

Gardner Denver Nash Failure Analysis



Cavitated Rotor

Failure Due to Cavitation

Cavitation is caused by the presence of gas bubbles under high pressure being suddenly subjected to a low pressure. This causes the bubbles to burst (implode) and release energy to the metal surface, which causes the fracture of small, minute pieces of metal from the base casting.

Possible Causes

Seal Water/Liquid Compressant

- Incorrect seal water (liquid compressant) rates
- Operation of liquid compressant above its vapor pressure
- liquid compressant saturated with minute gas bubbles under pressure

Blocked Discharges

- Discharge port, pump outlet or drain blocked

Improper Clearances

- Clearance wide on pumps operating at high vacuum levels

Improper Working Pressure

- Working beyond maximum operating pressure (vacuum or compressor)

Possible solutions

Seal Water/Liquid Compressant

- Ensure proper seal water/compressant rate
- Lower vacuum
- Change liquid compressant
- Remove bubbles from liquid compressant

Blocked Discharges

- Unblock all ports, outlets and drains

Improper Clearances

- Ensure proper clearance is maintained

Improper Working Pressure

- Lower operating pressure

If you have any further questions or would like more information, please contact the number at right.

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