

TECHNICAL FILTRATION GUIDE

3-Stage Filtration Science Inside Every BOTANVÈ Cartridge

WHY FILTER YOUR SHOWER WATER

UAE municipal and desalinated tap water is safe to use, but it is heavily treated with chlorine for disinfection and frequently carries elevated mineral hardness from desalination and ground-storage tanks. Hot shower water opens pores and is absorbed more readily through skin and inhaled as vapour than water you drink, which is why filtering specifically at the shower head matters.

THE 3-STAGE SYSTEM

STAGE 1 KDF-55 Media	<i>Kinetic Degradation Fluxion (copper-zinc alloy)</i> Uses a redox (reduction-oxidation) reaction to neutralise free chlorine on contact and inhibit bacterial/algae growth within the cartridge itself, extending the working life of the carbon stage downstream.
STAGE 2 Activated Carbon Fibre (ACF), 5µm	<i>High-surface-area carbon fibre rod</i> Adsorbs residual chlorine, chloramine by-products, organic compounds and fine sediment down to 5 micron. ACF's woven fibre structure offers significantly more surface area than granular carbon of the same volume, improving contact time at shower flow rates.
STAGE 3 Calcium Sulfate (Mineral) Balls	<i>Calcium sulfate / mineral ceramic blend</i> Softens water hardness by ion exchange and releases trace beneficial minerals back into the water flow, helping offset the dryness associated with hard water exposure on skin and hair.

Water passes through all three stages in sequence on every single pass — there is no bypass or shortcut path — so filtration performance is consistent from the first drop to the last litre of the cartridge's rated life.

PERFORMANCE SPECIFICATIONS

Parameter	Specification
Filter media	KDF-55 + 5µm Activated Carbon Fibre + Calcium Sulfate mineral balls
Filtration stages	3 sequential stages, single-pass
Particle filtration rating	5 micron (µm)
Free chlorine reduction	Up to 99% under standard test flow conditions
Hard water mineral reduction	Reduces scale-forming hardness via ion exchange
Heavy metal reduction (KDF stage)	Reduces dissolved metals incl. lead and iron, redox-based

Parameter	Specification
Cartridge rated life	Approx. 3 months, or 10,000 litres throughput — whichever comes first
Recommended inlet pressure	1.0–4.5 bar (BOTANVÈ includes an internal flow regulator)
Recommended inlet temperature	Up to 60°C continuous
Housing material	Premium ABS with stainless-steel face plate
Connection standard	Universal G1/2" (1/2" BSP) thread
Net unit weight	Approx. 360g (shower head unit)

Note: Reduction percentages reflect performance under standard laboratory flow-test conditions on representative source water and are typical, not guaranteed, values for every site. Actual performance varies with local water chemistry, flow rate, water temperature and cartridge age.

HOW TO READ YOUR FILTRATION PERFORMANCE

Filtration efficiency is highest in the first 70–80% of a cartridge's rated litre throughput, then tapers gradually as the KDF and carbon media approach saturation. This is normal and expected of all carbon/KDF-based filters, including this one — it is why BOTANVÈ recommends replacement on a fixed schedule rather than waiting for a visible drop in water quality.

WHAT THIS FILTER DOES NOT DO

- It is not a certified microbiological/pathogen barrier and does not replace municipal water treatment or make non-potable water safe to drink.
- It does not soften water to the degree of a whole-home ion-exchange softener system; it reduces scale-forming tendency at point of use.
- It is not rated for use with non-potable, well, or untreated tank water without prior testing.

WATER QUALITY FACTORS IN THE UAE CONTEXT

Factor	Relevance
Chlorine	Added by treatment authorities for disinfection; common cause of skin/scalp dryness and a chemical odour in hot shower water.
Water hardness	Varies by emirate and building storage tank condition; higher hardness contributes to limescale buildup and a 'film' feeling on skin and hair.
Rooftop storage tanks	Common in UAE villas/buildings; can elevate water temperature and sediment load reaching the shower line, both addressed by Stages 1–2.

CARE FOR CONSISTENT PERFORMANCE

Replace the cartridge on schedule (see the separate Cartridge Replacement Schedule document), avoid running the unit dry for extended periods, and periodically rinse the outer shower face under running water to clear external limescale — see the Warranty & Care Information document for full care instructions.