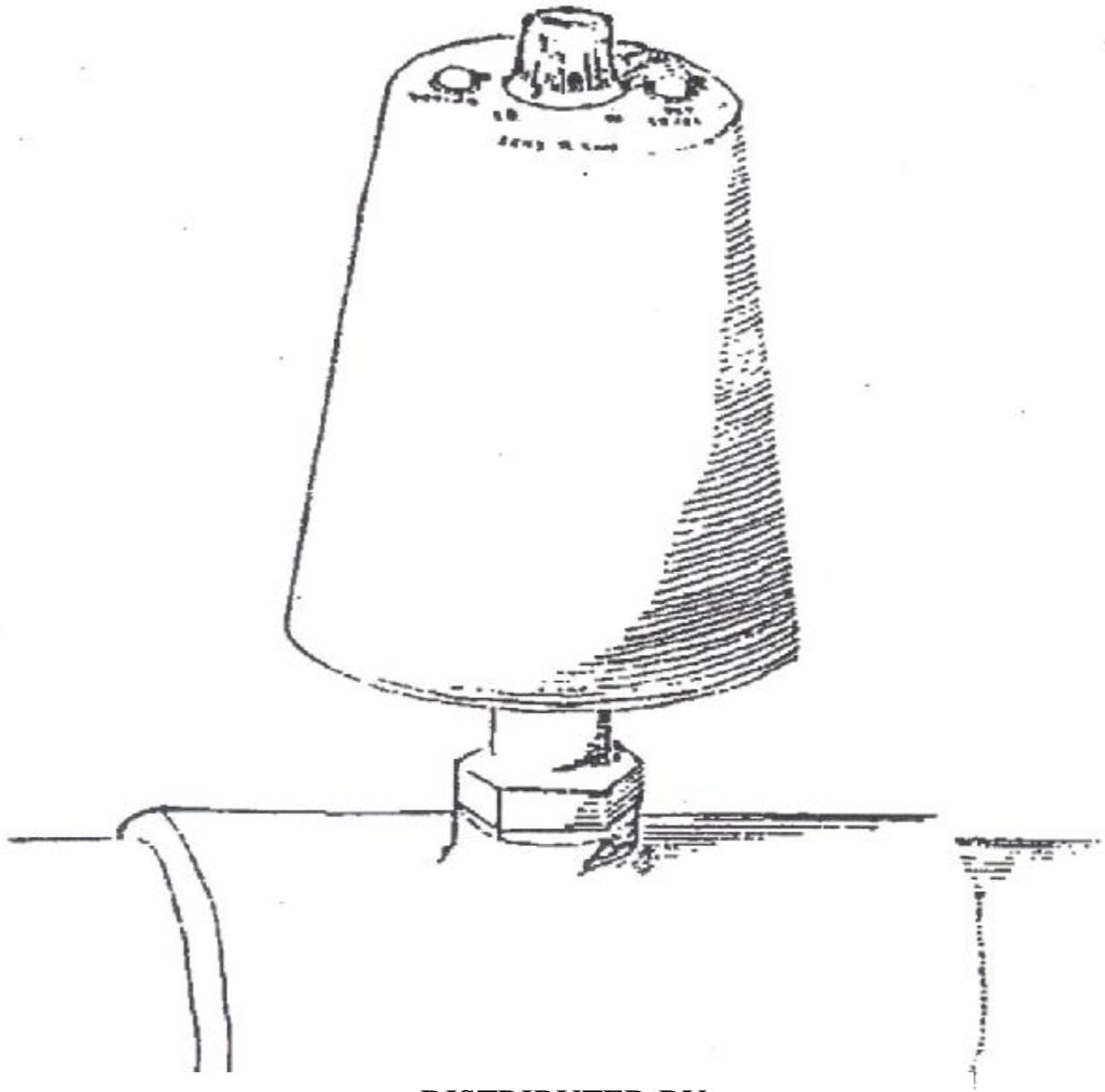


# THE AMAZING NEW SENS – R – TROL



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# SENS – R – TROL

## INSTRUCTION & INSTALLATION MANUAL

The Redox controller is a delicate instrument and in particular the probe should be handled with care. It is covered by a 12 month warranty from date of purchase. This warranty does not cover incorrect use or abusive handling.

The unit should be hand fastened with T piece supplied; excessive force with a spanner may damage the intricate workings voiding any warranty claim.

The probe is fitted with a protective cover, this should be removed prior to use and kept in a secure location for re-installing in the event that the unit needs to be returned under warranty.

Ideally the probe should be installed after the filter but before the chlorinator. Refer to Figure: Differential method with Brominator on page 4.

