ION EXCHANGE
Refreshing the Planet

ZERO B™
PURE WATER SOLUTIONS

User's Manual

Nano Soft
Bathroom Softeners

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CONTENTS

Page No.

INTRODUCTION

The new generation Softenizers -Zero B Nano Soft are automatic water conditioners from Ion Exchange India Limited meant to serve our customers with an experience of enhanced performance, user friendliness and assurance on the quality of treated water.

The primary function of the Zero B Nano Soft is to condition the incoming hard water to a softer form which improves experience in bathing, washing, laundering, It also eliminates the scum formation, scaling effects of hard water on appliances and bathroom accessories.
An automatic softener valve, the softenizer resin media, a media holding vessel and a salt holding tank are the key components of this softener
Another aspect of the Zero B Nano soft is that, while installing and using, the automatic softener equipment complements well with the existing plumbing and electrical setup of the user.
Last but not the least, a robust and reliable automatic valve and softenizing media delivers soft and safe conditioned water.

IMPORTANT INSTRUCTIONS

·Without reading and truly understanding the contents of this user manual, please do not perform any operation on the control valve.

·After inactivation for a long period of time, initiate a recharge cycle, Then turn on the tap for several minutes before resuming normal use.

·If water usage or hardness of the raw water increases (comparing to the normal usage), the frequency of regeneration should correspondingly increase.

·Hot water can cause severe damage to the softener system. For water heater users, it is recommended to install a check valve between the softener and water Heater.

·The inlet water pressure must be between 1.5 Kg/cm2 to 3.5 Kg/cm2, no negative water pressure is allowed.

·During regeneration the outlet valve is required to be close. (In Appliances like geyser and washing machine this is done.)

·No chemical is allowed at the inlet and outlet connections. No excessive force which can damage the plastic conjunction parts should be applied by any tools.

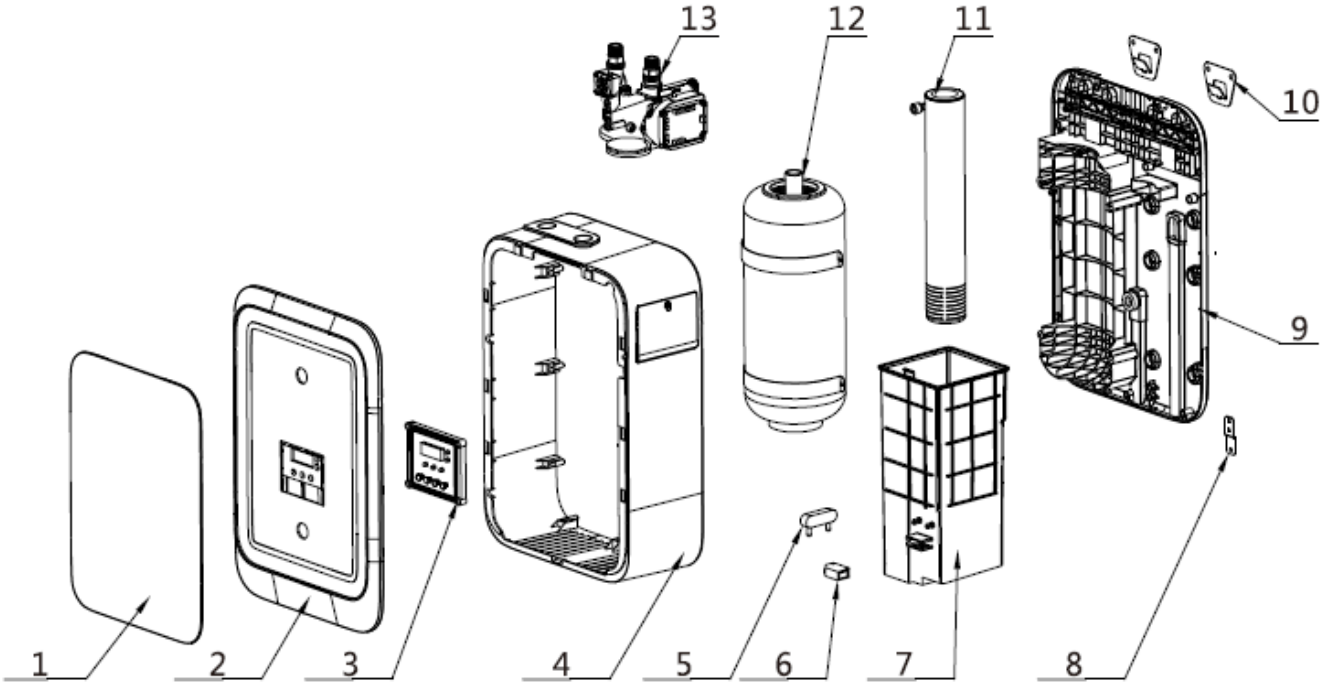
·The required operating water temperature for softener is 5 to 50°C.

·Avoid installation under direct sunlight. Exposure to excessive sun heat may cause distortion or other damages to non-metallic parts.

·Point of use (POU) application.

·For recharging, use clean and white Tablet or khadi salt.

