

SIERRA

NS-1N
REVERSE OSMOSIS BASE UNIT

Owners Manual &
Installation Guide



Nimbus
WATER SYSTEMS

A**OWNERS MANUAL
About This System**

Congratulations on your purchase of the Nimbus Sierra reverse osmosis base unit. When properly maintained, this unit will provide you with years of trouble-free service. The next sections contain important information on proper care and maintenance, please take a few minutes to read through this information.

B**OWNERS MANUAL
Maintenance Schedule**

The Nimbus Sierra reverse osmosis base unit must be serviced on a regular basis to maintain efficiency and to safeguard water quality. Each unit is equipped with a pre-filter, a membrane filter, and a post-filter. These cartridges work together to remove potential contaminants from your tap water and must be replaced at regular intervals. The chart below gives a general replacement timetable. For more accurate membrane filter replacement intervals, the system should be tested for TDS by an authorized Nimbus dealer. Instructions for cartridge replacement can be found in Section 6 of the Installation Guide.

Any significant change in performance of the system should be investigated promptly to avoid secondary damage or deterioration to other parts of the system.

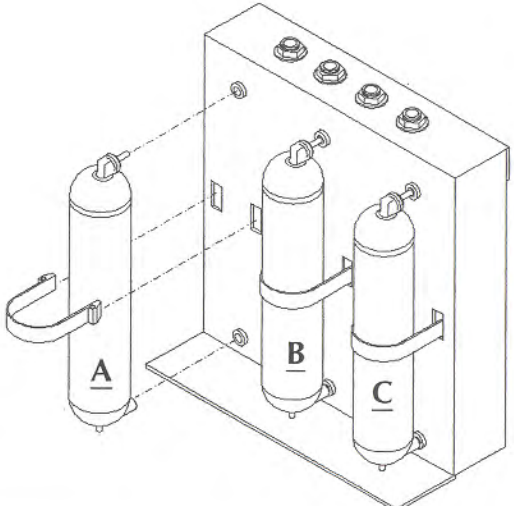
Component	Interval	Indications For Service
Pre-Filter (Green cap)	6-9 months	<ul style="list-style-type: none"> •Unit takes longer than 3 hours to fill a completely drained tank
Post-Filter (Blue Cap)	6-12 months	<ul style="list-style-type: none"> •Odors, including a chlorine odor, in the product water.
Membrane Filter (White Cap)	12 months	<ul style="list-style-type: none"> •Significant increase in the level of total dissolved solids (TDS) in the product water (as determined by a conductivity meter). • Reduction in output.

C**MAINTENANCE**
Replacements

Replacement part numbers are indicated on the side of each filter cartridge. The table below lists cartridge replacement part numbers as well as part numbers for other parts you may need to maintain your unit. To order replacements, please call 800-451-9343 to be directed to an authorized Nimbus dealer.

Use of non-Sierra replacement parts will invalidate the warranty as set forth in Section F of this Owner's Manual.

Description	Part No.
A	
Pre-Filter, Sediment, Carbon Block	104941
Pre-Filter, Sediment/GAC Carbon	104381
Pre-Filter, Sediment only	104380
Pre-Filter, Carbon Block only	104009
B	
Post Filter, GAC	104382
Post Filter, Carbon Block	104851
C	
Membrane Filter	104583
Misc	
Automatic Shut-off Valve	105938
Cartridge Retainer Clip	104393



D**OWNERS MANUAL
Base Unit Warranty**

The Nimbus Sierra Limited Warranty extends to the original purchaser of the Nimbus Sierra base unit. This warranty covers all parts and factory labor needed to repair any Manufacturer-supplied item that proves to be defective in material, workmanship or factory preparation. The above-mentioned warranty applies for the first full calendar year from date of purchase. These defective items are subject to the following exclusions: membranes, filters, O-rings, and all other parts or components that require regular replacement as a result of ordinary usage.

Disclaimers This Warranty applies only if the base unit is installed and used in compliance with the instructions enclosed.

The Warranty does not cover any non-standard Sierra parts. This Warranty does not cover the costs of repairs or adjustments to the unit that may be needed because of the use of improper parts, equipment or materials. This Warranty does not cover repairs required due to use of non-standard Sierra parts, unauthorized alterations of the unit, or failure of a unit caused by such alterations or by unauthorized repairs.

