

EPG

CONNECTION

Your Resource For Environmental Pollution Solutions!

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**EPG Companies
will be at
WASTECON 2001**

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EPG Complies with New UL Standard

In our continuing effort to manufacture the safest pumps and controls possible, EPG Companies Inc. will be adding a new UL listing by the end of October 2001.

UL introduced a new standard that will help discern whether industrial control panels (ICPs) designed for use in ordinary or non-hazardous locations, are also suitable for connecting to or interfacing with equipment in hazardous locations (e.g., potentially explosive environments). Regulatory officials asked UL to develop the standard after finding that some ICPs intended for installation and interconnection in non-hazardous locations were being misused by connecting or interfacing with equipment in hazardous locations.

UL 698A; Industrial Control Panels Relating to Hazardous (Classified) Locations, covers ICPs intended for general industrial use and installation in unclassified areas (e.g., non-

hazardous/ordinary locations), that provide intrinsically safe circuits into hazardous or "classified" locations. Circuits are made intrinsically safe through the use of barriers that comply with UL 913; Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, III, Division 1, Hazardous (Classified) Locations. In addition to the UL Listed barriers, these ICPs may include assemblies consisting of components such as motor controllers, overload relays, fused disconnect switches and/or circuit breakers, and related control devices. Enclosures must be included as part of the assembly.

UL 698A requires that any intrinsically safe wiring must be routed in a separate raceway, or segregated from all power and other circuit wiring, to prevent ignition-capable currents and voltages from combining with the intrinsically safe circuits, in

accordance with Article 504 of the National Electrical Code® (NEC®). If the wiring is not correctly routed or segregated, a fire or explosion could occur. These requirements are contained in installation or control drawings found inside industrial control panels listed to the new standard.

Special attention is given to the devices connected to the intrinsically safe circuits in the hazardous location, to be sure that devices do not exceed the ratings of the intrinsically safe barriers specified in the panel control drawing. In addition to the UL Listing Mark, an ICP covered under UL 698A is labeled, "Enclosed Industrial Control Panel Relating to Hazardous Locations with Intrinsically Safe Circuit Extensions." ICPs without this complete marking have not been evaluated by UL for connection or interfacing with equipment in hazardous locations.

Leachate Pumps and Controls School

Once again EPG Companies is gearing up for our Leachate Pumps and Controls School. The next session will be held on March 13-15, 2002 at EPG's corporate offices in Rogers, Minnesota. This school is highly recommended for anyone involved in the design, installation, and maintenance of leachate and gas condensate collection systems and the use of equipment manufactured by EPG Companies Inc. If you are interested in attending the 2002 Leachate Pumps and Controls School please call EPG. Information and Registration forms will be mailed out in January.

If you have a current application or would like more information about EPG products and capabilities, please call us at 800-443-7426, fax us at (763) 493-4812, or e-mail us at info@epgco.com.

Sales Representative Highlight

Pump Systems Incorporated, founded in 1989, is a distributor and rep firm serving Northern New England from its offices in Central New Hampshire. As the name implies, the company's focus is on pumps and ancillary equipment, including controls and flow meters.

PSI was introduced to the EPG line in 1997, when a valued contractor became involved in a landfill expansion, and asked for assistance.

According to PSI president, John E. Benham, "We were immediately impressed with the responsiveness of the company to the desires of the engineer and customer, and the high quality of the product. We felt this was a company we would be proud to represent".

"What we enjoy most about the company is that they take time to understand where the equipment

fits into the big picture and then suggests improvements to make the entire project better. This extra step is missing from most pump manufacturers".

PSI has ten employees, including three mechanics, who perform start up services and provide 24 hour, 365 day emergency coverage for maintenance contract clients.

In the future, Benham foresees an increased interest in leachate recirculation, as sites try to reduce leachate disposal costs, as well as to benefit from increased methane production and total waste reduction. "We're particularly excited about the LRSMaster designed for precise control of sump and tank levels, pump run times, electric valves and other user selectable functions".



John E. Benham

"Our association with John and the others at EPG has been enjoyable. It's nice to represent the best equipment in a particular application".

Surge Protection for Pressure Transducers

EPG has a surge protection kit available that is designed to protect above and below ground pressure transducers from damaging surge voltage and current. The protector is designed for 4-20 mA current loop (2 wire) transmitters. Designed in cooperation with a major manufacturer of surge protection devices, this system is capable of protection against fast rising voltage transients as well as current surges associated with lightning discharges.

The surge protector is a multi-stage design, with a solid state section that intercepts the leading edge of the surge within nanoseconds. The second stage of the design contains a gas discharge tube which crowbars up to 20,000 ampere currents to ground. The tube remains in the crowbar state until the surge has passed,

then automatically resets the line to normal operation without the need to reset a circuit breaker.



The system consists of two parts. One is housed integral to the pressure transducer housing while the other is installed by the user between the transducer wiring and the power supply/readout. The protector is available with FM/UL/CSA Intrinsic Safety Labeling for use in hazardous environments when used with an appropriate barrier.

The transducer is covered against damage due to lightning or voltage spikes for the life of the instrument. However, it is not meant to protect against continuous overvoltage and will not be warranted for such applications.

Blower Packages: Selecting the Right Type for the Job

EPG Companies Inc. offers blower packages for soil vapor extraction, air sparging, nasty gas extraction, and aeration. EPG selects and recommends blowers based on the most effective and most efficient type for the specific work required. Materials of construction are designed to be compatible with applicable environments of the job.

Regenerative blowers are cost effective for low to medium flow and vacuum/pressure. They are capable of a broad range of flow vs. vacuum/pressure, are compact, quiet, and require minimal maintenance. Disadvantages of regenerative blowers are high cost and high horsepower is required for high flow and/or vacuum/pressure. Regenerative blowers must operate within the range of the operating curve. In an excessive vacuum/pressure condition, the motor thermal overload will cause the blower to trip off. A vacuum/pressure relief valve, particulate filter, and condensate separator (for vacuum) must be installed at the inlet/discharge of the blower.

Positive Displacement blowers are cost effective for high vacuum/pressure with relatively low horsepower required. Disadvantages are that they are generally noisy and periodic lubrication is required. Positive displacement blowers must operate at

designed air flow or it may generate excessive heat. Temperature rise commonly exceeds 200°F. If the blower is not running for a period of time (as little as one week in some cases), the lobes should be "fogged" with a lubricating oil to prevent the lobes from seizing up with rust due to condensate. A vacuum/pressure relief valve, particulate filter, and condensate separator (for vacuum) must be installed at the inlet/discharge of the blower.

Centrifugal blowers are cost effective for low to high flow and low vacuum/pressure. They require virtually no maintenance and are quiet. Disadvantages are that high horsepower is required for medium to high vacuum/pressure resulting in a high cost. Centrifugal blowers must operate at designed vacuum/pressure. An inlet or discharge flow control valve is recommended to assure proper operating vacuum/pressure. With no flow restriction, the blower may move excess air causing a brake horsepower load that is greater than the motor nameplate amperage. A particulate filter and condensate separator (for vacuum) installed at the blower inlet is recommended.

Liquid Ring Vacuum Pumps provide dual phase extraction. They are capable of high vacuum to 29.5" HG and are capable of flow rates to 3800

ACFM. Disadvantages are that they require seal fluid and have a relatively higher cost. The optimal operating range for liquid ring vacuum pumps is 15 to 25" HG vacuum. An integral heat exchanger provides oil cooling. A vacuum relief valve, particulate filter, and liquid/vapor separator must be installed at the inlet of the vacuum pump.

Rotary Vane Compressors are compact and cost effective for flow up to 50 SCFM and pressure up to 20 PSIG. Disadvantages are that they are noisy and they are not available for higher flow and pressure. Rotary vane compressors require a pressure relief valve to be installed at the discharge of the compressor. An inlet silencer is recommended for the larger units. Excess pressure will cause overheating.

Rotary Screw & Reciprocating Compressors are capable of high pressures. Disadvantages are that they can be noisy, require maintenance and have a relatively high cost. Rotary screw and reciprocating compressors use a regulator on the discharge to regulate desired pressure. Rotary screw compressors can run continuously. It is recommended that reciprocating compressors be sized for a 50% duty cycle. Most units require a coalescing oil filter on the discharge. Certain models are available as oilless.

EPG People...

John Lerdahl heads the landfill equipment sales division at EPG. He has 10 years experience in the environmental field specializing in landfill leachate collection systems.

John is well known in the industry and is a member of the Solid Waste Association of North America (SWANA) and of the Landfill Management and Landfill Gas Management Technical Divisions.

At nearly all the national waste and many regional trade shows where EPG is an exhibitor, you're likely to see John. Be sure to stop by and say hello next time you're at one of these shows.

"Garbage is my life" is often used to describe John's profession. He truly enjoys his work and meeting many interesting people.



John Lerdahl

Product Highlights



Level Monitoring System

EPG's stand alone level monitoring system is an accurate low maintenance method of obtaining liquid levels in monitoring wells, storage tanks, gas condensate sumps, leachate sumps, and ponds. Standard features include a NEMA 4X weatherproof enclosure designed to withstand the toughest outdoor conditions, 316 stainless steel level sensor with cable, digital LED display, self controlled heater, resettable non-volatile memory, and voltage surge suppressor. Options available include intrinsically safe circuitry, relay output, high level alarm light, 4-20 mA output, data collection, and can be integrated with other controls and equipment.



Flow Monitoring System

EPG's stand alone flow monitoring system provides continuous recording of liquid flow rate and total flow of groundwater, leachate and process liquids. This unit can also be used for truck filling, batch control, and data collection. The flow monitoring system features a microprocessor based digital display controller, the front panel is menu driven to provide easy setup and calibration, can be programmed in the field for 1" to 24" pipe, and includes a self controlled heater. This is all contained in a NEMA 4X weatherproof enclosure that can withstand the toughest of outdoor conditions..

Upcoming Events

OCTOBER 15-18
WASTECON 2001
Baltimore, MD

JANUARY 16-18
SWANA/WCSWMA 2002
Green Bay, WI

MARCH 13-15
EPG's Leachate Pumps & Controls School
Rogers, MN (EPG Corporate Offices)

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