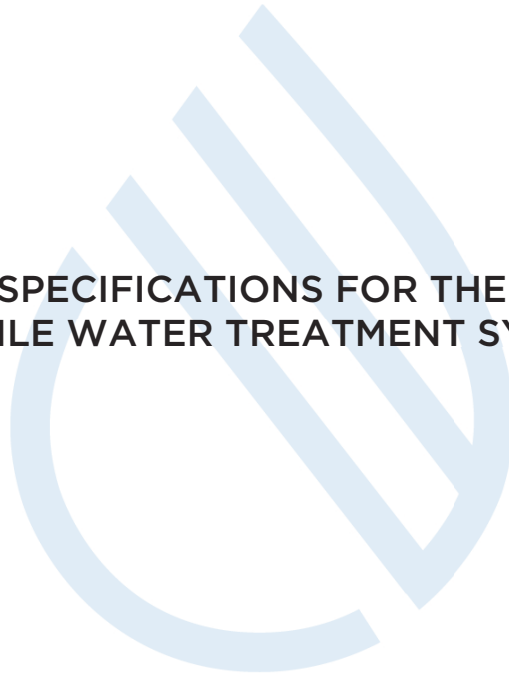




**SYSTEM SPECIFICATIONS FOR THE CWD-40T  
MOBILE WATER TREATMENT SYSTEM**



**CLEARWATER**  
DISTRIBUTORS

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**The CWD-40T system includes the following features:**

## **Standard Features**

- 4" x 30" Hydrosafe High Flow Sediment Pre-Filter 5-Micron
- Spin Down Screen Filter with Manual Flush Valve
- Horizontal Multi Stage High-Pressure Jet Pump with Safeguards for Brackish Water Application
- Complete Panel for Easy Controls
- 6 Count Stainless steel liquid-filled pressure gauges
- Permeate and concentrate flow meters
- Inlet Solenoid Valve with Bypass
- Low pressure cut off Pressure Switch
- 8" x 40" FRP Pressure Vessels
- 8" x 40" TFC Membrane Element
- Stainless Steel System Pressure Control
- Stainless Steel Recycle Pressure Valve
- On/Off Main Power Switches for all pumps
- Powder-coated, Welded Aluminum frame with Aluminum Diamond Plate

## **Optional Features**

- Automatic Operating Programmable logic controller UL/CE Approved with:
  - Smart Relay
  - Delayed start-up of high-pressure pump
  - Inlet Solenoid Valve
  - Low & High Feed Pressure Switch Controls
  - Supply & Delivery Pumps Controls
  - R/P Storage Tank Full Pump on/off
  - Auto Flush Cycle
  - Pre-Treat Lockout
  - TDS/Conductivity Monitor
  - Temperature Monitor
  - Hour Meter
- Ion Exchange Water Softener w/auto-backwash valve and Brine Tank
- Multimedia KDF-GAC-Poly Phosphate Pre-Filter w/auto-backwash valve
- Ultra Violet Disinfection Sterilizer
- Smart-on-Demand Supply (Repressurization) Pump 20GPM@60PSI
- Smart-on-Demand Delivery (Distribution) Pump 28GPM@60PSI
- Ozone Generator with Circulation Loop, Timer & Bypass

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### **The following Motion is acceptable**

- 1) Permanent Trim up to:  $\pm 5^{\circ}$
- 2) Permanent List up to:  $\pm 15^{\circ}$
- 3) Pitching up to:  $\pm 10^{\circ}$
- 4) Rolling up to:  $\pm 45^{\circ}$

## Components Make & Materials of Construction

<i>Description</i>	<i>Name Brand</i>	<i>Material of Construction</i>	<i>Origin</i>
Skid	Custom	Aluminum ¼" Gauge with Diamond Plate Welded	USA
Paint	Custom	Powder Coating	USA
Screen Filters	Rusco	Poly Carbonate with Stainless Steel Screens	USA
Pre-Treatment Vessels	Structural	Non Corrosive 100% Composite Fiberglass Construction	USA
Auto Backwash Valves	Clack USA	Poly Ethylene	USA
Sediment Pre-Filters	Pentair	Glass Reinforced Polypropylene	USA
Reverse Osmosis Pumps	ITT Goulds	Stainless Steel	USA
Membrane Vessels	Liquatech	Stainless Steel 304 with Reinforced Plastic End Ports	USA
Membrane Elements	Dow Chemical	Filmtec Thin Film Composite (TFC) consisting of 3 layers, polyester support web, a micro porous polysulfone interlayer, and an ultra-thin polyamide barrier layer on the top surface.	USA
Programmable Logic Controller	RD Specialty Ltd	NEMA 4X Enclosure with UL/CUL Processor	USA
Instrumentation	Blue White	FRP & 316L Stainless Steel	USA
Piping Low Pressure	Spears	Schedule 80 PVC	USA
Piping High Pressure	John Guest	Poly Carbonate High Pressure Tubing & Fittings	UK

