ZENITH PURE SOLUTIONS

OWNER'S MANUAL

Zenith Essentials Water Softener

Single tank · metered

32,000 · 48,000 · 64,000 · 80,000 grain



Zenith Pure Solutions

6951 E 30th St, Suite B, Indianapolis, IN 46219

(317) 690-4172 · info@zenithpuresolutions.com

KEEP THIS MANUAL
NEAR YOUR SOFTENER

01 Welcome to soft water

Thank you for choosing Zenith Pure Solutions. Your Zenith Essentials softener removes the hardness minerals (calcium and magnesium) from every tap in your home, and our team sized and set it up for your water and your household.

Keep this manual near the softener. Your installer records your system details on the last page. It covers daily use, salt, simple care, error codes and troubleshooting.

Need help? Call us before you open the valve.
Most issues are solved in one phone call, and work done by others can affect your warranty.

Zenith Pure Solutions

Phone	(317) 690-4172
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We also offer care plans and salt delivery, so you never have to carry a bag of salt again. Ask us for details.

02 Important safety information

Your softener works best, and stays under warranty, when it runs inside the limits below. Read these before using the system.

- **Cold water only.** Never connect the softener to a hot water line. Water temperature must stay between 40 °F and 110 °F.
- **Protect from freezing.** Keep the system indoors, away from direct sun, freezing and outside weather. An outdoor install needs an approved weather cover.
- **Water pressure.** Keep incoming pressure between 20 and 125 psi. Below 25 psi the softener may not draw brine correctly.
- **Power.** The valve runs on a low-voltage 15-volt DC power adapter. Plug it into an outlet that is always on, not one controlled by a light switch.
- **Unplug before opening.** Unplug the power adapter before removing the valve cover or replacing the battery.
- **Salt.** Use only clean water-softener salt (pellets or crystals). Never use block salt.
- **Leave service to us.** Do not take apart the control valve or move the system. Call Zenith for repairs, moves or changes to the settings.

Operating conditions

Condition	Limit
Water pressure	20 to 125 psi (25 psi minimum recommended)
Water temperature	40 °F to 110 °F
Hardness	Up to 100 grains per gallon
Dissolved (clear-water) iron	Up to 2 ppm
Power	15-volt DC power adapter, always-on outlet

This water softener is not intended to be used to treat water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the softener.

About iron

Dissolved iron is invisible in a fresh glass of water and turns reddish-brown after it sits. For the softener to remove it, air must not reach the water before the softener. Iron above 2 ppm, iron bacteria, low pH, or taste and odor problems may need extra equipment. Ask us for a water test.

03 Your system at a glance

Your softener has two tanks: a tall mineral tank that softens the water, and a brine tank that holds the salt used to clean it.



Zenith Essentials Water Softener: mineral tank (right) and brine tank (left)

Part	What it does
Control valve	The electronic "brain." It measures your water use and starts cleaning (regeneration) only when needed.
Mineral (softener) tank	Holds the softening resin, a bed of small beads that capture hardness minerals.
Riser tube and distributor basket	Carry water evenly through the resin bed.
Brine tank	Holds the salt and the salty water (brine) used during regeneration.
Safety brine valve	A float that stops the brine tank from overfilling.
Air check	Stops air entering the system when brine is drawn.
Bypass valve	Turns the softener off while keeping water to the house.
Drain line	Carries rinse water and removed minerals to the drain.
Power adapter	Supplies safe low-voltage power to the valve.

How soft water is made

1. **Softening.** Hard water flows down through the resin bed. The resin swaps the hardness minerals for sodium, and soft water flows to your taps.
2. **Counting.** The control valve tracks every gallon you use and how much softening capacity is left.
3. **Regeneration.** When capacity runs low, the valve cleans the resin at a quiet time of night, 2:00 am by default. Brine washes the hardness minerals off the resin and down the drain.
4. **Refill.** The brine tank refills with soft water and dissolves new salt, ready for the next cleaning.

Why it cleans itself at night

A full regeneration runs brine draw and slow rinse (upflow), backwash, fast rinse and brine refill. During those steps the house still has water, but it is not softened. If water is used in the 10 minutes before regeneration is due, the valve waits until water use stops.

04 Specifications

Zenith Essentials comes in four sizes. Zenith picks the size from your water hardness and household size; a 48,000-grain system suits most Indianapolis families of four.

