EPG Connection

Your Resource For Landfill, Environmental and Industrial Solutions!

www.epgco.com **1-800-443-7426**

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EPG Companies Inc. specializes in the manufacture of **landfill leachate pumps & controls, gas condensate pumps**, **remediation equipment**, **telemetry hardware** and **SCADA** systems and other environmental and industrial products.

Dear Mike,

EPG is sponsoring and exhibiting at SWANA's 2012 Wastecon event in Washington, D.C., August 14-16.

SWANA's WASTECON Featuring the Best in Solid Waste August 14-16, 2012 | Washington, D.C.

Wastecon Website

EPG Applications Specialists will be on-hand to answer questions about our pumps, controls and accessories. EPG will be located in booth 1138. Stop and say hello!

Let EPG show you, first hand, the effect vacuum and pressure caused by landfill gas can have on the accuracy of a level sensor / pressure transducer.

See the demonstration at this years SWANA WASTECON Conference, August 14-16.

EPG Landfill Gas Effect Demo

As always, EPG welcomes your feedback. If you have any comments or questions, feel free to contact us at info1@epgco.com.

Sincerely,
EPG Companies Inc.
www.epgco.com

The Cost of Trapped Pipeline Air

Air lock, line surges, low or no liquid flow, sudden and rapid changes in velocity, rapid flow reversal, water hammer, corrosion, and equipment failure - these are just a few possible problems found in liquid pipeline systems when air accumulates. If not removed, the effects of trapped air can lead to equipment damage and increased operating costs.

If air is trapped in your pipeline, your pumps are working harder to overcome air pockets and move the liquid. For example, if your system accumulated air last year that increased head pressure by 15%, your pumps were forced to work 15% harder (extended pumping cycles) drawing 15% more electricity. If you spent $250,000 on electricity to power your pumps, you could have saved $37,500 on electricity alone by just eliminating the air in the system.

Before we focus on how to eliminate trapped air in liquid pipeline systems, let us outline some ways air enters the system and what happens when it does.

Air can enter the pipeline through:

- Pipeline leaks
- Pump seal leaks
- Damaged joint seals
- Leaking valve packing
- Loose or leaking flange connections
- Pressure or vacuum changes
- Vortex actions of pumps
- Velocity changes
- Poorly controlled or unexpected negative pressure events
- During turbulence or eddy effects at bends, valves or fittings
- Equipment maintenance or installations
- Chemical reactions
- Temperature changes
- Gravity Draining Lines

When air enters the system, it accumulates into air pockets. Without preventative measures, these air pockets create air lock, line surges and other adverse conditions leading to increased maintenance, repair and/or excessive operating expenses.

Air/Vapor Lock:
One of the most frustrating and sometimes hard-to-identify problems within the liquid pipeline system is air/vapor lock. This phenomenon occurs when a large air pocket is present in the pipeline. The liquid pressure produced by the pump will compress the air pocket, but if the pressure required to compress both the air and move the weight of the liquid in the system is greater than the pump's capacity, no flow will occur.

Water Hammer and Line Surges:
Air pockets can also create liquid flow and velocity changes within pipelines. If the pump pressure is adequate, the compressed air pocket will release, creating a sudden and rapid increase in line surges, pressure spikes and flow reversals. These are the destructive water-hammer/shock effects that over time, damage pumps, fittings, joints, and valves. If not eliminated, air in your system will increase head pressure, extend pumping cycles, increase operating expenses and eventually damage equipment.

How to Eliminate Pipeline System Air:
Sometimes air is removed from pipelines with a manual vent during startup but this method does not provide the continual air release needed during operation. The air pockets will eventually migrate to high points within an operating pipeline system. Air valves should be placed at these points to vent accumulated air and admit air to prevent vacuum conditions and/or air related surges.

The three basic types of air valves that can be used include:

- Air Release Valve
- Air/Vacuum Valve
- Combination Air Valve

The Air Release Valve has a float and linkage mechanism that senses and releases air under pressure but it is usually limited to the amount of air it can admit and exhaust. Pipelines equipped with this type of valve usually require additional air release. This can be accomplished by using Air/Vacuum Valves.

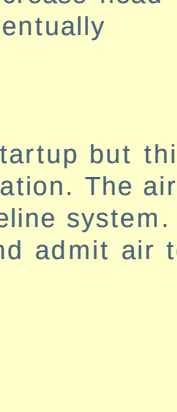
The Air/Vacuum Valve exhausts air during pipeline filling/start-up via a float that rises with liquid level. In addition, if a pressure loss or vacuum condition occurs, the float will drop and air will be admitted into the pipeline. This float can also be used to aid pipeline draining but under normal operation, this float is held closed by pipeline pressure and will not relieve trapped air.

