



An ISO 9001:2018 Certified Company

# water solutions for a green planet



## Water Treatment Solutions

- Zero Liquid Discharge Plants
- Waste Water Treatment
- Effluent treatment plants
- Sewage treatment plants
- Drinking Water treatment
- Water Audits

Service | Quality | Innovation

Care for fresh water. It is vital for life.



Service | Quality | Innovation

An ISO 9001:2008 Certified Company



**Sarvo Technologies** is committed to help create a sustainable future for our water needs. With this vision we provide products and services to minimize impact on our environment, prevent its further loss and enable its restoration. Since its foundation in 1991, Sarvo has developed and marketed a wide range of products for various water needs.

Sarvo Technologies Ltd. was one of the first Company to achieve ISO 9000 Certificate in 1994, today the Company Certified to ISO 9000:2008. Today the product lines include wide range of water and waste water treatment systems including wide range of pumping solutions.

Today Sarvo provides the dependable source of water solutions for Government and Private sector. Sarvo has won several accolades and appreciation for its superb performance and quality.

Sarvo is part of the leading Indo Autotech group with turnover exceeding INR 2000 crores. The group serves global majors across Automotive, Industrial and Chemical verticals.

## Government Sector Customers





## **U.P. Jal Nigam**

In the Year 2018, Sarvo has been awarded the job of very 1st Fecal Sludge Treatment Plant of 32 KLD in the State of Uttar Pradesh. Sarvo has completed the job successfully and work had been completed in the prescribed time limit. The treatment of FSTP has done on naturally process in collaboration with CDD Bangalore. The plant working technology based on DEWATS which is combination of anaerobic plant is running in good condition and getting appropriate parameters.

*~EE. Mohit Chak*

## **Green Dot Health Foods Ltd.**

We had our SARVO Effluent Treatment plant with UF & I plant installed in 2015. We have been extremely happy with the SARVO system as it has functioned without fault, is very low maintenance and produces very good quality output that is clean and odorless. We selected the system based on our own research. We are very happy with the decision.

*~ Atul*

## **Unicotsyn Pvt. Ltd.**

A completely odourless system, Low electricity costs, Warranties and guarantees are in place, A quality and efficient system all round. Thank you and well done SARVO- keep up the good work. We have no hesitation in recommending you to all of our clients.

*~ Mukesh*

## **Whirpool**

The Installation of ETP at our factory is a good example of project management. Project completed with in time line and meet the final objective of reuse of water. Project team is very knowledgeable and competent

*~v.o. Verma*

## **Mohini Health & Hygiene Ltd.**

Sarvo has set up the Mechanical Vapor Recompression (MVR) for achieving Zero Liquid Discharge (ZLD). The system has been put place for treatment of 3rd stage RO reject to give enough concentrated water so that it can be put to the Drum Dryer. The plant consume negligible steam in the form of extra flash available with us. The Plant is running since March 2018 and we are happy with the service and plant offered by Sarvo. We wish to convey our best wishes for future Endeavours.

*~Piyush Kothari*

## **Marvel Dyers & Processors pvt. Ltd.**

We have been very happy with our SARVO UF system and the service provided by SARVO. There is no noise or smell from the system and it pretty much runs itself without us having to think about it other than once a year. Over this period of time I have found the running costs to be low and the system to be very efficient causing no problems I would happily recommend this company to anyone requiring an environmental Zero Liquid Discharge plant.

*~Waqar Alam*

## **HSI IDC, Ambala**

The order for up gradation work for Common Effluent Treatment Plant (CETP) of 0.5 MLD has been awarded to Sarvo in January 2021. The up gradation work has been awarded as per guidelines/norms of NGT which been duly complied by Sarvo. After up gradation the treated water very much under the prescribed limit by HSPCB/ CPCB. Sarvo is also doing the O&M of the Plant.

