

# DuraScale-X™ vs Traditional Anti-Scale & Water Softeners

Why WFD uses advanced DAC media instead of outdated salt softeners.

DuraScale-X™ is our new-generation **DAC (Direct Anti-Scale Crystallisation)** media, engineered for Australia's hard water conditions. Instead of stripping minerals from the water and dumping salty brine down the drain, DuraScale-X™ re-engineers limescale at a microscopic level, locking hardness minerals into harmless microscopic crystals that can't stick to pipes, elements or fixtures – **without salt, power, or backwashing**. For HydroTron, and for our trade partners, traditional salt-based softeners and basic anti-scale cartridges are yesterday's technology: **high maintenance, high water waste, and increasingly restricted or phased out in many regions worldwide**. DuraScale-X™ delivers long-life protection, low running costs and premium performance – in a compact cartridge that drops straight into our POE systems.

## DuraScale-X™ – At a Glance

- **Media Type:** DAC (Direct Anti-Scale Crystallisation) – advanced TAC
- **Application:** Whole-of-home, light commercial, coffee, appliances & plant
- **Hardness Handling:** Up to ~350 ppm hardness (location dependent)
- **Typical Media Life:** ~1>3 years\* 20 x4.5 cartridge up to 7+ years with media tank
- **Salt / Chemicals:** None – no salt, no phosphate, no regeneration chemicals
- **Water Waste:** Zero – no backwash or brine discharge
- **Power:** Zero – purely flow-driven
- **Taste:** Leaves natural calcium & magnesium in the water – no “slimy” soft water feel
- **Maintenance:** Treat it like a standard POE cartridge – change pre-filters, DuraScale-X™ media rarely
- \*Actual life depends on hardness, usage, flow rates and system design.

## DuraScale-X™ vs Other Anti-Scale Cartridges & Salt Softeners

| Feature / Criteria                  | DuraScale-X™ DAC Cartridge                                                      | Generic Polyphosphate Cartridge                                        | Standard TAC / Anti-Scale Cartridge                                             | Salt-Based Water Softener (Ion Exchange)                              |
|-------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| How it works                        | Converts hardness into stable microscopic crystals that can't bond to surfaces. | Doses water with food-grade phosphate to form a thin film on surfaces. | Older-style template-assisted crystallisation media, less advanced formulation. | Swaps calcium & magnesium for sodium using ion exchange resin.        |
| Scale prevention                    | <b>High performance:</b> strong protection on elements, pipes & fixtures.       | Moderate; film can be inconsistent, especially at high temps.          | Moderate-good, performance varies by media quality & design.                    | Good at preventing limescale, but soft water is often too aggressive. |
| Impact on water taste               | Keeps natural minerals – water tastes clean and natural.                        | Can slightly change taste; some customers notice a “treated” taste.    | Usually neutral, depends on cartridge design.                                   | Often a “slippery” or “silky” feel; some dislike the taste and feel.  |
| Adds sodium to water?               | <b>No</b> – zero added salt or sodium.                                          | No direct sodium, but chemical dosing still required.                  | No.                                                                             | <b>Yes</b> – increases sodium levels in the water.                    |
| Chemicals added to water            | None – purely physical crystallisation.                                         | Yes – continuous polyphosphate dosing.                                 | None (physical process), but media quality varies.                              | Uses salt for regeneration; sodium ends up in water & wastewater.     |
| Brine / chemical discharge to drain | <b>None</b>                                                                     | Minimal (mainly spent cartridges).                                     | None.                                                                           | <b>High</b> – salty brine discharge from regeneration cycles.         |
| Water wastage                       | <b>Zero</b> – no backwash, no regeneration.                                     | Zero (cartridge only).                                                 | Zero (cartridge only).                                                          | <b>High</b> – frequent backwash/regeneration uses significant water.  |
| Power required                      | <b>No power required.</b>                                                       | None.                                                                  | None.                                                                           | Requires power for valves/controller & regeneration cycles.           |

