Why Pumping Choices Matter

A Changing Industry Needs Pumps to Be Reliable, Greener, Safer, Economical

The operating environment is evolving new, more exacting performance standards, yet traditional pump technology is struggling to keep up.

While well-known airlift pumps have been the "safe" purchase choice for many years, this older-style technology is prone to performance and dependability issues.

Next-generation piston pumping works in virtually all environments and conditions. It offers benefits well beyond cost effective results.

Fact: Not all "air-driven" pumps use the same technology. Popular-brand airlifts must force pneumatic air into the well. Blackhawk Technology's pneumatic pumps receive and vent air above the well, never into the well.

Fact: Blackhawk top-head-drive pumps are mounted at surface level, safely and cleanly over the wellhead. Currently popular airlift brands and submersibles are installed into the toxic wells they pump.

Piston pumping: Simple technology, constant innovation

Fact: Airlift pumps pollute the air. Their design requires injecting compressed air into the well to force liquid to the surface. The air mixes with the toxic liquid being pumped, and then is vented into the atmosphere.
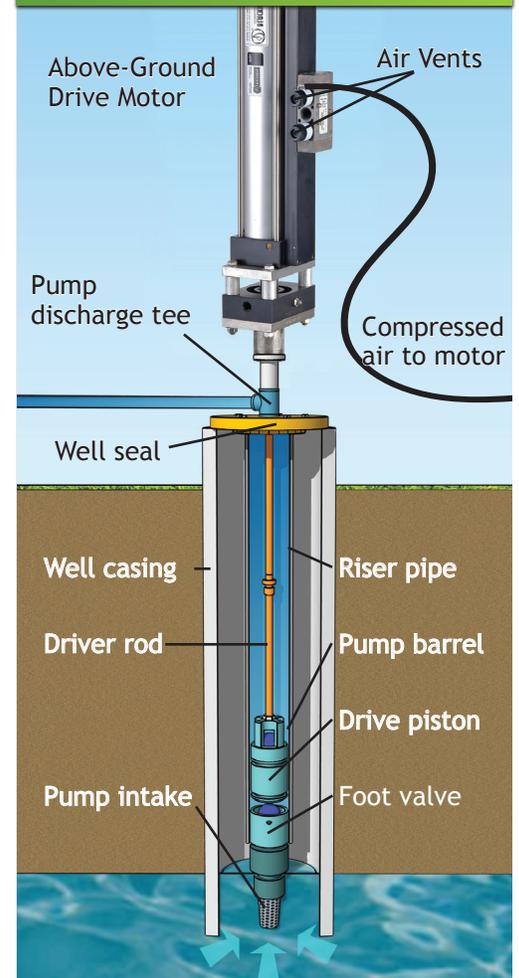
Fact: No air or power is introduced into the well or sump with Blackhawk piston pumps, thus reducing odors and helping operators stay in compliance. Blackhawks are designed for low-emission service applications.

Fact: Blackhawk piston pumps are proven more durable and reliable than competing pump styles. Because Blackhawk piston pumps work when others don't, they are the preferred choice for challenging situations and increasingly for everyday pumping.

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No air is introduced into the well