The probe should regularly be inspected and cleaned for optimum performance. For cleaning use a solution of muriatic acid.

On occasions the solenoid valve can become blocked with hair or lint. Should the feeder either over or under sanitize check the solenoid valve for correct functioning.

There are two lights on the top of the controller to set the correct reading. Set water to desired level put in sanitiser. Then check water with test strips periodically until you get the optimum reading. Once the desired level reached, turn the nob at the top until set level light comes on and dosing light goes out.

The unit is then ready to control at the setting.

# SENS – R - TROL

## INSTALLATION

The Sens-R-Trol is a very versatile device and may be used to control many types of erosion feeders using either Bromine or Trichlor tablets. It may also be used with the two doses liquid Dichlor, Sodium or Calcium Hypochlorite solution utilising a relay to control the dosing pump. Calcium Hypochlorite can also be dosed via the Pulsar Feeder.

The output of the Sens-R-Trol is 12 volts D.C. at 700 M.A. and solenoid valves and relays should be compatible with this. Sens-R-Trol uses a direct plug in transformer with a safe low voltage output of 12 volts A.C.

However, the transformer, which plugs into the mains, should be protected from the weather and accidental splashing. Alternatively it can be mounted on a weather proof box.

The Sens-R-Trol unit itself contains electronic components and should be protected from extremes of heat and freezing conditions.

### Tools Required

- \* Hacksaw
- \* Suitable pipe cement E.g. Tangit or similar
- \* A 1½ T: is provided to house the Sens-R-Trol.

Choose a position according to the diagram provided.

The 'T' is 100mm in length and 35mm of pipe should be removed to accommodate the 'T'. Sometimes it may be

necessary to re-route pipe work if there is insufficient space available.

The Sens-R-Trol should be fitted down stream of the brominator / chlorinator.

The position of the solenoid control valve is dependant upon the type of chemical dispenser being used. It is usually sited on the inlet side of the brominator / chlorinator.

**Please note: - The solenoid valve provided is NOT suitable for strong Trichlor solutions. An alternative solenoid valve and/or protection with an inverted U-bend should be used.**

The red connectors on the valve cable plugs onto the spade terminals on the solenoid valve. Polarity does not matter.

The plastic cap on the tip of the sensor must be removed before assembly of the Sens-R-Trol into the T-piece.

This cap prevents the wick from drying out. If the system is drained for some reason the Sens-R-Trol should be removed and the sensor recapped.

## OPERATIONS

To allow the Sens-R-Trol to operate efficiently, it is necessary to maintain a few simply aspects of water quality.

1. Adjust the total alkalinity to 120 ppm (Sodium Hypochlorite and Bromine) 150 ppm (Sodium Dichlor).
2. Adjust the pH to 7.4 – 7.6. *This is essential for the correct operation of the sensor.*
3. Turn the adjustments knob on the Sens-R-Trol just past halfway (12 – 1 o'clock) to start.
4. Check the solenoid valve is open and water is flowing through the brominator / chlorinator.
5. Test the water for bromine / chlorine at regular intervals until the required residual is achieved.

6. When the required residual is reached turn the control knob on the Sens-R-Trol until the dosing light just goes off. Fine adjustments can be necessary over the next 1 – 3 days.

### Important:

- \* *Allow the system to settle down after each adjustment.*
- 7. Shock doses your pool or spa to prevent a build up of organic debris.
- 8. Regular removal (e.g. by backwashing) of some of the water and addition of fresh water will prevent the build up of total dissolved solids.

\* Try to maintain your pool water chemically balanced. For further information see the PrimMix Balanced Water Booklet.

# SENS – R - TROL

## HOW IT WORKS

Here are a few words to help you understand how the Sens-R-Trol works.

Sens-R-Trol measure the level of bromine or chlorine your pool or spa.

On selecting the 'set level' by means of the level adjusting knob, Sens-R-Trol will activate your brominator or chlorinator as and when required to maintain this level.

Ideally the water should be 'chemically balanced'. Water balance is the term used to describe the interaction of pH, total alkalinity, and calcium hardness. In particular, you should try to keep a stable pH in the 7.2 – 7.8 range by maintaining total alkalinity within the 80 – 160mg/l range. If the total alkalinity falls too low 'pH bounce' will occur. The pH will jump from high to low and back again and the sensor will be unable to operate correctly.

It may also necessary to control the build up of organic matter by regular shock dosing the pool or spa. The build up of total dissolved solids can be controlled by the regular removal of a quantity of pool water and

replacing it with fresh water. Not just topping up evaporation losses.

