

Pollution Control Valves (PCV):

Increase Efficiency, Decrease Emissions

When a wood waste-to-electricity power plant began replacing rotary valves on their flyash baghouse in 2004, the facility realized a significant reduction in turbulence in the baghouse above the valves, an increase in bag life by many years and lower emissions. The plant manager credits Plattco's Pollution Control Valves (PCV) and their superior ability to seal over the rotary valves.

In another example, since installing Plattco PCVs on their cyclones and economizers, production at a Magnesium Oxide plant in Mexico noticed more than a 10% production increase because the superior seal of the Plattco valves won't allow false ambient air to enter the system -- improving dramatically the efficiency of the burning process.

And, according to Mark Cook at US Steel, Plattco's Double Flap Airlock Valves improved his baghouse's efficiency significantly. *"Before the Plattco valves were installed, the rotary valves' vanes would pack with dust or foreign objects and not convey material very well. Plattco valves do not experience these plugging problems... and, the Plattco valves eliminated the constant vane adjustment maintenance necessary with the rotary valves."*

Plattco's Double Flap Airlock Valve provides a lower-cost alternative that is perfect for pollution control systems and other low pressure (< 2 psi) applications. Compared to rotary valves, Plattco's PCVs cost less and operate more efficiently. In fact, Plattco valves are found in the manufacturing facilities of top rotary valve companies because they work more efficiently in high temperature, high abrasive applications.

From its early days as a foundry producing white irons in the late 1800's, Plattco has provided solutions for the most difficult dry material handling issues. Plattco invented the first Double Flap Airlock Valve in 1960 to eliminate leakage with sintering and palletizing for the mining industry. Since then, Plattco valves have replaced rotary valves as the most effective method of efficiently conveying material while reducing emissions and maintenance costs in facilities around the world.

As described by a rotary valve manufacturer in a recent PowderAndBulk.com article, the design of a rotary valve requires space to exist between the housing and the rotor vanes in order to operate; but, that space also allows for excessive blowby, objects or material buildup to cause the valve to seize. Plattco PCVs feature a proprietary design that eliminates jamming, material build-up and bridging.

Plattco valves are engineered to function as an integral part of a process system -- effectively controlling the passage of material in even the most extreme temperature, pressure and vacuum conditions.



Pollution Control Valves in energy plant increased production by 10%, reduced emissions and maintenance costs.

Excellence in Design:

- * No rotary action means no need to build clearance (leakage) into the valve.
- * Double flaps ensure that the seal is never broken throughout filling and emptying the valve.
- * All-cast construction for consistency, proprietary alloys for durability and wear-resistance, seat and flapper precision-machined to eliminate air leakage.
- * Seat and flapper can be reground several times to bring them back to "like new" condition and performance.
- * Housing is not part of the seal -- allowing it to last for decades in the worst operating environments.

Seizing rotors, seal failures and blowby slowdowns mean more cost-conscious managers are now...

Replacing rotary valves to improve production and lower costs.

Plattco Double Flap Airlock Valves vs. Rotary Valves

Clearance: With Plattco's Double Flap Airlock Valves, one flapper is always closed to maintain pressure differential. Seats and flappers are heavy duty cast up to 650 brinell and wet ground within 0.003" clearance when leaving the factory.

Rotary valves have a minimum of 0.008" clearance between the housing and the rotary vanes when new. That clearance increases over time due to wear caused by material -- increasing the amount of air blowby.

Leakage: Rotary valves have an estimated air leakage rate that is at least 3 times that of a Plattco Valve. And, the leakage rate of a rotary valve increases at a faster rate over the life of the valves.

Bag Life: Bag life is increased significantly when Plattco Double Flap Airlock Valves are used in place of rotary valves because they reduce turbulence in the baghouse.

Ease of Maintenance: Plattco valves can be serviced in-line. Internal wear parts are accessible through front and rear access covers. And, Plattco wear parts (seats and flappers) can be reground to "like new" condition numerous times before having to buy new parts.

Most rotary valves must be removed from service and returned to the factory for rebuilding -- which requires having an extra rotary valve assembly in inventory.

Electrical Costs: Minimal air leakage from Plattco's Double Flap Airlock Valves reduces the amount of air moving through the baghouse or precipitator. This reduces the horsepower required to operate the fan. The leaking air through a rotary valve requires more horsepower to operate the baghouse or precipitator fan.

Production Output: By design, Plattco Double Flap Airlock Valves allow material to drop through the valve easily which increases throughput; and, eliminates bridging and plugging problems. By design, rotary valves can cause bridging of the material above; and, the vanes can also pack with material to reduce overall throughput.

Cost Benefit: Just as an example, a facility that replaced 20 rotary valves with Plattco Valves realized savings in excess of \$70,000 annually as a result of extended valve life, performance, less maintenance and lower utility / operating costs.

Plattco can help you calculate the costs of replacing your existing rotary valves with Plattco Double Flap Airlock Valves to confirm the value to your specific operation. Contact us today!

About Plattco

Plattco Corporation is the recognized leader for valves that solve material handling problems in a wide variety of industries. Plattco specializes in the design and manufacture of Double Flap Airlock® Valves and associated multi-purpose slide gates. Plattco is an integrated manufacturer with engineering capabilities, a pattern shop, foundry and machine shop at its facilities in Plattsburgh, NY. Plattco invented the double flap material handling valve in 1960 and has established a proven record of innovation. Plattco was the first to install double flap airlock valves on the windbox at iron ore mines and on the clinker coolers at cement plants. Founded in 1897, Plattco began as a gray iron foundry, producing drainage castings, stock valves and other machined castings for the paper, mining and other regional industries. Plattco is employee owned.

Plattco
Corporation

Founded in 1897



Plattco Corporation
7 White Street
Plattsburgh, NY 12901
USA

International Calls 1.518.563.4640
USA / Domestic Calls 1.800.352.1731

www.PLATTCO.com