COMPONENT IDENTIFICATION



1.Glass panel
2. Front shell
3. Display board
4. Middle shell
5. Water leakage monitoring sensor
6. Salt level monitoring sensor
7. Brine tank
8. Bottom mounting clamps
9. Rear shell
10. Mounting clamps
11. Brine well and brine float valve
12. Resin vessel 13. Automatic control valve assembly

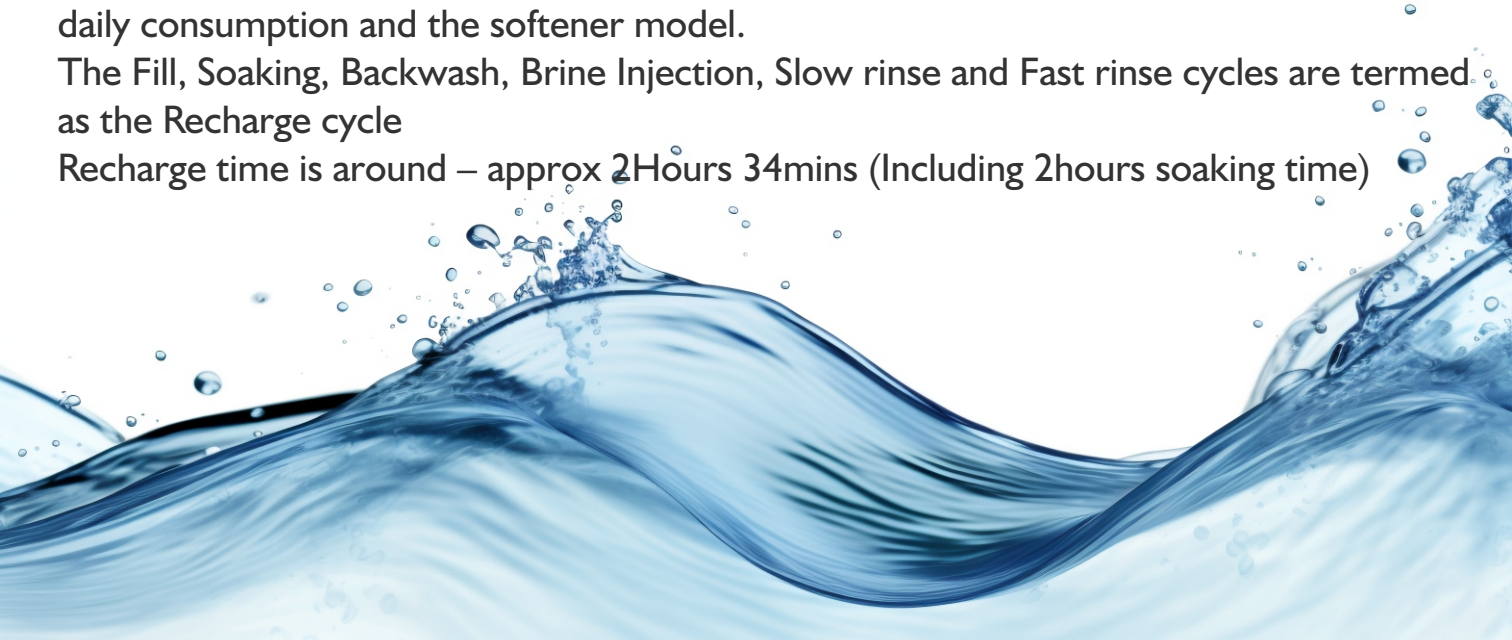
PROCESS AND FEATURES

PRINCIPLE OF WORKING

1.The softener converts the hard water into soft water using an Ion exchange process
2.In the softening cycle, the softener resin media exchanges the hard ions of calcium and magnesium for sodium ions
3.When the softener resin is exhausted, the auto valve gives command for recharging the resin media (The softener gives output as per the set program depending on the hardness of the raw water and your softener model)
4.In the recharge cycle , salt water (brine) is prepared and injected to the media for recharging
5.In the recharge process, the hard ions are released in exchange for sodium ions from the brine
6.The charged softener resin again delivers soft water
7.The Automatic valve facilitates the changes in porting internally and directs the water based on the program

PROCESS CYCLES

1.**Softening cycle** converts hard water to soft water
2.**Fill cycle** fills water in brine tank to prepare brine for next recharge
3.**Soaking Cycle** is for preparation of brine solution
4.**Backwash cycle** cleans the softenizer media completely by removing mud and debris that comes from inlet water during service.
5.In the **Brine injection cycle** the softenizer will be recharged with common salt
6.A **slow rinse** ensures efficient charging of softening media.
7.**Fast rinse** cycle ensures that the softenizer is cleared of all salts and set for softening once again
The Service cycle duration (total hours / output) depends on the raw water hardness, daily consumption and the softener model.
The Fill, Soaking, Backwash, Brine Injection, Slow rinse and Fast rinse cycles are termed as the Recharge cycle
Recharge time is around – approx 2Hours 34mins (Including 2hours soaking time)



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SPECIAL FEATURES

·Corrosion proof salt tanks for longer life

·Elegant and compact designed

·Fully automatic microprocessor controlling operation

·Can be easily installed on wall and ready to use

·Automatic OBR calculation and settings

·Indication- time to add salt

·Leakage protection indicator

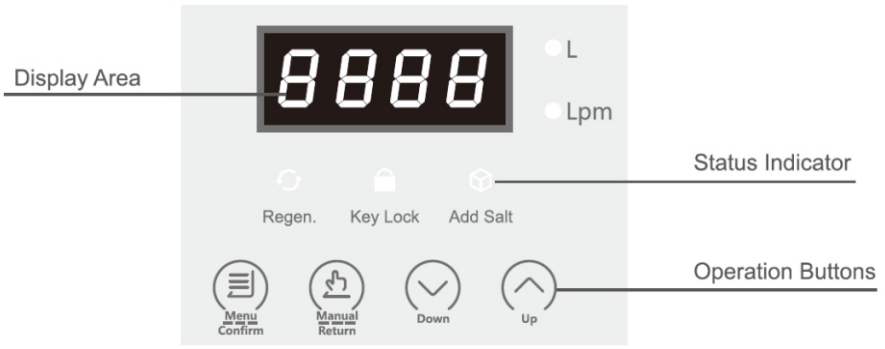
·Display – current time, remaining soft water & service flow

