

# ■ Troubleshooting Guide: Pump Keeps Tripping the Breaker

## 1. Safety First

- Switch off the main breaker.
- Avoid touching exposed wires or wet panels.
- If burning smell or smoke is present, stop immediately.

## 2. Common Causes and Fixes

### 2.1 Pump Motor Overload

**Why:**

- Blocked pipework, clogged filter, closed valve.
- Worn bearings causing high amps.
- Incorrect pump size.

**Fix:**

- Open valves, clean filters, remove blockages.
- Repair or replace worn motor components.

### 2.2 Electrical Short Circuit

**Why:**

- Damaged insulation, moisture, loose wires, burnt capacitor.

**Fix:**

- Replace burnt wiring or capacitors.
- Dry moisture, repair windings.

### 2.3 Incorrect Breaker Size

**Fix:** Match breaker size to pump amp rating.

### 2.4 Faulty Pressure Tank (Booster Pumps)

**Fix:** Repressurise or replace the tank or bladder.

### 2.5 Pump Seized or Jammed

**Fix:** Remove pump, clean impeller, remove debris.

### 2.6 Low Voltage or Voltage Drop

**Fix:** Upgrade cable size, use stabiliser/VFD, repair supply issues.

## 2.7 Faulty Motor Capacitor

**Fix:** Replace capacitor with correct  $\mu\text{F}$  rating.

## 2.8 Water Ingress

**Fix:** Dry components, replace wet wiring, reseal glands.

## 3. Diagnostic Checklist

- Does the breaker trip instantly?
- Is the pump humming?
- Any burning smell?
- Recent storms or electrical work?

## 4. Humanised Explanation

A breaker trips when the pump works too hard or has an electrical issue. It's a safety guard designed to protect your motor from burning out.

## 5. When to Call a Technician

- Immediate tripping
- Burning smell
- Swollen capacitor
- Low voltage
- Water inside motor
- Pump seized

## 6. SEO Tags

pump tripping breaker, pump keeps tripping, borehole pump trips power, booster pump overload, pump electrical fault, pump motor overheating, low voltage pump problem, pump capacitor failure, irrigation pump not starting