The Warranty does not cover malfunctions of the unit due to tampering, misuse, alteration, lack of regular maintenance, misapplication, fouling due to hydrogen sulfide or iron, scaling from excessive hardness, or excessive membrane hydrolysis due to chlorine levels in excess of 1.0 mg/L. In addition, damage to the unit due to fire, accident, negligence, act of God, or events beyond the control of the Manufacturer are not covered by this warranty.

Incidental and Consequential Damages The Manufacturer does not assume responsibility for payment of incidental and consequential damages as a result of the failure of this unit to comply with express or implied warranties, such as lost time, inconvenience, damage to personal property, loss of revenue, commercial losses, postage, travel, telephone expenditures, or other losses of this nature. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion may not apply to you.

Owner's Warranty Responsibilities Under the provisions of the Warranty, the owner is expected to schedule maintenance, as described in this Manual. Neglect, improper maintenance, abuse, or unapproved modifications may invalidate the Warranty. Should your unit develop a defect or otherwise fail to perform in accordance with this warranty, you should contact the dealer from whom the product was originally purchased.

Implied Warranties The implied at-law warranties of merchantability and fitness for a particular purpose shall terminate on the date one year after the date of purchase. Note: some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

Other Rights This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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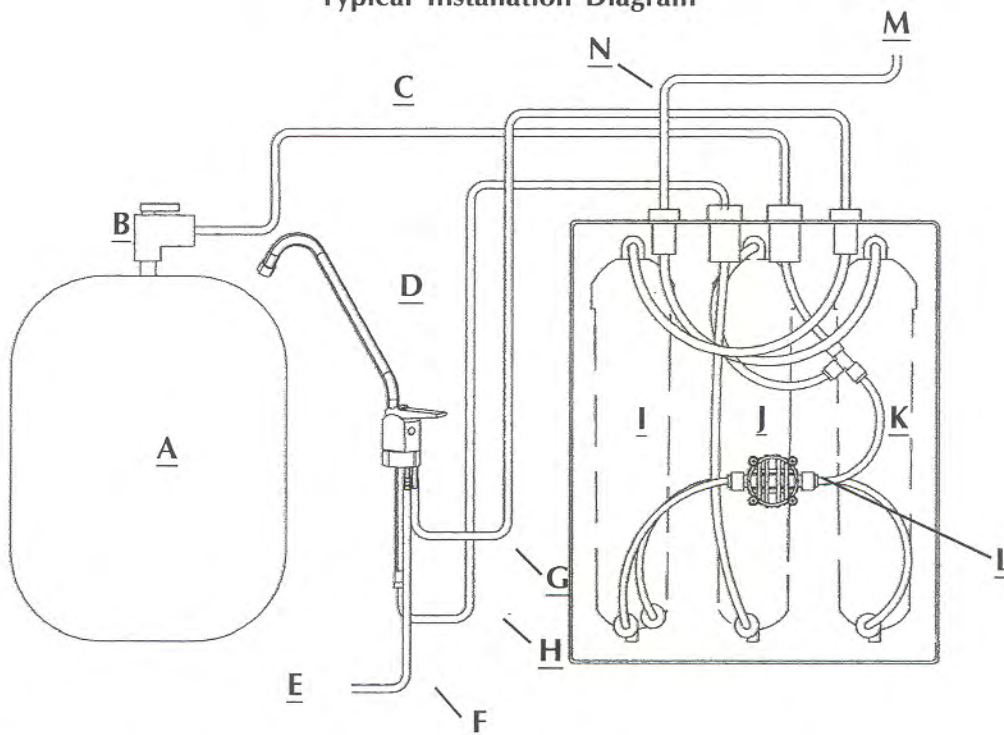
INSTALLATION Before You Begin

The following instructions outline a typical water treatment system installation. Consult local plumbing codes and building regulations as they may pose different or additional requirements for the installation. The installer is responsible for ensuring that the installation is in compliance with all applicable state and local regulations.

This system has been designed for installation by a licensed professional such as a contractor or plumber. Proper completion of this installation will require basic familiarity with standard sink plumbing and proper use of common hand and power tools. Improperly installed systems could result in water damage due to leaks or flooding.