·Inbuilt brine tank

Can be used for single point in bathroom, Geyser, washing machine & dish washer

KNOW YOUR NANO SOFT

1.The display screen



This display screen communicates the status of the softenizer.

Description

a.Current time, remaining soft water output (L), flow rate of outlet (LPM), etc. will be displayed in display area.

b.Regeneration indicator: When the softener turns to regeneration status, this indicator gets activated. When remaining soft water (L) drops to zero, the machine will start regeneration at 1:00 am of the day.

c.Button Lock indicator: The buttons will be locked automatically if there is no operation in 1 minute, and the keeps glowing. Press and hold and
a.keys simultaneously for 5 seconds to unlock the buttons.

Reminder to add salt indicator: When lack of salt, remind to add salt indicator will keep flickering, the indicator will keep reminding from 7:00 am to 20:00 pm every day, until addition of salt is over

Most of the key pads are for the Service technician to input data on site such as Hardness of water, etc.
The User's keys are limited and to be explained by the Technician while installing.
The indications for the users to understand is as follows
After some time the valve will display the following in sequence
a.Remaining output of the softener (L)
b.Flow rate of treated water (LPM)
c.Current time

2. **How to recharge the softener manually?**

The option of manual regeneration is also available. This forced regeneration is recommended under following conditions

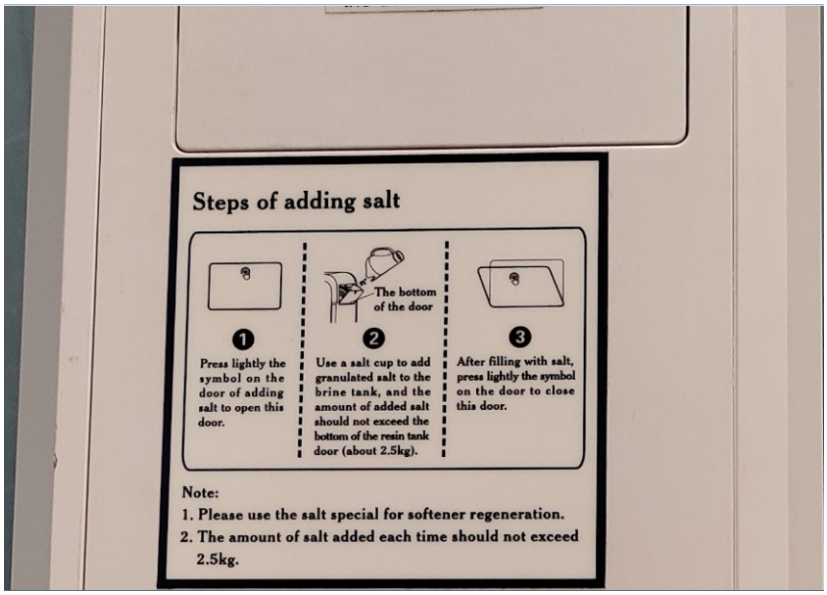
1.Power failure during auto recharging (If you have doubts of an incomplete recharging)
2.Unit is stagnant for more than 8 days or water quality is not desirable.

3.**Be Aware**

·Based on the set program by the technician during installation , the auto softener gets regenerated midnight using the raw water
·Ensure that always inlet water is available around midnight for the scheduled recharging
·Ensure that main switch of auto valve is always ON
·Salt level – Ensure the salt level in the brine tank is as per advise and add salt indication.
·The auto valve saves the set data for upto 3 days without power.
When there is no mains power continuously for 3 days or more, a '12:12' flash may occur on display screen – This is to remind to reset the real time – Ask for service help

3.**about salt recharging of the softener**

·For recharging always use white and clear tablet salt or commercial grade/ khadi salt (common salt)
·Remind to add salt indicator: When lack of salt, remind to add salt indicator will keeps flickering and will keep reminding from 7:00 am to 20:00 pm every day, until finish the adding salt.
·Kindly get advice from the technician about when to refill the salt tank
(This advice is based on your raw water hardness, water consumption and the softenizer model)
·Ensure to fill at least 2.5kg salt at the time of installation. After this follow the add salt indication.



5.Where the softener can be used?

·It can be an attachment to geysers, enhancing life of Geysers and also power saving,
·It can be used to prevent the chocking of shower panel, taps and fittings due to hardness. & scale depositions
·It can be a used as an attachment for the washing machines.
·It can be connected to a dish washers
·It can be connected to a. kitchen loft tank for washing vessels
·It can be used as pretreatment to water purifiers like UV, RO

6.Water leakage protection (Display Pt)
When the sensor probe for water leakage detects any water leakage, the system will switch to the bypass mode; treated water will not be available. CALL FOR SERVICE.
(Raw water will be available during bypass)
How to remove the water leakage protection status?
After cleaning the water, press and hold the down key to return to the water use status.