## Media Make & Materials of Construction

<i>Description</i>	<i>Name Brand</i>	<i>Material of Construction</i>	<i>Origin</i>
Silica Quartz	Clear Water	Silica Sand Density is 2.66, SiO <sub>2</sub> >98%, and Mohs scale is 7 degree	USA
KDF	KDF Fluid Treatment, Inc.	high-purity copper-zinc formulations	USA
Poly-Phosphate	Pacific Standard, Specialties, Inc.	Soluble Food Grade Polyphosphate Crystals	USA
Activated Carbon	American Carbon, Corp.	Premium Coconut Shell Acid Washed Activated Carbon	USA
Softening Resin	Resintech, Inc.	CG10-H high capacity, gelular, sulfonated, polystyrene cation resin	USA
DI Resin	Resintech, Inc.	MBD-20 Nuclear Grade Mixed Bed RSO3-H+ Cation & R4N+OH- Anion	USA

## System Specifications

Quantity	43,000 GPD (10m <sup>3</sup> /hr)
Capacity	18 gfd (Gallons/ft <sup>2</sup> /day)
% Recovery	75%
% Salt Rejection	99.9%
Design Temperature	25°C
Maximum Temperature	45°C
Membrane Type	TFC (Filmtec)
Pressure Vessels	FRP (Code Line or Protec)

## Design Basis

Feed Flow Minimum	40.0 GPM (152 LPM)
Product Flow Maximum	28.7 GPM (105 LPM)
Incoming Feed TDS	10,000 TDS
Incoming Feed Incoming Water Pressure	80 PSI through optional submersible pumps
Incoming Feed Water Chlorine	0 PPM
Incoming Feed Water Turbidity	< 1 NTU
Incoming Feed Water SDI	< 3 Maximum
Capacity (Design) Basis	24 Hrs/Day Operation

## General Specifications for CWD-40T Reverse Osmosis System for Well and Brackish Water

The following specifications include only noted details of the complete RO system. It does not include specifications for all parts, components, and details that are to be included.

### Smart on Demand Supply Pump

Grundfos or ITT Goulds Standard NEMA motors permit a wide variety of options and fast field service. NPT threads, ANSI flanges, in-line or top/bottom connections easily fit your piping requirements.

The top discharge version may be swung in four directions. AISI 304 or 316L stainless steel liquid end components handle more of your pumping needs. Seal housing design promotes liquid flow and eliminates entrapped air or heat which could cause premature failure. Impeller O-ring seal produces high pressure and efficiency per stage to keep energy costs down. Impeller spacing is automatic for quick installation and reduced wear. Simplified design for maximum reliability and faster repair. Optional horizontal mounting and Victaulic connections are available. All stainless-steel end suction and multistage pumps, variable speed controls and packaged booster stations.

#### Features:

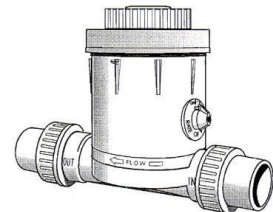
- Quantity Two in Parallel with Soft Start
- ANSI Flanges: Top/Bottom
- Connection: Victaulic
- ANSI Class: 300#
- Standard temp: 250°F
- Model: CR32-22
- Flowrate: 120 GPM
- Pump Head: 65 psi
- Motor: 7½ ph. / 440V / 3-phase / 60 Hz
- Motor Standard motors from 0.5 HP to 75 HP
- Protection: ODP, TEFC, Prem. Eff Std.
- Insulation class: F
- Secondary material treatment options: Passivation and Electro polishing
- Boiler Feed use optimized with low NPSH impeller.



