Five-Step Nozzle Wear Checklist

Use this checklist to help detect worn nozzles. Do a recheck at frequent intervals so you can catch wear problems early.

✓ **Flow rate**
For centrifugal pumps:
Monitor flow meter readings to detect increases. Or, collect and measure the flow from the spray nozzle for a given period of time at a specific pressure. Compare these readings to the flow rates listed in the manufacturer’s catalog or compare them to flow rate readings from new, unused spray nozzles.

For positive displacement pumps:
Monitor the liquid line pressure for decreases; the flow rate will remain constant.

✓ **Spray pressure** (in nozzle manifold)
For centrifugal pumps:
Monitor for increases in liquid volume sprayed. The spraying pressure is likely to remain the same.

For positive displacement pumps:
Monitor pressure gauge for decreases in pressure and reduction in impact on sprayed surfaces. The liquid volume sprayed is likely to remain the same. Also, monitor for increases in pressure due to clogged spray nozzles.

✓ **Spray pattern**
Visually inspect the spray pattern for changes. Check the spray angle with a protractor. Measure the width of the spray pattern on the sprayed surface. If the spray nozzle orifice is wearing gradually, you may not detect changes until there is a significant increase in flow rate. If uniform spray coverage is critical in your application, request special testing from your spray nozzle manufacturer.

✓ **Nozzle alignment**
Check uniformity of spray coverage of flat spray nozzles on a manifold. Spray patterns should be parallel to each other. Spray tips should be rotated 5° to 10° from the manifold centerline.

✓ **Product quality/application results**
Check for uneven coating, cooling, drying, cleaning and changes in temperature, dust content and humidity.