CAUTION

For drinking - The Zero B Nano soft only conditions the water for bathing, washing and laundering.
This water may not be microbially safe for direct drinking. Always use a point of use water purifier for drinking. Please take advise from our visiting personnel.

For replacement of media after expiry –
Whenever the resin is to be replaced, it is to be taken from our genuine source.
Note that the softener media used in this product has a life of several years (subject to damages caused by adverse raw water quality changes, incorrect recharging, fouling due to Iron, Manganese and turbidity)

	INLET WATER CONDITION	
Sr. No.	**Parameter**	**Specifications**
1	Inlet water hardness	800 ppm max.
2	Oil & Grease	Nil
3	Turbidity	1 NTU
4	Chlorine	Nil
5	Heavy metals	Less than 0.1 ppm
6	Inlet water pressure	1.5- 3.5 kg/cm2 max.

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TECHNICAL SPECIFICATIONS

Parameter	
Max. treated water flow rate	600LPH (10LPM)
Resin volume	4.8Liter
Treated water output per recharge @500 Hardness @800 Hardness	 300Liter 180Liter
Salt required per recharge	0.62Kg
Salt loading capacity	2.5Kg (for four regenerations)
Regeneration time	2Hours 34Minutes (including 2hours soaking time)
Inlet pressure	1.5 – 3.5Kg/cm2
Inlet outlet connection	½”
Drain line and over flow line	¼”
Drain line and over flow line	¼”
Electric supply requirement	Input 230VAC, Output-12 VDC
Product dimensions (L x W x H)	350 X 195 X 520mm

***NOTE - Minimum 1.5 kg/cm2 water pressure required for Softener operation.**
Technical specifications are subject to change without prior notice.

INSTALLATION LOCATION

·To condition the hard water supply at home, install the water softener close to main water supply of Inlet.

·A nearby drain is required to carry away regeneration discharge (drain) water. Use a floor drain, laundry tub, sump, Bucket or any other options.

·The location chosen for the installation must have enough space for the system itself, its accessories and connections and also for proper maintenance.

·The system should not be installed next to heat source or where it receives a direct flow of hot air.

·If softened water is to be supplied to a geyser it would be necessary to install a check valve (NRV) between water softener and the geyser, to prevent hot water returning to the system and damaging it.

ELECTRICAL AND PLUMBING REQUIREMENTS

1.Electrical requirement: - 230VAC ± 10%, 6Amp. Modular socket with safety latch for earthing (This is too ensure the two pin Nano soft adaptor protect from fall out) should be available at the point of installation.(As shown in Fig.1)

Fig.1

2.Plumbing requirement:- ½" water line with angle cock should be available

3.Please ensure inlet water pressure should be minimum 1.5Kg/cm2 and maximum 3.5Kg/cm2. If pressure is more than 3.5Kg/cm2 then use PRV (pressure reducing valve) at the product inlet.

4.Drainage line is required within a distance of 1meter from the unit.

5.Ensure raw water hardness is below 800ppm

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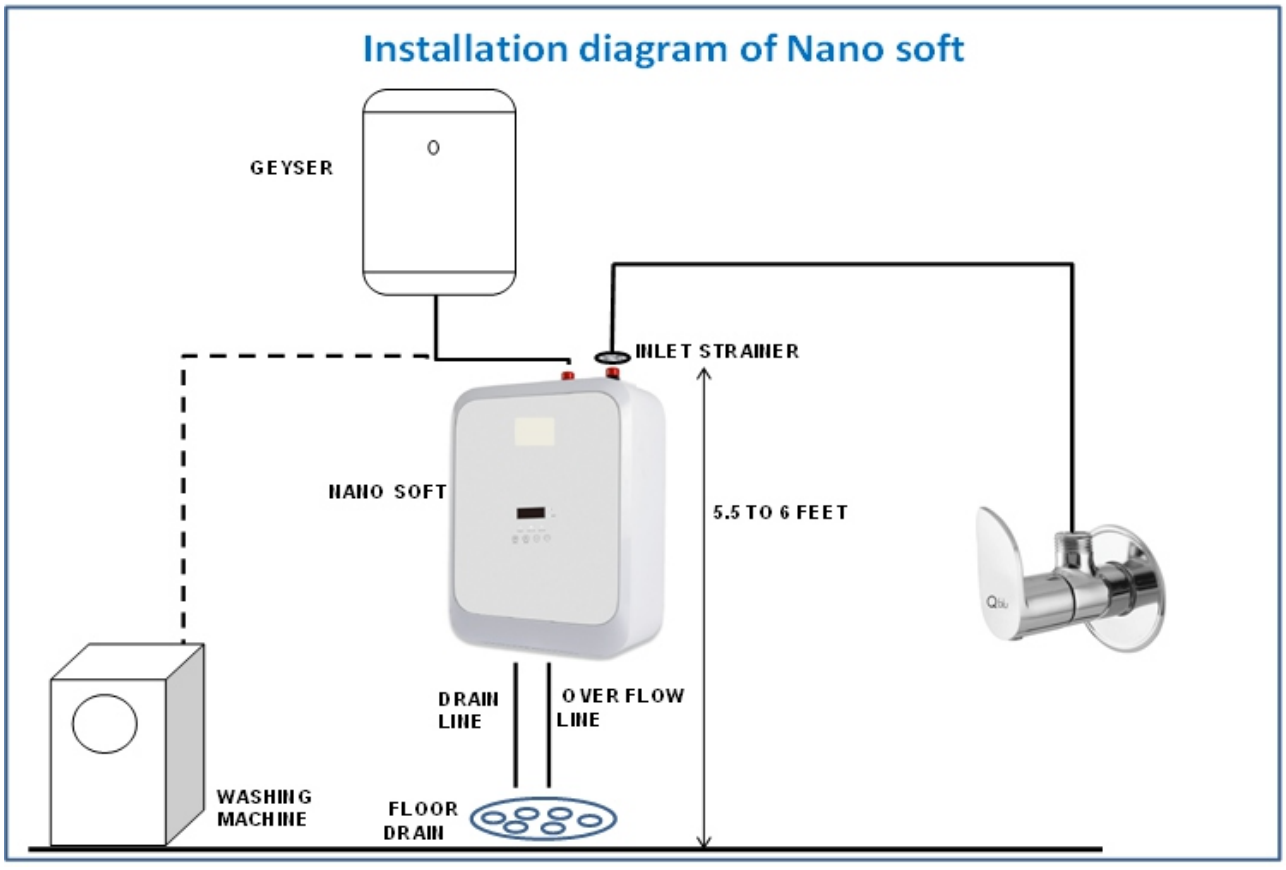
HOW TO INSTALL THE NANO SOFT?

