



Preventing operating problems by maintaining your rotary airlock valve

Even though a rotary airlock valve is a relatively simple device, you have to maintain it properly to ensure it performs dependably. Proper maintenance will provide twin long-term dividends: better valve performance and smooth conveying system operation.

First, know your valve inside and out. Maintenance workers should read the manufacturer's operating manual. This will help them understand the operation of valve components, including the motor, drive chain, speed reducers, and any accessories such as flexible seal strips.

Second, develop a step-by-step preventive maintenance procedure. Because no two installations are identical, use a separate maintenance procedure for each valve installation. Also incorporate any maintenance guidelines supplied by the motor, speed reducer, and bearing manufacturers into your valve maintenance procedure. Preventive maintenance steps typically include:

- Visually inspecting the valve interior to check blade-to-housing and blade-to-headplate clearances and the condition of the rotor, rotor blades, flexible seal strips, housing, and headplates. You can inspect the valve either through an access door (if the valve is so equipped) or by partially dismantling the valve.
- Checking the shaft seals for tightness.
- Checking the speed reducer oil level.
- Lubricating the motor, speed reducers, drive chain, bearings, and shaft seals.
- Adjusting the drive chain and sprockets and, afterward, ensuring the guard on the drive chain is in place.

How often you should perform each step depends on how many hours or shifts your system operates per week and on the maintenance schedule for the rest of your conveying system and other plant equipment. Work with your valve manufacturer and maintenance workers to establish a schedule that's practical for you. Also plan to document the procedures so you have a record of when maintenance steps have been performed.

Finally, before workers perform any maintenance step, make sure they understand the applicable safety precautions. They should observe all warnings and instructions on the equipment and in the operating manual. For maximum safety, workers should electrically lock out the rotary airlock valve before performing any routine maintenance step, repair, or replacement.