of active chlorine to yield 99 per cent germicidal effect in 10 minutes at 25°C in mg/L or ppm

Organism	HOCl hypochlorous acid	OCl hypochlorite ion	NH <sub>2</sub> Cl mono-chloramine
<i>E coli</i>	0.005	0.6	1.0
Polio virus	0.002	>>1.0	25.0
Cysts	2.00	800.0	10.0
Shistosomes	0.5 - 1.0	-	0.4

## Use Applications

- Sewerage effluent treatment
- Food processing facilities/pack houses
- Shelf life enhancement of:
  - Fresh meat
  - Seafood
  - Vegetables
  - Other perishables
- Bio-fouling control
- Irrigation water disinfection
- Potable water disinfection:
  - Municipal
  - Private
  - Lodges
- Large swimming pool sanitation
- Environmental hygiene
- Mortuary/morgue sanitation and disinfection
- Waste water effluent treatment
- Sanitation of porous and non porous food contact surfaces
- Agricultural uses:
  - Pre and post harvesting
  - Fruit and vegetable washing
- Medical emergency care:
  - Fire departments, hospitals etc.
- Animal kennels