ECO Gearchem®

Installation Operation Maintenance Instruction

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PUMP MODEL #_____

INTRODUCTION

Eco Gearchem pumps are constructed in 316SS, Alloy 20 and Alloy C. Gears are available in Alloy C, Alloy 20, glass filled TFE, Carbon/Graphite and PEEK. These pumps are used for the reliable handling of clear lubricating and non-lubricating fluids. These pumps operate over a broad range of temperatures, pressures and corrosive services for transfer applications, cyclic operations or continuous production systems.

Self priming Gearchem pumps can be operated over the entire pH range, for indoor and outdoor service, at system pressures from as low as 1mm Hg abs (vacuum) to 100 psi differential pressure and over a temperature range from -100°F to +450°F (-73°C to + 232°C). Gearchem pumps are available in flows up to 55 GPM and can be used to pump liquids with viscosities ranging from less than 1 cps up to 100,000 cps with reduced speeds.

Gearchem pumps may be quickly inspected in the field. All that is required to inspect the internal components is the removal of the rear housing. Before attempting an inspection or repair be sure to read and thoroughly understand this maintenance manual.

Pumps may be repaired either in the field or at an authorized Eco Repair Center (contact your Eco distributor for details). Field repairs can be done very quickly using Eco Kopkits which include all the parts necessary to cover practically all routine maintenance requirements.

EQUIPMENT INSPECTION

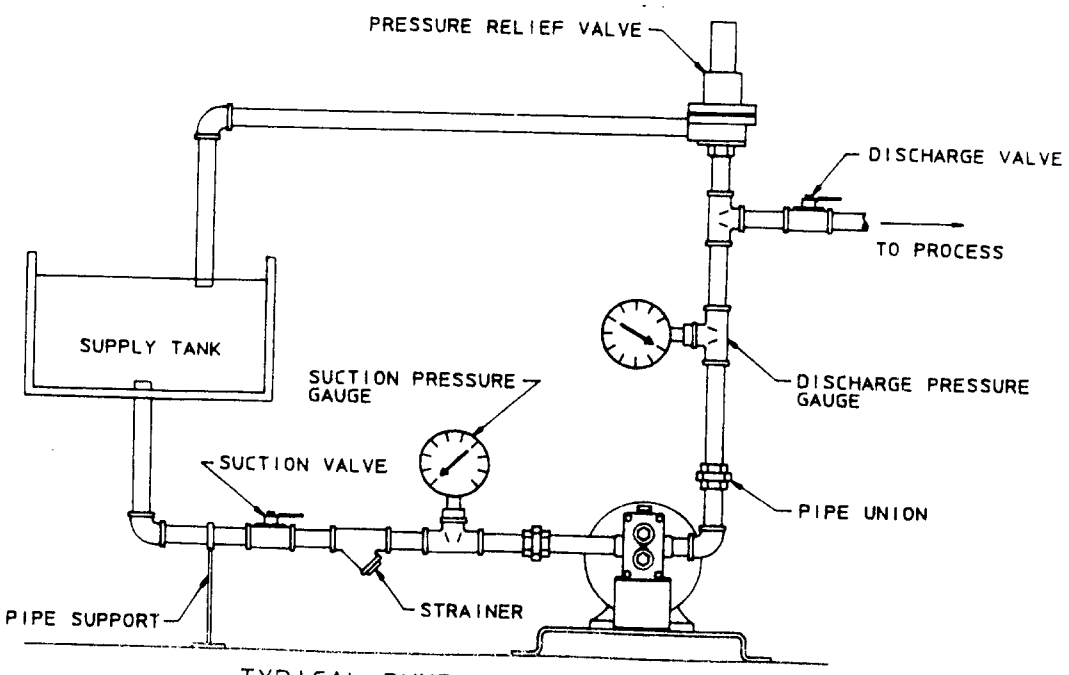
1. Check all equipment for completeness against the order and for any evidence of shipping damage. **Shortages or damage should be reported immediately to the carrier and to your Eco distributor.**

2. If the pump is not going to be installed immediately, the following steps should be taken.

   - Leave pump in original shipping carton.
   - Store indoors in a dry ambient atmosphere. Avoid temperature variations.
   - Leave all shipping plugs in place.
   - Contact the motor manufacturer for specific motor storage information.

