## Problem | Possible cause | Corrective action
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**Objectionable odours from filter** | Excessive organic load causing anaerobic decomposition in filter | Calculate loading. Reduce loading by putting more bio-filters in service. Increase COD removal in primary settling tanks by using all tanks available and minimizing storage of primary sludge in tanks. Encourage aerobic conditions in treatment units ahead of the bio-filter by adding chemical oxidants such as chlorine, potassium permanganate, or hydrogen peroxide, or by pre-aerating, recycling plant effluent, or increasing air to aerated grit chambers. Enforce industrial waste ordinance, if industry is source of excess load. Scrub bio-filter off-gases. Expand the plant.

**Insufficient ventilation** | | Increase hydraulic loading to wash out excess biological growth. Remove debris from filter effluent channels and under drains. Remove debris from top of filter media. Unplug vent pipes. Reduce hydraulic loading if underdrains are flooded. Install fans to induce draught through filter. Check for filter plugging caused by breakdown of media.

**Ponding on filter media** | Excessive biological growth | Reduce organic loading. Increase hydraulic loading to increase sloughing. Flush filter surface with high-pressure stream of water. Chlorinate influent for several hours. Maintain 1 to 2 mg⁻¹ residual chlorine. Flood filter for 24 hours. Shutdown filter until media dries out.

**Poor media** | | Replace media.

**Poor housekeeping** | Keep area surrounding the filter mowed. Remove weeds and shrubs.

**Rotating distributor slows down or stops** | Insufficient flow to turn distributor | Increase hydraulic loading.

**Clogged arms or orifices** | | Flush out arms by opening end plates. Flush out orifices.

**Clogged distributor vent pipe** | | Remove material from vent pipe by rodding or flushing. Remove solids from influent wastewater.

**Bad main bearing** | | Replace bearing.

**Distributor arms not level** | | Adjust guy wires at tie rods.

**Distributor rods hitting media** | | Level media or remove some media.

**Dirt in main bearing oil** | Worn bearing dust seal | Replace seal.

**Worn turntable seal or seal plate** | | Replace seal. Inspect seal plate and replace if worn.

**Condensate not drained regularly or oil level too low** | | Check oil level, drain condensate, and refill if needed.

**Water leaking from distributor base** | Worn turntable seal | Replace seal.

**Leaking expansion joint between distributor and influent piping** | | Repair or replace expansion joint.

**Insufficient flow from Recirculation pumps** | Excessive head | Open closed or throttled valves. Unplug distributor arms, headers and laterals. Unplug distributor nozzles and orifices. Unplug distributor vent lines.

**Pump malfunction** | Adjust or replace packing or mechanical seals. Adjust impeller to casing clearance. Replace wear rings if worn excessively. Replace or resurface worn shaft sleeves. Check impeller for wear and entangled solids. Remove debris. Check pump casing for air lock. Release trapped air. Lubricate bearings. Replace worn bearings.


### References: