



Always the Right Solution™

Section:  
MOYNO® 500 PUMPS  
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## SERVICE MANUAL MOYNO® 500 PUMPS

300 SERIES  
30100, 30102, 30104, AND 30105 MODELS

### DESIGN FEATURES

Housing: Phenolic  
Pump Rotor: Phenolic  
Elastomers: NBR, EPDM, FPM  
Shaft: Carbon steel  
Bearings: Prelubricated, fully sealed ball bearings mounted on shaft and integrally cast in pump body.  
Seal: Mechanical (carbon/ceramic)  
Mounting: Resilient mountings for quiet operation  
Port Size: 1" OD for hose connections

### INSTALLATION

**Mounting Position.** Pump may be mounted in any position. When mounting vertically, it is necessary to keep bearings above seals to prevent possible seal leakage into bearings.

**Pre-Wetting.** Prior to connecting pump, wet pump elements and mechanical seal by adding fluid to be pumped into suction and discharge ports. Turn shaft over several times in a counterclockwise direction to work fluid into elements.

**Piping.** Install 1" ID hose using adjustable hose clamps. If hose is lengthy, it should be supported to avoid excessive strain on pump housings.

**Drive.** On belt driven units, adjust belt tension to point of non-slip. Do not overtighten.

On direct drive units, coupling components should be aligned and spaced at least  $\frac{1}{16}$ " apart.

Note: Pump shaft diameter is .6267". Pulley or coupling may have to be hand reamed for proper fit.

Check rotation before startup. Rotation must be counterclockwise when facing shaft to prevent rotor unscrewing from shaft.

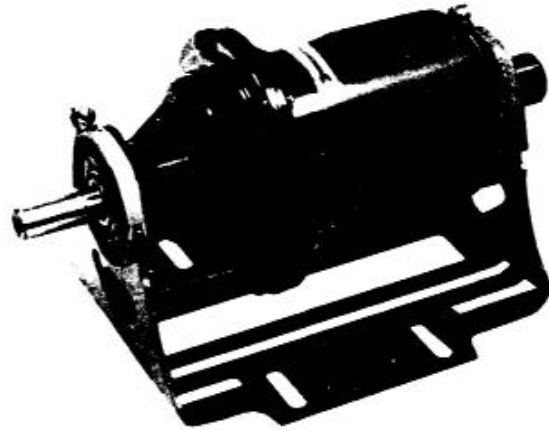
Maximum speed is 1750 rpm.

### OPERATION

**Self-Priming.** With wetted pumping elements, the pump is capable of 25 feet of suction lift when operating at 1750 rpm with hose size equal to port size. Be sure suction lines are air tight or pump will not prime.

**DO NOT RUN DRY.** Unit depends on liquid pumped for lubrication. For proper lubrication, flow rate should be at least 10% of rated capacity at a given rpm.

**Pressure and Temperature Limits.** Maximum discharge pressure is 25 psig. Unit is suitable for service at temperatures shown in Table 1.



**Storage.** Always drain pump for extended storage periods by removing suction and discharge lines, loosening resilient mount clamps and turning discharge port to drain position.

Table 1. Temperature Limits

Elastomer	Temperature Limits
*NBR	10°-160°F
*EPDM	10°-210°F
*FPM	10°-240°F

\*NBR = Nitrile

\*EPDM = Ethylene-Propylene-Diene Terpolymer

\*FPM = Fluoroelastomer

### TROUBLE SHOOTING

**WARNING:** Before making adjustments, disconnect power source and thoroughly bleed pressure from system. Failure to do so could result in electric shock or serious bodily harm. Replace belt or coupling guards before re-connecting power.

#### Failure To Pump.

1. Belt or coupling slip: Adjust belt tension or tighten set screw on coupling.
2. Stator torn; possibly excessive pressure: Replace stator, check pressure at discharge port.
3. Wrong rotation: Rotation must be counterclockwise when facing shaft.
4. Threads in rotor or on shaft stripped: Replace part. Check for proper rotation.
5. Excessive suction lift or vacuum.

**Pump Overloads.**

1. Excessive discharge pressure: Check discharge pressure for 25 psig maximum or obstruction in discharge line.
2. Fluid viscosity too high: Limit fluid viscosity to 20,000 CP or 100,000 SSU.

Viscosity CP	Limit RPM
1-300	1750
300-1,000	1200
1,000-2,000	700
2,000-5,000	350
5,000-10,000	180
10,000-20,000	100

3. Insufficient motor HP: Check HP requirement.

**Noisy Operation.**

1. Starved suction: Check fluid level, size of piping, and obstructions in pipe.
2. Bearings worn: Replace pump body.
3. Insufficient mounting: Check base for rigidity. Add support if necessary.

**Seal Leakage.**

1. Leakage at startup: If leakage is slight, allow pump to run several hours to let faces run in.
2. Persistent seal leakage: Faces may be cracked from freezing or thermal shock. Replace seal.

