

# Managing Landfill Liquids with AutoPump® Automatic Air-Powered Systems



A **TestAmerica** Company  
THE LEADER IN ENVIRONMENTAL TESTING

## #1 Pump in Reliability

Automatic, air-powered pumps originated over 20 years ago with the AutoPump® AP4+, designed specifically to handle severe pumping applications at landfill and groundwater remediation sites. Over the years many refinements and options have been added to enhance the AutoPump brand leadership in long-term reliability and durability. That's why QED's AutoPump line is the overwhelming choice of professionals worldwide.

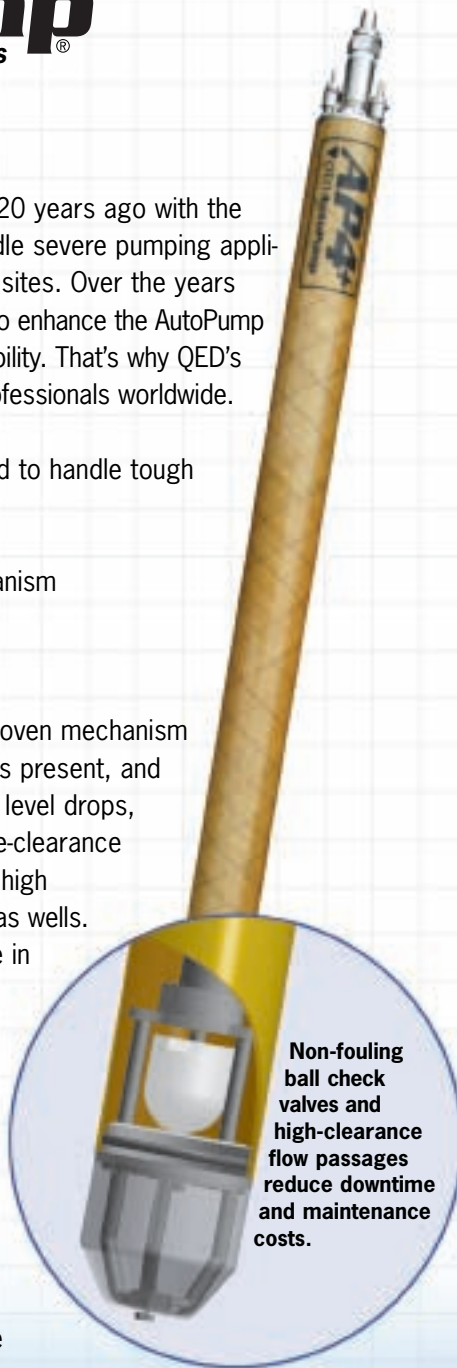
From the start, the AutoPump line was designed to handle tough pumping conditions, such as:

- Easier to Disassemble and Clean
- Same Proven AutoPump® Air Control Mechanism
- Upgraded Materials
- Expanded 5-year Warranty

The heart of every AutoPump AP4+ is a field-proven mechanism that automatically starts the pump when liquid is present, and efficiently and dependably shuts it off when the level drops, eliminating the need for external controls. Large-clearance check valves are highly durable and handle the high solids levels often found in landfill liquids and gas wells. And since they are air-powered, AP4+s are safe in explosive environments.

## Expanded 5-year Warranty

The most reliable pump also includes the best warranty; for years, QED's AutoPump line has been backed by the longest and most comprehensive warranties available, backed by the industry's best 24/7 customer support after the sale. Whether you need an installation tip, a part number, equipment repair, or on-site assistance by our OSHA trained technicians, count on QED's friendly, experienced Service Team.

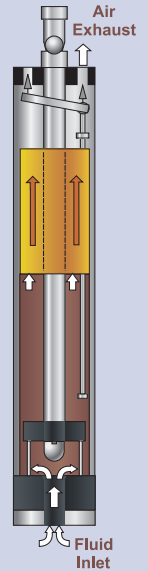


Non-fouling ball check valves and high-clearance flow passages reduce downtime and maintenance costs.

## How it Works

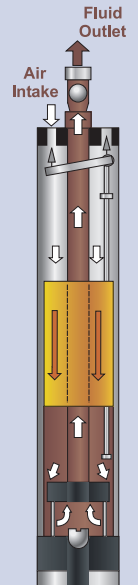
### Fill Cycle:

The fluid inlet check valve opens, allowing fluid to enter the pump. As the fluid level rises, air is expelled through the exhaust air valve and the internal float rises to the top of its stroke. In this upper position, the float triggers a lever assembly, which opens the air inlet and closes the air exhaust valve, which allows air to enter and pressurizes the pump.



### Discharge Cycle:

With the air inlet valve open, air pressure builds up within the pump body. This causes the fluid inlet check valve to close allowing the fluid to be displaced up and out of the fluid discharge check valve. As the fluid level falls, the float moves downward to the bottom of its stroke. In this lower position, the float triggers the lever assembly to close the air supply and open the air exhaust valve and a new cycle begins.



# How to Improve Gas Collection System

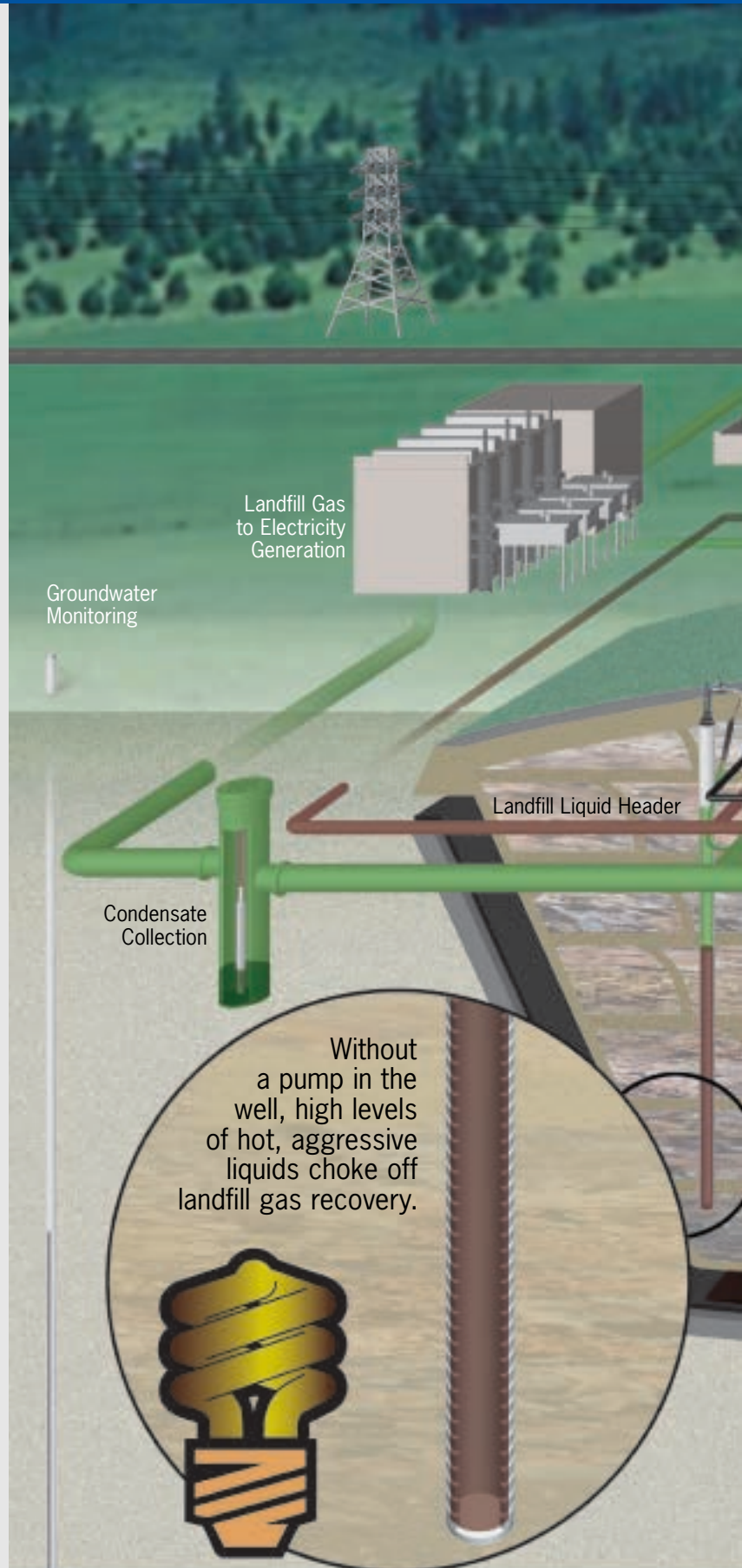
Proven equipment, expert help in selection and installation, and support

## Controlling and removing landfill liquids from gas extraction wells provides 3 significant benefits:

1. Increased landfill gas extraction rates.
2. Reduced risk of liquid leakage through liner and side slope failures.
3. Lower emission rates of odors and non-methane organic compounds.

