



# pump repair kits & service accessories

## Pump Saver



The Pump Saver features a unique anti-freeze and lubricant formula. It is designed to protect against freezing for safe, cold weather storage. It also provides longer pump life, maintains seals & pistons, and prevents harmful buildup of hard water mineral deposits in the pump.

- 10.7 oz can
- 6 cans per casset

Product No.	Description
PS6151	10.07 oz can

## Extraction tool Kit



Heavy duty extraction tool kit that includes packing extractors for 13mm through 24mm.

Product No.	Description
PULLKIT	Extraction Tool Kit Complete with Case

## Packing Insertion Tool



Contains inserting tools for installing 20mm, 22mm and 24mm V packings in the packing gland. Prevents damaged sealing services.

Product No.	Description
ZMVT00L	Packing Insertion Tool

## Oil Drain Kit



- Designed to make changing oil easy
- 4 foot hose to aid with oil disposal
- Screw in cap to eliminate drips
- Full flow oil drain valve
- Knob designed to prevent accidental operation

Product No.	Description
ODK250	1/4" fits series: 44, 47, 50, 51, 60, 63, 66
ODK375	3/8" fits series: 69, 70, 76, 77
ODK500	1/2" fits series: 71

## Handy Calculations

### Belt Length

$$BL = 2L + \frac{\pi(D+d)}{2} + \frac{(D-d)}{4L}$$

BL = Belt Length (inches)  
L = Center to Center Distance  
D = The Large Pulley Diameter  
d = The Small Pulley Diameter

### Belt Deflection

$$BD = L \times .016$$

BD = Belt Deflection (inches)

### Motor / Pump Speed

$$\frac{\text{Motor Pulley OD}}{\text{Pump RPM}} = \frac{\text{Pump Pulley OD}}{\text{Motor RPM}}$$

### Flow Rate / Pump Speed

$$\frac{\text{Rated GPM}}{\text{Rated RPM}} = \frac{\text{Desired GPM}}{\text{Desired RPM}}$$

### Horse Power Requirements

$$\text{Electric Brake HP} = \frac{\text{GPM} \times \text{PSI}}{1460}$$

$$\text{Hydraulic HP} = \frac{\text{GPM} \times \text{PSI}}{1714}$$

$$\text{Industrial Gasoline HP} = \frac{\text{GPM} \times \text{PSI}}{1100}$$

$$\text{Consumer Gasoline HP} = \frac{\text{GPM} \times \text{PSI}}{900}$$

### Nozzle Selection

$$\text{Nozzle \#} = \text{GPM} \sqrt{\frac{4000}{\text{PSI}}}$$

### Water velocity

$$V = \frac{\text{Flow Rate (GPM)} \times .0321}{\text{Pipe area}}$$

### Reciprocating pump Maximum inlet velocity

5 ft/sec

### Area of a pipe

$$A = \frac{\pi D^2}{4}$$

$\pi = \pi$  (pi) 3.14159  
D = Diameter of pipe (inches<sup>2</sup>)