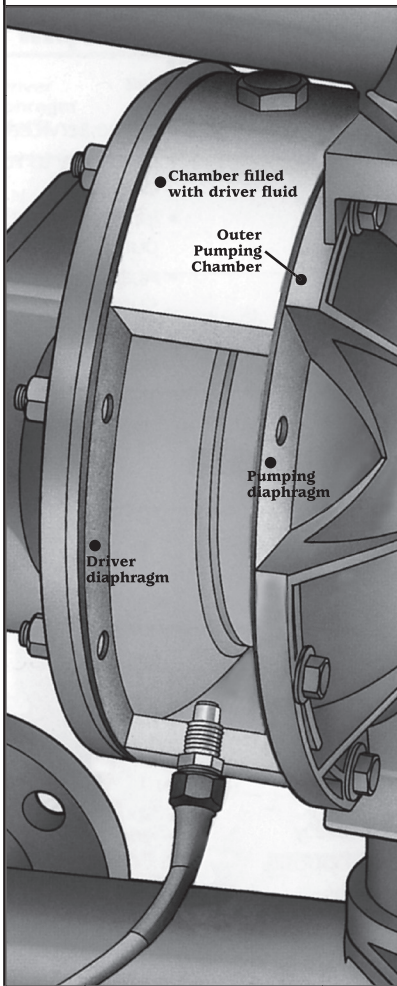


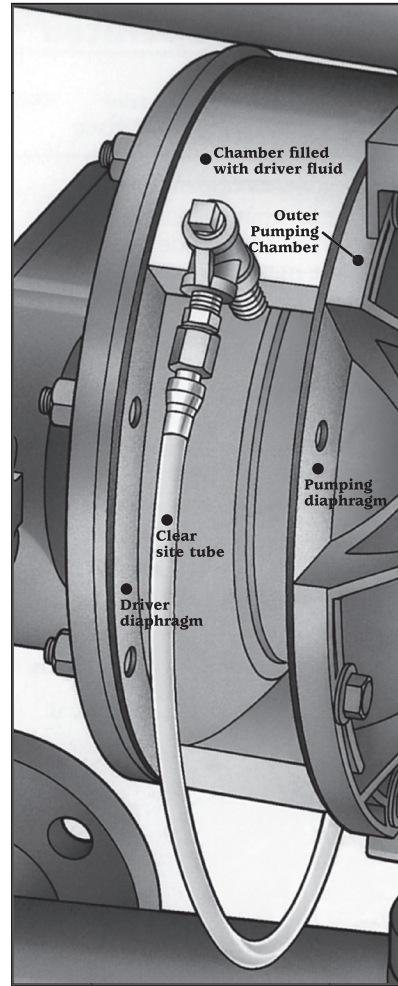
### Electronic Leak Detection



How electronic leak detection works.

At a point the pumping diaphragm fails, pumped liquid enters the spill chamber displacing driver fluid. The leak detector, working on the principle of conductance, senses the conductivity change. This activates a warning light on the control box. The device can also be wired into the pump user's existing system, for an audible or visual alarm, or pump shut-down response. It is important to specify an appropriate drive fluid which is both chemically compatible with the pumped fluid and displays the opposite conductance properties. Polarity of the leak detector can be set to sense conductive or non-conductive fluid. If a leak occurs, pumpage is contained in the spill chamber. The pump will continue to work, and in many cases, repairs can be done when the batch is completed. The air valve and work environment are protected.

### Visual Leak Detection



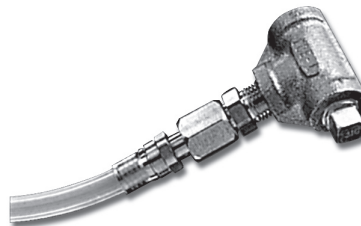
How visual leak detection works.

At a point the pumping diaphragm fails, pumped liquid enters the spill chamber, displacing driver fluid. The exchange of pumpage and driver fluid displays a color change in the sight tube, giving a visible signal. Driver fluid should be chemically compatible with the pumped fluid, with an obvious difference in color. In the event a leak occurs, pumpage is contained in the spill chamber. The pump will continue to work, and in many cases, repairs can be done when the batch is completed. The air valve and work environment are protected.



#### ELECTRONIC LEAK DETECTOR:

Working on the principle of conductance, this monitor can be wired for visual, audible or pump shut-down response. The electronic leak detector is an optional accessory which can be installed on all models.



#### VISUAL LEAK DETECTOR:

A sight tube style leak detector is installed on each driver chamber. If a pumping diaphragm break occurs, liquid in the sight tube changes color.



#### MECHANICAL LEAK DETECTOR:

When a leak chemically attacks an internal o-ring on this detector, it actuates a plunger. This opens an air valve, which in turn activates a customer-supplied solenoid (or similar device) to trigger a signal.

