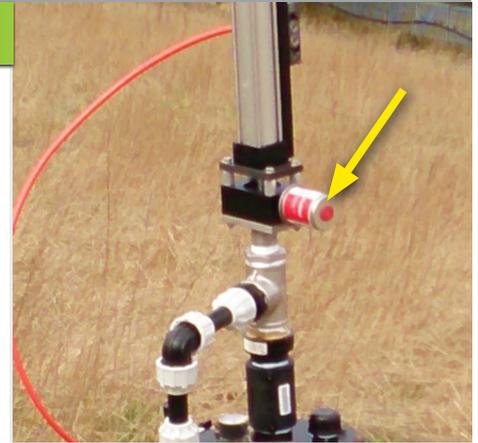


Easy Ways to Extend Pump Life

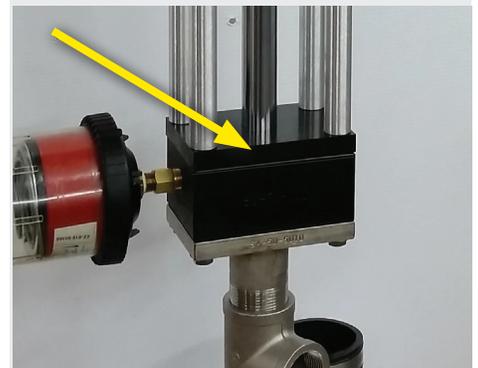
STUFFING BOX

Hot chemicals, grit and age eventually will wear down the best of seals. But a few simple and inexpensive steps will significantly lengthen seal life and reduce costs.

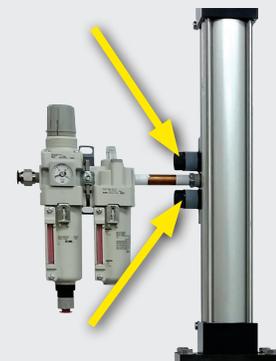
1. **Monitor discharge pressure!!** Critical: Liquid must be expelled at the rate it is pumped, or the resistant back pressure will cause stuffing-box failure. Discharge lines must be large enough to handle pumped volume. Never pump with plugged or closed discharge.
2. **Lube the drive rod.** An auto-oiler attached to the seal plate significantly reduces friction and wear.
3. **Keep the rod clean.** Watch for dirt or grit, which can cause scratching or marring.
4. **Divert drips.** A splash plate mounted on the stuffing box will direct any leakage into drain indicator gutter.
5. **Drain drips.** Attach a ¼-inch pvc hose-barb fitting in the stuffing-box drain, with ¼-inch tube to a container, to divert any liquid from liner.
6. **Thoroughly clean cartridges.** If/when replacing seals, soak cartridges first in paint thinner and then in a degreaser for at least a half-hour each, followed by thorough water rinsing and cleaning with fine wire brush.
7. **Throw out worn cartridges.** Seals will fit too loosely and not seat properly in a worn cartridge.



Auto-oiler significantly reduces rod friction.



Splash plate above seal block diverts drips.



Regulator-oiler combo cleans, conditions incoming air. Use speed-muffler controls to adjust speed, not regulator.

DRIVE MOTOR

1. **Use a combination filter-regulator/air-oiler.** a.) The filter-regulator employs a replaceable filter to clean incoming pneumatic air of tiny particulates to keep dirt out of control logic and ports. b.) The air-oiler conditions incoming air with light lubrication for the motor and seals, an excellent investment return.
2. **Don't speed.** Blackhawk pneumatics run longest and most efficiently at 20 strokes per minute, with a top end of no more than 40 spm. Only use speed-muffler controls to adjust speed, not filter regulator.

Maximize your investment in Blackhawk Pumps