**Pump Will Not Prime.**

1. Air leak on suction side: Check hose connections.

**PUMP DISASSEMBLY**

**WARNING: Before disassembling pump, disconnect power source and thoroughly bleed pressure from system. Failure to do so could result in electric shock or serious bodily harm.**

1. Disconnect power source.
2. Disconnect suction and discharge hoses. Loosen support clamps (146) and remove pump from base (142).

3. Remove screws (112) which secure suction housing (2) to pump body (1). Remove suction housing (2) and stator (21).
4. Rotor (22) can be removed from shaft by turning in a clockwise direction (LH thread).
5. Remove rubber washer and ceramic seal face from shaft. Lift seal body out of seal bore in pump body. If any parts of the mechanical seal (69) are worn or broken, the complete seal assembly should be replaced. Seal components are matched parts and are not interchangeable.
6. The bearings and shaft assembly is molded into the pump body and should not be removed. Pump body and shaft are a complete part.

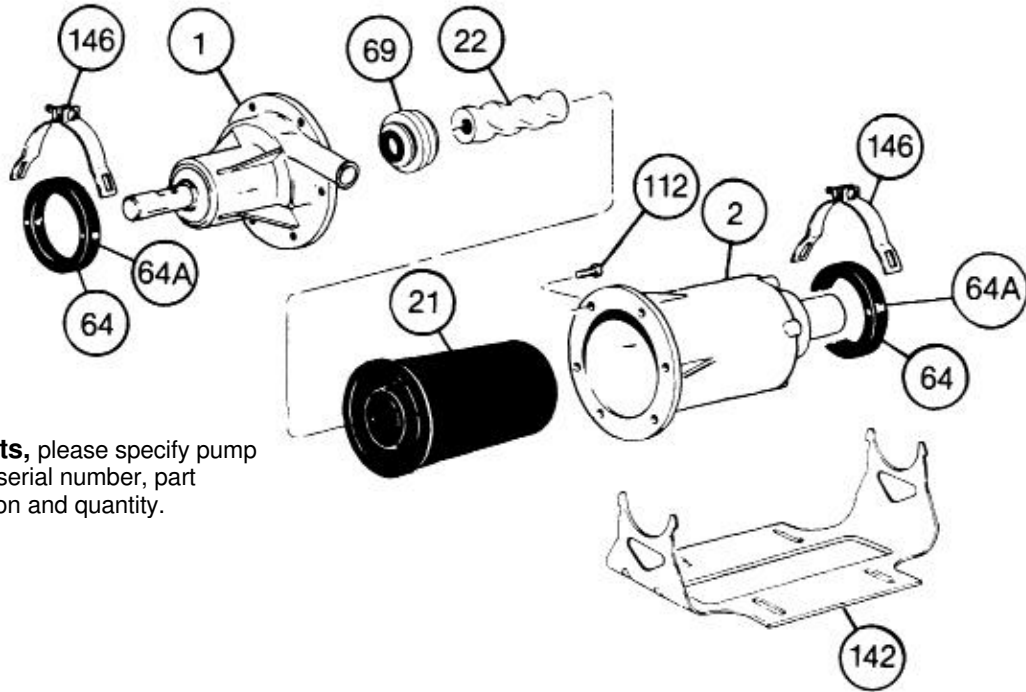
**PUMP ASSEMBLY**

1. Install mechanical seal (69) by oiling edge of seal body and pressing into seal bore squarely and firmly. Apply light oil to seal faces and slide ceramic face with rubber washer onto shaft. Be sure rubber washer is completely on shaft.

**Caution: Do not use oil on EPDM parts. Substitute glycerin or soap and water.**

2. Screw rotor (22) onto shaft in a counterclockwise direction (LH thread).
3. Install stator (21) on rotor, seating stator flange in groove on pump body (1).
4. Assemble suction housing (2) to pump body (1). Do not overtighten screws, and apply even pressure on all screws so as not to strip threads in plastic housing.
5. Connect hoses and follow installation instructions.

**WARNING: Replace belt or coupling guards before reconnecting power.**



**When ordering parts**, please specify pump model number, pump serial number, part number, part description and quantity.

**PARTS LIST**

Item No.	Description	Pump Model Number			
		30100	30102	30104	30105
1	Pump Body (Includes Bearing and Drive Shaft)	330-5311-000 (Phenolic)			
2	Suction Housing	330-0945-000			
*21	Stator	NBR 340-3500-120		EPDM 340-3500-320	FPM 340-3500-520
*22	Rotor	320-1486-000 (Phenolic)			
64	Cushion Ring (2 req.)	**	320-1733-000		
64 A	Outer Ring (2 req.)	**	320-1734-000		
*69	Mechanical Seal	320-6976-000		320-6977-000	320-6978-000
112	Screws (6 req.)	320-6936-000			
142	Pump Support	**	330-1697-000		
146	Clamp (2 req.)	**	320-4277-000		

\*Recommended spare parts.

\*\*30100 pump is the same as 30102, less base.

NBR - Nitrile  
 EPDM - Ethylene-Propylene-Diene Terpolymer  
 FPM - Fluoroelastomer

