



Containerised & Skid-Mounted Water Treatment Plant

Solution Showcase



Introduction

Access to treated water remains one of the most critical infrastructure challenges across defence installations, remote industrial sites, construction camps, export markets, and underserved communities.

Conventional water treatment plants require extensive civil construction, long project timelines, and permanent infrastructure—making them impractical for sites that need rapid deployment, relocatability, or operation in infrastructure-constrained environments.

Containerised and skid-mounted water treatment plants address this gap—delivering factory-tested, pre-engineered treatment systems that can be transported, installed, and commissioned in a fraction of the time required for conventional construction.

What are Containerised WTPs?

Containerised WTPs are complete water treatment systems—pre-treatment, membrane filtration (UF, BWRO, or SWRO), post-treatment, and controls—engineered and assembled into ISO shipping containers or fabricated skid frames at the factory. They arrive at site factory-tested and ready for connection to power, feed water, and product water lines.

The treatment train configuration—pre-treatment stages, membrane type and array, post-treatment, and reject management—is engineered based on inlet water quality, TDS profile, desired product water specifications, and site conditions. Equipment sizes are standardised per tier; the treatment solution is project-specific.

SRP's Containerised WTP Platform

SRP designs, manufactures, assembles, tests, and commissions containerised water treatment plants using in-house manufactured UF and RO membranes. This vertical integration—from raw polymer to finished, deployed system—ensures quality control, supply chain independence, and lifecycle support from a single source.

- **Standard equipment tiers:** 1, 2.5, 5, 10, 15, 25, and 50 m³/hr (24 to 1,200 CMD).
- **Single-container delivery:** Systems up to approximately 10–15 m³/hr, housed in a single 20ft or 40ft container or skid.
- **Multi-container configurations:** Higher capacities supplied as multi-container or multi-skid assemblies with on-site integration.
- **Custom capacities:** Above 50 m³/hr available on project basis.
- **4,000+ packaged systems:** Deployed across India, Central Asia, East Africa, and Southeast Asia.

Product Configurations

SRP offers three primary containerised treatment configurations. Each is available across the standard equipment tier range, with the treatment train engineered per project based on feed water analysis and product water requirements.

Containerised Brackish Water RO (BWRO)

Treatment of brackish groundwater and surface water with TDS typically ranging from 1,000 to 10,000 ppm. Produces potable or process-grade permeate. Treatment train includes multimedia filtration, cartridge filtration, antiscalant dosing, high-pressure RO, and post-treatment (UV disinfection, remineralisation as required).

Typical applications: military bases, construction camps, remote industrial sites, rural water supply, disaster relief, and export infrastructure projects.

Tier	Capacity	Feed TDS	Recovery	Housing	Membranes
1 m ³ /hr	24 CMD	≤10,000 ppm	75-85%	Skid / 10ft	SRP BW4040
2.5 m ³ /hr	60 CMD	≤10,000 ppm	75-85%	20ft	SRP BW8040
5 m ³ /hr	120 CMD	≤10,000 ppm	75-85%	20ft	SRP BW8040
10 m ³ /hr	240 CMD	≤10,000 ppm	75-85%	20ft / 40ft	SRP BW8040
15 m ³ /hr	360 CMD	≤10,000 ppm	75-85%	40ft	SRP BW8040
25 m ³ /hr	600 CMD	≤10,000 ppm	75-85%	Multi-container	SRP BW8040
50 m ³ /hr	1,200 CMD	≤10,000 ppm	75-85%	Multi-container	SRP BW8040



Containerised Seawater RO (SWRO)

Desalination of seawater (TDS 25,000–45,000 ppm) for coastal, island, and offshore installations. All SWRO models include energy recovery devices as standard. Treatment train includes UF pre-treatment, cartridge filtration, high-pressure SWRO, and post-treatment (remineralisation, disinfection).

Typical applications: coastal military and naval installations, island water supply, GCC infrastructure, offshore platforms, coastal hospitality.