*~Asst. DGM Baldev Singh*

## **SJPNL, Sihmli**

There's lot can tell about SARVO, the plant Fecal Sludge Treatment Plant (FSTP) of 2.5 KLD, installed plant has efficient to treat the Fecal Sludge according to norms decided by HPPCB/CPCB. Treated water up to the marks, Fully underground gravity based FSTP doesn't require electricity and creates compost to boost agriculture nearby. This is one of the its kind plant to make Bio Solids conforming to A class of USEPA. Sarvo has done the tremendous of the working the fecal sludge into Bio Solids. Which can be used as Co-compost.

*~Er. Gopal Krishna.*

## **Indo Autotech. Ltd (Unit-5)**

We are more than happy to write our story on the SARVO system that your company supplied and installed for us in Nov. 2013. We are very happy with our choice of system and would recommend SARVO and their system, and for their diligent attitude for customer relations and service. I would have no hesitation in recommending a SARVO system to any prospective customer.

*~Satish Vs*

## **PHED Bihar**

Installed Water Treatment Plant for (IRP, ARP and DFU) of 8/12/16 KLPH. Plants are based on CSIR-CMERI technology based, household getting the impurities free water for drinking. The whole plants were installed in the year 2019-20. The scheme is under O&M for 5 Five Years Since 2019.

*~Executive Engg. Subodh Kumar*

## Our Esteemed Customers

### Industries



### Hotels & Hospitals



### Government Sector



### Application Area

- Automobiles
- Textile Processing
- Food Processing
- Pharmaceuticals
- Pulp & Paper
- Cement
- Power
- Construction
- Shopping Complexes
- Residential Tower
- Educational Institutions & Hospitals.



Sewage treatment, wastewater treatment, is the process of removing contaminants from wastewater and household sewage, both runoff (effluents) and domestic. It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants. Its objective is to produce an environmentally-safe fluid waste stream (or treated effluent) and a solid waste (or treated sludge) suitable for disposal or reuse (usually as farm fertilizer). Using advanced technology it is now possible to re-use sewage effluent for drinking water.

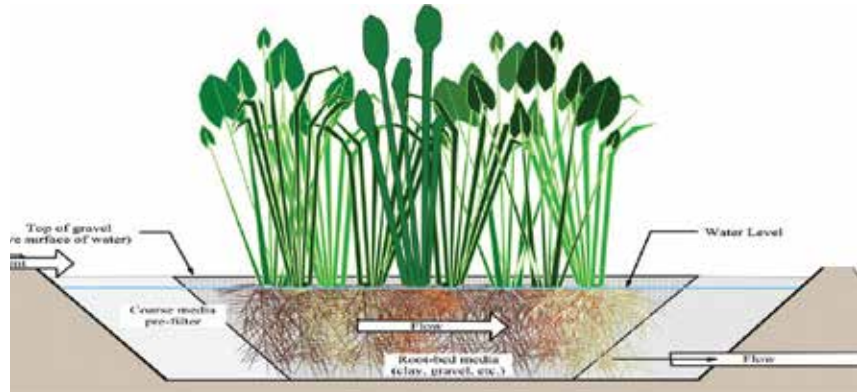
Sarvo offers Decentralized treatment system for making effective use of natural processes like gravity, micro biological activity and temperature.

Sarvo offers decentralized state of the art package sewage treatment system with below processes.

1. Activated sludge Process.
2. Mobile containerized STP based on submersed media aerobic reactor.
3. Compact plant based on Fluidized aerobic reactor/Moving Bio Bed Reactor (MBBR).
4. SBR
5. MBR.

After biological treatment water may be recovered by adopting tertiary treatment that may be used for gardening / flushing and other utilities. The Compact Package plant is simple to operate, requires minimal maintenance, it requires minimum power, land & consumables for reducing operating cost. These are generally manufactured in MS epoxy coated or Stainless steel / FRP as per the specific need. These compact plant are ideal for hotels, hospitals, holiday resorts, country / golf clubs, schools, housing complexes, national parks & industrial commercial complexes. Sarvo highlights the advantages of smaller decentralized local units for treatment of communal waste water/ sewage especially in area where developing urbanization has to integrate with the environment.