### Pre-Chlorination System

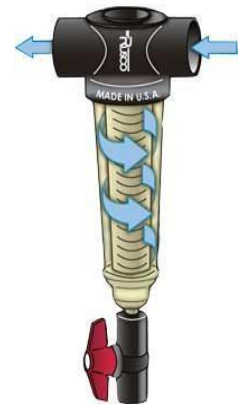
When chlorine is added to waste water, a reaction occurs splitting it into **hypochlorous** acid and hypochlorite ions. The hypochlorite ion does not actively contribute to the sanitizing ability of chlorine (only 1%) but is an extremely strong oxidizer. The **hypochlorous** acid is the active killing form of chlorine and is what does the actual sanitizing. The chlorine molecule easily enters microorganisms through their cell walls, killing the organisms by destroying the sulfur groups on the cell's enzymes, causing the cell's metabolism to stop, resulting in the cell's death and **discoloration**. Not only does chlorine kill bacteria, it does it very quickly. The Association of Analytical Chemists uses a kill time of 30 seconds to destroy a given concentration of bacteria as a standard.

Iron and manganese in water can be oxidized by chlorine, converting them to ferric hydroxide and manganese dioxide. The flocculated material can then be removed by filtration. The higher the amount of chlorine fed, the more rapid the reaction. Some plants have been designed for an initial chlorine residual of 5 to 10 ppm. After filtration the chlorine is removed by the addition of sodium bisulfide, sulfur dioxide, or sodium bisulfide.



## Auto-Flush Spin Down Screen Filter

- Screen Filters are designed for High particle retention, large filter area, allowing for long intervals between cleaning
- Non-corrosive and very durable
- Engineered plastics, no metal parts in contact with water.
- Easy maintenance: The filter elements can be easily extracted from the filter housing for rinsing.
- Minimal energy loss: Extremely low head loss at high flow rates.
- Auto Flush Solenoid with Timer (Optional): Mounted below the filter, serving to flush any sand particles and suspended solids 7 seconds every minute providing maximum protection for the following stage.
- The Spin-Down Pre-Filter will filter out all the flocculated Iron and Manganese that have been converted to ferric hydroxide and manganese dioxide.



## Sediment Pre-Filters

A fine filtration unit of porosity 5-micron is installed. This Pre-Filter will eliminate all suspended solids up to 5-micron from getting to the membrane elements.

- Flow Rate: 140 GPM
- Model: HIF
- Maximum Operating pressure: 150 PSI
- Number of standard 30" cartridge: 1 count
- Filter height: 55"
- Length of Cartridge Filter: 30"
- Diameter of Cartridges: 2 1/4"
- Material: Stainless Steel
- Porosity: 5-micron
- Manufacturer: HydroSafe, USA



## Anti-Scalant Dosing System

Anti-Scalant chemicals are dosed to prevent fouling and scaling in the membranes. Anti-Scalant in feed water increases its concentration with an increase in the % recovery of the system. The anti-Scalant works on the principle of threshold phenomenon that is a small amount of chemical controls a large amount of scale formation by sparingly soluble salts.

Depending upon formulation of raw water, a dose of about 3÷6 PPM of anti-Scalant is required to keep the system free from fouling and scaling. Due to the dispersion effect, the life of the membrane increases the frequency of the membrane cleaning decreases.

- System include: Tank, Mixer and Injection (Dosing) Pump
- Dosing Pump Type: Solenoid driven positive displacement pump
- Capacity: 3.4 l/hr
- Pressure: 4 bars
- Accessories: Injection valve, foot valve tubing Dosing Tank
- Capacity: 28 liters
- Material: PE.



## Multimedia (GAC) Carbon Pre-filter

Suspended particles in raw water need a multimedia pre-filter as pretreatment for the RO System. This reduces the load on cartridge filters and filters the water down to 25-20-micron size of suspended solids. It will also remove Chlorine and adjust pH. Since multimedia filter must backwash with raw water, therefore a rinse step has been provided in the backwash sequence. The filters will automatically back wash based on timer control.

