# ACCA PUMPS

## L6 PROGRESSIVE CAVITY PUMP

Operation, Maintenance, Assembly & Replacement Parts Manual

| | |
|---|---|
| **Applicable frames** | 1L6, 2L6, 3L6 |
| **Compatible drive-end family** | L6; source manual also covers 3M4, 6M4, 3P3, 6P3, 9P3 |
| **Document** | ACCA-L6-MM-01 |
| **Revision** | Rev. A - September 2026 |

**IMPORTANT:** This ACCA manual is an independent service document for ACCA replacement pumps and parts compatible with the Moyno L6 drive-end family. Moyno is a registered trademark of its owner. ACCA Pumps is not affiliated with or endorsed by the OEM.

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## Contents

1. 1. Safety and document scope
2. 2. Pump principle and identification
3. 3. Installation and startup
4. 4. Routine maintenance
5. 5. Packing and water flush
6. 6. Bearing maintenance
7. 7. Disassembly
8. 8. Inspection and service criteria
9. 9. Reassembly
10. 10. Troubleshooting
11. 11. L6 exploded view
12. 12. L6 parts and replacement references
13. 13. Recommended spare parts
14. 14. Service record and ACCA support

### Source basis

Technical sequence, L6 reference identifiers, component descriptions, frame coverage and reference part numbers are derived from the supplied L6 drive-end service source. Instructions are reorganized and rewritten for an ACCA service format; they are not a reproduction of the source manual.

**MODEL CHECK:** Before ordering parts, record the pump frame, construction/type code, serial number and any special trim. Verify the actual installed configuration before disassembly.

## 1. Safety and document scope

- Lock out and tag out the driver and all auxiliary energy sources before opening, adjusting or servicing the pump.
- Close and secure suction and discharge isolation valves. Relieve pressure and drain the pump before loosening any component.
- Guard couplings, belts, pulleys, shafts and other rotating components during operation.
- Never run a progressing cavity pump dry. The pumped liquid lubricates and cools the rotor-stator interface.
- Use lifting and support methods appropriate for the pump, piping and drive. Do not allow unsupported piping loads to distort the pump.
- Use chemical-resistant PPE appropriate to the process fluid. Flush and decontaminate the pump when required by site procedure.

**CAUTION:** Positive-displacement pumps can generate high discharge pressure against a closed or restricted line. Confirm that the discharge path and pressure-protection system are open and functional before startup.

## 2. Pump principle and identification

The L6 is a single-rotor progressing cavity pump. A single-helical rotor turns eccentrically inside a double-helical elastomer stator, creating sealed cavities that move continuously from suction to discharge. This produces low-pulsation, positive-displacement flow.

In the frame designation, the first number identifies the number of pumping stages, the letter identifies the drive-end family, and the final number identifies the element size. For example, 2L6 denotes a two-stage L-frame pump using size-2 pumping elements.

| | |
|---|---|
| **Frame** | 1L6 |
| **Type / construction code** | _____ |
| **Serial number** | _____ |
| **Service / fluid** | _____ |
| **Installed date** | _____ |

## 3. Installation and startup

1. Confirm that the pump and driver are securely mounted and aligned, and that piping is independently supported.

2. Confirm the correct rotation for the installation before coupling the driver for continuous operation.

3. Open the suction valve fully. Confirm that the discharge path is open and that any relief or pressure-limiting device is available.

4. Prime the pump and wet the rotor/stator with the process liquid or another elastomer-compatible liquid.

5. If packing is water-flushed, establish flush flow before startup. Flush pressure should be maintained above suction-housing pressure.

6. Jog the driver and check for abnormal noise, binding or leakage. Then start at the lowest practical speed and verify flow and pressure.

7. During the first operating period, inspect packing leakage, bearing temperature, vibration and motor load frequently.

**DO NOT RUN DRY:** Dry operation can rapidly damage the stator. Fill the pump with compatible liquid before startup.

# 4. Routine maintenance

| Item | Check | Typical action | Suggested frequency |
|---|---|---|---|
| Packing | Leakage / gland temperature | Adjust evenly; lubricate or verify flush | Startup, then routinely |
| Bearings | Noise / temperature | Inspect and relubricate at service interval | At least every 1,500 operating hours under normal service |
| Rotor / stator | Capacity, pressure, slip | Inspect for wear if performance declines | Condition based |
| Drive train | Noise, vibration, alignment | Inspect coupling/drive and mounting | Routine |
| Fasteners / piping | Looseness or leakage | Retighten / repair as required | Routine |

# 5. Packing and water flush

The source L6 configuration uses formed packing around the drive shaft with a lantern ring. Packing gland nuts should be adjusted evenly and only tight enough to control leakage without overheating the shaft or gland. New packing normally requires several small adjustments while it seats.

For L6 reassembly, the source specifies one packing ring, then the lantern ring, followed by three packing rings. Stagger the joints of adjacent rings. If the final ring cannot initially be installed, allow the installed packing to seat during brief operation and then install the remaining ring.

## Water-flushed packing

For abrasive service, clean flush water may be introduced through the stuffing-box port normally used for packing lubrication. The source manual specifies maintaining stuffing-box flush pressure approximately 10-15 psi above the pressure in the suction housing. Throttle the outlet as required to maintain that differential.

**PACKING ADJUSTMENT:** Over-tightening can cause premature packing failure and wear of the drive shaft and gland. Adjust both gland nuts evenly.

# 6. Bearing maintenance

The L6 drive end uses ball bearings. The source manual states that factory-lubricated bearings normally require no additional lubrication for at least 1,500 hours of normal operation. When servicing, remove the bearing/shaft assembly, clean out the old grease, and refill only about one-third of the space between the bearings.

Use an EP lithium-soap-base bearing grease suitable for the operating environment. The source specifically advises against sodium- or calcium-base grease. Avoid over-lubrication.

# 7. Disassembly

1. De-energize and lock out the driver. Isolate suction and discharge. Shut off any packing flush.

2. Drain the pump body and support the pump body near the drain area to avoid excessive load on the support.

3. Disconnect piping from the stator/discharge end.

4. Remove the discharge reducer (U). Remove the stator-support cap, unscrew the stator (Z) from the pump body/suction housing, and pull it off the rotor.

5. Remove the two drive-pin retaining nuts (N) at the shaft collar (J). Remove the shaft pin, slide the collar toward the packing gland, and remove the retaining washers (O).

6. Withdraw the rotor (AA), connecting rod (Q), and joint hardware as an assembly. Support the connecting rod at its midsection before driving out joint pins.

7. Remove the packing gland (W), packing (X), lantern ring (M), and packing washer (Y) as required.

8. With the rotor assembly removed, remove the bearing cover plate (H). Drive or press the drive-shaft/bearing subassembly out from the suction side using controlled force on the shaft assembly.

9. Remove the bearing lock nut (D) and lock washer (E). Use an arbor press to remove the radial bearing (A), spacer (C), and thrust bearing (B), applying force to the appropriate race.

10. Replace grease seals whenever bearing or drive-shaft condition makes reuse questionable.

## 8. Inspection and service criteria

| Component | Inspection guidance |
|---|---|
| **Rotor** | Inspect plating for scoring, corrosion, flaking and localized wear. Measure if loss of capacity suggests excessive slip. |
| **Stator** | Inspect for swelling, cracking, chunking, hardening, cuts and loss of interference. Confirm elastomer compatibility with the process. |
| **Connecting rod / pins** | Inspect pin bores, pins, retainers and washers for elongation, fretting or deformation. |
| **Drive shaft** | Inspect the packing wear area for grooving and the bearing fits for fretting or damage. |
| **Bearings** | Replace bearings that feel rough, loose, noisy or show heat discoloration, corrosion or damaged races. |
| **Grease seals** | Replace hardened, cut or leaking seals; replacement is recommended during bearing renewal. |
| **Packing components** | Inspect gland, lantern ring and stuffing-box bore; replace packing rather than reusing compressed rings. |
| **Housings / threads** | Inspect stator threads, reducer threads, drain ports and mounting surfaces for damage. |

## 9. Reassembly

1. Clean all reusable components. Install new packing and replace damaged washers/seals. Replace grease seals when new bearings are installed.

2. Press bearings squarely onto the shaft and seat them fully against their shoulders. Install the lock washer and lock nut; secure the lock washer tab.

3. Install the shaft collar, packing gland and packing washer in the correct sequence as the shaft enters the stuffing-box area. Tighten bearing-cover fasteners evenly.

4. Install the connecting rod and align the rod, drive-shaft and collar holes before inserting the pin. Install retaining washers and retaining hardware securely.

5. Install packing in the L6 sequence: one ring, lantern ring, then three rings. Stagger ring joints.

6. Lubricate the rotor with water or another lubricant compatible with the stator elastomer. Do not use an incompatible petroleum lubricant on elastomers that can be attacked by oil or grease.

7. Install the stator without cross-threading. Apply a thread sealant appropriate to the stator sleeve and process. Tighten near the suction-housing end to reduce the risk of binding.

8. Reinstall stator support, reducer, drains, piping and guards. Prime the pump before startup and perform the startup checks in Section 3.

# 10. Troubleshooting

| Symptom | Possible causes | Checks / corrective action |
|---|---|---|
| No or low flow | Dry/unprimed pump; wrong rotation; blocked suction; worn rotor/stator; excessive slip | Prime; verify rotation; inspect suction; inspect rotor/stator and operating pressure. |
| High power draw | Stator too tight/swollen; high differential pressure; viscous fluid; mechanical binding | Verify fluid compatibility, pressure, speed and free rotation. |
| Packing overheats | Gland too tight; insufficient lubrication/flush; damaged shaft | Back off gland evenly; restore lubrication/flush; inspect shaft. |
| Excessive leakage | Packing worn or poorly seated; shaft grooved; flush pressure incorrect | Adjust or repack; inspect shaft; verify flush differential. |
| Bearing noise/heat | Bearing wear; contamination; excessive grease; misalignment | Inspect bearings and seals; correct grease quantity; verify alignment. |
| Vibration/noise | Joint wear; rotor/stator damage; piping strain; drive misalignment | Inspect pins/rod, elements, supports and alignment. |

