

# Upgrade Machinery

## Guidelines to Convert Normal RO Plants into Alkaline Water Systems

### 1. Upgrade Objective

- Convert RO-treated water into alkaline, mineral-balanced water
- Improve taste, hydration quality, and usability
- Add value without full plant replacement
- Enable compatibility with commercial, industrial, or franchise models

### 2. Mandatory Upgrade Components

- Install K2 / Krispy Plus post-treatment filter after RO permeate
- Select filter size based on RO capacity
- Ensure correct flow rate to achieve pH 8.5 – 9.5
- Install manual pH controller for stabilization

### 3. Pre-Treatment Review (Recommended)

- Install pre-carbon filter (1100 iodine value)
- Add de-chlorinator filter if chlorine exceeds 1 PPM
- Ensure proper backwash and drainage arrangement
- Replace exhausted or undersized media

### 4. Electrical & Control Modifications

- Verify electrical load for additional components
- Ensure proper earthing and panel protection
- Integrate pH monitoring instruments if required
- No major electrical overhaul generally required

### 5. Initial Setup & Stabilization Protocol

- Minimum 7-day run-in period after installation
- Operate system using manual pH controller
- Monitor pH, taste, clarity, and ORP trends

### 6. Performance Expectations After Upgrade

- Improved water taste and mouthfeel
- Stable alkaline output
- Enhanced mineral balance
- Minimal pressure drop when correctly sized

## 7. Upgrade Feasibility Conditions

- Existing RO plant must be mechanically sound
- Pumps and membranes should be functional
- Electrical system must be safe and compliant
- Adequate space for post-treatment installation

## Upgrade vs New Plant Comparison

Upgrade Existing RO Plant	Install New Plant
Lower investment	Higher capital cost
Faster implementation	Longer execution time
Reuse existing assets	Complete replacement
Ideal for expansion	Ideal for greenfield setup

**Important Note:** Final upgrade configuration must be confirmed after site inspection, water analysis, and capacity evaluation to ensure reliable performance and warranty compliance.