Following are the specifications of Multi Media Filters:

Quantity:	Four Units in Parallel
Dimensions:	16"X 52" (4 ft <sup>3</sup> ) each Pre-filter system
Total Capacity:	16 Cubic Feet
Ports:	Main Pipe 2" divided into Three 1" ports
Material:	Reinforced fiberglass housing (FRP)
Flow rate:	100 GPM (24hr/7days per week)
Piping:	2" Sch80 High Pressure PVC piping
Media:	Active Acid Washed Coal Based Carbon (GAC), Anthracite, Silica Quartz
Valve:	Clack MR3 Digital Auto Backwash Valve
Feature:	Fully Automated Operation
Manufacturer:	Tank from Structural USA, Valve from Fleck USA
Reason:	Provides water of less than .1 ppm chlorine



### Media Included

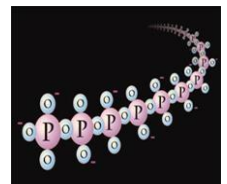
- 1) **KDF Media:** KDF® Process Media are high-purity, granulated copper and zinc-based alloys that treat water and waste water through a process based upon the principle of **redox** (Oxidation-Reduction). Originally, KDF was shorthand for Kinetic Degradation Fluxion.

KDF Process Media enhance performance, extend life, reduce maintenance and lower the total cost of carbon-based Media to follow.

KDF Process Media help control microorganisms by creating an environment that is deadly to some microorganisms and interfere with the ability of many other microorganisms to function. KDF Process Media results in the total elimination of some contaminants and greatly reduce of a wide variety of others which will protect the RO Membrane elements from fouling by bacterial growth.



- 2) **Polyphosphate Media:** Added to mask the effects of high iron concentrations. Polyphosphate delays the precipitation of oxidized manganese and iron, thereby greatly reducing the layer of scale that forms on the pipes. The effect is called sequestration. The iron or manganese ion is surrounded by a chain of phosphate molecules and is not allowed to precipitate in the water.



- 3) **Granular Activated Carbon (GAC):** GAC filtration is most effective in removing organic contaminants from water. Organic substances are composed of two basic elements, carbon and hydrogen. Because organic chemicals are often responsible for taste, odor, and color problems, GAC filtration can generally be used to improve aesthetically objectionable water. GAC filtration will also remove any excess chlorine. GAC filtration is recognized by the Water Quality Association to maintain drinking water contaminants within the limits of the EPA National Drinking Water Standards.





## Power Unit RO Booster Pump

### Magnetic-drive pump (MAGdrive)

Grundfos CRN MAGdrive pumps operate according to a patented, magnetic-drive system that eliminates the need for shaft seals. The power from the motor is transmitted to the pump by magnetic force and not by a conventional coupling. Combined with a hermetically sealed liquid end, the pump is totally leak-free. As all axial forces are absorbed in the MAGdrive system, the pump incorporates a standard ICE or NEMA motor with keyway and deep groove ball bearing.

Quantity:	01
Type:	Multistage centrifugal Submersible type.
Model:	Grundfos CR20-10
Capacity:	60 GPM
Head:	60 PSI
Impeller Material:	SS316L
Shaft Material:	SS316L
Sealing Arrangement:	Mechanical seal
Motor Arrangement:	Direct Coupled
Motor Insulation:	CEI-EN standard /Class F
Power:	240V/480V/3Phase/60Hz
Manufacturer:	Grundfos, Germany
Motor:	15 HP Motor
Features:	Built-in capacitor and overload with automatic reset. Motor is CE UL Certified to operate in North America & Europe.



## Membrane Elements

- Four Count BW30-400i- 11,500 gpd rating Low Fowling Improved FILMTEC™ Brackish Reverse Osmosis Elements offer the highest productivity while maintaining excellent salt rejection.
- BW30-400i Elements may also be operated at lower pressure to reduce cost and operating expense.
- Improved BW Membrane Elements combined with automated, precision element fabrication result in the most consistent product performance available.
- Membrane Reject Ratio: 98 – 99.5 %
- Max. Recovery Rate: 75 % Maximum
- Membrane Type: Polyamide Thin-Film Composite



## Pressure Vessels

Codeline or Protec ISO-9001 Certified Vessels utilize a unique shell design which allows the housings to weep, preventing catastrophic failure. Composite construction results in superior impact and corrosion resistance.

Quantity:	<b>2 Vessels Single Pass</b>
Material of Construction:	FRP Composite
Pressure Rating:	300 PSI
Dimensions:	8" x 80"
Number of Elements per Vessel:	<b>2 Elements to Total 4 Elements</b>





## Ultra Violet Sterilizer

Microorganisms in water can cause a multitude of health problems. Ultraviolet System is the natural way to disinfect water for home or industry. UV light systems penetrate and destroy the harmful organisms thereby disinfecting the water.



BENEFITS	UV DESTROYS	RECOMMENDED USES
COMPLETELY AUTOMATIC	BACTERIA	LAKE OR POND WATER
COMPACT AND EASY TO INSTALL	MOLD SPORES	PRIVATE WELLS
NO CHEMICALS REQUIRED	ALGAE	CISTERNS
LOW OPERATING COST	PROTOZOA	FOLLOWING CARBON FILTERS
LOW MAINTENANCE	VIRUSES	NON-CHLORINATED MUNICIPAL SYSTEMS
NO ADDED TASTE OR ODOR	YEAST	ULTRA-PURE WATER SUPPLIES

## Post Treatment System

The pH of the permeate water is expected to be in the range of 5.0. This is rather acidic. To control the pH, we re-mineralize the water by introducing Calcite / Corosex Media Post-Filter, thereby adjusting the pH level to neutral. Re-mineralization is the process of restoring minerals in the form of mineral ions to make it strong and stable again - except that Re-Mineralization is three dimensional and the different mineral ions must be replaced having the exact same shape, size and the same electrical charge as those lost in the Reverse Osmosis Process.

Calcite (Calcium Carbonate) is a naturally occurring calcium carbonate media. One of the advantages of Calcite is its self-limiting property. When properly applied, it corrects pH only enough to reach a non-corrosive equilibrium. It does not overcorrect under normal conditions. Upon contact with Calcite, acidic waters slowly dissolve the calcium carbonate to raise the pH which reduces the potential leaching of copper, lead and other metals found in typical plumbing systems. Depending on pH, water chemistry and service flow, the Calcite bed will have to be periodically replenished as the Calcite is depleted.

Corosex is a very concentrated form of Magnesium Oxide that is always blended with calcite to reduce the risk of cementing. We call this blend of Corosex and Calcite, NS Mix. The NS Mix increases the alkalinity of the water to raise the pH value to a neutral state (7.0). The NS Mix can raise a pH from 5.5 to 7.0 (neutral) and is recommended on any water that has a pH between 5.5 and 6.0. Corosex has the same regeneration and sacrificial properties as Calcite.



### Features:

- pH can be adjusted 6.5-10.0. System will have a pH Monitor & Valve adjust to desired pH level with ByPass.
- ORP can be adjusted up to -700MV
- Prevention of bacteria growth
- Eliminating odor in water
- Boosting cell regeneration
- Balancing acidic levels
- Preventing mold

## Instrumentations

### **PLC: S200 Series Microprocessor Controller**

The system will come with a complete control panel that includes a Series 150 reverse osmosis microprocessor Controller, featuring an alphanumeric backlit LCD displaying operating conditions and providing adjustable time delays and set points to accommodate varying field conditions.

The Series 150 controller displays the permeate TDS/Conductivity, water temperature and operating hours along with the operating status of the RO unit. The Series 150 monitors low and high-pressure switches, tank levels, and pretreatment equipment. It provides relay outputs for the RO high pressure pump, inlet solenoid valve, membrane flush solenoid valve, and optional relays for permeate divert or remote alarm and auxiliary output.

The Microprocessor or PLC based control system shall monitor and control system operations and communicate with pretreatment equipment and distribution tank level as required. Skid mounted control panel shall house control system, operator interface controls, solenoids, IEC motor starter(s), step down transformer and high voltage disconnect. Control system shall be fully programmed and integrity tested at factory prior to shipment.

#### **1- Panel shall include:**

- a. Backlit LCD display for operating conditions and set points
- b. Lights, pushbuttons, and switches for status and control of system
- c. Conductivity Monitor for feed and permeate
- d. Elapsed run time indicator
- e. Alarm horn
- f. System power switch
- g. Nameplates for device identification
- h. Automatic reject flush indicator and controls

#### **2- Alarm conditions shall include:**

- a. Low feed pressure
- b. High permeate conductivity

#### **3- Unit Shutdowns shall include:**

- a. Low feed pressure
- b. Pretreatment filters in backwash
- c. Product storage tank full
- d. High permeate conductivity

#### **4- Functional Specification**

- a. Complete functional specification shall be provided which describes:
  - 1) Operation of unit
  - 2) Control loops
  - 3) Interlocks
  - 4) Alarms
  - 5) Startup/Shutdown sequences
  - 6) Security



The system will have an automatic operation. All electrical wiring will be in accordance with UL / CE standards.