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

Typical Installation Diagram



- | | |
|---------------------------------------|------------------------------------|
| A. Typical product water storage tank | H. Product water tubing (3/8") |
| B. Typical tank shut-off valve | I. Reverse osmosis membrane filter |
| C. Tank tubing (3/8") | J. Carbon post-filter |
| D. Typical air-gap faucet | K. Pre-filter |
| E. To drain connection | L. Automatic shut-off valve |
| F. Drain tubing (3/8") | M. To feed water inlet |
| G. Drain tubing (1/4") | N. Feed water tubing (1/4") |

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INSTALLATION Feed/Drain/Faucet

Please follow manufacturer's instructions for installation of the feed connector, the drain saddle, tank valve and faucet. Feed and drain connections and faucet/ tank pre-assembly should be completed prior to final placement of the Sierra base unit under the sink

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INSTALLATION The Base Unit

Determine the most practical under-the-sink location for placement of the Sierra base unit and the tank. Ensure that the specific location allows adequate access to the base unit for cartridge replacement and to the tank for tank- valve operation.

1. Place the base unit and tank in the selected locations. If desired, the #6 self tapping screws may be used to secure the base unit in position by means of the top rear and bottom lip mounting holes.
2. Insert one end of a piece of 3/8" tubing and insert one end firmly into the 3/8" (largest) connector on the top of the base unit.
3. Extend the 3/8" tubing from the base unit to the tank valve. Leave enough slack in the tubing to allow the unit to be removed from the installed location for servicing. Cut off the excess and insert the 3/8" tube into the quick-connect tank valve fitting until it is fully engaged.
4. Extend the 1/4" tubing from the faucet unit to the base unit. Leave enough slack in the tubing to allow the unit to be removed from the installed location for servicing. Cut off the excess and firmly insert the tubing into the yellow drain connection on the base unit.
5. Extend the 3/8" tubing from the faucet unit to the base unit. Leave enough slack in the tubing to allow the unit to be removed from the installed location for servicing. Cut off the excess and firmly insert the tubing into the corresponding product water connection on the base unit.
6. Extend the tubing from the feed connector valve to the base unit. Leave enough slack in the tubing to allow the unit to be removed from the installed location for servicing. Cut off the excess and firmly insert the tubing into the corresponding feed connection located on the base unit.
7. The system is now connected and ready for initial test and preparation.

TUBING HINTS: Use a sharp knife or tubing cutter to cut the tubing squarely, being sure to remove all burrs. Then insert the tubing firmly until it stops. To remove the tubing, push against the collet while pulling on the tubing.

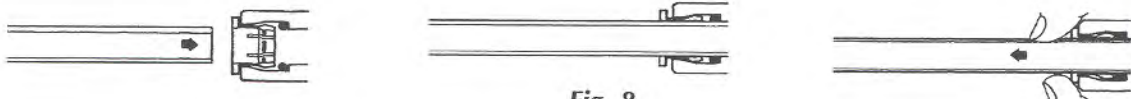


Fig. 8

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INSTALLATION Activation/Flushing

System Activation and Inspection

1. Check all tubing connections to ensure they are firmly seated. CHECK TO SEE THAT THE CARTRIDGE RETAINER CLIPS ARE PROPERLY ENGAGED. The retainer clips must in place during long term, unattended operation of the system. Failure to keep the retaining clips in place could result in accidental leaks and flooding.
2. Open the dispensing faucet at the sink. Close the tank shut-off valve.
3. Open the feed water valve to the system. Observe all tubing and connections for several minutes to detect any leaks. In approximately 5 minutes, (assuming normal feed water pressure) the dispensing faucet should begin dripping. Allow the faucet to run for up to 15 minutes, then close the faucet.
4. Place a pan or other temporary water basin near the drain 'P' trap. Loosen the connector nut holding the 3/8" tube in the drain saddle connector. Pull the tube out of the connector and use the pan to catch any water that may spill. Brine water should be flowing from the tube. Reconnect the tube to the drain saddle and hand-tighten the connector nut.
5. Open the tank shut-off valve.

Initial Flushing Procedure

Before the base unit and tank can be used for drinking water production they must be adequately flushed. Typically, the tank has a chlorinating agent inside to ensure tank internal cleanliness. Also, the carbon filter cartridge will release a small amount of carbon fines during the first tankful of flow. This flushing procedure will allow any sanitizer or carbon fines to pass from the system.