3. Occasionally during shipment, possible misalignment or other damage such as cracked mechanical seal faces can occur. For this reason it is recommended that each unit be tested with water in some convenient area prior to piping into the actual process system.

4. These instructions should be read carefully by the personnel responsible for installation, operation and maintenance of the equipment and kept in a convenient place for ready reference. It is recommended that a copy of the Eco order be kept with this manual as well as a written record of the pump model number which is on the name tag attached to the pump. A space has been provided inside the front cover of the manual to record this number.



TYPICAL PUMP INSTALLATION
FIG. 1

INSTALLATION (SEE FIGURE 1)

1. Pump installation site should be selected to provide easy access for routine maintenance and to protect the pump from damage by the elements or from leaks or drips from nearby process equipment.

2. Suction and discharge ports of Eco Gearchem pumps can be determined as follows:

   a. Looking at the pump drive shaft, the suction port is to the right of the shaft, when the shaft rotates clockwise and the drive shaft is located below the ports for standard configuration on Model G2, G4, G6, G8 and GH8.

   b. Looking at the pump drive shaft, the suction port is to the left of the shaft, when the shaft rotates clockwise and the drive shaft is located above the ports for standard configuration on Models GA12 and GA 16.

   c. Reversing drive shaft rotation reverses flow and thus suction and discharge ports for all models.

3. Keep suction lines short, straight and of sufficient size to minimize friction loss to the pump. Make sure there is sufficient suction supply, so that pump will not starve or run dry. Flooded suction or gravity feed of fluid to pump inlet is generally preferred.

4. Use only full-bore ball valves or gate valves in the suction piping. If suction strainers are required, size them to minimize pressure drop and select those of a type that are easily cleaned.

5. Arrange all suction piping and fittings to prevent formation of air pockets. Make sure all joints are tight.

6. Flush and blow out all suction lines prior to mating up to pump. Use nipples and unions, or spool pieces with flanged pumps, for ease of maintenance.

7. Do not spring piping, either suction or discharge, when mating up to pump. Use supports or hangars at intervals as required. When necessary, provide for thermal expansion and contraction so that

no strain is placed upon the pump.

8. Check carefully alignment of pump and motor or drive system. Improper alignment is one of the most common causes of seal and stuffing box problems, as well as a major cause of rapid bearing wear and eventual pump failure.

9. Check all bolts and nuts for tightness. Correct any conditions which could cause destructive vibration or leakage.

10. Where required, provide proper system for seal flush, and/or drain. Observe any special instructions for packing lubrication.

11. If start-up screens are used, be sure they do not clog and starve suction. Start up screens should be removed prior to placing system into regular operation.

12. If flexible suction lines are used, be sure their selection and installation will prevent wall collapse and thus a starved suction condition.

13. When taking suction from a tank or vessel, avoid entry of sludge, solids, etc. into suction line by placing suction line inlet above maximum expected level of solids.

14. Discharge lines from Gearchem pumps should be fitted with properly sized relief valves to protect both pump and discharge system. Relief valve outlet should be piped back to suction vessel.

15. When a by-pass system is used to control flow from the pump, the bypassed fluid should be piped back to the suction vessel to prevent heat build-up due to recirculation. If it is absolutely necessary to pipe by-pass back to the pump suction line, the point of entry should be at least 10 pipe diameters away from the suction inlet. Provision for cooling should be made in the event of excessive heat buildup through fluid recirculation.

16. Where pumped fluids may solidify, crystalize, precipitate etc., provision should be made to thoroughly flush pump and piping during periods of shutdown. Pay particular attention to proper flushing of seal or stuffing box area.

MECHANICAL SEALS

Three basic seal types are offered as standard: internal, external, and double seal. All mechanical seals require cooling and lubrication. For long and troublefree seal life:

1. Do not run pump dry. Make sure pump is primed, suction is not starved, sufficient NPSH is available and your system is such that seal surfaces are wet. If a seal flush system is used, make sure that it is operating while the pump is operating. Double seals require a seal flush.