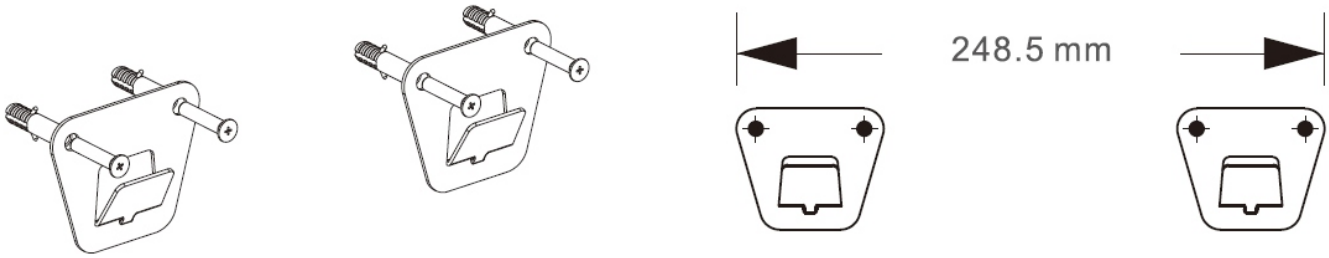
Zero B Nano soft must be installed by the authorized service technician as per recommended procedures for Softener assembly and Auto valve programming.

The softener has to be installed such that the salt filling door of the softener is not more than 5.5 – 6 feet from ground (check customer convenience for opening salt filling door and pouring salt)

Typical installation shown

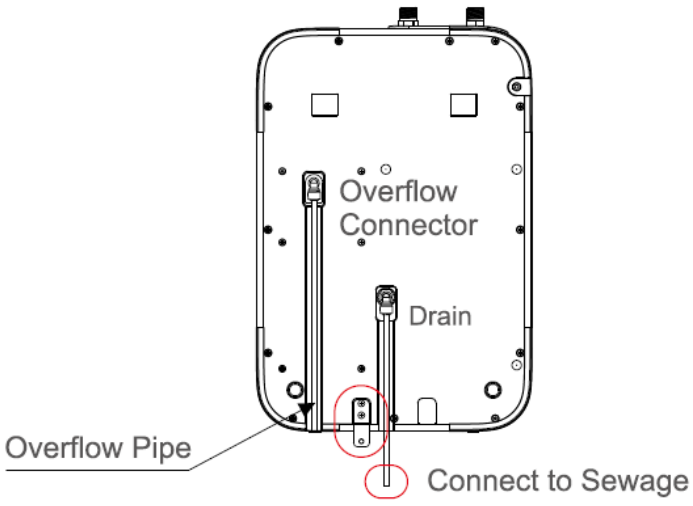


·Use the template for mark the screw fixing position on the wall and drill the holes with 8mm drill at the positions marked on the wall. The two stainless steel brackets should be on the same horizontal line (As shown in Fig.2).



·Fix a pair of SS Clamps using screws to hold the Nano soft.

·Fix the bottom SS support clamp on the product bottom side using self tapping screws. (As shown in Fig.3)



·Hang the softener on the pair of fixed SS clamps, and move the softener down against the wall to ensure that it is hung up properly. (As shown in Fig.4)

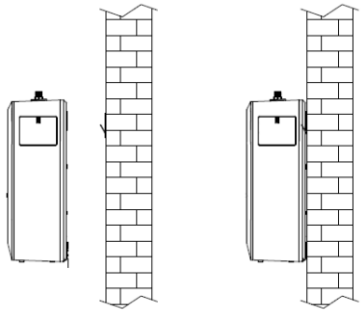
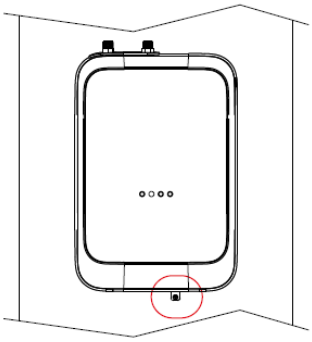


