



The **WATER FILTRATION** Guys - Guideline on Filter Cartridge Types & Replacement Cycles

Selecting the right filter cartridge to suit your water conditions is essential.

In this guide we explain the various filter cartridge types and their applications.

List of Filter Cartridge Types

50G Reverse Osmosis (RO) Membrane

Activated Coconut Carbon

Carbon Block Cartridge

Granular Carbon Cartridge

Half Spun Fibre / Half GAC Cartridge

Net Filter Cartridge

Poly Prop Cartridge

Poly Prop Grooved Cartridge

Poly Prop Spun Fibre Cartridge

Siliphos CartridgeSiliphos Balls

Woven Cartridge

Breakdown of Filter Cartridge Types & Applications

What follows is a breakdown of each cartridge type and what it does.

Reverse Osmosis (RO) Membrane (50 GPD)

Reverse Osmosis Filter: Semi-permeable membrane that removes dissolved solids, heavy metals, fluoride, microplastics, etc., by producing purified permeate and rejecting contaminants to the drain through flushing, typically in a 1:4 ratio of drinking water to waste water. '50 GPD' refers to a 50 gallons-per-day capacity.



Activated Coconut Carbon

Granular Activated Carbon (GAC): Made from coconut shells, offering huge surface area for adsorbing chlorine, VOCs, tastes, and odours. Often used pre-RO or post-RO.

Carbon Block Cartridge

Compressed Activated Carbon: Tight block of powdered carbon—offers better removal of chlorine, VOCs, lead, cysts, and provides finer filtration compared to GAC, with higher efficiency and longer life.

Granular Carbon Cartridge

Loose-particle Activated Carbon: Offers high flow but less removal efficiency. Ideal for taste/odour/chlorine reduction, often paired with sediment stages.

Half Spun Fibre / Half GAC Cartridge

Sediment + Carbon Combo: One half contains spun polypropylene fibres to trap sand/silt, the other contains GAC for chemical adsorption—two-stage filtering in one cartridge.

Net Filter Cartridge

Protective Sediment Layer: Typically a mesh (nylon or polypropylene) that captures larger particles to protect finer filters or equipment downstream.

Polypropylene Filter Cartridge

Sediment-only Filtration: Usually spun or wound polypropylene; removes sediment like sand, silt, and rust; pore sizes vary (e.g., 1–50 µm).

Poly Prop Grooved Cartridge

Enhanced Sediment Filter: Grooved polypropylene offers deeper filtration, more dirt capacity, less pressure loss vs. standard spun versions.

Poly Prop Spun Fibre Cartridge

Fine Sediment Filtration: Uniform polypropylene fibres perfect for filtering out fine particles from water.



Siliphos Cartridge

Encapsulated Anti-Scalant: Like the balls but in cartridge form, it releases siliphos to inhibit scale and corrosion while being easy to replace in a housing.

Siliphos Balls

Anti-Scalant & Corrosion Inhibitor: Made of food-grade sodium polyphosphate glass spheres, these slowly release polyphosphates that sequester hardness minerals (Ca^{2+} , Mg^{2+}) and form protective iron-phosphate films on pipes and media, preventing scale, corrosion, rust, and "brown water" in plumbing/RO systems. Effective life: 3–6 months depending on hardness .

Woven Cartridge

Durable Sediment Trap: Made from woven materials (e.g., polyester), washable, and suitable for capturing larger debris and protecting downstream filters.

Typical Filtration Order in Multi-Stage Systems:

1. Poly Prop / Net / Woven – for larger sediment particles
2. Half Spun Fibre / Spun / Grooved – for finer sediment particles
3. Carbon Block or GAC – for chemical adsorption
4. Siliphos (optional) – an anti-scalant
5. RO Membrane – for dissolved solids
6. Post-Carbon – for final taste/odour polish



Water Filtration Cartridge Replacement Recommendations

Recommended replacement intervals for each type of cartridge:

Sediment-type Cartridges

Polypropylene (Spun Fibre, Grooved), Net Filter, Woven

- For typical domestic use: **3–12 months**
- High sediment or well water: **every 3–6 months**

Carbon-based Filters

Granular Activated Carbon (GAC) & Fluid-Fill stages (Activated Coconut Carbon, Carbon Block)

- **6–12 months**, occasionally up to a year
- Consider **annually** for longevity systems

Carbon Block Cartridge

- Similar schedule: **6–12 months**, sometimes up to **12 months**

Combined or Sediment + Carbon Cartridges

Half Spun Fibre / Half GAC

- Sediment side: **3–12 months**
- Carbon half: **6–12 months** – Replace entire cartridge within this window based on whichever component is exhausted.

Specialty Cartridges

Siliphos Cartridge & Siliphos Balls (anti-scalant)

- Typically lasts **3–6 months** under average hardness; may need replacement if system efficiency drops or scale appears

Reverse Osmosis Components

50 GRO Membrane (RO Membrane)

- **2–5 years**, average around **2–3 years** in home use

RO Pre-filters (Sediment & Carbon)

- **Sediment pre-filter: 6–12 months**
- **Carbon pre-filter: 6–12 months**

Post-Carbon / Polishing Filters (if used after RO membrane)

- **Every 12 months**



Summary Table

Cartridge Type	Replacement Interval
Polypropylene (Spun/Fibre/Grooved)	3–12 months (frequent 3–6m)
Net Filter / Woven	3–12 months
Granular Carbon / Activated Carbon	6–12 months
Carbon Block	6–12 months
Half Spun Fibre / Half GAC	6–12 months total
Siliphos Balls / Cartridge	~3–6 months
RO Sediment & Carbon Pre-filters	6–12 months
RO Membrane (50 GPD)	2–5 years (typically 2–3y)
RO Post-Carbon / Polishing	12 months

Therefore, it is safe to assume that changing/replacing filter cartridges every six (6) months will provide adequate protection to you and your family with regard to the quality of drinking water in your home.

Signs You Need to Replace Sooner

- Noticeable drop in flow rate or **water pressure**
- Musty taste or **off odours**
- Visible **sediment, discoloration**, or system clogging
- Increase in **TDS** for RO indicates membrane aging

Best Practices for Cartridge Maintenance

- Record installation dates and set **calendar reminders**
- Replace cartridges in time zone: sediment → carbon → speciality → RO → post-carbon
- Monitor system performance and **err on side of caution** if water quality is poor or system heavily used.



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

<https://youtu.be/Pz0wGxgVJsw>

