

R. A. ROSS & ASSOCIATES, INC.

CASE STUDY

# DIAPHRAGM PUMP RUPTURE PROBLEM

## PROBLEM:

Chemical causing diaphragms in pump to rupture.

The R. A. Ross team knowledge of pumps and chemical issues solves crystallization problem.

## SITUATION:

A well known drywall manufacturer in southern Indiana was having an issue with an air operated diaphragm pump which was being used to inject a dispersant chemical into the wallboard fabrication process. The issue with the diaphragm pump was that the dispersant had a tendency to set up and “crystallize” in the pump and cause the diaphragms to rupture.

## SOLUTION:

We recommended a small stainless steel Lobee gear pump that would hold less product in the pump and had the capability to shear any crystals that may have been formed in the liquid while the pump was not running.

The customer has been very pleased with the result and the pump has been in operation for approximately 3 years.



*Lobee stainless steel gear pump model 2LOE w/ ¼-HP, 1150 RPM motor: Operating a 3 GPM @ 45' TDH, ambient temp.*

- ▶ 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.



# Lobee has a full line of heavy duty gear pumps, liquid ring pumps, flow raters, and vertical sump pumps.

## Positive Displacement Gear Pumps

- Stainless Steel
- Iron • Brass
- 1/8" to 2" NPT ported
- Flows to 90 GPM
- Working pressures to 150 PSI continuous, 200 PSI intermittent
- Mechanical, lip and packing seals available



## Liquid Ring Pumps

Versatile self-priming design excels at pumping combination liquid/vapor/gas and foaming solutions in a high vacuum environment.

- Vertical suction lift to 28'
- Flows to 80 GPM
- Total dynamic head to 230'



## Pump/Motor Systems

- Direct and base mounted • 1/3 to 5 HP
- ODP, TEFC, washdown or explosion-proof motors available
- Single or three phase, 1800 or 1200 RPM and variable speed inverter duty a standard option
- Flows to 50 GPM, 150 PSI

Options include mounted VFD, speed reducer, relief valve, special enclosures and materials.



## Vertical Sump Pumps

- Floor mounted and cover suspended models
- Up to 150 GPM, 85' TDH
- Available in cast iron, stainless steel and bronze "wetted" construction
- Premium efficient, TEFC, ODP, washdown and explosion-proof motors available in single or three phase voltage
- Control switching includes general purpose, water-tight and explosion proof



These are heavy-duty industrial continuous duty closed impeller pumps designed to last.

## Flow Raters

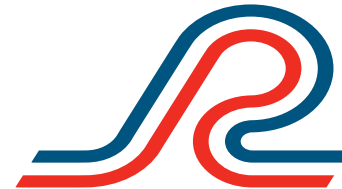
Our in-line flow indicators are available in 316 stainless steel, brass and PVC. Sight tubes available in acrylic or Pyrex.

- Port sizes 1/2", 3/4" and 1" NPT
- Flows to 40 GPM



## APPLICATIONS

- Oil, fuels
- Solvents
- Glues, resins
- Pesticides
- Acids/caustics
- Sulfates
- Phosphates
- Alcohols
- Propanes, methanes, freons
- High temperature
- Food
- Pharmaceuticals
- Adhesives/glues
- Veg oils
- Additives
- Brine
- Sugars/syrups



**R. A. ROSS & ASSOCIATES, INC.**

*Keeping process flowing since 1985*

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