The Control of:	
Feed Supply Pump	Distribution Pumps
Delivery Pumps	Inlet solenoid valve
Automatic flush solenoid valve	Low feed pressure switch
High pump pressure switch	RO storage tank level switches (1 or 2)
Permeate TDS/Conductivity	Water temperature
Pre-Treat lockout	Operating hours
Permeate Flow Meter / Accumulator	Concentrate Flow Meter / Accumulator

## Flow Meters

- Panel Mount Flow Meters for **Product, Waste and Blend**
- Model (F-2000RT)
- Meters display flow rate in Gallons & Liters Per Minute



## Pressure Gauges

Liquid Filled Panel Mount Stainless Steel Pressure Gauges after every phase of production as follows

- In-Let Feed Pressure
- Feed Pump Pressure
- Pre-Filter Pressure (on each Filter)
- Post-Filter Pressure (on each Filter)
- Booster Pump Pressure
- Membrane Differential Pressure
- Post pH Filter Pressure



## Pressure Valves

System will include Two Pressure Needle Valves as follows:

- 1) System Pressure Valve to Control Booster Pump Pressure and Concentrate Flow.
- 2) Recycle Valve to control amount of concentrate re-circulated.
- 3) Mix-Blend Valve to control amount of Municipal Water Mix.



## Automatic Valves

- 1- Auto Inlet shut-off valve: Solenoid Type, diaphragm Actuated, Normally Closed.
- 2- Automatic membrane flush valve (Optional) provided for purging the membrane element with fresh water upon R/O System shut down.



## Piping

- Feed: 2" constructed from 304L Stainless Steel
- Product: 1½" SCH80 PVC Flanged
- Reject: 2" SCH80 PVC Flanged
- Pressurized Piping Fittings Stainless Steel Tips
- Tubing and Fittings: John Guest, Made in England



## System Controls

- Complete Panel for Easy Control
- Automatic operating processor w/ programmable logic controller for all pumps, w/ delayed start-up of high-pressure pump and Automatic Flush System
- Liquid Filled pressure gauges
- Low & High-pressure gauges
- Permeate & concentrate flow meters Blue White
- TDS Water Quality Monitor w/ set points

## Diesel Generator:

Starts and stops automatically with weekly exerciser for self-testing. When the power goes out you don't have to do a thing! This FG Wilson diesel generator is suitable for continuous use and is the most fuel-efficient diesel generator in its class.

This Three Cylinder Generator Set has plenty of power to run your Reverse Osmosis System. This unit includes a Perkins® 1103A-33TG1 3-cylinder 1800 RPM diesel engine, replaceable cylinder liners, brushless generator end, liquid cooling, muffler, aluminum radiator w/ fan guards (push or fan), 40-amp DC alternator, air filter, vibration mounts, automatic voltage regulation, *fast-acting* glow plugs for cold starting, auto shutdowns for low oil/high water temperature, sound attenuated enclosure and 100-amp automatic transfer switch with weekly exerciser for self-testing.



### Electrical Specifications

Automatic Voltage Regulator	Standard
Voltage Regulation (No Load to Full Load)	1%
Power Single-Phase	---
Maximum Output	45.0 kw
Load Amperage at 440 volts	---
Maximum Load	70.4 Amps
Continuous Load	65.5 Amps
Load Amperage at 240 volts	---
Maximum Load	129 Amps
Continuous Load	120 Amps
Sound Level @ 23 ft. (7 m) at full load	71 dB(A)

### Engine

Model	Perkins® 1103A-33TG1 3.3L
Type	Vertical In-Line, Indirect Injection
Horsepower	60 HP
Oil Capacity (w/ Oil Filter)	Approx. 8.5 qts
RPM	1800
Cylinders	4
Cylinder Block	Aluminum w/ Cast Iron Sleeves
Bore & Stroke	4.1 x 5.0 in.
Cooling	Liquid-Cooling, Pushor Fan
Coolant Capacity	Approx. 6.5 Qts
Fuel	No. 2 Diesel
Electric Fuel Pump	12v - Standard
Cold Weather Starting Aid	Glow Plugs
Starting System	Electric

## Electrical

- NEMA 4X rating.
- Three Phase 240V/440V 60Hz or as per customer requirement.
- Different power rating will require change in the design that might affect final pricing.
- One 3-Phase Socket Outlet shall be provided inside the enclosure complete with outlet connector.
- Two Single Phase Sockets outlet shall be provided inside the enclosure complete with outlet connector.