The S-CWT system ( based on constructed wetlands ) provides below benefits-

**SIMPLE TO OPERATE:** The S-CWT system is very simple to operate (mainly housekeeping & gardening activity).

**MEETING POLLUTION BOARD NORMS:** The pollution problem is solved, thereby, contributing to a cleaner and better environment. The treated water satisfies the Pollution Control Board norms.

**HUGE SAVING ON ELECTRICITY:** There is a huge saving on electricity while operating the CWT system. The CWT system saves about 80% - 90% of electricity over the conventional treatment methods. The cost of sewage treatment with our SCWT system is only about Rs. 3 - 5/- per 1,000 litres. Hence, there is a substantial cost saving.

**MEETING GREEN BUILDING CRITERIA:** The S-CWT system is been set up for wastewater treatment in upcoming 'Green Building' projects.

**STURDY SYSTEM:** S-CWT system functions consistently even during fluctuating flows.

**HUGE SAVINGS ON WATER PROCUREMENT COST:** The treated water can be reused for gardening and also for toilet flushing. Thus, there is huge saving on procurement of costly drinking water. While reusing for gardening, there is groundwater recharge too!

**NEGLIGIBLE MAINTENANCE:** Except for pumps, there are no other mechanical or moving parts. Only house-keeping and gardening activities have to be done as per O&M manual.

**AESTHETIC FEATURE:** The system has a garden look and appears as a part of landscaping in the campus.





There are a vast array of effluent treatment technologies available .Industrial wastewater treatment covers the mechanisms and processes used to treat waters that have been contaminated in some way by industrial or commercial activities prior to its release into the environment or its re-use.

Treatment	Description	Process
Preliminary	Removal of large solids such as rags, sticks, grit and grease that may damage equipment or result in operational problems	Physical
Primary	Removal of floating and settleable materials such as suspended solids and organic matter	Physical and chemical
Secondary	Removal of biodegradable organic matter and suspended solids	Biological and chemical
Tertiary/ Advanced	Removal of residual suspended solids / dissolved solids	Physical, chemical and biological

Pollutants are substances that have the potential to have negative effects on the natural environment, to cause damage to infrastructure or harm to human health.

Pollutants in industrial wastewater contain a mixture of organic and inorganic substances, in solution, as solids in suspension, as a separate phase (e.g. an oil layer) and as colloidal matter (e.g. starch or clay).

Some pollutants are toxic and/or harmful and can have a direct impact on the receiving environment e.g. heavy metals, mineral oils, solvents, strong acids and alkalis.

Other pollutants are non-toxic and not directly harmful but their presence can have indirect negative effects e.g. alcohol, milk, clays and agricultural land run-off.

Sarvo manufacturers complete line of ETP including biological treatment, liquid Isolids separation systems, Dewatering equipment & instrumentations and control to operate all the processes. These technologies incorporate latest advanced in the industry to provide the most trouble free and cost effective treatment.





**WORLD'S  
MOST ENERGY  
EFFICIENT  
ZLD PLANTS**

Based on

**Mechanical Vapour  
Recompression technology  
(MVR)**

- **Zero Liquid Discharge** is a process that is beneficial to industrial and municipal organizations as well as the environment because no effluent, or discharge, is left over.
- Increasingly, legislation and industry demands a zero liquid discharge with a solid product that can either be sold more readily dumped in a sealed landfill.
- ZLD systems employ the most advanced wastewater treatment technologies to purify and recycle virtually all of the wastewater produced.
- A Zero liquid discharge facility (ZLD), is an industrial plant without discharge of waste waters. Target ZLD is normally reached by:
- Waste water strong recovery
- Separation by evaporation or boiling of water part of waste water not reusable, in evaporators, crystallizers and condensate recovery. ZLD plants produce solid waste.

ZLD discharge system overview ZLD technology includes pre-treatment and evaporation of the industrial effluent until the dissolved solids precipitate as crystals. These crystals are removed and dewatered. The water vapor from evaporation is condensed and returned to the process.