Fig.4

·After the fixing of machine mark the bottom SS support clamp hole and drill the hole using drill machine. Fix the bottom clamp using screw. (As shown in Fig.5)



·Connect the raw water line to the inlet port of the softener

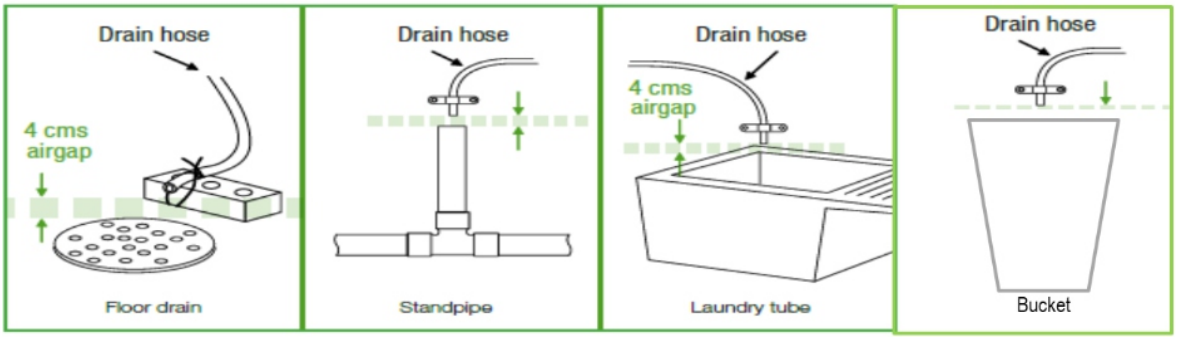
·Connect the outlet line to the Geyser / washing machine etc **(Hot water can cause severe damage to the softener system. For water Geyser users, it is recommended to install a check valve (NRV) between the softener and water Heater.)**

Inlet, outlet, drain and overflow water line connections

The system supplied with set of tubing's a inlet, outlet and drain connections. Please make sure that tubing's are tightened on the connectors.

Drain connection must always have a free outlet.

The Drain hose of the system must be driven towards nearby drain outlet. Within the distance of one meter.



START UP OF THE SOFTENER

1. Ensure that the softener is installed by the authorized service technician as per recommended procedures for Softener assembly and Auto valve programming

2. Ensure that sufficient inlet water supply and pressure is available as specified.

3. Ensure correct voltage, the softener requires a 230VAC, 50Hz supply.

4. Please check that the required amount of clear tablet salt is filled in the salt tank.

5. Insert the adaptor pin into the power port of the softener. Plug in power adaptor in the power plug.

6. Switch "ON" the power supply of auto valve.
Real time, remaining capacity of treated water and treated water flow will become active. This indicates that the auto valve is in service mode.

7. Now Open the Inlet valve of Nano soft.

8. The treated water starts flowing to users Tap. After activation of the above icon, the flow rate of the treated water will be displayed, but when treated water outlet tap is closed, the flow rate of the treated water will not be displayed.

8. As per the scheduled program of regeneration (Based on hardness of raw water and consumption), the regeneration of the softener will be carried out at night 1:00 AM automatically.

9. Option of manual regeneration button is also available. The switch for manual regeneration is provided on the auto valve.

10. If manual regeneration button switch is locked, press and hold both Up and Down buttons for 5 seconds to unlock the buttons.

11. Before starting the service operation, manually trigger the softener in Backwash mode for 5Min. and then put the valve by pressing manual button in filling mode for 7Min to fill the brine tank for regeneration.

12. Now put the softener in service mode by pressing manual switch, flush the water from outlet for 1Min and then close the inlet valve.

13. Connect the outlet line to appliance.

14. Open the inlet valve.

15. Now Nano soft ready for use.

DO'S AND DON'TS

Do's

·Ensure that the product is installed inside the building or a shed
·As per the schedule, please ensure that the salt tank is filled with salt
·For recharging , use clean and white Tablet or khadi salt
·When not in use for a long duration (more than two days), switch “OFF” the main power of the Softener.
·Always use genuine spares and resin media (Purple colored resin media)
·Keep an 'Air gap' between drain line and drainage sump
·Always close the outlet valve during regeneration.
·When there is no power for more than 3 days or more, a 12:12 flash may occur on the valve screen.
Correct and set the real time

Don'ts

·Install the softener in direct sunlight.
·Disconnect power of the softener.
·Close the inlet raw water line valve
·Install on freezing temperatures or water over 500 C
·land the drain line in the drain sump

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UNPACKING CHECK LIST

·Nano soft assembled unit – 1Nos.

·SMPS for AV -1Nos.

·Template – 1Nos.

·SS clamps for wall mounting – 3Nos

·CSK screws – 6Nos

·Pan Head tapping screws – 3Nos.

·½" Nylon white tubing for Inlet outlet – 4Mtr.

·¼" white tubing – 3Mtr.

·Fitting straight ½" female threaded x ½" OD tube for inlet tap, outlet connection – 2Nos.

·3/8" white tubing for additional outlet connection – 2Mtr.