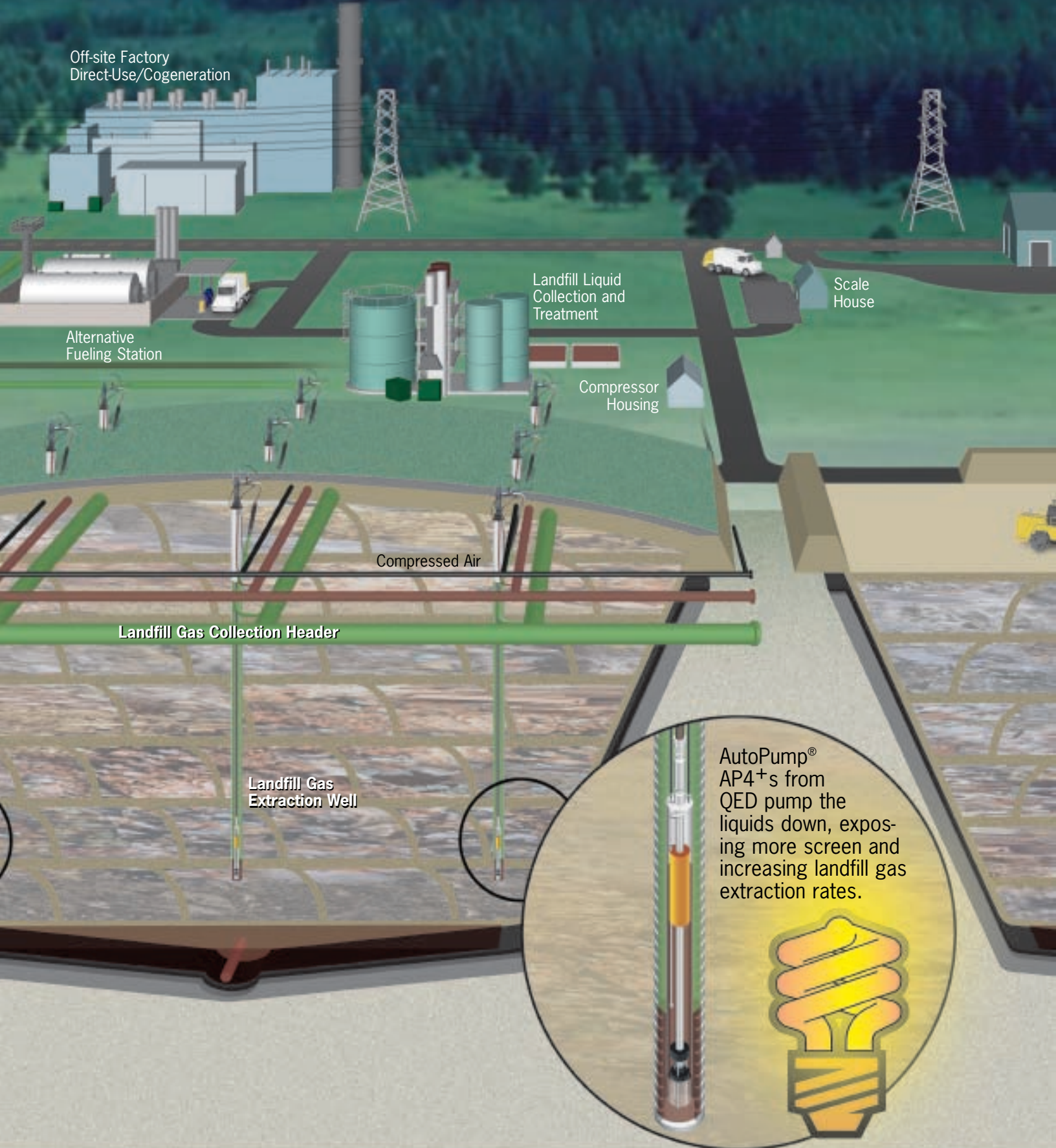
“Waterlogging” of gas extraction wells has been identified in a World Bank study as a leading cause of landfills not meeting their methane recovery goals. Liquid accumulation can block gas flow into the well screen and reduce gas flow through the fill. Landfill liquid recirculation to enhance methane production can add to these problems. Liquid accumulation within the landfill, especially above daily cover layers, can cause liquid seeps through the side slopes and lead to side slope failures in extreme cases. Finally, reduced gas extraction efficiency can increase the release of odors and non-methane organics and lead to New Source Performance Standards violations.