# LEAK DETECTION ELECTRONIC, VISUAL & MECHANICAL

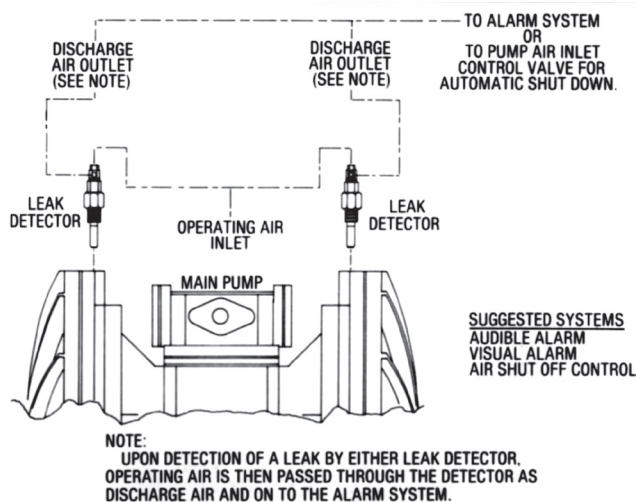
## Mechanical Leak Detection

### AIR OPERATED LEAK DETECTORS

- 031.023.110. Leak Detector for ST1½-A
- 031.024.110. Leak Detector for ST1-A

### ELECTRONIC LEAK DETECTORS

- 032.037.000. Leak Detector - 110/120 or 220/240vac
- 032.045.000. Leak Detector - 12-32vdc  
For Pump Models:  
S1F, S15, S20, S30
- 032.043.000. Leak Detector - 110/120 or 220/240vac
- 032.044.000. Leak Detector - 12-32vdc  
For Pump Models:  
SB1, SB1½, SB2, SB3, ST1, ST1½,  
SSB1, SSB2, SET1, SET2, ET1, ET1½



**SANDPIPER® Nonmetallic Spill Prevention Conversion Kits. Kits contain all parts required to convert a standard nonmetallic pump into a spill prevention pump.**

### MODEL S15

- 475.179.520. Kit with Visual Leak Detection (PVDF/Santoprene)
- 475.179.552. Kit with Visual Leak Detection (Polypropylene/Santoprene)
- 475.183.520. Kit with Mechanical Leak Detection (PVDF/Santoprene)
- 475.183.552. Kit with Mechanical Leak Detection (Polypropylene/Santoprene)
- 475.187.520. Kit with 110V Electronic Leak Detection (PVDF/Santoprene)
- 475.187.552. Kit with 110V Electronic Leak Detection (Polypropylene/Santoprene)
- 475.191.520. Kit with 220V Electronic Leak Detection (PVDF/Santoprene)
- 475.191.552. Kit with 220V Electronic Leak Detection (Polypropylene/Santoprene)
- 475.206.520. Kit with Visual Leak Detection (PVDF/PTFE)
- 475.206.552. Kit with Visual Leak Detection (Polypropylene/PTFE)

### MODEL S20

- 475.180.520. Kit with Visual Leak Detection (PVDF/Santoprene)
- 475.180.552. Kit with Visual Leak Detection (Polypropylene/Santoprene)
- 475.184.520. Kit with Mechanical Leak Detection (PVDF/Santoprene)
- 475.184.552. Kit with Mechanical Leak Detection (Polypropylene/Santoprene)
- 475.188.520. Kit with 110V Electronic Leak Detection (PVDF/Santoprene)
- 475.188.552. Kit with 110V Electronic Leak Detection (Polypropylene/Santoprene)
- 475.192.520. Kit with 220V Electronic Leak Detection (PVDF/Santoprene)
- 475.192.552. Kit with 220V Electronic Leak Detection (Polypropylene/Santoprene)

### MODEL S30

- 475.181.520. Kit with Visual Leak Detection (PVDF/Santoprene)
- 475.181.552. Kit with Visual Leak Detection (Polypropylene/Santoprene)
- 475.185.520. Kit with Mechanical Leak Detection (PVDF/Santoprene)
- 475.185.552. Kit with Mechanical Leak Detection (Polypropylene/Santoprene)
- 475.189.520. Kit with 110V Electronic Leak Detection (PVDF/Santoprene)
- 475.189.552. Kit with 110V Electronic Leak Detection (Polypropylene/Santoprene)
- 475.193.520. Kit with 220V Electronic Leak Detection (PVDF/Santoprene)
- 475.193.552. Kit with 220V Electronic Leak Detection (Polypropylene/Santoprene)

PRINTED IN USA.

©Copyright 2005 Warren Rupp, Inc. All rights reserved.

©Warren Rupp is a registered trademark of Warren Rupp, Inc.