

# ■ Troubleshooting Guide: Pump Surging On and Off (Short Cycling)

## 1. Safety First

- Switch off the power supply to the pump.
- Do not touch live wires or wet electrical connections.
- Stop immediately if you see water near electrical components.

## 2. Causes of Pump Surging (Short Cycling) & Fixes

### 2.1 Faulty or Waterlogged Pressure Tank

#### Symptoms:

- Pump starts every 5–20 seconds
- Tank feels full and heavy
- Water comes out of Schrader valve

#### Fix:

- Check and recharge tank pre-pressure
- Replace bladder or full tank if necessary

### 2.2 Incorrect Pressure Switch Settings

#### Symptoms:

- Pump switches on/off too fast
- Fluctuating pressure gauge

#### Fix:

- Reset cut-in/cut-out pressures
- Clean switch contacts
- Replace worn pressure switch

### 2.3 Blocked or Partially Closed Valves / Filters

#### Fix:

- Fully open valves
- Clean or replace inline filters
- Flush debris from system

### 2.4 Air in Pipeline

#### Fix:

- Bleed air from system
- Check for suction leaks
- Ensure borehole pump is below water level

### 2.5 Suction Line Leaks

**Fix:**

- Tighten fittings
- Replace cracked suction pipes
- Replace O-rings and seals

## 2.6 Water Supply Interruption (Boreholes/Irrigation)

**Fix:**

- Lower pump
- Install dry-run protection
- Reduce flow to match yield

## 2.7 Faulty Non-Return Valve

**Fix:**

- Replace check valve
- Install a second NRV
- Clear debris affecting sealing

## 2.8 Oversized Pump or Undersized Tank

**Fix:**

- Increase tank volume
- Install VSD/pressure controller

## 3. Diagnostic Checklist

- Check pressure tank air pressure
- Check pressure gauge fluctuation
- Inspect pressure switch settings
- Look for blocked filters or closed valves
- Check for signs of air in pipeline
- Test NRV for pressure loss
- Confirm stable water supply

## 4. Humanised Explanation

When a pump keeps switching on and off, it usually means it cannot stabilise pressure. The system may have a faulty tank, blocked pipes, leaks, or a problem with water supply. Short cycling is not only irritating — it can wear out the pump motor quickly.

## 5. When to Call a Technician

- Surging continues after recharging tank
- Pressure drops instantly
- Pump becomes noisy or vibrates
- Borehole levels fluctuate
- Electrical issues are present

## 6. SEO Tags

pump surging, pump short cycling, booster pump switching on and off, borehole pump pulsing, pump keeps switching on, pressure tank problem, pump pressure switch issue, irrigation pump surging, water pump cycling, pump not holding pressure