Senco

ISO 9001: 2008
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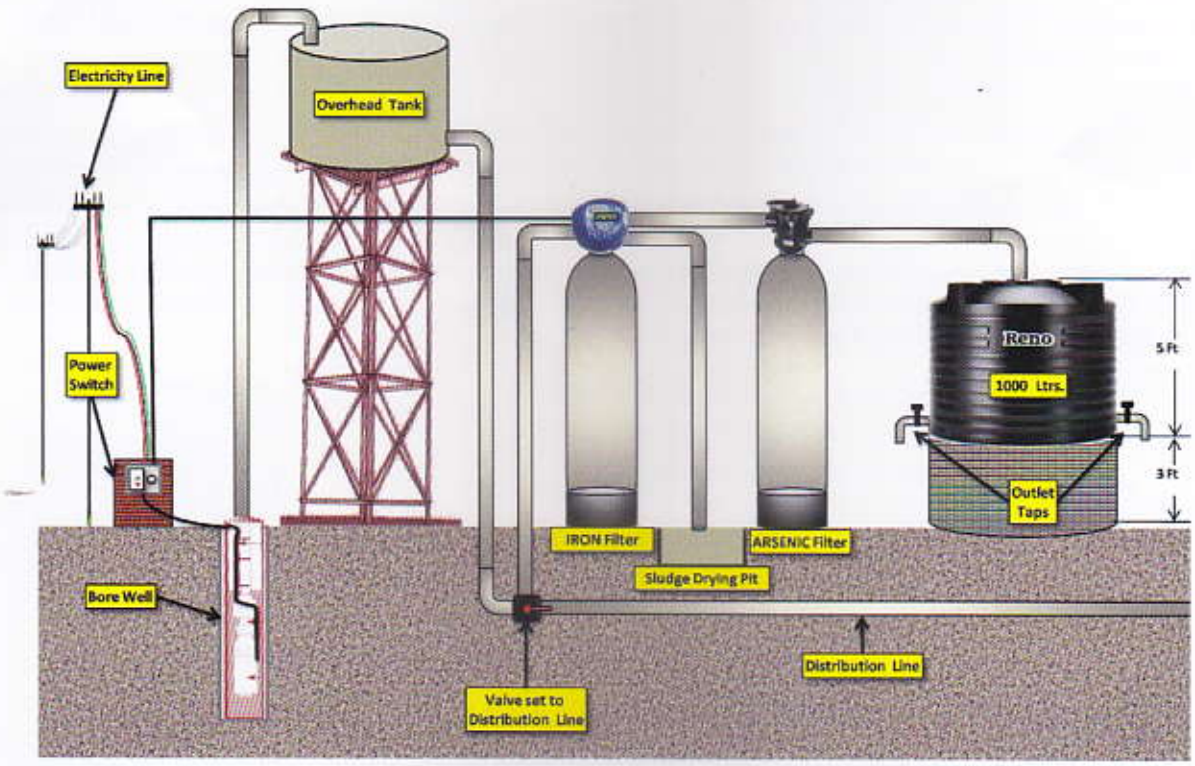
Arsenic Removal Filter



Iron Removal Media

Color : Black
Bulk Density : 35-40 lbs./cu.ft
Mesh Size : 12x50
Specify Gravity : 2.0 gm/cc
Effective Size : 0.48 mm
Uniformity Coefficient : 2.7

Arsenic Removal Media

Appearance : White granules
Particle size : 0.5 – 1.5 mm
Moisture content : less than 10%
Bulk density : ca. 550 kg/m2

NSF

Water Quality Association

Need for Arsenic Treatment

Presence of Arsenic in drinking water leads to many proven health problems, including cancer.

Now the Government of India and many international Agencies have fixed a maximum allowable limit of 0.01mg/lit of As and 0.3mg/ltr of Iron content.

In many parts of Arsenic affected areas Arsenic level is founded to be at a maximum of 1.5 to 2 mg/lit.

Arsenic coexist with Iron in water. So any treatment mechanism has to be designed to remove iron and followed by Arsenic in water.

Senco System

Arsenic removal plant consisting of two stages, double column filtration to remove Iron and Arsenic with Iron removal media and Titatinum Oxyhydrate adsorption Arsenic removal media, consisting of Fiber Reinforced plastic vessel with multiport valves and base media.

FRP Vessel

FRP vessel are made of continuous strands of fiberglass with high strength resin which are completely rust proof and corrosion free, easy to install, light weight and having smooth surface.