# 11. L6 exploded view

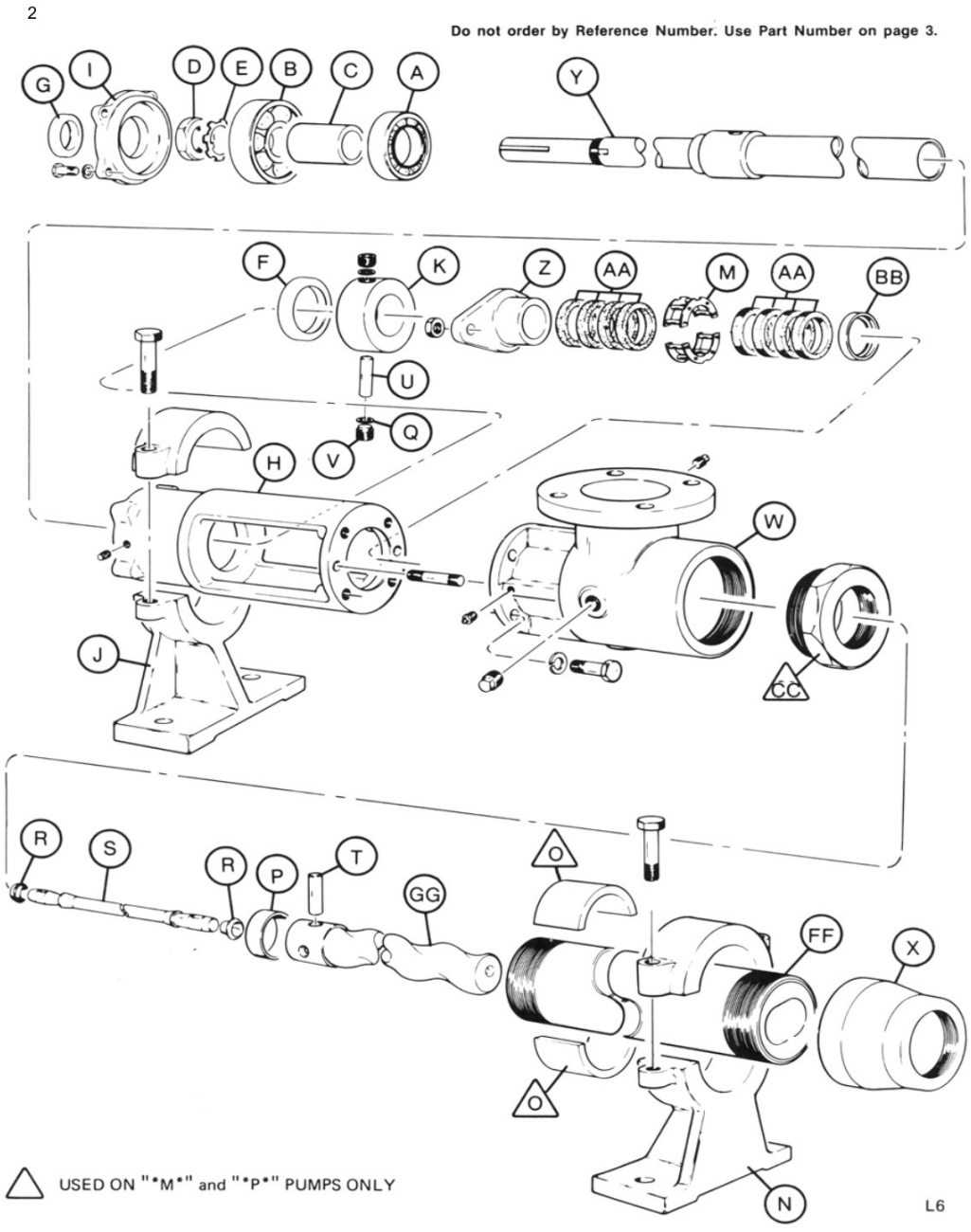


Figure 1. L6 drive-end exploded view used as the reference map for the parts table below. Use the complete part number rather than the reference identifier alone when ordering.

# 12. L6 parts and replacement references

The following table is specific to the L6 drive-end source. ACCA replacement numbers are shown using the established ACCA cross-reference convention: “A-” + source reference part number. Verify material/type code and frame before ordering.

| Ref. | Description | Source reference P/N | ACCA replacement P/N |
|---|---|---|---|
| A | Ball Bearing (Radial) | A06291 | A-A06291 |
| B | Ball Bearing (Thrust) | A06301 | A-A06301 |
| C | Bearing Spacer | A06331 | A-A06331 |
| D | Bearing Lock Nut | A06581 | A-A06581 |
| E | Bearing Lock Washer | A06591 | A-A06591 |
| F | Grease Seal (Radial) | A06611 | A-A06611 |
| G | Grease Seal (Thrust) | A06621 | A-A06621 |
| H | Bearing Housing | A06051 | A-A06051 |
| I | Bearing Cover Plate | A06341 | A-A06341 |
| J | Pump Support with Cap | A06371 | A-A06371 |
| K | Shaft Collar | A06491 | A-A06491 |
| M | Lantern Ring | A06571 | A-A06571 |
| P | Pin Retainer | A06501 | A-A06501 |
| Q | Retaining Screw Washer | A06731 | A-A06731 |
| R | Connecting Rod Washer | A06531 / A0653Q / A0653F | A-A06531 / A-A0653Q / A-A0653F |
| S | Connecting Rod | B0625D / B0625S | A-B0625D / A-B0625S |
| T | Rotor Pin | B0645D / B0645S | A-B0645D / A-B0645S |
| U | Shaft Pin | B0646D / B0646S | A-B0646D / A-B0646S |
| V | Drive Pin Retaining Screw | B0654D / B0654S | A-B0654D / A-B0654S |
| Kit | Bearing Kit | K06291 | A-K06291 |
| Kit | Connecting Rod Kit | K0625D / K0625S | A-K0625D / A-K0625S |
| Stator | 1L6 | C4106* / C5106* | See complete stator table |
| Stator | 2L6 | C4206* / C5206* | See complete stator table |
| Stator | 3L6 | C4306* / C5306* | See complete stator table |
| Rotor | 1L6 | C71061 / C81061 | A-C71061 / A-C81061 |
| Rotor | 2L6 | C72061 / C82061 | A-C72061 / A-C82061 |
| Rotor | 3L6 | C73061 / C83061 | A-C73061 / A-C83061 |

