1. Know your drinking water

Only 8% of India uses water purifiers.

1.1 It’s important to know that water that looks and smells clean is not always clean.

<table>
<thead>
<tr>
<th>Drinking Water Source</th>
<th>Probable Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Direct from tap (Municipal supply)</td>
<td>Chlorine, microbes, iron, lead (from pipes)</td>
</tr>
<tr>
<td>b. Direct from borewell or hand pump</td>
<td>Heavy metals, fluoride, arsenic, industrial and agricultural contaminations, etc.</td>
</tr>
<tr>
<td>c. Filter the supply or underground water using gravity/canister-based filters</td>
<td>Microbial contamination, algae, microplastics</td>
</tr>
<tr>
<td>d. Local water carts (20 L water bucket)</td>
<td>Algae, organic and particulate matter</td>
</tr>
<tr>
<td>e. Underground &amp; Overhead storage</td>
<td></td>
</tr>
</tbody>
</table>

2. 4 Steps for buying a water purifier

2.1 What is a water purifier?
A water purifier is a device that removes undesirable chemicals, biological contaminants, and suspended solids from water ensuring you get pure, clean and safe drinking water.

2.2 What is TDS?
Total Dissolved Solids (TDS) refers to minerals, salts, metals, etc., dissolved in water. It is measured in ppm (parts per million).

2.3 What is hardness?
- Hardness is a measure of dissolved calcium and magnesium in the water. While TDS is the measure of all dissolved solids.
- Hence, hardness is a part of TDS, and so, the more the hardness of water, the more the TDS will be.

2.4 What does heavy metal contamination mean?
It is the excessive presence of metals like lead, cadmium, chromium, mercury, arsenic, etc., in water.

2.5 Step 4 - Decide where to place it

2.6 3 Additional points to be considered

2.7 Step 2 - Choose the technology
Here’s how a water purifier works

<table>
<thead>
<tr>
<th>Impure water inlet</th>
<th>Purified water outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre - purification</td>
<td>Primary Technology</td>
</tr>
<tr>
<td>Pre-filter / sediment filter</td>
<td>RO</td>
</tr>
<tr>
<td>Pre-carbon filter</td>
<td>SCMT</td>
</tr>
<tr>
<td>Post-carbon filter</td>
<td>Mineral cartridge</td>
</tr>
<tr>
<td>Post Treatment</td>
<td>UV LED in tank</td>
</tr>
</tbody>
</table>

2.8 Step 3 - Choose the storage capacity

2.9 Step 1 - Find out the source of water at home

<table>
<thead>
<tr>
<th>Source of water in your home</th>
<th>Probable TDS range* (PPM)</th>
<th>Suggested main technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal supply</td>
<td>&lt;500</td>
<td>UV/UV+ or RO/RO+</td>
</tr>
<tr>
<td>Municipal supply + borewell</td>
<td>&gt;500</td>
<td>RO/RO+</td>
</tr>
<tr>
<td>Municipal supply + water tanker</td>
<td>&gt;500</td>
<td></td>
</tr>
<tr>
<td>Municipal supply + hand pump</td>
<td>&gt;500</td>
<td></td>
</tr>
<tr>
<td>Borewell, water tanker, hand pump</td>
<td>&gt;500</td>
<td></td>
</tr>
</tbody>
</table>

2.10 Sediment Filter/Pre-filter
- It is generally an external filter, put separately on the wall. It is included with all A.O. Smith water purifiers.
- It removes suspended solids like dirt particles, sand, rust, etc., from water.
- It is placed before the water enters the main filter.

2.11 Pre-carbon Filter
- This filter provides treatment for organic chemicals, VOCs, pesticides, herbicides, and chlorine & its by-products.
- It removes odour and improves the taste of water.

2.12 Ordinary RO+ UV Water Purifiers
- This technology bypasses some water directly to UV, without passing it through the RO membrane.
- Water bypassing the RO membrane may contain harmful substances like TDS, lead, arsenic, fluoride, pesticides and other chemicals.
- Long term usage of a bypass system can lead to severe health issues.

2.13 A.O. Smith Water Purifiers - 100% RO
- There is no bypass, 100% water passes through the RO membrane.
- All harmful substances get removed.

2.14 Selection of a product
- A.O. Smith’s RO membrane has a design patented Side Stream RO technology.
- Patent RO membrane and ART Max help ensure protection and good life of RO membrane while also reducing water wastage.
**2.3 D - Post Treatment**

**Post Carbon Filter**
This removes the bad taste and odour which improves the taste of the water.

**Mineral Filter**
This filter balances the pH value of the water from 7±0.5 by adding essential minerals like calcium and magnesium.

**In-tank Protection**
UV LED in tank
Some water purifiers have UV lamp in the tank, this helps keep the purified water stored in tank fresh and pure by activating UV LED inside the tank to prevent microorganisms from growing.

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**2.5 - Step 4**

**b. Water Saving**
- In RO technology, impure water is rejected out of the RO membrane upon purification and the amount of pure water that passes through the RO membrane is the water recovered.
- Water recovery measures the percentage of water that passes through the RO membrane and is recovered as pure water, which is the percentage of water saved.
- 90% of the RO water purifiers in the market recover only one glass of pure water to every 4 glasses of input. So, the recovery is only 25%.

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**2.4 - Step 3**

**Choose the storage capacity**
Generally, the storage capacity varies from 0 to 10 litres.

**2.6 - 3 Additional points to be considered**

**a. Value Added Features**

**Hot Water:**
- Hot water helps boost immunity through different benefits like relief from nasal congestion and sore throat, it also helps enhance blood circulation, digestion and helps detox your body.
- A. O. Smith 28, 29 and 31 models allow you to dispense mineralized hot water at the press of a button. You can choose warm or hot, as per your preference at 45°C or 80°C.

**Night Assist:**
- This feature allows you to use your purifier in the dark without switching on the lights, moreover, it makes the water purifier look really nice.

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**2.7**

**RO+SCMT - Silver Charged Membrane Technology**
- It is a patented design by A.O. Smith.
- It consists of a membrane charged with silver particles. This technology is more effective than UV, UF and MF, as it not only removes bacteria, virus, cysts but also colloids, particulates and endotoxins.

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**Filtration Technology**

<table>
<thead>
<tr>
<th>SCMT</th>
<th>UF</th>
<th>MF</th>
<th>UV</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**2.8**

**RO+UV - UV Technology**
UV lamp filter is also used as a secondary source of purification along with RO. It uses the same mechanism as described above.

**UF - Ultrafiltration**
It is a type of membrane filter that removes cysts, bacteria, etc., but not all viruses and phosphates.

**MF - Microfiltration**
This also is a type of membrane filter having pore size bigger than UF. It does not remove any viruses, colloids or phosphates.

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**A. O. Smith Green Series water purifiers ensure that you not only take care of your family but also your planet. Its patented Advanced Recovery technology helps you save 9000L of water annually.