	32,000 grain	48,000 grain	64,000 grain	80,000 grain
Resin (cubic feet)	1.0	1.5	2.0	2.5
Capacity at 9 lbs salt / cu ft	24,000 gr	36,000 gr	48,000 gr	60,000 gr
Capacity at 15 lbs salt / cu ft	30,000 gr	45,000 gr	60,000 gr	75,000 gr
Service flow rate	9 gpm	12 gpm	13 gpm	18 gpm
Mineral tank size	9″ x 48″	10″ x 54″	12″ x 48″	13″ x 54″
Distributor	Basket	Basket	Basket	Basket
Overall height	55″	61″	55″	61″
Brine tank size	15″ x 17″ x 36″	15″ x 17″ x 36″	18″ x 33″	18″ x 40″
Brine tank salt capacity	275 lbs	275 lbs	375 lbs	—
Floor space needed	26″ x 17″	27″ x 18″	29″ x 18″	30″ x 18″
Approximate weight	98 lbs	124 lbs	152 lbs	219 lbs

80,000 grain and larger supplied on custom order.

Control valve

Electronic metered valve, 1″ fiber-reinforced composite body, upflow regeneration, back-lit display, built-in bypass. Settings are kept in permanent memory during power outages.

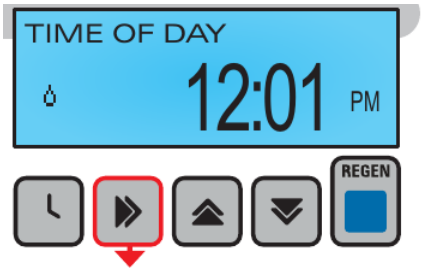
Plumbing connections

3/4″ to 1.5″ inlet and outlet; 5/8″ compression or 1″ NPT drain; 3/8″ or 1/2″ brine line.

Service flow rates are a guide only. Actual flow depends on your water, water pressure and plumbing. Capacities are the grains of hardness removed between regenerations at the salt setting shown.

05 Using the control panel

The control panel has a back-lit display and five buttons: **CLOCK**, **NEXT**, **UP (▲)**, **DOWN (▼)** and **REGEN**. Press any button to light up the display.



Display and buttons: CLOCK, NEXT, ▲, ▼, REGEN

What the display shows

Press **NEXT** to step through these screens.

Screen	What it tells you
Time of day	The current time. A water-drop symbol shows when water is flowing.
Capacity remaining	Gallons of soft water left before the next regeneration.
Regeneration in	Days until the next regeneration, even if little water is used.
Flow rate	Gallons per minute flowing through the softener right now.
Contact	Zenith's name and phone number, set by your installer.

During regeneration the display shows the step it is on (for example, BACKWASH) and the minutes left in that step.

What the buttons do

Action	Result
Press REGEN once	Schedules a regeneration for tonight at the set time (2:00 am by default). Press again to cancel.
Hold REGEN for 3 seconds	Starts a regeneration right away.
Press REGEN during regeneration	Skips to the next step. Only do this if Zenith asks you to.
Press NEXT	Moves to the next screen.
Hold CLOCK	Opens the time-of-day setting.
Hold NEXT + REGEN for 3 seconds	Resets the control and returns the valve to its home position. Your settings are kept.

⚠ Leave the installer settings to us

Other button combinations open the installer settings. A wrong setting can waste salt or give you hard water, so please call Zenith instead.

Setting the time of day

Set the clock after a power outage longer than 8 hours, when the time flashes, or when daylight saving time begins or ends.

1. Hold **CLOCK** until TIME HOUR shows and the hour flashes.
2. Press ▲ or ▼ to set the hour, including AM or PM.
3. Press **NEXT**. The minutes flash.
4. Press ▲ or ▼ to set the minutes.
5. Press **NEXT** to save and return to the time screen.

If the time flashes after an outage shorter than 8 hours, reset the time and have the backup battery replaced (see *Power loss and battery*).

When to start a regeneration yourself

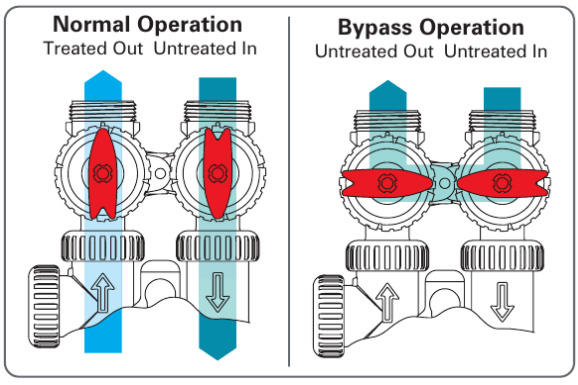
Start one (press **REGEN** once for tonight, or hold it 3 seconds for now) after adding salt to an empty brine tank, after a long trip away, or if you notice hard water.