** For stators, the source manual uses a basic stator number completed by the stator-material/type suffix. Confirm the third construction-code character before ordering.*

## 12A. L6 stator identification and complete part numbers

The L6 stator part number identifies two separate construction choices: (1) the stator tube/casing construction and (2) the stator material suffix. For L6 pumps, the source parts matrix uses different stator base numbers for carbon/regular-steel and stainless-steel constructions. Identify both before selecting a replacement stator.

### Step 1 - Identify the stator tube/casing construction

| L6 frame | Carbon / regular-steel stator tube | Stainless-steel stator tube |
|---|---|---|
| 1L6 | C4106 | C5106 |
| 2L6 | C4206 | C5206 |

| | | |
|---|---|---|
| 3L6 | C4306 | C5306 |

The asterisk is replaced by the stator-material suffix from Step 2. Example: C4306Q is the 3L6 carbon/regular-steel-tube construction with Q elastomer; C5306Q is the corresponding stainless-steel-tube construction with Q elastomer.

## Step 2 - Add the stator material suffix

| Code | Material | Durometer |
|---|---|---|
| B | EPDM 300 | 70 |
| C | Nitrile 103 | 50 |
| D | Tool Steel | - |
| E | Nitrile 110 | 70 |
| F | Fluoroelastomer 500 | 75 |
| G | 416 Stainless Steel | - |
| H | Hastelloy "C" | - |
| J | 17-4 PH Stainless Steel | - |
| K | Hypalon 800 | 70 |
| M | Nitrile 100M | 70 |
| P | Thiokol | 70 |
| Q | Nitrile 100 | 70 |
| R | Natural Rubber 200 | 55 |
| T | Teflon 15% glass | - |
| U | Urethane | 70 |
| X | Special to application | - |
| Z | White Nitrile 150 | 70 |

## Quick identification examples

| Example | Tube construction | Stator material | Reference P/N | ACCA P/N |
|---|---|---|---|---|
| C4206Q | Carbon / regular steel | Q - Nitrile 100, 70 duro | C4206Q | A-C4206Q |
| C5206Q | Stainless steel | Q - Nitrile 100, 70 duro | C5206Q | A-C5206Q |

Important: C4306Q and C5306Q describe different stator constructions. Both use Q nitrile material, but the C4-series and C5-series base numbers identify different stator tube/casing constructions.

