

# Repair or Replace?

## Making the Call for Your Submersible Pump

**Submersible pumps** are critical assets in wastewater, stormwater, and groundwater applications. When performance declines, utilities and operators must determine whether repairing the existing unit or replacing it with a new pump will deliver the best long-term value. The decision depends on mechanical condition, hydraulic performance, age, operating environment, and lifecycle cost—not just the price of parts.

### Common Indicators of Pump Deterioration

Submersible pumps rarely fail without warning. Performance, efficiency, and mechanical condition will typically show measurable degradation before a major outage occurs. Look for the following indicators of pump deterioration:

- **Reduced flow or head** compared to original duty point
- **Frequent clogging** or reduced solids-handling capability
- **Excessive vibration or noise**
- **Increasing power consumption** or reduced efficiency
- **Seal failures**, moisture intrusion, or persistent leakage
- **Bearing wear** leading to overheating or shutdowns
- **Motor winding deterioration** or insulation failures
- **Corrosion or abrasion** from harsh wastewater or solids

When these indicators appear, a structured evaluation helps determine the most cost-effective path.

### When Repair May Be the Choice

Repairing an existing submersible pump can be the most practical and cost-effective solution when the unit's condition, age, and failure type support a reliable return to service. Repair may be the right choice when:

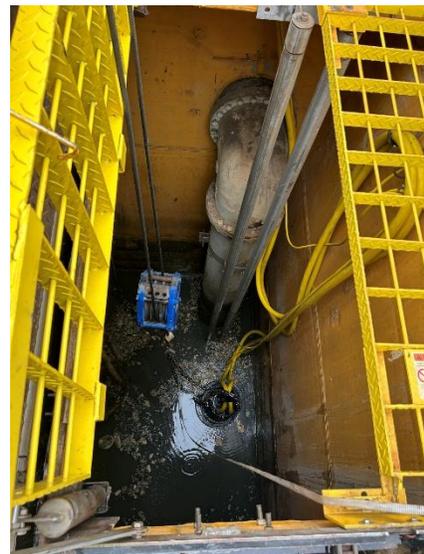
#### Mechanical Issues Are Isolated and Predictable

Repairs make sense when problems are limited to replaceable, normal-wear components:

- Seals
- Bearings and wear rings
- Impellers with minor erosion
- Power cable replacement
- Motor moisture alarms or minor electrical faults

#### Pump Age Is Moderate

- The unit is still within a reasonable portion of its expected service life.
- No major history of repeated failures.



### **Repair Cost Is Low Relative to Replacement**

Repair is typically a good option when the cost is substantially lower than replacing the pump and the repair is expected to restore meaningful remaining service life.

### **Existing Hydraulics and Duty Point Are Still Correct**

If the system conditions have not changed and the pump still fits the application, repairing will restore full performance.

### **Lead Times Demand a Quick Turnaround**

For critical stations, a repair may offer the quickest return to service when new units have long delivery times.

### **Opportunity to Integrate Updated Technologies**

Repairs can also provide a chance to incorporate newer technologies that improve performance and long-term reliability. Examples include:

- Upgraded motor designs that increase efficiency and reduce energy consumption
- Advanced surface coatings that enhance corrosion and abrasion resistance
- Improved wear materials that extend component life
- Enhanced monitoring or protection features that support proactive maintenance

These updates can restore the pump to dependable operation while also delivering measurable gains in efficiency, durability, and lifecycle value.

### **When Replacement Is the Better Option**

Replacement is often the most practical and cost-effective solution when a submersible pump's condition, age, or performance limitations prevent a reliable return to service. Consider replacing a pump when:

#### **Extensive Corrosion, Abrasion, or Casing Damage**

Severe damage to the hydraulic end or motor housing cannot be reliably repaired. Cracks, corrosion, or safety-standard failures put performance and property at risk. Replacing the pump ensures safety and long-term reliability: protection comes first, cost second.

#### **Repeated Failures or Chronic Clogging**

A history of recurring issues signals that:

- The pump may be undersized or oversized.
- The hydraulics may not suit modern wastewater solids.
- Efficiency has degraded beyond recoverable levels.

#### **Pump Is Near End of Expected Service Life**

Submersible wastewater pumps are designed for long-term operation, but like all equipment, their performance decreases over time. When degradation starts occurring in the later stages of a pump's service life, replacement may offer better long-term value than repeated repairs.

#### **System Conditions Have Changed**

Replacement should be considered when:

- Wet well conditions differ from original design
- Flow or head requirements have changed
- Higher-efficiency, clog-resistant hydraulics are now available



## Energy Savings Justify Upgrading

Modern submersible pumps can deliver:

- Improved hydraulic efficiency
- Better solids-handling impeller designs
- Optional IE3/IE4 motor efficiency
- Monitoring and smart control integration

Energy savings or reduced maintenance can quickly offset the investment in a new unit.

## Lifecycle Cost Considerations

A replacement often provides advantages that repairs cannot match:

Cost Factor	Repair	Replace
Upfront Cost	Lower	Higher
Expected Remaining Life	Moderate	Full
Efficiency Gains	Possible, dependent on repair	High
Maintenance Reduction	Limited	Significant
Warranty Coverage	Dependent on service provider	Full new warranty
Opportunity for Modernization	Yes	Yes
Clogging Resistance	Same as original	Improved with modern hydraulics

Lifecycle cost should account for:

- Energy usage
- Unplanned downtime
- Labor for pulling and reinstalling pumps
- Rental bypass pumping
- Service frequency

## A Simple Decision Checklist:

Consider Repair If:	Consider Replacement If:
Repair is relatively inexpensive compared to a new pump	Repair cost is high relative to replacement cost
Pump age is still within its expected service life	Pump is near the end of its service life
Duty conditions remain accurate	Chronic clogging or performance loss persists
Downtime needs to be minimized	System flow or solids loading has changed
Failure is component-level and the motor is healthy	Energy or reliability gains justify an upgrade

## Wilo is Your Solutions Provider

**Wilo** supports customers at every stage of pump lifecycle management. Whether you need genuine **replacement parts** to extend the life of your existing submersible pumps or are evaluating a full pump replacement, Wilo provides reliable, high-quality solutions tailored to your application. Our engineering expertise, **extensive product range**, and global service network ensure optimal performance, efficiency, and safety, helping you minimize downtime and maximize value. Wilo's **Factory Aftermarket Service Centers** provide certified repairs, performance testing, and warranty support to keep your systems operating with confidence.

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