2. Initial tank filling will take approximately two and one half hours (depending on feed pressure and size of the tank). When the tank is full, the water pressure will have risen to the point where the automatic shut-off valve inside the base unit will stop the feed flow through the system. Actuation of the automatic shut-off valve can be determined by either checking for a lack of brine flow to the drain saddle, or by listening very closely near the dispensing faucet for absence of water flow sound though the air gap. When the tank has filled for the first time, it should be left undisturbed for at least 8 hours to ensure proper sanitization.
3. After 8 hours has elapsed, open the dispensing faucet fully and allow the product water to run out to drain at maximum flow. The initial discharge will be dark with the bulk of the carbon particle wash out. There may also be the scent of chlorinated water from the sanitizing agent. When the flow has diminished to a fast drip or small stream, close the dispensing faucet.
4. Fill and flush the tank at least three times prior to use. If necessary, repeat until the chlorination scent has disappeared. It is important that the flush be done at maximum flow (e.g. the tank must be full) to assist in rapid wash out. After this flushing procedure the system is ready for normal use.

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INSTALLATION Check List

1. Sierra base unit and tank are located where they will not be subject to physical impacts or rough contact by heavy objects.
2. Feed water pressure to the unit is no less than 40 psi and no greater than 80 PSI.
3. Ensure the plastic retainer clips are fully engaged. The slide locks must snap into place in the slots. If the clip does not snap easily into place through the slots it means the cartridge is not fully inserted into the connectors. Press top or bottom of cartridge to engage connectors until it snaps into place properly.
4. All tubing connections, especially push-in quick connections, are fully inserted.
5. Tubing connected between the faucet and the drain saddle fitting (the fitting attached to the sink drain pipe) runs "downhill" to the drain. There should be no loops or places where water would not flow out to the drain.
6. Feed and tank valves are open.
7. Within one to two hours after initial application of water pressure, check again for leaks especially at the tank, faucet tubing and connectors. These parts will not see full pressure until approximately 2 hours after the system is activated.
8. Flush three tankfuls of product water to drain. If a chlorine scent persists, repeat flushing procedure in Section 8.

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MAINTENANCE Cartridges

Refer to Section B in the Owner's Manual portion of this guide for a suggested replacement schedule.

Cartridge Replacement

1. Close the feed water shut-off valve.
2. Close the tank shut-off valve.
3. Open the dispensing faucet.
4. Pull the base unit from the installed location.
5. Remove the retaining clip at the front of the unit. Pull the cartridge off the base unit evenly at top and bottom. Dispose of used cartridge.
6. Install the new cartridge, rocking gently from side to side as necessary until the cartridge tubes are properly engaged in the connectors. Install the retaining clip, ensuring the slide locks snap into place in the slots. If the clip does not snap easily into place through the slots it means the cartridge is not fully inserted into the connectors. Press top or bottom of cartridge to engage connectors until it snaps into place properly.
7. Turn on feed water shut-off valve.
8. Turn on tank shut-off valve. Observe system for any leaks, especially at newly replaced cartridge.
9. Close dispensing faucet after water stops running.
10. If replaced cartridge was a post carbon or a membrane filter, the system should be flushed at least once as described above under Section 8.

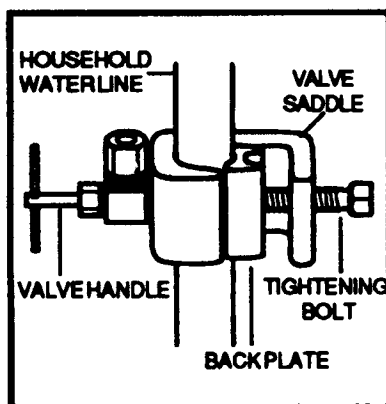
Supplement

Installation of the Feed Connector, the Drain Saddle, Tank Valve and Faucet

Tools required for typical installations:

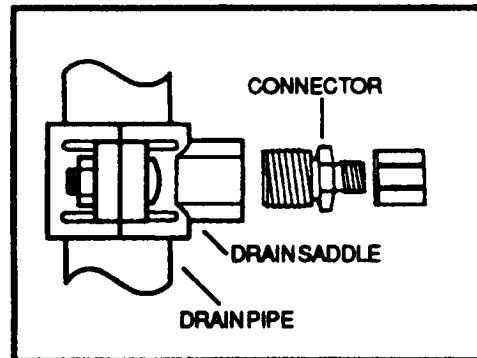
Flat head screw driver
Small Phillips head screw driver
Sharp knife or tube cutter
Adjustable wrench
Channel lock pliers
Electric drill
1 1/4" hole saw
Hole saw adapter
1 5/8" porcelain cutter (for enameled sinks)
1 1/4" chassis punch (for stainless steel sinks)
1/4" drill bit
1/8" high Speed drill bit
7/16" high Speed drill bit
Center punch