## Complete L6 stator part numbers - searchable reference

| Frame | Tube | Material | Reference P/N | ACCA P/N |
|---|---|---|---|---|
| 1L6 | Carbon / regular steel | B - EPDM 300, 70 duro | C4106B | A-C4106B |
| 1L6 | Carbon / regular steel | C - Nitrile 103, 50 duro | C4106C | A-C4106C |
| 1L6 | Carbon / regular steel | E - Nitrile 110, 70 duro | C4106E | A-C4106E |
| 1L6 | Carbon / regular steel | F - Fluoroelastomer 500, 75 duro | C4106F | A-C4106F |
| 1L6 | Carbon / regular steel | K - Hypalon 800, 70 duro | C4106K | A-C4106K |
| 1L6 | Carbon / regular steel | M - Nitrile 100M, 70 duro | C4106M | A-C4106M |
| 1L6 | Carbon / regular steel | P - Thiokol, 70 duro | C4106P | A-C4106P |
| 1L6 | Carbon / regular steel | Q - Nitrile 100, 70 duro | C4106Q | A-C4106Q |
| 1L6 | Carbon / regular steel | R - Natural Rubber 200, 55 duro | C4106R | A-C4106R |
| 1L6 | Carbon / regular steel | U - Urethane, 70 duro | C4106U | A-C4106U |
| 1L6 | Carbon / regular steel | Z - White Nitrile 150, 70 duro | C4106Z | A-C4106Z |

| | | | | |
|---|---|---|---|---|
| 1L6 | Stainless steel | B - EPDM 300, 70 duro | C5106B | A-C5106B |
| 1L6 | Stainless steel | C - Nitrile 103, 50 duro | C5106C | A-C5106C |
| 1L6 | Stainless steel | E - Nitrile 110, 70 duro | C5106E | A-C5106E |
| 1L6 | Stainless steel | F - Fluoroelastomer 500, 75 duro | C5106F | A-C5106F |
| 1L6 | Stainless steel | K - Hypalon 800, 70 duro | C5106K | A-C5106K |
| 1L6 | Stainless steel | M - Nitrile 100M, 70 duro | C5106M | A-C5106M |
| 1L6 | Stainless steel | P - Thiokol, 70 duro | C5106P | A-C5106P |
| 1L6 | Stainless steel | Q - Nitrile 100, 70 duro | C5106Q | A-C5106Q |
| 1L6 | Stainless steel | R - Natural Rubber 200, 55 duro | C5106R | A-C5106R |
| 1L6 | Stainless steel | U - Urethane, 70 duro | C5106U | A-C5106U |
| 1L6 | Stainless steel | Z - White Nitrile 150, 70 duro | C5106Z | A-C5106Z |
| 2L6 | Carbon / regular steel | B - EPDM 300, 70 duro | C4206B | A-C4206B |
| 2L6 | Carbon / regular steel | C - Nitrile 103, 50 duro | C4206C | A-C4206C |
| 2L6 | Carbon / regular steel | E - Nitrile 110, 70 duro | C4206E | A-C4206E |
| 2L6 | Carbon / regular steel | F - Fluoroelastomer 500, 75 duro | C4206F | A-C4206F |
| 2L6 | Carbon / regular steel | K - Hypalon 800, 70 duro | C4206K | A-C4206K |
| 2L6 | Carbon / regular steel | M - Nitrile 100M, 70 duro | C4206M | A-C4206M |
| 2L6 | Carbon / regular steel | P - Thiokol, 70 duro | C4206P | A-C4206P |
| 2L6 | Carbon / regular steel | Q - Nitrile 100, 70 duro | C4206Q | A-C4206Q |
| 2L6 | Carbon / regular steel | R - Natural Rubber 200, 55 duro | C4206R | A-C4206R |
| 2L6 | Carbon / regular steel | U - Urethane, 70 duro | C4206U | A-C4206U |
| 2L6 | Carbon / regular steel | Z - White Nitrile 150, 70 duro | C4206Z | A-C4206Z |
| 2L6 | Stainless steel | B - EPDM 300, 70 duro | C5206B | A-C5206B |
| 2L6 | Stainless steel | C - Nitrile 103, 50 duro | C5206C | A-C5206C |
| 2L6 | Stainless steel | E - Nitrile 110, 70 duro | C5206E | A-C5206E |
| 2L6 | Stainless steel | F - Fluoroelastomer 500, 75 duro | C5206F | A-C5206F |
| 2L6 | Stainless steel | K - Hypalon 800, 70 duro | C5206K | A-C5206K |
| 2L6 | Stainless steel | M - Nitrile 100M, 70 duro | C5206M | A-C5206M |
| 2L6 | Stainless steel | P - Thiokol, 70 duro | C5206P | A-C5206P |
| 2L6 | Stainless steel | Q - Nitrile 100, 70 duro | C5206Q | A-C5206Q |
| 2L6 | Stainless steel | R - Natural Rubber 200, 55 duro | C5206R | A-C5206R |