## Enclosed Cargo Trailer

System will be mounted turnkey is a fully enclosed 7' x 14' Dual Axel Tandem Trailer

### STANDARD FEATURES

- Tandem #3500 "Drop" Axle & EZ-Lube Hubs, 4-wheel brakes
- Box Length Plus "V" Nose 20ft
- .024 White Aluminum Skin
- 24" Side Door w/Flush-lock
- Spring assisted Ramp 15" Bias Ply Tires on white Spoke wheels
- 16" ATP Stone guard 15" Bias Ply Tires on white Spoke wheels
- Flow thru vents
- 3/4" Ply wood floors **with** 3/8 OSB Walls
- 24" On center side Post & Floor Cross Members
- 2K tongue jack with foot
- 2-5/16" Coupler & Way ( Round ) Receptacle
- DOT Approved Lighting
- Galvanized Roof
- Full Wire Harness
- High-Tech Roof sealant
- Undercoated



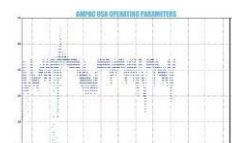
## Service

- ClearWater Distributors will be available for product support, including spare parts and consumables for the operational life of the system for an annual fee to be agreed upon after the first year.
- If RO operation does not meet the specifications listed above, ClearWater Distributors will be able to respond with product support in a timely manner.



## Additional Specifications

- Reject Percentage range between 20 and 40 percent
- Water quality sampling ports for each membrane
- Valve and piping for recycle and conductivity mixing options
- RO only to backwash when storage tank is full



## Monitoring

- Permeate (Product Water) Conductivity
- Reject & Product flow rates
- Feed Water Pressure
- Pressure after Ion Exchange
- Pressure after GAC Carbon Pre-Filter
- Pressure before and after Sediment Pre-Filters
- Pressure after RO pump
- Pressure before and after GAC Post Filter.



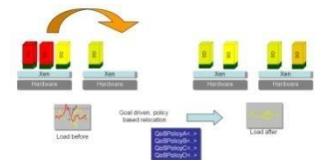
## Technical Support

ClearWater Distributors will have technical support available for the period of one year included.



## Operating Limits

- Feed Temp: Max 105 F
- Feed Pressure: Min 40 psi
- Feed Pressure: Max 80 psi
- Chlorine: Max .1 ppm (after carbon filter)
- Feed pH: Min 3.0
- Feed pH: Max 11.0
- Feed TDS Max 10,000 ppm



- Packaged Fully Automated Reverse Osmosis System mounted on Powder Coated all welded Aluminum with diamond plate base and locking wheels for mobility.
- Equipment arranged on the frame to allow easy access for operating, maintenance and repair.
- Single Pass R/O System, one to one array.

**Based on the above operating limits the following items will be guaranteed:**

**CWD-40T – 27.8 gpm (105 LPM) of Permeate product water  
For continuous 24 hour/day, 7 day/week operation.**





## Warranties

- All Water Treatment related materials and electrical controls are made in USA.
- Clearwater Distributors is a registered US Arizona Based LLC.
- Clearwater Distributors has adopted ISO9001 & NSF 61 Standards for quality control assurance system
- Clearwater Distributors have extensive experience in training, and can offer training in multiple languages.

Clearwater Distributors warrants the system to be free from any defect in material of construction and workmanship for a period of one complete year from the date of commissioning of the unit, but not later than eighteen months from the date of shipment, under the following conditions:

1. System is operated within parameters as indicated in the operating manual.
2. A proper log completed on a weekly basis is maintained by client and submitted to Clearwater Distributors a on monthly basis.



## Installation & Commissioning

- Supervision for installation, commissioning, start up and operator training services with first production runs will be provided free of charge.
- Flight, accommodations and transportation will be provided by client.



**Model: CWD-40T**  
**Capacity: 40,000 gallons**

