The WATER FILTRATION Guys – Water Filtration Systems Installation and Servicing

In South Africa, ensuring access to clean and safe water is crucial due to varying water quality across regions. Several home water filtration systems are available to address different contaminants and household needs. Here's an overview of the main types:

1. Whole-House Filtration Systems

- **Function:** Installed at the main water supply line, these systems filter all water entering the home, ensuring clean water for drinking, cooking, bathing, and laundry.
- **Common Features:**
  - **Sediment Filters:** Remove dirt, sand, and rust.
  - **Activated Carbon Filters:** Eliminate chlorine, bad tastes, and odours.
  - **UV Sterilizers:** Kill bacteria and viruses.
  - **Water Softeners:** Address hard water issues by removing minerals like calcium and magnesium.
- **Ideal For:** Homes using municipal or borehole water with concerns about multiple contaminants.

2. Under-Sink and Countertop Filters

- **Function:** Installed under the kitchen sink or placed on countertops, these filters purify water at a single point of use, typically for drinking and cooking.
- **Types:**
  - **Reverse Osmosis (RO) Systems:** Use a semi-permeable membrane to remove up to 99% of contaminants, including heavy metals and nitrates.
  - **Carbon Block Filters:** Effective against chlorine, volatile organic compounds (VOCs), and improving taste.
  - **Sediment Filters:** Trap larger particles like sand and rust.
- **Ideal For:** Households seeking high-quality drinking water without treating the entire home's water supply.

3. Faucet-Mounted and Pitcher Filters

- **Function:** Affordable and easy-to-install options that attach directly to taps or come as standalone pitchers.
- **Features:**
  - **Activated Carbon Filters:** Reduce chlorine, improve taste, and remove some contaminants.
  - **Ease of Use:** No professional installation required; filters need regular replacement.
- **Ideal For:** Renters or individuals seeking a simple solution for better-tasting drinking water.

4. Borehole Water Filtration Systems

- **Function:** Designed to treat water sourced from boreholes, which may contain minerals, bacteria, and other impurities.
- **Components:**
  - **Iron & Manganese Removal Filters:** Prevent staining and protect plumbing.
  - **UV Sterilizers:** Ensure microbiological safety.
  - **Water Softeners:** Address hardness caused by high mineral content.
- **Ideal For:** Properties relying on borehole water, common in rural and peri-urban areas.

5. Specialised Filtration Systems

- **Types:**
  - **Ultraviolet (UV) Purifiers:** Use UV light to disinfect water by killing bacteria and viruses.
  - **Ceramic Filters:** Employ porous ceramic material to remove bacteria and protozoa.
  - **Biosand Filters:** Utilize layers of sand and gravel to eliminate pathogens and suspended solids.
  - **Solar Water Disinfection (SODIS):** A method using sunlight to disinfect water, suitable for emergency situations or areas without access to conventional filtration systems.
- **Ideal For:** Specific needs such as microbiological safety, low-cost solutions, or off-grid applications.

Choosing the Right System

When selecting a water filtration system:

- **Assess Water Quality:** Conduct a water test to identify specific contaminants present in your water supply.
- **Determine Usage Needs:** Decide whether you need whole-house treatment or point-of-use filtration.
- **Consider Maintenance and Costs:** Evaluate the maintenance requirements and long-term costs associated with each system.

If you need assistance in selecting a specific system or have further questions, feel free to contact The WATER FILTRATION Guys.

Pressure in RO Holding Tank

A **Reverse Osmosis** (RO) storage (holding) tank contains a bladder, much the same as one you may find in a football, using the compressed bladder (air) to push purified water out when needed. Here's how the pressure works:

🔹 Empty Tank Pressure (Air Side Only)

- When the tank is **empty**, the internal air pressure (on the bladder side) should be between **6–8 psi** (roughly 0.4–0.6 atm).
- You can verify or adjust this with a standard pressure guage (bike/auto tire).

🔹 Full Tank Pressure (With Water in It)

- As the tank fills, water compresses the bladder (air). When **full**, the pressure in the bladder (tank) typically rises to about **30–40 psi**, or approximately two-thirds of your feed water pressure. For example, if municipal feed pressure is ~60 psi, a full tank will reach ~40 psi.

🔹 Why This Matters

- **Empty pressure (6–8 psi)** is essential to ensure the bladder expands properly and stores water.
- **Full pressure (~30–40 psi)** triggers the system's automatic shutoff (by creating back-pressure equal to approximately two-thirds of feed pressure)

✅ Quick Checklist for Your RO System:

Step	Action	Target Pressure
1	Drain tank fully (open RO faucet)	–
2	Measure at air valve with pressure gauge	**6–8 psi** when empty
3	Repressurise if needed using a bike pump or compressor	Not above 8 psi
4	Let the tank refill; monitor that full tank reaches ~30–40 psi (about 2/3 of feed pressure)	✓

📌 Summary

- **Empty tank (air only):** 6–8 psi
- **Full tank (water + air):** roughly **30–40 psi**, depending on feed pressure (about ⅔ of feed pressure)

5-Stage RO Water Filtration System with Pressure Booster Pump – Installation Video

https://youtu.be/Pz0wGxgVJsw

💬 **Contact us today for a free water consultation and quote.**

📞 Clean water starts with a conversation.

The WATER FILTRATION Guys

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