# Reverse Osmosis Plants ( RO)

## Reverse Osmosis ( RO) Based Water Treatment Plants Standard Features

Quality: Material of construction	Mild Steel / Stainless Steel
Piping	Stainless Steel I UPVC
Skid	Skid to mount the whole system
Feed Pump	For feeding of raw water
Sand Filter	For removal of suspended solids present in the raw water
Anti-sealant Dosing System	To control the scaling of the RO membranes
Micron Cartridge Filter	To filter impurities of the water up to 5 microns
High Pressure Pump	To feed the water to RO membranes at reverse osmosis pressure
Reverse Osmosis System	To remove the total dissolved solids of the water

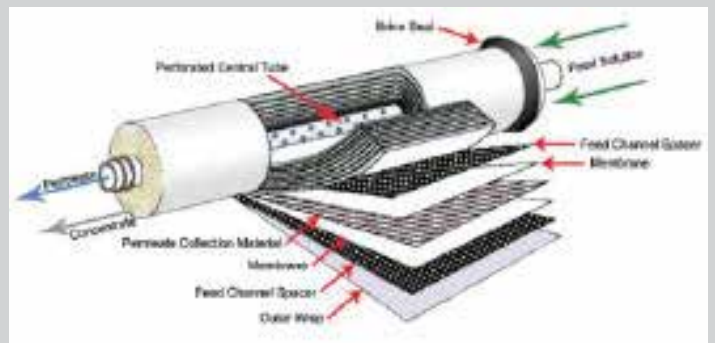
## Specification - Standard Range

	SARVOS200	SARVOS400	SARVOS800	SARVOS1500	SARVOS2000	SARVOS5000
Product Flow (LPH)	200/250	400/500	800/1000	1500	2000	5000
Feed Flow (LPH)	1000	1250	1600	2700	4000	7200
Reject Flow{LPH)	800	850	800	1200	2000	2200
Membrane						
Membrane Size	4"x40"	4"x40"	4"x40"	4"x40"	8"x40"	8"x40"
Membrane Quantity	1No.	2No.	4No.	6No.	2No.	5No.
Power Consumption						
KW	2.75	2.75	3.73	7	8	10.5
HP	3.7	3.7	5	9.4	10.72	14.1
Phase	1/3	1/3	3	3	3	3
Plant Description						
HxWxD (in mm)	1500x1000x1000	1800x1000x1000	1800x1200x1000	1500x2500x1000	1800x1200x1000	1800x1200x1000
Sipping Weight (Kg)	350	400	500	1150	1300	1400

Note:

1. Above calculation are based at inlet water TDS count @ 1500 ppm.
2. Special tailors made plants can also be offered to suit exact requirement.

# Reverse Osmosis Plants ( RO)



Reverse Osmosis, also known as hyper filtration, is used to purify water and remove salts and other impurities. It is also capable of rejecting bacteria, sugars, proteins, particles, dyes, and other constituents that have a molecular weight of greater than 150-250 daltons.



**Reverse Osmosis ( RO) Plants Sarvo**  
can design and supply  
industrial RO plants upto capacities  
20000 LPH and more as per customer  
requirements...



## Why SARVO ?

- Pre-assembled and tested.
- Ready to install.
- Quick delivery.
- Ready availability of spares.
- Best service back-up.



# Water Softener Plants



**Water Softeners**  
Robust, Long Lasting  
SARVO's Water Softeners are  
engineered for the most demanding  
industrial and commercial needs.

**ION Exchange Softening Process:** Softening of Water is almost exclusively effected by ION Exchanges. In this process the calcium and magnesium ions are exchanged by sodium ions, so that the hardness forming components are converted into soluble sodium salts. Softening is carried out by simple filtration through the exchange material.

When the exchange material is exhausted, it requires regeneration with sodium chloride (Common Salt). The calcium and magnesium ions which were taken up before are then, displaced by sodium ions and flow out together with the regeneration water. The capacities between regeneration will, however, vary according to the raw water. Water product will have commercial Zero hardness. These systems have a proven excellence in performance for application like textile, Boiler Heat Exchanger, Laundry etc.

Softeners are available in rust and corrosion proof FRP as well as sturdy Mild Steel Units.

