

CARE OF NOZZLES



Nozzle Maintenance

Spray nozzles require regular inspection, maintenance and cleaning just like any other type of production equipment. The amount of maintenance required depends on your particular process and environment.

Generally spray nozzles exceeding 10% of flow rate should be replaced. A visual check should be carried out for physical damage and

spray patterning every scheduled shutdown or sooner, depending on the chemicals being used.

1. Clogging

Dirt or other particles becoming lodged in the orifice which causes flow restriction and affects the spray patterning.

2. Erosion/Wear

Enlarging of the nozzle orifice due to the gradual removal of material over a

direct effect on flow, pressure and the spray pattern will deteriorate.

3. Corrosion.

Breakdown of the nozzle material due to the surrounding environment usually due to chemical attack.

4. Temperature Damage

Excess heat exposure of nozzle material not suitable for high temperature applications will result in a significant reduction in performance.

5. Caking.

Build up of dried solids around the orifice or surface of the nozzle due to over-spray or evaporation, will reduce nozzle performance by obstruction.

6. Assembly Mistakes

Following a cleaning process the nozzles may not be put back together correctly with lost gaskets, missing swirl plates or over-tightening being the main problems. This results in leaking or poor spray patterning.

Accidental Damage

Orifice damage caused through scratching or cleaning by using the incorrect tools may cause flow and patterning problems.

Problem	Probable Causes	Remedy
Restriction to flow	Dirt or other Particles becoming lodged in nozzle orifice Caking as a build up of dried solids. Accidental Damage caused through careless cleaning or reassembly	Clean with an air line or soak in appropriate solution overnight Clean Filter Replace Replace
Spray patterning incorrect	Dirt or other particles lodged in the nozzle orifice General nozzle wear Temperature Corrosion Accidental Damage	Clean with an air line or soak in appropriate solution overnight Clean Filter Replace Decrease/Increase temperature Increase/Decrease pressure Replace Replace
Increased nozzle flow	General nozzle wear Corrosion Temperature Accidental Damage	Replace if above 10% of Theoretical flow rate Replace Lower/Increase temperature Increase/Decrease pressure Replace