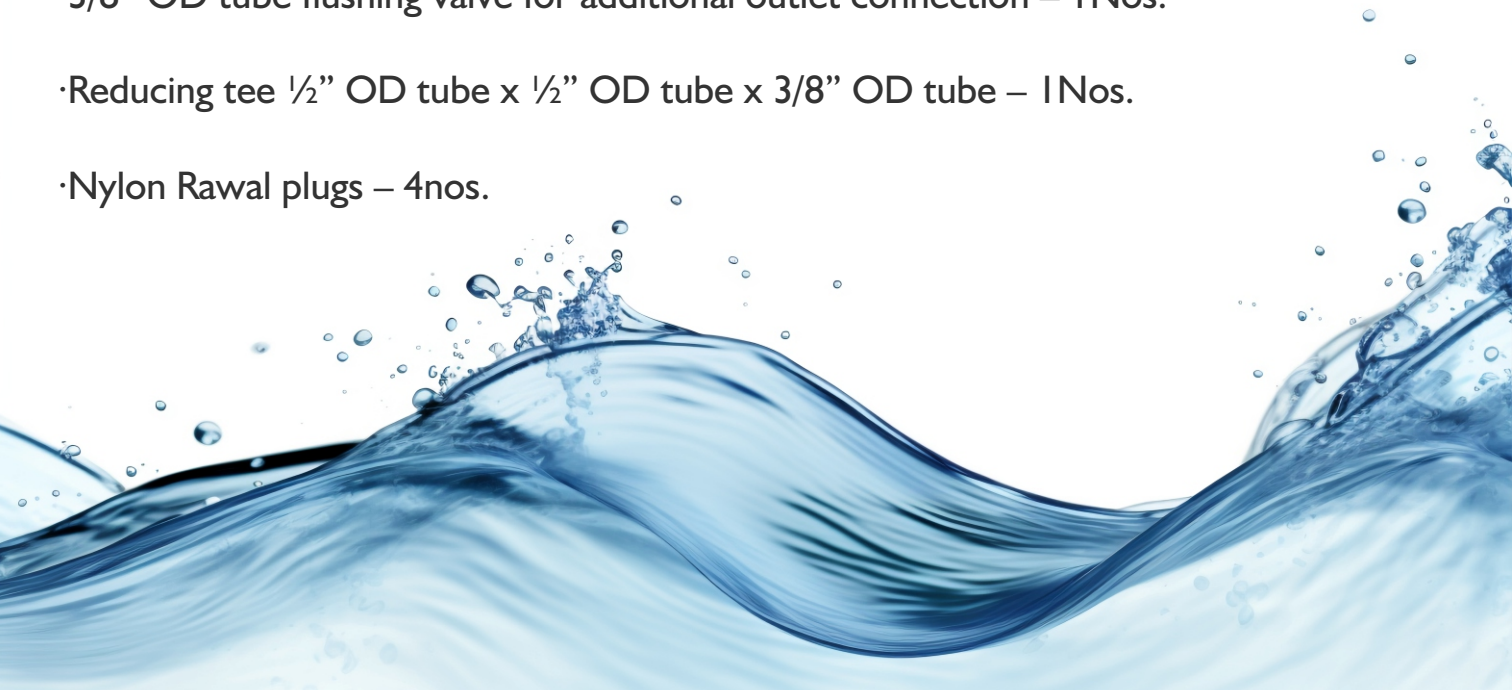
·Fitting elbow ½" male threaded x ½" OD tube product inlet, outlet connection – 2Nos.

·Fitting elbow ½" Male thread x 3/8" OD tube for additional outlet connection – 1Nos.

·3/8" OD tube flushing valve for additional outlet connection – 1Nos.

·Reducing tee ½" OD tube x ½" OD tube x 3/8" OD tube – 1Nos.

·Nylon Rawal plugs – 4nos.



TROUBLE-SHOOTING:-

Problem	Cause	Correction
1.Softener fails to activate the trigger for regeneration	a.Electrical service to unit has been interrupted b.Service time set is incorrect or zero. c.Controller is defective. d.Flow sensor is choke or defective	a.Assure permanent electrical service (check fuse, plug, switch, etc.) b.Reset service time. c.Replace controller. Clean or replace flow sensor
2.Softener supplies hard water.	a.No salt in salt chamber. b.Drain flow restrictor plugged c.Raw water not available for regeneration. d.Leak at O-Ring on riser pipe e.Internal MPV valve leak f.Regeneration cycles time not correct. g.Shortage of Resin h.Bad quality of feed water Outlet line open in regeneration mode	a.Always add the salt in salt chamber by the time of regeneration. b.Clean flow restrictor c.Please ensure raw water availability for regeneration d.Change O-Ring e.Change MPV valve f.Set correct regeneration cycles time in the program. g.Add Resin to mineral tank h.Reduce the inlet turbidity Always close the outlet line during regeneration
3.Pressure drop or Iron in conditioned water	a.Iron in the systems b.Fouled resin bed Excess iron in the raw water	a.Clean the Raw water supply pipe b.Check regeneration time and increase frequency of regeneration. Iron removal equipment is required to install before softening
4.Loss of mineral(Resin) through drain line	a.Bottom strainer is broken b.Riser pipe damaged	a.Replace new bottom strainer Replace riser pipe
5.Continuous flow from the drain line	a.Internal valve leakage While regeneration electrical service to unit has been interrupted.	a.Check and repair valve or replace the MPV While regeneration in process assure permanent electrical service will be available.
5.Continuous flow from the drain line	a.Internal valve leakage While regeneration electrical service to unit has been interrupted.	a.Check and repair valve or replace the MPV While regeneration in process assure permanent electrical service will be available.
6.Salt water in soften water	a.Foreign material is stuck in flow restrictor of drain b.Time set for regeneration is less or zero.	a.Clean or replace flow restrictor b.Set the regeneration time as per program.
7.Reduced capacity of the unit	a.Unit fails to regenerate b.Fouled resin bed c.Salt used is less for regeneration Deterioration of raw water quality	a.Regenerate according to the correct operation requirement b.Increase regeneration time and clean or change resin c.Use the salt quantity as recommended d.Check the raw water quality and set the service time accordingly
8.E1 Flashes on display	a. Motor failure b. Control board failure c. Locating board failure d. Moving disk stuck	a. Replace motor b. Replace control board c. Replace locating board d. Clean the substance between moving disk.
9.E2 Flashes on display	a. Wiring of locating board is damage b. Control board failure c. Locating board failure	a. Replace the locating board wiring b. Replace control board c. Replace locating board
10. E3 Flashes on display	a. Control board failure	a. Replace control board
11.Pt Flashes on display	a. There is water leakage inside of softener	a. Open the unit and check for leakages