For all these reasons, a safe, dependable pumping solution is an important element of good landfill management practices. The #1 landfill pumping choice worldwide: QED AutoPump Automatic Air-Powered Pumps, the original and most proven for landfill liquids removal.



# Output

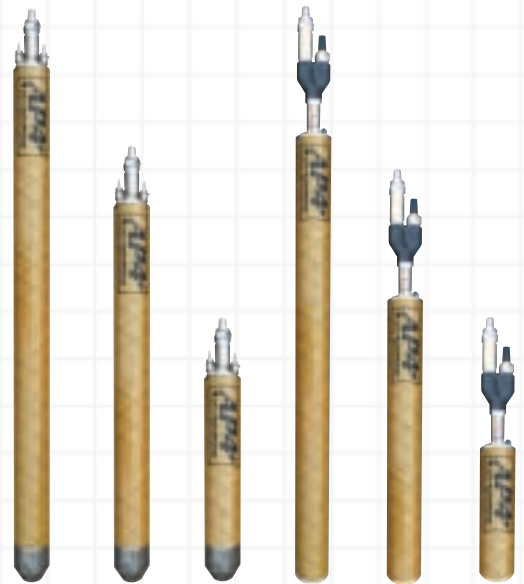
you can count on when you need it



# Complete Systems

## AP4+ Series Pumps

Model	Fluid Inlet	OD	Length	Max. Flow	Max. Depth
Long AP4+B	Bottom	3.6 in. (9.1 cm)	51.4 in. (131 cm)	14 gpm (53 Lpm)	250 ft. (76 m)
Short AP4+B	Bottom	3.6 in. (9.1 cm)	39.3 in. (100 cm)	13 gpm (49 Lpm)	250 ft. (76 m)
LD AP4+B	Bottom	3.6 in. (9.1 cm)	27.5 in. (70 cm)	7 gpm (26.5 Lpm)	250 ft. (76 m)
Long AP4+T	Top	3.6 in. (9.1 cm)	56.7 in. (144 cm)	10 gpm (38 Lpm)	250 ft. (76 m)
Short AP4+T	Top	3.6 in. (9.1 cm)	45 in. (110 cm)	9 gpm (34 Lpm)	250 ft. (76 m)
LD AP4+T	Top	3.6 in. (9.1 cm)	30.75 in. (78 cm)	6.4 gpm (24 Lpm)	250 ft. (76 m)



## Products Designed for Easy Field Operation

QED utilizes over 20 years of experience in air-powered pumping to find ways to improve the value we offer our customers, including helping reduce the total cost of pump installation, service and ownership.

### Easy Tubing with Easy Fittings

- Pump is easy to snap onto and off of the tubing with Easy Fittings without cutting the tubing.
- Our sheathed tubing is available cut-to-length and individually labeled, with Easy Fittings factory-installed.



### Easy Wellheads

Wellheads in both flange and vacuum seal styles are easy to install because they are pre-equipped with your preferred fittings and accessories, such as pump cycle counters, check and shut-off valves, access ports, etc.



### Easy Bolt

Easy bolts make flanges easy to access with no wrenches or tools.

### 5-year Warranty

Expanded 5-year warranty for ease of mind.



# QED Landfill Experience and Capabilities

With over 20 years experience, QED has developed the most advanced system on the market for pumping landfill liquids – the AutoPump® system featuring AP pumps. QED AutoPump systems are designed specifically for landfill applications through an ongoing program of improvement and field testing. Best of all – every QED AutoPump system is backed by QED's unequalled dedication to and reputation for quality and service. QED leads in customer service, from worldwide service coverage to our large service staff in Ann Arbor, Michigan and Oakland, California, to our 24-hour, toll free service hotline. Call or e-mail QED for prompt assistance with your unique project needs.

Around the world, QED's AutoPump Automatic Air-Powered Pumps are helping landfill sites collect more landfill gas by controlling liquid levels. Flooded out gas wells and collection lines block the free flow of gas. By safely and reliably removing excess liquids, QED AutoPump systems help landfill gas collection systems meet project goals.



Visit [qedenv.com/landfills](http://qedenv.com/landfills) for the latest news and product information from QED. Use the interactive Pump Selector, watch animations of pumps in action and read case studies from sites throughout the world.

QED has equipment at over 500 landfills in the United States and installations in over 75 countries. (blue on map)

## The World Leader in Air-Powered Pumps

For Remediation, Landfills and Groundwater Sampling



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