|                             |                                                                                     |                                                                    |                                                   |                                                                                                  |
|-----------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------|
| System footprint            | Compact cartridge – fits inside HydroTron POE systems.                              | Small cartridge, usually POU or entry level POE.                   | Cartridge – varies by brand.                      | Large tank + brine tank – takes substantial floor space.                                         |
| Ongoing maintenance         | Change pre-filters as normal; DuraScale-X™ media has long life (7–10 yrs) (1-3 yrs) | Frequent cartridge changes; media depletes quickly.                | Moderate; media life shorter than DuraScale-X™.   | Regular salt top-ups, valve service, resin checks, brine tank cleaning.                          |
| Environmental impact        | <b>Very low</b> – no salt, no brine, very little waste.                             | Ongoing chemical dosing, spent cartridges to landfill.             | Low – spent media disposal.                       | <b>High</b> – salty wastewater, high water usage, higher energy footprint.                       |
| Compliance & restrictions   | Designed to align with modern regulations and sustainability targets.               | Generally accepted; some regions limit phosphate discharge.        | Generally accepted.                               | Increasingly restricted or discouraged in many regions due to salinity & wastewater regulations. |
| Suitable for drinking water | Yes – keeps beneficial minerals, no chemical dosing.                                | Yes, but some customers prefer not to drink dosed water long-term. | Yes.                                              | Yes, but elevated sodium not ideal for everyone.                                                 |
| Best suited to              | Modern, efficient POE systems, coffee machines, appliances, hard water homes.       | Low-cost entry level applications with mild hardness.              | Mid-range systems where long life isn't critical. | Legacy installations where soft water is specifically required.                                  |
| Technology status           | <b>Next-generation, future-proof anti-scale technology.</b>                         | Basic, older dosing approach.                                      | First-generation anti-scale crystallisation.      | <b>Old technology</b> – heavy, wasteful, and being phased out globally.                          |



- Easy to maintain
- Cost effective
- Long media life
- Refillable cartridge
- Perfect for Hard Water



## How DuraScale-X™ Works

Traditional softeners **remove** calcium and magnesium, replace them with sodium, and then periodically dump salty brine down the drain. DuraScale-X™ takes a completely different approach. Inside the cartridge, the DAC media acts as a “template” that hardness minerals briefly attach to. In this short contact time, **calcium and magnesium are converted into tiny, stable crystals**. Once formed, these micro-crystals stay suspended in the water and **can no longer bond to metal surfaces or heating elements**. - Pipes and fittings stay cleaner.

- Hot water systems and appliances are protected.
- Shower screens and fixtures see far less scale build-up.
- **Healthy minerals stay in the water** – we’re not stripping the water bare and then trying to fix the taste. It’s a **physical transformation**, not chemical dosing. No salt, no regeneration, no brine.

## Why WFD Chooses Advanced Media Instead of Salt Softeners

- High waterwaste: Regeneration cycles can waste hundreds of litres of water every month.
- Salty wastewater: Brine discharge contributes to salinity and is increasingly under pressure from regulators worldwide.
- Ongoing maintenance: Salt bags, blocked injectors, resin issues, valve service. Space & complexity: Large tanks, brine drums, drain lines, power, programming. Changing regulations: Many regions are tightening rules around brine discharge.

## Why DuraScale-X™ is the Trade Choice

DuraScale-X™ isn’t a cheap “scale inhibitor” add-on. It’s **a core part of our system design**.

### For plumbers and installers:

- Drop-in cartridge: Fits straight into WFD POE housings – no extra tanks or drain lines.
- No power or programming: Install it, flush it, and go.
- No salt runs: No ongoing salt handling for customers.
- Long media life: 1>3 years with 20 x 4.5 cartridge & correct pre-filtration, up to 7 years with media tank
- Happy customers: Better performance, lower running costs.

### For homeowners:

- Keeps calcium & magnesium in the water.
- Protects hot water systems, fixtures and appliances from scale.
- Environmentally friendly – no brine discharge.
- Low-maintenance – standard filter intervals only.

## Where DuraScale-X™ Shines

### Whole-of-home POE systems

Hard town water areas  
Bore water (with correct pre-treatment)  
New builds and high-end renovations

### Appliances & plant

Instantaneous and storage hot water systems  
Coffee machines & espresso equipment  
Ice machines, dishwashers, steamers

### Commercial & light industrial

Cafés and hospitality  
Office buildings and amenities  
High hot-water usage facilities

At WFD, we’ve built our systems around **DuraScale-X™** because we believe the future of water treatment is **high-performance, low-waste, and environmentally responsible**. Salt softeners had their place. DuraScale-X™ is what comes next.