2. Keep abrasives out of the seal area. Dirty flush streams, whether piped from the pump discharge or from a separate source, will destroy the rotating and stationary seal mating surfaces.

3. Make sure pump and driver are properly aligned. Misaligned seal mating surfaces will not function. Excessive vibration will also prevent proper seal function and cause early failure.

4. Determine that seal materials of construction are compatible with pumped fluid. Be sure to check this when changing application.

PACKED STUFFING BOXES

The basic housekeeping procedures for mechanical seals also apply to packed pumps. For proper operation, the stuffing box area must be cooled and lubricated. Do not overtighten packing. Where packing lubricant is required, use it. Run in new packing carefully. Care and time taken at this stage will minimize down time and maintenance costs. Misalignment and vibration also shorten packing life. Flush streams to lantern ring stuffing boxes are as important as flush streams to mechanical seals.

OPERATION

1. Prior to operation, recheck installation according to instructions. Be sure electrical service to motor agrees with nameplate requirements. Jog to check rotation and rewire motor if necessary.

2. Lubricate packing, if required, using suitable lubricant. Where pump is equipped with lantern ring stuffing box, and recirculating flush check for proper piping from pump discharge to lantern ring nipple. Where thorough flush of lantern ring stuffing box is intended, check flush stream piping to and from stuffing box.

3. Check mechanical seal flush arrangements where used. Pressurized flush to double seal chamber must be in operation, at an inlet pressure of 10 to 15 psi above intended pump discharge pressure, prior to and when operating pump. Flush must continue when pump is stopped until pump pressure is reduced to within 20 psi of double seal chamber pressure.

   Where external seal cooling is required, provide for drip feed of cooling liquid over rotating seal head. Where internal seal cooling and lubrication by flush stream is intended, check piping from pump discharge to seal housing or from external source to seal housing. Make sure all flush streams are clean.

4. Make sure discharge valves are open, start pump and check for proper operation. Adjust packing as necessary, but allow sufficient time for proper run in. Check flush streams for proper operating pressure and flow. If pump bearing areas run hot, or seal/stuffing box areas run hot, shut pump down and determine cause.

5. • **Do not run dry.**

   • **Do not pump abrasives.**

   • **Do not run metal/metal gears below 100 cps or faster than 1450.**

MAINTENANCE

The timing for maintenance of the pump is established primarily on past performance. Each installation is different. Therefore detailed maintenance records of past performance can be invaluable for determining future preventative maintenance intervals. During routine pump inspections pay particular attention to the mechanical seal and bearing areas because those areas will determine future maintenance intervals. For motor maintenance instructions consult the motor manufacturer.

CAUTION

Before performing any maintenance requiring pump disassembly, be sure to flush pump thoroughly with a neutralizing fluid. Wear protective clothing and handle equipment with proper care.

1. Changing Service

   When changing a pump from one service to another, be sure to check that all wetted parts of the pump (including seals) are compatible with the fluid to be handled and that the motor is sufficiently sized for the application. If in doubt contact your Eco distributor.

2. Inspect for Wear

   Whenever gear pumps exhibit reduced flow rates, inability to maintain pressures, noisy or otherwise abnormal operation, first refer to the troubleshooting section. If the problem cannot be resolved the pump must be inspected for wear or damage. Eco Gearchem pumps can be easily opened for cleaning and inspection without disturbing piping connections by removing the pump rear housing.

   Where inspection shows wear, rebuilding the pump using an Eco KOPkit is strongly recommended. Where pumps are equipped with two metallic or plastic gears, replacement with a new set is preferred. Pumps have a metallic drive gear and plastic idler gear can often be restored to original performance by replacing the idler gear alone.

3. Mechanical Seal Design

   Eco Gearchem pumps equipped with mechanical seals use either single internal, single external or a double seal. In addition there is a variation, for vacuum service, of the external seal whereby the seal housing is lengthened between the seal and the pump. All seals are Type 9. These configurations are illustrated in Drawing SD-2652 and SD-2778.

