

# SATHYA SAI CHLORINATOR (R)



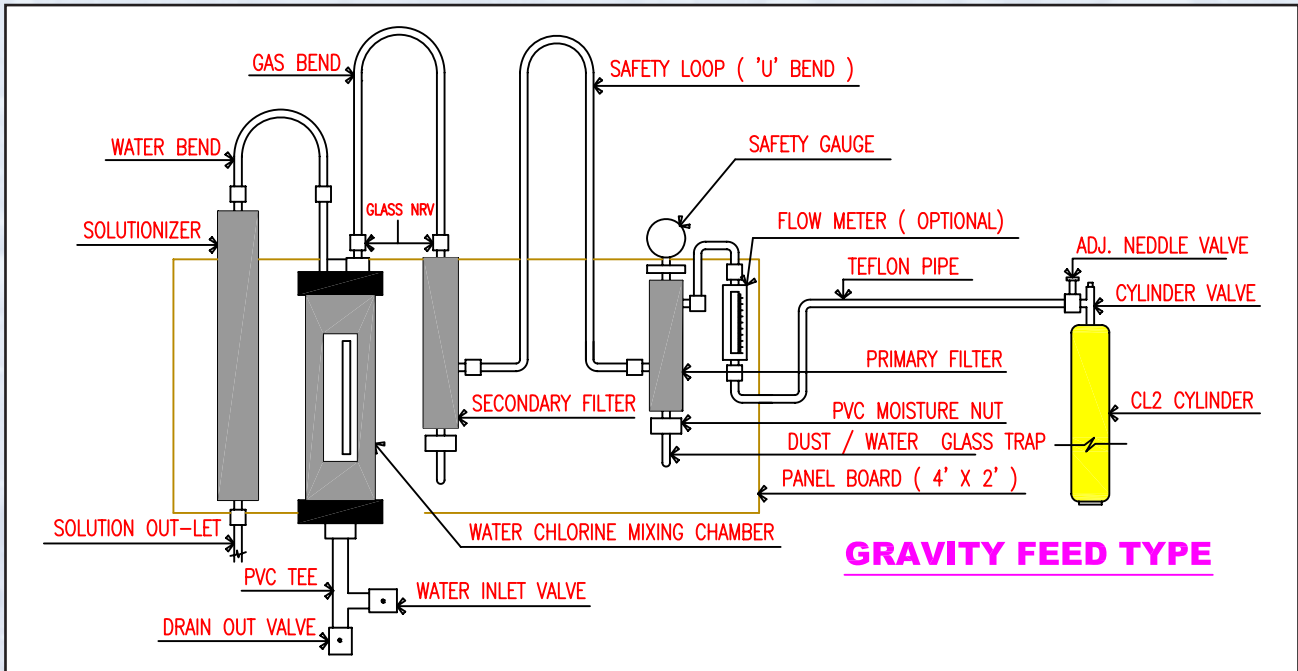
## PRINCIPLE

Most water supplies, whether previously filtered or not, and even if they appear perfectly clear, are most often contaminated by bacteria and pathogenic microbes dangerous to human life so they must be destroyed first before allowing them for human consumption. There are several processes for disinfecting water, but by far the most widespread is the treatment with and in operation, makes chlorine as a chlorine because it has enormous effective power to kill bacteria instantaneously even when used in minute doses. Moreover, its reliability and simplicity in handling and lower cost, both initially popular and common reagent for the sterilization of water. Its germicidal action even in small doses results in the destruction of enzymes necessary for the existence of microbic germs. It also possesses

very considerable oxidizing powers which would cause the destruction of organic matter easy. Free chlorine reacts with water to hypochlorous acid which sets free the oxygen necessary to destroy these harmful organisms and thereby sterilize water in the most effective manner as shown in the following equation.



It has a high degree of efficiency as a sterilizing agent and is adaptable for **domestic water supplies, for sewage effluent, swimming pool water**, for condenser cooling water and everywhere, where a bacterially free water is required. Usually, chlorine is given in doses higher than the water requirement to ensure complete and uniform sterilization of water.