Just how often you need to check the total alkalinity and pH is determined by experience and largely depends upon water volume, bather load and sanitiser used. For example, a residential pool may need to be checked every 2-3 weeks while a heavily used commercial spa would require daily checking.

Similarly, the need for shock dosing will vary but here are some good guidelines:-

- \* *After an unusually heavy load like a pool party.*
- \* *After a heavy rainstorm, with an open air pools.*
- \* *If ever the bromine residual falls below 1 mg/l or the chlorine residual falls below 0.5 mg/l for two days in a row.*
- \* *For further information and a more detailed description of balanced water refer to the PrimeMix Booklets on:-*
- \* *Balanced Water*
- \* *PoolWater Testing*

## THE SENSOR

The sensor measures the 'Redox Factor' of the water. This is the ability of the water to oxidise and thus sanitise or kill germs. The redox value that the sensor measure is the sum total of three parts.

Firstly, the 'base value' of the water, which varies from one location to another.

Secondly, the 'combined chlorine value', which has very little germ killing power.

Thirdly the 'free available chlorine or bromine value', which is a measure of the germ killing ability of the water.

It is important to be aware that all three component values are capable of changing under different conditions to make the total redox value.

The base value increases with a decrease in pH so that a slightly higher 'total setting' is necessary to maintain a given 'free available or germ killing ability of the water'.

Also, the 'combined chlorine value' increases with a very high bather load, increased organic debris (caused by body wastes, sun tan oils etc.) and a high total

dissolved solids hence requiring a slightly higher setting.

Factors such as temperature and dissolved oxygen in the water do affect the setting but only to a minor degree. However, it is best to have a spa at its operating temperature when determining settings.

A setting which is too low will favour an increase in the combined chlorine value and thus a reduction of germ killing ability.

A good quality test kit should always be used. This ensures the accurate determination of values.

The combined chlorine should never be allowed to become more than half the total.

Shock dosing will eliminate combined chlorine.

The combined residual in a bromine pool or spa is nearly always the result of organic debris.

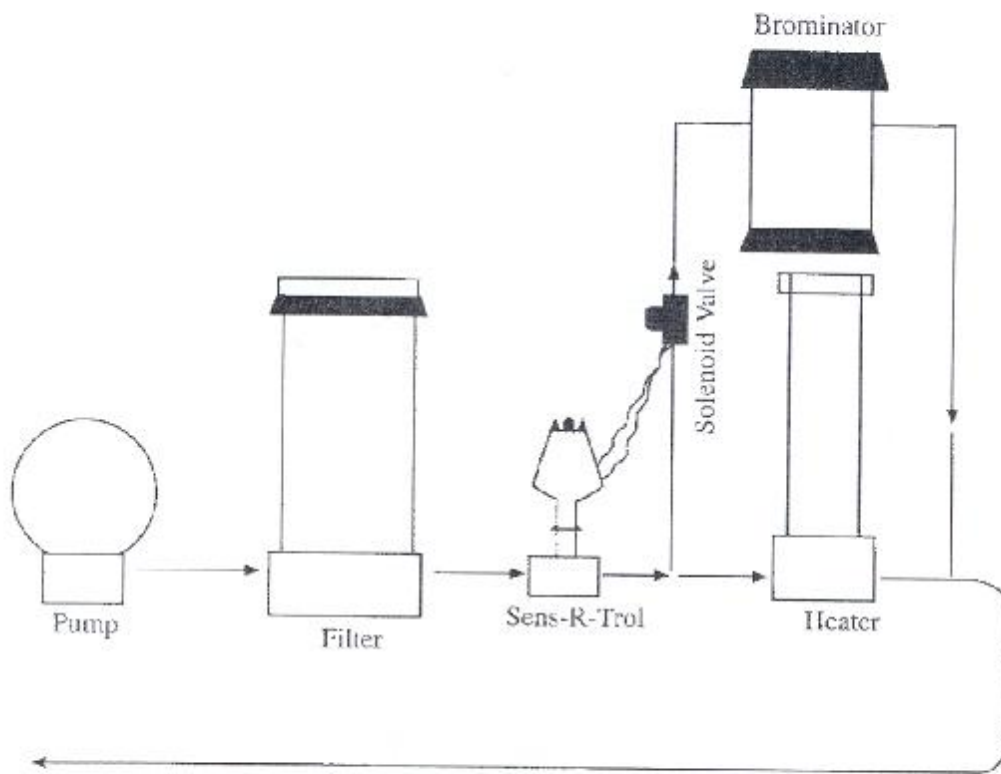


Figure: Pressure Differential Method with Brominator