**Control Valve:** State of the art design and with in-built ejector system, multi port valve for compact design.

Unit with Individual valves of Cast Iron are safe for outdoor application.

Unit with Individual valves of Cast Iron are safe for outdoor application.

Completely Automatic Systems are also available.

## Standard Range:

SARVO SOFTENER	Flow Rate (LPH)	Resin Media Quantity (lt)	Vessel Size Dia.X Height (Inches)	OBR (m <sup>3</sup> )	Line Size (Inches)
SF-1000	1000	75	13 X 54	11.5	1"
SF-2000	2000	125	14 X 65	20	1"
SF-3000	3000	200	18 X 65	31	1"
SF-4000	4000	250	21 X 62	40	1.5"
SF-5000	5000	325	24 X 72	51	1.5"
SF-6000	6000	400	30 X 72	62.5	1.5"
SF-7000	7000	450	30 X 72	70	1.5"
SF-8000	8000	525	30 X 72	80.5	2"
SF-9000	9000	575	36 X 72	90	2"
SF-10000	10000	650	36 X 72	102	2"

Note:

1. Above calculation are based at inlet water hardness of 350 ppm.
2. Special tailor made plants can also be offered to suit your exact requirement.



SARVO range of DM water plants include anion and cation combination or RO based treatment followed by mixed bed unit. SARVO filter range includes PSF, ACF, IRF, DMF, MGF, IN FRP, MS and Stainless steel constructions.

Our mixed-bed de-mineraliser are used where water of extremely high purity is needed. They have cation and anion exchanger resins mixed in a single column. This achieves higher purity standards, more neutral pH and greater silica and CO<sub>2</sub> removal control than can be done with a Two-bed system.

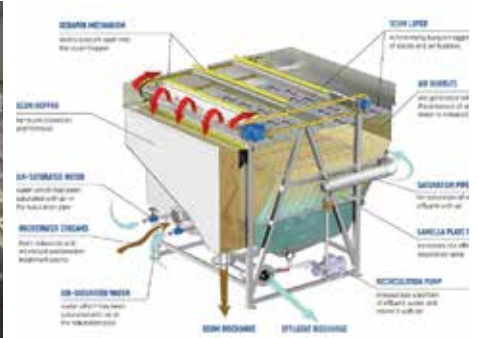
Our water de-mineralisers employ the modern ion-exchange technology to give chemically pure water. A de-mineraliser removes minerals from the raw water by an ion-exchange process. This process first exchanges the cations of the salt for the hydrogen ions and, then, exchanges the anions of the salt for the hydroxyl ions.

## Advantages Of De-mineralisation System:

1. Gives you chemically pure water- instantly and continuously, year after year.
2. Has durable resins with the highest de-mineralising capacity.
3. Uses resins of the highest quality.
4. Comes with the conventional conductivity meter.
5. Is extremely easy to operate and need practically no attention after it is installed.
6. Can be connected directly to any water supply main.
7. Is delivered promptly.
8. Is available in a wide range of flow- rates

## Application Areas

- Pharmaceuticals
- Cosmetic
- Electronics
- Paints
- Research Technology
- Battery manufacturing
- High Pressure Boiler
- Distilleries
- Pulp and Paper



## HYDRO-100S ( EC System)

Hydro 100 OS is a compact electrochemical oil separation unit which has the ability to treat water contaminated by oil to stringent regulatory standards.

This transportable unit provides an on the spot treatment solution for the marine and mining industry. Our HydroCurrent™ technology enables us to separate oil from large volumes of water quickly and efficiently.

The Hydro 100 OS is ideal for rapid deployment where immediate treatment is required to mitigate environmental pollution.

### Key Features

- Hydro Current™ Treatment
- Capable of treating 3,400 litres/hr
- Power: From 6Kwh
- Mobile and transportable weighing just under 750kg
- Fast onsite installation
- 1.5mx1.5m (l)x1.8m (h)
- User friendly manual / remote interface
- Applications
- Oil separation

## Dissolved Air Flotation ( DAF ) Modules

SARVO DAFs utilise a uniquely Compact micro-bubble generator as part of an efficient and effective DAF plant design. The DAF plant assists in the removal of process contaminants in a safe and energy efficient manner.