WARRANTY CARD

(To be filled in by the sales representative and retained by the customer for reference)

Unit Serial No. : ..... Model : NANO SOFT

Invoice No. : ..... Product Serial No. : .....

Dated : ..... Date of Expiry of Warranty : .....

Customer's Name and Address : .....

.....

Tel.(Resi.) : ..... (Off.) : .....

Fax No. : ..... Email ID : .....

Customer's Signature : .....

(I accept the terms and conditions warranty)

Company's Stamp & Signature

WARRANTY INFORMATION CARD

Please preserve this warranty information card and ensure that this is duly stamped and signed by the Company Official / Authorized Dealer / Authorized Retailer of Ion Exchange (India) Limited. ZeroB Product is warranted throughout India only by Ion Exchange (India) Limited (herein referred to as the company) as per the conditions printed herein.

TERMS & CONDITIONS OF WARRANTY:

We hereby warrant that the unit / equipment shall be free from defective material and faulty workmanship, subject to the following clauses:

Our liability in respect of any defect or failure of any equipment supplied by us or any loss, injury or damage attributable thereto is limited to making good by way of replacement or rectification, defects which show up under proper use, provided the equipment is operated and maintained strictly in accordance with our instructions and arise entirely fromproven faulty design, material or workmanship, within a period of 12 months from the date of commissioning of equipment. At the end of this period all our liabilities will cease under this warranty. We shall have the right to make any replacement of spares or repairs that is required at site. In case of replacement, buyer shall return the replaced part / component to us immediate / on repair completion.

The warranty period on the replaced / repaired part will be limited to the remaining, unexpired portion of the total warranty period. Electrical components are covered under this warranty.

When equipment is ready to be dispatched but cannot be dispatched due to reasons attributable to the buyers, the warranty period will be 18 months from the date of readiness for dispatch as notified by us in writing.

No other party or agency may carry out replacements or repairs unless authorized by us in writing.

If a part / component are to be replaced or repaired under this warranty, there will be no charge for the replacement. However, the travel and conveyance as well as boarding & lodging expenses incurred by our representative reputed for his work will be charged to the buyer at actual.

This warranty does not cover replacement / repairs required as a result of normal wear & tear, accidents or damages / defects caused by misuse / maloperation of the equipment by the buyer.

Ion Exchange (India) Limited shall be excused from any delay or failure in performance required hereunder if caused by reason of any occurrence or contingency beyond its reasonable control, including, but not limited to, acts of God, acts of war, fire, laws, proclamations, edits, ordinances or regulations, riots, earthquakes, floods, explosions or other acts of nature. The obligations and rights of the party so excused shall be extended on a day-to- day basis for the time period equal to the period of such excusable interruption.

Consumable such as filters / cartridge would be on chargeable basis.

Warranty is applicable in standard rated water conditions only.

This warranty is void if:-

(a) The unit/ equipment is put to wrong use / application (b) The unit/ equipment installed / commissioned by any person / agency not authorized by us. (c) The unit is not installed / operated / maintained as per instructions given in our operation manual and / or those given by our authorized representative. (d) The operating conditions and influent water quality are other than those for which the unit / equipment was supplied. (e) The agreed / contract price and installation charges, if any, has to be paid to us / our dealer / our retailer.

Ion Exchange (India) Ltd. is a leader in the business of water treatment and solutions that are so vital to people's lives and the environment.

For more than five decades, Ion Exchange (India) Ltd., has pioneered many path-breaking innovations in the field of engineering and marketing to provide a one-stop solution for industry, homes and communities. Bearing testimony to this are more than 35,000 water treatment installations worldwide. Our plant have been exported to USA, UK, South East Asia, Japan, Middle East, Far East as well as neighbouring countries like Bangladesh, Nepal, Mauritius and Sri Lanka.

In the consumer market, under the flagship of the ZeroB Brand, the company has introduced products catering to every need of the customer.

From Online Water Purifiers to the most advanced Reverse Osmosis Water Purifiers, from drinking water vending machines to bottled packaged water, to name a few.

Ion Exchange (India) Ltd. has led virtually every breakthrough in the Indian market fulfilling the company's vision: "To be a leader in our business which is so vital to people's lives and the environment".

+91 77560 43064

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PURE WATER SOLUTIONS

Ion Exchange (India) Ltd., Ion House, Dr. E. Moses Road, Mahalaxmi,
Mumbai 400011. | Tel. : 022-278812345 | 022-2068486848
Email : zerob@ionexchange.co.in | Web : www.zerobonline.com