| | | | | |
|---|---|---|---|---|
| 2L6 | Stainless steel | U - Urethane, 70 duro | C5206U | A-C5206U |
| 2L6 | Stainless steel | Z - White Nitrile 150, 70 duro | C5206Z | A-C5206Z |
| 3L6 | Carbon / regular steel | B - EPDM 300, 70 duro | C4306B | A-C4306B |
| 3L6 | Carbon / regular steel | C - Nitrile 103, 50 duro | C4306C | A-C4306C |
| 3L6 | Carbon / regular steel | E - Nitrile 110, 70 duro | C4306E | A-C4306E |
| 3L6 | Carbon / regular steel | F - Fluoroelastomer 500, 75 duro | C4306F | A-C4306F |
| 3L6 | Carbon / regular steel | K - Hypalon 800, 70 duro | C4306K | A-C4306K |
| 3L6 | Carbon / regular steel | M - Nitrile 100M, 70 duro | C4306M | A-C4306M |
| 3L6 | Carbon / regular steel | P - Thiokol, 70 duro | C4306P | A-C4306P |
| 3L6 | Carbon / regular steel | Q - Nitrile 100, 70 duro | C4306Q | A-C4306Q |
| 3L6 | Carbon / regular steel | R - Natural Rubber 200, 55 duro | C4306R | A-C4306R |
| 3L6 | Carbon / regular steel | U - Urethane, 70 duro | C4306U | A-C4306U |
| 3L6 | Carbon / regular steel | Z - White Nitrile 150, 70 duro | C4306Z | A-C4306Z |
| 3L6 | Stainless steel | B - EPDM 300, 70 duro | C5306B | A-C5306B |
| 3L6 | Stainless steel | C - Nitrile 103, 50 duro | C5306C | A-C5306C |
| 3L6 | Stainless steel | E - Nitrile 110, 70 duro | C5306E | A-C5306E |
| 3L6 | Stainless steel | F - Fluoroelastomer 500, 75 duro | C5306F | A-C5306F |
| 3L6 | Stainless steel | K - Hypalon 800, 70 duro | C5306K | A-C5306K |
| 3L6 | Stainless steel | M - Nitrile 100M, 70 duro | C5306M | A-C5306M |
| 3L6 | Stainless steel | P - Thiokol, 70 duro | C5306P | A-C5306P |
| 3L6 | Stainless steel | Q - Nitrile 100, 70 duro | C5306Q | A-C5306Q |
| 3L6 | Stainless steel | R - Natural Rubber 200, 55 duro | C5306R | A-C5306R |
| 3L6 | Stainless steel | U - Urethane, 70 duro | C5306U | A-C5306U |
| 3L6 | Stainless steel | Z - White Nitrile 150, 70 duro | C5306Z | A-C5306Z |

## 13. Recommended spare parts

For equipment where downtime is costly, maintain at least the following model- and material-correct spares:

- 1 rotor
- 1 stator
- 1 connecting rod kit
- 1 bearing kit
- 1 packing set
- Grease seals and common joint-retaining hardware

# 14. Service record and ACCA support

| Date | Hours | Work performed | Parts installed | Technician |
|---|---|---|---|---|

**ACCA PARTS & TECHNICAL SUPPORT:** 281-576-7722 | info@accapumps.com | accapumps.com

Compatibility statement: References to Moyno model designations and source part numbers are used solely to identify compatibility and service fitment. Moyno is a registered trademark of its respective owner. ACCA Pumps / ACCA Industrial LLC is an independent manufacturer and supplier of replacement pumps and parts.