All mechanical seal types used in Eco Gearchem pumps consist of a rotating seal head fixed to the shaft with set screws and a stationary seal face (or faces in the case of double seals) mounted in the seal housing with a TFE O-ring gasket.

4. Mechanical Seal Maintenance

For proper seal functioning, the following conditions must be met:

a. The seal faces must be smooth, free of cracks, chips, or ridges and free of score marks particularly those which emanate radially. Seal faces showing only light scratches or marks may be relapped. Eco lapping standards are smooth and flat to 3 helium light bands. Avoid touching sealing faces.

b. The seal faces must be perpendicular to the shaft axis and run true. A bent shaft can prevent proper sealing.

c. Secondary sealing elements such as O-rings and Teflon wedges must be installed so as not to pinch, cut or damage them. The use of a "bullet" to introduce the seal head onto the shaft helps prevent damage. Also the use of a lubricant that is compatible with the fluid being pumped is helpful.

d. The shaft must be free of nicks and scratches in the sealing area, particularly spiral scratches. When reinstalling a Type 9 seal head make sure the setscrews are backed out so as not to damage the shaft when sliding the seal on.

e. Install the seal with the correct compressive contact. Dimensions and directions are given for each model in the Reassembly Section.

f. A seal flush must be used for all double seal installations. The flush must be clean and introduced at a pressure about 10 to 15 psi higher than discharge pump pressure. For best results the flush inlet should be connected to the lowest of the two flush connections.

g. When reinstalling refurbished seal seats, always use a new seal seat O-ring. Slowly heat TFE o-ring in water or other suitable solution until temperature reaches 160° - 175°F. Slip over seal set into position on O-ring groove and let cool.

Do not use any pointed or sharp edged instruments that might cut or damage the O-ring during this operation. New seal seats shipped from the factory include the O-ring already fitted to the seat.

5. Stuffing Box Design

Eco Gearchem pumps with packing use either a plain stuffing box or one equipped with a lantern ring. GH8, GA-12 and GA-16 packed pumps are supplied only in the later configuration.

6. Stuffing Box Maintenance

Install packing rings carefully in the sequence noted on the drawings. Be sure gland is clean and that shaft is not scored. New packing on a damaged shaft will not seal. Where lantern rings are used, check to make sure they are properly positioned under the fitting so that flush streams or lubricants will have access to the lantern ring.

Recommended lubricants are:

SERVICE	LUBRICANT	TYPICAL SOURCE
1. Solvents	1. Soap-free grease	1. Keystone 5P9
2. Acids/Alkalies	2. Fluorocarbon grease	2. Halocarbon 25/20M
3. High temperatures	3. Silicone/Carbon/Graphite	3. Dow Corning 41

Do not overtighten packing. Run in a new set carefully, taking up on the gland nut a little at a time. If the gland runs hot, it is generally a sign that the packing is too tight. Damage to both shaft and packing will result. A properly packed and adjusted stuffing box will leak perhaps 10 drops every 3 to 5 minutes.

7. Significant Model Number

The significant model number stamped on the pump name plate, identifies the pump type, the seal arrangement, and other details, Refer to the significant model number chart in this manual if you are unsure of exactly what type of pump or seal you have.

Always refer to the full model number in any correspondence with your Eco distributor. Drawings and a consolidated parts list for each Gearchem pump are included in this manual. Recommended spare parts are denoted on the consolidated parts list.

RECOMMENDED SPARES

KOPkits. The basic Gearchem KOPkit consists of the following parts which are recommended as spares:

Drive Shaft
Idler Shaft
Drive Gear
Idler Gear
Drive Gear Key
Idler Gear Key
Bearings
Wear Plates
Bearing Lock Pins
Housing O-Rings
Drive Gear Retaining Rings
Idler Gear Retaining Rings
Shaft Seal Arrangement as Required*
*(Packing or Mechanical)

A KOPkit is completely identified by placing the letter "K" before the pump significant model number and deleting the hyphens. Example: A KOPkit for G6-ACT-KKT would be KG6ACTKKT.

DISASSEMBLY

Prior to any disassembly please:

- **Close discharge and suction valves.**
- **Disconnect power source to motor.**
- **Flush and drain pump.**

I. Single Internal Mechanical Seal (G2, G4, G6, G8).

Reference Drawing SD-2537, SD-2538.