These come with complete UV protective coating against sunlight and protection from algal growth and can work up to pressure of 10 kg f/cm2.

Power Operated / Manual Multiport Valve

This Power Operated Multiport Valve can be connected to the starter of the pump or to a solenoid valve in the mainline.

This is made up of ABS material and can be set as per our time interval required. These can do filtration and after a required period of operation, can be made to backwash automatically.

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Unique Features of Senco System

- Can remove Turbidity, Iron, and Arsenic in a continuous mode as per BIS & WHO Standards
- No addition of chemicals for oxidation, for pH correction or for regeneration
- No power required for operation.
- Engineered to perfection with state of art FRP vessels and power operated MPV/ manual MPV.
- Non corrosive FRP vessels.
- Iron Content up to 15 mg/lit can be removed.
- Iron media life upto 5 years.
- Arsenic content up to 5 mg/lit can be removed.
- Arsenic media life considering Arsenic content of 0.250 mg/lit is more than 3 years.
- Life of equipment more than 15 years.
- Very easy to install.
- Very easy to operate, because of electrically operated MPV.
- Can be retrofitted with the existing water supply schemes.
- Strongest adsorption.
- Arsenic is so strongly bonded to the Media surface; therefore a regeneration of the adsorber is not possible.
- Our test in laboratory have shown that adsorbed Arsenic could not be removed from the Media at pH 4.93 – which is the pH of extraction solution used in TCLP (Toxicity Characteristic Leaching Procedure) test according to EPA Test Method 1311.
- Area Required : Approx size of 6'x6' is sufficient, may be area available below the OHT.
- Capacity of Plant : From House hold to any larger capacity.

Mild steel fabricated Arsenic removal plant with power operated butterfly valves and PLC (Programmed Logic Controls)

Detailed Specification of Arsenic Removal Filter

S.No	Capacity LpH	FRP Pre-filter Size mm			Base Media Kg	Iron removal Media Lit	FRP Arsenic removal filter Size mm			Base Media Kg	As Removal Media Lit
		Dia	Ht.	MPV (NB)			Dia	Ht.	MPV (NB)		
1	1000	330	1370	25	50	56	330	1370	25	80	45
2	2000	355	1650	25	50	112	355	1650	25	100	90
3	3000	406	1650	40	50	168	406	1650	40	120	135
4	4000	457	1650	40	40	200	457	1650	40	140	180
5	5000	533	1570	40	50	280	533	1570	40	200	225
6	6000	609	1828	50	100	336	609	1828	50	250	270

Comparison

	Senco System	Other System
1.	Based on Titanium oxy hydrate $Ti(OH)_4$	Based on alumina or iron based
2.	Stronger adsorption of arsenic in $Ti(OH)_4$	Not very strong adsorption in alumina or iron based.
3.	High adsorption capacity	Adsorption capacity is low
4.	Quick adsorption, less reaction time, less media, small foot print	Slightly slower adsorption , more reaction time, larger foot print
5.	Wider pH tolerance ($Ti(OH)_4$) is not soluble in acidic or basic media	Not so, gives way in extreme pH
6.	No leaching of Arsenic at pH 4.93. Hence can be discarded as ordinary garbage.	Leaching of Arsenic in alumina based adsorption, hence can't be disposed
7.	No addition of chemical	Addition of chemical required to remove iron
8.	Long life of media	Media life is low
9.	No need for supplier intervention for minimum 3 years	Every year we are dependent on supplier to supply media
10.	Cost of replacement media about Rs.2000/lit only	Cost of replacement media is very high of about Rs.6000 – 7000/lit
11.	Comes with fully engineered and robustly built from 2 decades field experienced company	Comes from newly started, company with no field experience.
12.	Very less Capex	High Capex
13.	No labor involved	Skilled labor required
14.	Ready to fit equipment of sizes 1000 Lph, 2000 LpH, 3000 Lph are available	Various size needs different design and not easy to manufacture and supply
15.	Can be fixed beneath the available OHT	May not be possible
16.	Quick supply, Delivery erection & Commissioning	Things have to be fabricated and procured. will take time for manufacture

Domestic Arsenic Removal Plant

We can also provide domestic Arsenic removal plant of capacity 30 LpH and 60 LpH, which can be fixed in the house in the kitchen. This will work with the pressure of less than 1 mt head. The habitant can maintain the filter themselves and there will be no O&M cost. If we are fixing in all houses we can arrange to have a maintenance camp every 6 months during which time our service engineer will be there to carry out the service.

Model : 30 LpH

Model : 60 LpH

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