Daytime regeneration

Avoid running the dishwasher, laundry or showers during a regeneration you start in the daytime. That water will not be softened.

06 Bypass valve

The bypass valve turns off water to the softener while the rest of the house keeps running water. Use it for a leak at the softener, before a service visit, or if Zenith asks you to.



Left: normal operation. Right: bypass.

Position	Handles	Water to the house
Normal	Both point straight up and down, in line with the pipes	Soft water
Bypass	Both turned sideways, pointing toward each other	Untreated (hard) water; softener off

To bypass: turn both handles fully to the bypass position. **To return to service:** turn both handles back to normal, slowly, so the tank fills without a sudden rush of water.

Hard water and no other cause? Check that both handles are fully in the normal position. A half-turned handle lets hard water mix in.

07 Salt and routine maintenance

Salt is the fuel that keeps your softener working. Check the salt level once a month and keep the brine tank about three-quarters full.

Adding salt

- **Use clean softener salt:** pellets or solar crystals made for water softeners. Ask us which type suits your system, or use our salt delivery service.
- **How much:** fill the brine tank about three-quarters full and keep at least 12 inches of salt in it. If your home uses little water, fill it no more than half full to avoid a salt bridge.
- **How fast it goes:** with 20 grains per gallon hardness, a household uses about 1/2 lb of salt per person per day. A family of four uses about 60 lbs a month. Check every couple of weeks at first to learn your own rate.
- Your new softener comes with 2 bags of salt to get you started.

Never use block salt

Block salt dissolves too slowly to clean the resin properly, which leads to hard water.

Salt bridges

A salt bridge is a hard crust across the brine tank with an empty space underneath. The tank looks full, but the softener cannot make brine and you start getting hard water. If you suspect a bridge, gently push a broom handle down through the salt. If it stops on a hard layer, carefully break it up. Humidity and over-filling make bridges more likely.

Cleaning the brine tank

Check the brine tank once a year for dirt or sludge at the bottom, and clean it when it builds up, whatever salt you use. Zenith cleans it during your yearly service.

Routine care schedule

How often	What to do	Who
Monthly	Check the salt level and top up	You, or Zenith salt delivery
Monthly	Check for salt bridges	You
Every 6 months	Check or replace the sediment pre-filter, if fitted	Zenith
Yearly	Inspect and clean the brine tank, check settings, test your water	Zenith yearly service (required to keep your parts warranty)
Twice a year	Check the clock at daylight saving time changes	You

Power loss and battery

If the power goes out, the control keeps all of its settings in permanent memory. A small backup battery keeps the time of day for up to about 8 hours. After a longer outage the time flashes and must be set again.

If the time flashes after a short outage, the battery may be used up. It is a standard 3-volt CR2032 lithium coin cell. We recommend letting Zenith replace it.

⚠ **Replacing the battery yourself?**

Always unplug the power adapter first. Replacing the battery with power connected can short and damage the circuit board. Afterwards, set the time of day and start a regeneration.

08 Error codes

If the control finds a problem, the display shows ERROR with a three-digit code, alternating with Zenith's phone number.

What to do

1. Write down the error code.
2. Check that the power adapter is plugged into a working, always-on outlet.
3. Hold **NEXT** and **REGEN** together for 3 seconds to reset the control. Your settings are kept.
4. If the error comes back, put the system in bypass if water is running to the drain, and call Zenith at (317) 690-4172.

Code	Meaning	What it means for you
101	Unable to start	The valve motor is not moving. Reset once, then call us.
102	Motor stalled	The valve could not reach its next position. Call us.
103	Motor ran too long	The valve could not find its next position. Call us.
104	Valve homing	The valve could not return to its home position. Call us.
106, 107	Alternator valve fault	Twin-tank systems only. Call us.
109	Invalid motor state	The control has stopped for safety. Call us.
116, 117	Auxiliary valve fault	Only if an auxiliary valve is fitted. Call us.
201	Invalid regeneration step	Internal software error. Reset once, then call us.
202	Unexpected stall	The motor stalled briefly but recovered. Mention it at your next service.
402, 403, 404, 406	Memory error	The control cannot run properly. Call us.
405, 407, 408	Memory error (logged)	The softener keeps working normally. Mention it at your next service.
410	Configuration download	A settings file was loaded incorrectly. Call us.