## DESIGN

An open design has been adopted, as it makes it easier to detect possible leaks in time. Also formation of condensate, which is unavoidable in a closed cabin under certain temperature conditions and which may cause serious external corrosion is restricted to the minimum on account of free access of air. The design allows a more spacious arrangement for parts with advantage of easy accessibility for control, adjustment and replacement or repairs. Moreover, disturbances for in the chlorine and water feed have no effect on its functioning. The plants designed for wall panel mounting and require no floor place.

## **DETAILS OF COMPONENTS**

They are mounted on a big panel board (4' X 2'), they consist of Chlorine flow meter, primary filter and safety gauge on its top. Safety loop with nuts at both ends. Besides, there are plastic parts such as secondary filter with NRV on top. Chlorine water mixing chamber and chlorine water solutioniser. In addition, there will be gas bend and water bend joining three PVC chambers and Teflon pipe connecting chlorine cylinder to the Chlorine flow meter.

Liquefied chlorine drawn from a steel cylinder gets vaporized at normal room temperature and is led through Teflon connecting tube to the primary filter on the panel board which would arrest all possible cylinder impurities in gas so that they would not abstract the flow of gas through small apertures in the plant. **Safety gauge on the primary filter will show pressure only in case of any blockage in any part of the plant.** Flow meter will show the flow of chlorine in gms/hour. There will be PVC 'U' bend to convey gas from Primary filter to the secondary filter where the gas will be further screened to eliminate all impurities. There will be NRV on top of the secondary filter, hence only chlorine will pass onwards and prevent water to flow back in filter. Water introduced at bottom of the mixing chamber and gas come from top get mixed thoroughly and will flow by a water bend at top into the adjoining solutioniser. The solution will be again mixed thoroughly in the solutioniser and will be further passed gravity to the sump through the PVC outlet and pipe. **Usually, one liter of water is required for every five grams of gas for making solution in mixing chamber.**

## **LOCATION OF THE PLANT**

It is desirable to provide the chlorinator in a separate room with very good ventilation. This should be as near as possible to the point of application of chlorine solution into the water supply. Accident prevention legislation requires the floor of the room above ground level with a door leading to a free space. A special floor ventilation (2' X 1') is recommended for better circulation of air.

## **GUARANTEE**

Guarantee of the plant for the period of 12 months from the date of supply of the plant, provided the plant is operated strictly as per instructions given by us. Only mechanical defective parts will be replaced free of cost during guarantee period and no free servicing will be done during this period.

## **GENERAL**

The plant's simplicity of design, reliable performance, unique operating principle, easy operation and highest quality components meet all requirements of today's advanced standard of sanitary engineering. It is sturdily constructed of acid and chlorine proof, corrosion resistant materials providing long life to the plant. Easily installed and inserts adapt plants for their individual control function making replacement, simple and economical. Its maintenance is exceedingly simple and cheap as replacement of corrosion proof plastic parts is minimized. Problem of gas leakages is automatically solved by provision of lead or PVC washers between large contact areas at all joints.



# CHLORINE DOSE

WATER TO BE TREATED LITERS PER HOUR	PPM	CHLORINE DOSE GMS PER HOUR
1,00,000	1 / 2	100 / 200
2,00,000	1 / 2	200 / 400
3,00,000	1 / 2	300 / 600
4,00,000	1 / 2	400 / 800
5,00,000	1 / 2	500 / 1000
6,00,000	1 / 2	600 / 1200
7,00,000	1 / 2	700 / 1400
8,00,000	1 / 2	800 / 1600
9,00,000	1 / 2	900 / 1800
10,00,000	1 / 2	1000 / 2000

## How To Operate Sathya Sai Chlorinator ®

### HOW TO OPEN

1. Open The Water Inlet Valve.
2. Wait For Five Minutes.
3. Check The Constant Water Flow In The Plant.
4. Open The Chlorine Cylinder Valve Very Slowly.
5. Adjust The Chlorine Dose As Per Your Requirement.

### HOW TO CLOSE

1. Close The Cylinder Valve But Do Not Hammer It.
2. Wait For Five Minutes.
3. Close The Water Inlet Valve.

**Note:-** Safety Gauge ( Pressure Gauge) Will Show The Pressure Only In Case Of Any Blockage In Any Part Of Plant. If Gauge Show The Pressure Immediately Closed The Cylinder Valve .



# SATHYA SAI AQUA PURA SERVICES



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