### Design & Function

The saturation pump has a highly precise and sophisticated pumping mechanism that produces microbubbles by three hydro-dynamic principles: Negative pressure sucking both air and water simultaneously from each port; air effectively mixed into water; finally properly producing pressurised air-enriched discharge. The pressurised air-enriched water is transferred into the bottom of the dissolved air flotation tank. This creates a micro bubble formation spreading and growing up to the water surface and finally forming a sludge mat. It will be skimmed off.

**WASHING COMPACTOR (WCP)** A combination of screw conveyor and screening compaction, complete with integrated and innovative material washing system and drive assembly. Used for the compaction, dewatering, and volume reduction of screenings and a large variety of waste materials from industrial processes. The screenings to be treated enter the machine directly through an inlet hopper. The compactor can be fed from either a launder channel or directly from source, allowing for versatility and use across various process arrangements. The innovative washing system design removes organics more efficiently, cleaning from inside to out.





### Water Audits

A water audit can identify genuine use and needless waste. The result-leaks and wastage identified, less water used, less money spent!

A comprehensive water audit will uncover any costly inefficiencies in the water distribution system that result in money literally going to waste.

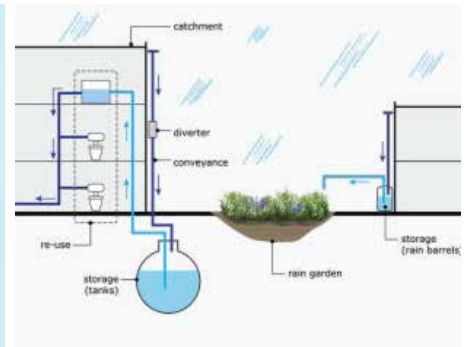
The water audit will usually start with a desktop study which will look at bills, collect information relating to the bills including consumption, metering, waste water costs, tariffs, surface water charges, standing and fixed charges, arithmetic errors and more appropriate tariff structure where applicable.

Following on from this will be a site survey reviewing the physical use and distribution of water.



### Capacity Verification

- We access the installed capacity of plants.
- We compare, evaluate, verify capacity of various equipments vis-a-vis complete plant.
- We will evaluate the complete system and can redesign the whole process so that optimum utilization of installed capacity can be achieved.
- To suggest about the working of the plant, for maximum utilization of manpower.
- To evaluate the optimum capacity for which the plant can be designed keeping in mind the current and future requirements.



### Rain Water Harvesting

Rainwater harvesting is the accumulating and storing of rainwater for reuse before it reaches the aquifer. It has been used to provide drinking water, water for livestock, water for irrigation, as well as other typical uses. Rainwater collected from the roofs of houses and local institutions can make an important contribution to the availability of drinking water. It can supplement the subsoil water level and increase urban greenery. Water collected from the ground, sometimes from areas that are especially prepared for this purpose, is called Stormwater harvesting. In some cases, rainwater may be the only available and implementing it becomes very critical to meet long term needs.

## Training Programs

Our Experts in various fields provide regular training courses that cover best practices in water efficiency, maintenance, sustainable approaches. They run in cooperation between local government institutes, Industrial associations and private colleges. They enable participants to fully understand and implement the best practices.

## Water Testing Services

Labtech, a division of Sarvo Technologies provides comprehensive water testing service using state of art instruments and conduct the tests as per national and international standards. Our qualified and experienced professionals ensure that the results are reliable and stay in permissible limits by using correct instruments, methods and reference samples.

## O&M and AMC

- We undertake complete operation and maintenance (O&M) contract for water and waste water treatment sites.
- We undertake comprehensive annual maintenance contracts (AMC) for water and waste water treatment projects.
- We provide skilled and semiskilled manpower for the job.



**sarvo**<sup>®</sup>

An ISO 9001:2015 Certified Company

Sarvo Technologies Limited

सर्वो टेक्नोलॉजिज लिमिटेड

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