⚠ **Your water may turn hard**

While an error code shows, the softener will not start a new regeneration, so your water may slowly turn hard until it is fixed.

09 Troubleshooting

Most problems come down to salt, power or the bypass. Try the checks below first; anything marked **Call Zenith** needs a technician.

Problem	Possible cause	What to do
Hard water at the taps	Brine tank out of salt, or a salt bridge	Add salt or break the bridge, then hold REGEN 3 seconds to regenerate now.
	Bypass handles not fully in normal position	Turn both handles fully to normal.
	Much higher water use than usual (guests, a leaking toilet or faucet)	Fix leaks; start a regeneration. If it keeps happening, the system may need a new setting. **Call Zenith.**
	Water meter not counting (no water-drop symbol when water runs)	**Call Zenith.**
	Hardness of your water supply has changed	**Call Zenith.** We will retest your water and update the setting.
Display is blank	Adapter unplugged, outlet on a light switch, tripped breaker or GFI	Plug into an always-on outlet; reset the breaker or GFI.
	Faulty power adapter or circuit board	**Call Zenith.**
Time is wrong or flashing	Power outage	Set the time of day. If it flashes after a short outage, the backup battery needs replacing.
Regenerates at the wrong time	Clock not set, or wrong AM/PM	Set the time of day.
Does not regenerate on its own	Bypass in bypass position	Return the handles to normal.
	Meter, setting or drive problem	**Call Zenith.**
Salty taste in the water	Interrupted regeneration, low pressure or blocked drain line	Check the drain line is not kinked. **Call Zenith.** if it continues.
Too much water in the brine tank	Blocked drain line, plugged injector or worn seals	Check the drain line for kinks. **Call Zenith.**
Salt level never goes down	Salt bridge, or the softener is not drawing brine	Check for a bridge. **Call Zenith.** if the salt still does not drop.
Water running to the drain constantly	Valve stuck in regeneration, or worn seals	Note any error code, put the system in bypass. **Call Zenith.**
Low water pressure in the house	Clogged sediment pre-filter, or system needs service	Change the pre-filter if you have one. **Call Zenith.**

Water pressure matters. The softener needs at least 25 psi to work properly. On a well, a low pressure-tank setting can cause several of these problems.

10 Zenith limited warranty

5 yr **5 years parts · 5 years labor**
Limited lifetime on the mineral and brine tanks.

What is covered

If a part of your softener fails because of a defect in materials or workmanship during the warranty period, Zenith will repair or replace it.

Keeping your warranty

Cover applies when Zenith installs the system and it is serviced to schedule. Ongoing maintenance and a yearly Zenith service are required to keep the parts warranty.

If you sell your home

The warranty transfers at the original address only, for the remaining term, with written notice to Zenith within 30 days of the sale. Labor coverage transfers only if the new owner takes a Zenith maintenance plan. The warranty does not follow a system that is moved to another address.

What is not covered

- Damage from freezing, fire, flood, lightning, power surges or other acts of nature.
- Misuse, neglect, accidents, the wrong salt (such as block salt), or operating outside the limits in this manual.
- Repairs, moves, setting changes or parts by anyone other than Zenith.
- Commercial or other non-residential use.
- Routine maintenance, salt and filters.

Making a claim

Call Zenith at (317) 690-4172 or email info@zenithpuresolutions.com as soon as you notice a problem. Have your name, address, installation date and serial number ready (see *Your system record*). Zenith will arrange a visit to inspect the system.

This is a plain-language summary. The full Limited Warranty terms are in your quote and invoice.

11 Your system and service record

Your system record

Your installer fills this in on installation day. Have it ready when you call us.

Item	Your system
Model	Zenith Essentials Water Softener, single tank
Capacity (grains)	
Serial number	
Installation date	
Installed by	
Incoming water hardness (gpg)	
Salt setting (lbs per regeneration)	
Regeneration time	

Service log

Keep a record of every service visit, salt delivery and setting change. It helps our technicians and supports any warranty claim.

Date	Service performed	Hardness in / out (gpg)	Technician
	Installation and start-up		

ZENITH
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We are here when you need us.

Service, salt delivery, care plans and free in-home water testing across the Indianapolis area.

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