CASE STUDY

Problem:

Shock and back pressure sends 2 1/2" check ball into 2" hole causing weekly pump repair.

R. A. ROSS & ASSOCIATES, INC.
2231-A Ampere Drive, Louisville, KY 40299

Air operated Diaphragm pump ball check was deformed and pushed through seat into fluid cap causing pump failure.

The R. A. Ross team relieves shock and back pressure problems

- Our job is to help keep you up and running.
- R. A. Ross & Associates offers customers over 100 years combined experience with pumps and repairs.

SITUATION:

A local industrial plant which makes metal flake pigment for the automotive paint and cosmetic industry was having a real issue with some air operated diaphragm pumps. The pumps were 2" pump running well within their range of operation, but would experience a tremendous shock of back pressure when the system was shut down. The product being pumped was a mineral spirits and aluminum powder slurry at ambient temp.

We were receiving pumps weekly that would have the check ball lodged into the fluid cap of the pump. This was a very strange sight to see as the check ball is 2½" in dia. and the hole in which it was forced through was only 2" in dia. The balls were a Nitrile rubber and not easily deformable.

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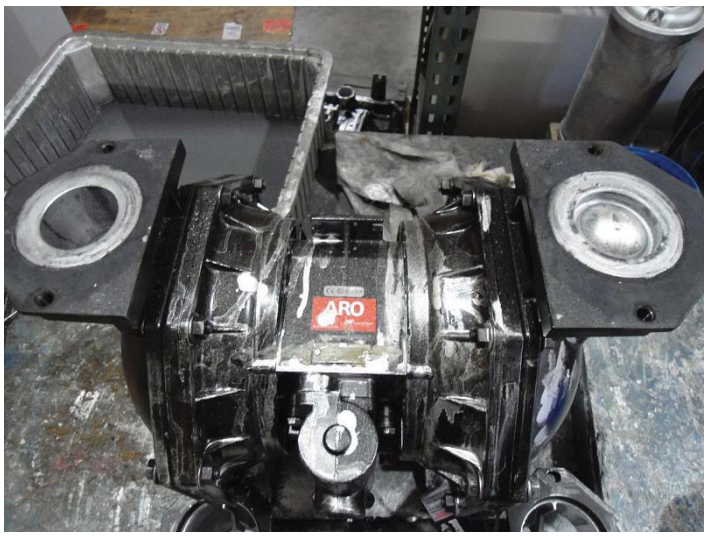
To remove the balls from the fluid caps of the pump we had to drill them out. The balls could not be driven out with a punch and hammer and the use of a hydraulic press risked deformation of the fluid cap itself.

There were no signs of chemical attack or deformation due to temperature. R. A. Ross recommended the use of a Blacoh pulsation dampener to absorb the shock from the system that we suspected was forcing the balls into the diaphragm chamber.

After the installation of the dampener, which has been nearly 6 months to date, the pump has not been touched. Repairs and downtime from pump change outs have been eliminated on this line and the customer is looking to install the dampeners in other locations to save wear and tear on the pumps and piping system.

We love tackling and solving the toughest problems. Put our knowledge, training and skills to work for you today. Call us...we'll keep whatever you process flowing.

View of fluid end cap (Rotated 180°) where ball was pushed through seat into end cap.



Pump view with discharge manifold removed showing right ball check pushed through seat into fluid end cap.

CONTACT US

We enjoy solving problems like the case study above. Call us and put our team to work today on solving any processing problems you have.

- Pumps
- Blowers
- Filters
- Mixers
- Tanks
- Vacuum Pumps
- Mechanical Seals
- Heat Exchangers
- Repairs

R. A. ROSS & ASSOCIATES, INC.

Keeping process flowing since 1985

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