Tier	Capacity	Feed TDS	Recovery*	Housing	Membranes
1 m ³ /hr	24 CMD	≤45,000 ppm	50-60%	20ft	SRP SW8040
2.5 m ³ /hr	60 CMD	≤45,000 ppm	50-60%	20ft	SRP SW8040
5 m ³ /hr	120 CMD	≤45,000 ppm	50-60%	20ft / 40ft	SRP SW8040
10 m ³ /hr	240 CMD	≤45,000 ppm	50-60%	40ft	SRP SW8040
15 m ³ /hr	360 CMD	≤45,000 ppm	50-60%	40ft / Multi	SRP SW8040
25 m ³ /hr	600 CMD	≤45,000 ppm	50-60%	Multi-container	SRP SW8040
50 m ³ /hr	1,200 CMD	≤45,000 ppm	50-60%	Multi-container	SRP SW8040

**All SWRO systems can have enhanced recoveries based upon actual feed water parameters and significant power saving through ERDs.*



Containerised UF + Disinfection

Treatment of low-TDS surface water, river water, or lake water (TDS <800 ppm) where desalination is not required. The simplest configuration—UF membrane filtration followed by UV and/or chlorine disinfection—producing potable water compliant with IS 10500 and WHO guidelines.

Typical applications: village and community supply from rivers or canals, military field deployments near surface water, labour camps, CSR and development programs.

Tier	Capacity	Feed Quality	Permeate	Housing	Membranes
1 m³/hr	24 CMD	TDS <800 ppm	<0.1 NTU	Skid / 10ft	SRP ULTRAFLO
2.5 m³/hr	60 CMD	TDS <800 ppm	<0.1 NTU	20ft	SRP ULTRAFLO
5 m³/hr	120 CMD	TDS <800 ppm	<0.1 NTU	20ft	SRP ULTRAFLO
10 m³/hr	240 CMD	TDS <800 ppm	<0.1 NTU	20ft / 40ft	SRP ULTRAFLO
25 m³/hr	600 CMD	TDS <800 ppm	<0.1 NTU	Multi-container	SRP ULTRAFLO
50 m³/hr	1,200 CMD	TDS <800 ppm	<0.1 NTU	Multi-container	SRP ULTRAFLO

All specifications are indicative and subject to variation based on feed water quality, site conditions, and detailed engineering. Custom capacities above 50 m³/hr are available on project basis.



Deployment References & Credentials

SRP's containerised and packaged water treatment systems are backed by verified deployment experience across domestic and international markets, including active military installations and export supply chains.

Client / Project	Scope
KBR / US Military	Multiple containerised WTP skids for military bases in Iraq, Uzbekistan & Afghanistan
Synergy Gases, Kenya	Containerised WTP for industrial facility, Mombasa
Solar WTPs, Maharashtra	108 Solar and packaged RO plants
Punjab Rural Water Supply	~1200 packaged RO plants (~250-5000 LPH each),
Punjab Fluoride Mitigation	~1,070 decentralised Fluoride units across multiple districts
Rajasthan PHED	225 village UF + RO community plants (~500 LPH) across 6 districts
RDWSD Karnataka	582 RO/UF installations under DBOT model

4,000+ packaged membrane-based water treatment systems deployed.

Verified international supply credentials across defence, industrial, and development sectors.



Why SRP ?

SRP's containerised WTP platform is built on capabilities developed over 35 years of water and wastewater treatment project execution.

- **In-House Membrane Manufacturing:** UF, RO, and MBR membranes are manufactured at SRP's Panchkula facility.
- **Vertical Integration:** One organisation designs, manufactures membranes, fabricates skids, assembles systems, conducts factory acceptance testing, ships, and commissions on site. Single point of responsibility from membrane element to operating plant.
- **Defence-Grade Supply Credentials.:** Containerised systems supplied to US Military installations through KBR—one of the most demanding procurement environments globally. DPAS-rated priority order. Air-freighted to active military bases.
- **Volume Manufacturing Track Record:** 4,000+ packaged membrane based systems manufactured, tested, deployed, and commissioned. The manufacturing process is proven at scale—not prototype-level. Consistent quality across hundreds of simultaneous site deployments.
- **Indian Manufacturing Advantage:** Manufacturing in India delivers significant cost advantages without compromising on materials, membrane quality, instrumentation, or documentation standards. SRP's facility in Panchkula, Haryana, is strategically positioned for both domestic deployment and export logistics through ICD Ludhiana, Nhava Sheva, and Mundra.



Name of Project : BWROPU for US Army Base in Iraq
Capacity : 2 x 28500 LPH
Year of Completion : 2007
Approving Authority : Bechtel



Name of Project: BWROWPU for Bagram Air Base in Afghanistan
Capacity : 2 x 28500 LPH
Approving Authority : Bechtel
Year of Completion : 2008





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