HOW IT WORKS

Above-Ground Drive Motor · Air Vents · Pump discharge tee · Compressed air to motor · Well seal · Well casing · Riser pipe · Driver rod · Pump barrel · Drive piston · Pump intake · Foot valve
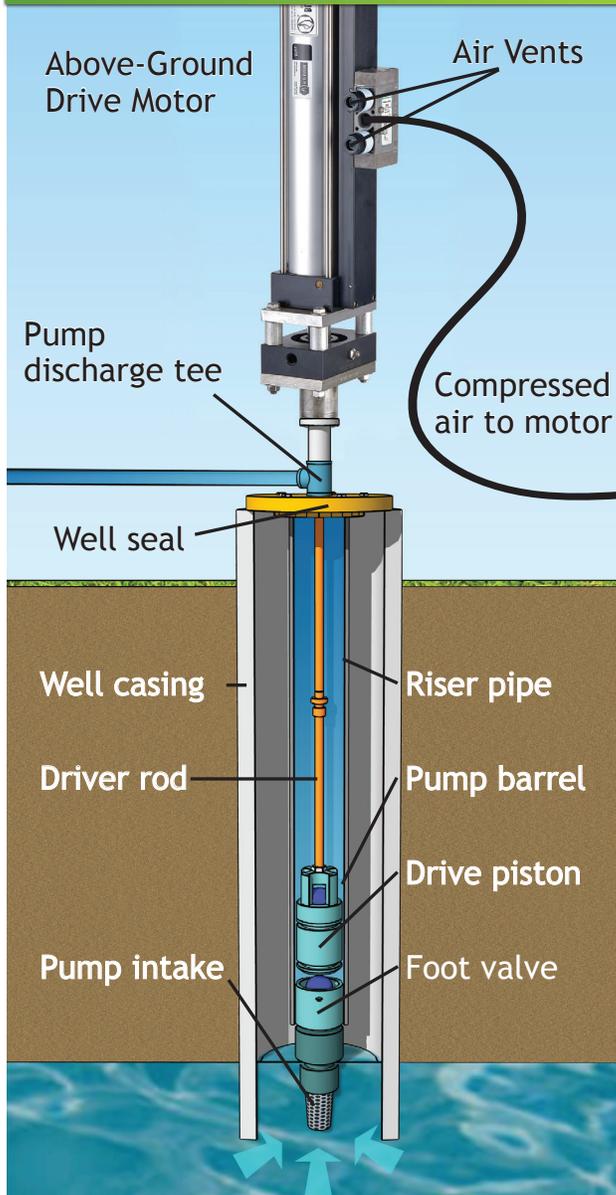
Above the Wellhead
Compressed air enters the motor to push and pull a durable drive rod, which is connected to a reciprocating piston deep in the well. The air is vented from the drive motor above ground and is not introduced into the well.

Below the Wellhead
As the motor pulls up the rod, the piston creates suction at intake. Liquid is drawn in, and sealed by a steel ball. Pumping action lifts the liquid, which exits through a discharge tee.

Fact Sheet #13

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HOW IT WORKS

- Above-Ground Drive Motor
- Air Vents
- Pump discharge tee
- Compressed air to motor
- Well seal
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- Riser pipe
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- Pump barrel
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Air is never introduced into the well or sump

Reliable, Greener, Safer, Economical

Fact: Airlifts and electric submersibles cannot pump many liquids and can fail due to bio-fouling, chemical encrustation, abrasion and cavitation. Blackhawk pumps virtually any liquid, including semi-solids, at any angle including horizontal, and Blackhawks are indifferent to vacuum. Durable downhole components are the industry standard.

Fact: Because of their design, airlift models can agitate the liquid being pumped, which creates foam that airlifts cannot pump. Blackhawk pumps do not create foam. Blackhawks can, however, pump foamy liquids.

Re-evaluating a 'safe' choice

Fact: Blackhawk models offer TDH to 800 feet (248 meters) at 100 psig (6.9 bar) at steady flow rates. Airlift flow rates decline significantly as TDH increases.

Fact: Airlift maintenance is expensive. Airlift pumps must be pulled periodically to be cleaned, typically by two workers. Cleaning and reinstalling is time consuming and dirty, especially in hazardous-condition wells.

Fact: Blackhawk above-ground drive motors are far more economical to operate, requiring service less often, with less time and only one tech — no pump pulling and safer for workers.

Fact: Electric submersibles are more inexpensive to buy than airlifts or piston pumps. But submersibles were designed for water wells. When used in landfills or other toxic sites, submersibles have a long history of early, un-repairable failure.

Fact: Blackhawk pneumatic models are competitively priced with airlifts, and do not require expensive add-ons to work properly. Blackhawks offer the industry's lowest cost of ownership.

Traditional airlift pumps can pollute & are more costly to operate.

The best-performing environmental pump in the business

BLACKHAWK TECHNOLOGY COMPANY