The Combination Air Valve combines the function of both the Air Release and the Air/Vacuum valve. We recommend using this air valve because it contains an air release orifice and a vacuum port in one assembly and, unlike the other valves; it can be used at high points and at any point in the pipeline system, providing added air release and protection. On smaller units, the float and release mechanism is designed as one compact assembly. On larger units, a dual-body design, consisting of an air release valve piped into an air vacuum valve is used. This dual-body design provides the convenience of isolating one valve for maintenance while the other valve continues to operate and it gives designers the freedom to specify different size valves to accommodate almost any size application.

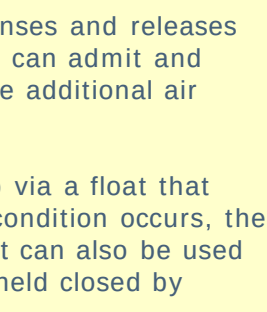
In Review:
If you operate a liquid pipeline system with improper or no air release protection, trapped air is robbing system efficiency and increasing operating expenses. Without preventative measures, the effects of accumulated air can damage your system. If you are experiencing or suspect low system efficiency, air/vacuum lock, line surges, low flow or have equipment problems, we can help. Call EPG and ask for a pump system specialist at 1-800-443-7426 or email us at info1@epgco.com.

Combination Air Release Valve

The EPG Model 4415 Combination Air Release Valve is an air/vacuum valve and an air release valve combined in one compact unit. The Model 4415 releases large volumes of air from a filling pipeline, closes when the pipeline is filled, and reopens to admit large volumes of air should pipeline pressure drop. It features a unique kinetic shield that isolates the kinetic float from the air flow to prevent it from being blown closed. The inverted "U" kinetic float, however, is modified to include a small orifice and then works together with the automatic float to release the accumulated air pockets in pressurized operating systems.



The Reich Company, Inc.



EPG would like to introduce you to **The Reich Company, Inc.** of Texas. **Charles (Chuck) Reich** and his company have represented EPG in the southern United States (TX, OK, LA, AR, MS, NM) and Mexico for more than 16 years. Charles is joined by **Charles III (Chachi)**, and **Jim Markgraf**.

Through the experience Reich has had with EPG and other pumping systems, Reich believes that EPG designs and manufactures the best landfill leachate pumping system available. The equipment is built to last and is thoroughly tested at the factory prior to shipping. Reich understands the importance of proper installation and maintenance. To insure that customers' equipment is installed and maintained properly, Reich works with reputable local EPG trained service companies.

Additionally, Reich wants to work for the customer and requests that if you need support for your EPG equipment that you call them first to assist you in working with the factory.

If you are in a geographic area where Reich markets for EPG, please call them toll-free at 888-502-7756 so that they may assist you with any aspect of your EPG products. You can also visit www.reichco.com to learn more about the other products they offer.

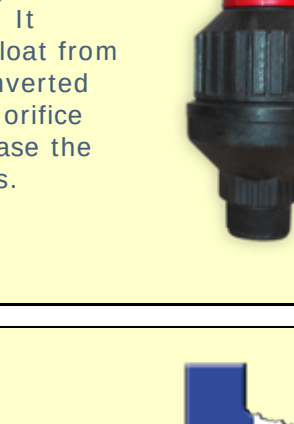
The Reich Company, Inc. is your best source for landfill pumps, controls, and monitoring solutions in the southern United States and Mexico.

They also specialize in the following environmental products:

- Air Treatment
- Wastewater & Water
- Process Equipment
- Leachate Treatment
- Remediation Treatment

Charles Reich
The Reich Company, Inc.
P.O. Box 1203
Humble, TX 77347-1203
Toll Free: 888-502-7756
Locally: 713-724-5837
Fax: 281-852-7783

General Information: info@reichco.com
Sales: sales@reichco.com
Customer Support: custservice@reichco.com
Parts: parts@reichco.com



Download Line Sheet Here!

Upcoming Events

EPG will be participating at the following SWANA and industry related events:

8/14-16 **WASTECON 2012** - Washington, D.C.

March 2013 - **EPG Service School** - Maple Grove, MN

SWANA SOLID WASTE ASSOCIATION of North America

Solid Waste Association of North America