Feed Connector



1. Locate and turn off cold water angle stop valve. On single lever mixing valve type faucets, it may be necessary to close the hot water valve also.
2. Turn the valve handle on the system feed valve assembly counter clockwise so the piercing needle is fully retracted.
3. Attach saddle to water line. The loose back plate is reversible for use with either 3/8" or 1/2" pipe. On 1/2" line, the loose back plate must be slipped into place from the top or bottom after saddle is in place.
4. Hand tighten bolt and then tighten another 1/4 turn with a wrench. Be careful not to over-tighten and "crush" the piping.
5. Turn valve handle clockwise fully to pierce the water line and close the valve.
6. Turn on cold water angle stop valve and check assembly for leaks.

Drain Assembly Installation



1. Position drain-saddle on drain pipe between the "P" or "S" trap and the sink. If possible, orient the hole to be drilled toward the desired location of the drinking water faucet. Installation should be as far away as practical from garbage disposal. If there is a double sink, install drain assembly on the sink drain opposite the disposal. A vertical pipe is most suitable.
2. Tighten saddle bolts evenly on both sides. Avoid over tightening. Using the opening in the drain outlet saddle as a guide, drill 1/4" hole in the drain pipe.
3. Apply teflon tape to the pipe thread and screw the connector into the threaded opening in the saddle and hand tighten until snug. Then tighten one full turn with adjustable wrench.

Tank Valve Installation

1. Apply teflon tape to the threaded nipple located on top of the tank.
2. Screw the tank valve to that nipple and hand tighten it.
3. Open the tank valve.

Faucet Installation

Special care should be taken when drilling the faucet hole. A clean hole can be made in a short period of time, but any attempt to rush the process can cause poor results. On some sinks there may be a ridge or any obstructions to insure adequate flat surface for installation of the faucet.

Formica or Wooden Counter:

1. Drill 1 1/4" hole with hole saw or flat (spade) wood bit.
2. Clean off sawdust.

Enamel or Porcelain over Steel, or Cast Iron Sink:

1. With drill motor in hand place 1/4" masonry drill bit at center of selected faucet location. Before starting rotation firmly apply downward pressure until a slight crunching sound is heard. This will fracture a small area of the enamel/porcelain and prevent the bit from "walking".
2. Drill the 1/4" pilot hole.
3. With the pilot hole as the guide, use a 1 5/8" porcelain cutter to cut through the porcelain/enamel only. Stop the drill when the cutter reaches the metal under-layer.
4. Once again using the pilot hole as a guide, use the 1 1/4" hole saw to drill through the metal. (The hole-saw is slightly smaller than the porcelain cutter so the teeth of the saw will never touch the enamel/porcelain material to prevent chipping).

CAUTION - DO NOT BOTTOM OUT THE DRILL ON THE CERAMIC SURFACE.

5. Clean off the sink, and wipe dry the hole.
Be sure all metal chips are removed, as metal chips on porcelain stain very quickly.

Tile Sink or Counter:

1. Follow procedure 1 through 3 from Enamel/Porcelain procedures.
2. With the gentle use of the center punch and hammer, break up the ceramic disk to the extent necessary to remove it. Remove the ceramic disk.
3. Use the 1 1/4" hole saw or wood drill to continue the hole through the wooden support.
4. Clean the debris.

Stainless Steel Sink:

1. Use a center punch and hammer to mark the sink surface for drilling.
2. Drill starter hole with a 1/8" high-speed drill bit.
3. Enlarge the starter hole with a 7/16" high-speed drill bit.
4. Make a 1 1/4" faucet hole with the chassis punch by placing the male cutter of the chassis punch under the 7/16" pilot hole, insert driving bolt through female die and pilot hole into the male die. Tighten the driving bolt to cut the faucet hole.
5. Use a round file to dress up any rough edges and clean up any filings, ensuring that none get into sink drain or disposal.

NOTE: When performing installations that call for locating the faucet on the counter instead of the sink, insure that adequate underneath space is available to accommodate the faucet sub-assembly.

Faucet Installation

1. Insert spout assembly with o-ring into the top hole of faucet body.
2. Insert faucet with black rubber gasket into sink hole.
3. From under the sink slip the white plastic washer over the faucet stem and air-gap tubes.
4. While holding the faucet stem, thread the mounting nut over the air-gap tubes onto the stem.
5. Reposition the faucet to the desired handle orientation and securely hand tighten the mounting nut.