1. Loosen gland lock nut (Item 35) and unscrew gland nut (Item 36).
2. Pull out seal seat (Item 55) with seat O-ring. Inspect as noted previously.
3. Remove either pipe plug (Item 62) and rotate shaft to allow access to seal head set screws. Loosen screws sufficiently to allow removal of seal head (Item 60).
4. Turn pump so that drive shaft is pointing down thereby allowing seal head to slide off shaft. If seal head does not come out easily, it will be necessary to remove seal housing (Item 30)
   a. Back off seal housing lock nut (Item 32).
   b. Unscrew seal housing (Item 30) to expose seal head (Item 60).
   c. When reassembling, fit new seal housing gasket (Item 31).
5. Inspect seal head as noted previously.

II. Single Internal Mechanical Seal (GH8, GA12, GA16).

Reference Drawing SD-2613, SD-2775

1. Remove seat retainer bolts (Item 39A) and seat retainer (Item 36) with seat retainer pin, drive end seal seat (Item 55) with seat ring and seat retainer O-ring (Item 37).
2. Visually inspect drive end seal seat (Item 55).
3. If replacement is required, carefully remove drive end seal seat (Item 55) by inserting a "L" shaped tool between seal seat and seat retainer (Item 36) and exert a firm pulling action.
4. Remove pipe plug (Item 62 or 63) on top of drive end of front housing (Item 1) and rotate shaft to allow access to seal head (Item 60) set screws. Loosen screws sufficiently to allow removal of seal head (Item 60) and withdraw over shaft. Inspect seal head. Replace if necessary.

III. Single External Mechanical Seal (G2, G4, G6, G8).

1. Loosen set screws in seal head and slide seal head off shaft.
2. Loosen gland lock nut (Item 35) and unscrew gland nut (Item 36).
3. Pull out seal seat (Item 55) with seat O-ring.
4. Inspect seal seat and seal head as noted previously.

IV. Double Mechanical Seal (G2, G4, G6, G8).

Reference Drawings SD-2537, SD-2538

1. Loosen gland lock nut (Item 35) and unscrew gland nut (Item 36).
2. Pull out drive end seal seat (Item 55) with seat O-ring. Inspect as noted previously.
3. Remove flush connection so as to give access to seal head set screws. Rotate shaft to allow access to seal head set screws, and loosen set screws to allow removal of seal head (Item 60). With G6 pumps, seal housing must be unscrewed to allow access to set screws. (See Step5).
4. Remove seal head (Item 60) and inspect as noted above.
5. Loosen seal housing lock nut (Item 32) and unscrew seal housing (Item 30).
6. Pull out pump end seal seat (Item 56) with seat O-ring. Inspect as noted previously.

V. Double Mechanical Seal (GH8, GA12, GA16).

Reference Drawing SD-2613, SD-2775

1. Remove seat retainer bolts (Item 39A) and seat retainer (Item 36) with seat retainer pin holding the drive end seal seat with seat ring and seat retainer O-ring.
2. Visually inspect drive end seal seat.
3. If replacement is required, carefully remove drive end seal seat by inserting a "L" shaped tool between seal seat and seat retainer (Item 36) and exert a firm pulling action.
4. Remove pipe plug (Item 62 or 63) on top of drive end of front housing (Item 1) and rotate shaft to allow access to seal head and withdraw over drive shaft (Item 4). Inspect seal head. Replace if necessary.
5. Visually inspect pump end seal seat.
6. If replacement is required, it will be necessary to remove front housing (Item 1) from the pump. (Disconnect any piping from front housing to allow disassembly).
7. Unbolt front housing (Item 1) from center housing (Item 2) and carefully slide the front housing over drive shaft(Item 4).
8. To replace pump end seal seat carefully remove by inserting an "L" shaped tool between seal seat and front housing and exert a firm pulling action.

VI. Pump Internals

Reference Drawings SD-2537, SD-2538, SD 2613, SD-2775

1. After removing the mechanical seal assembly, if it is necessary to either inspect or repair the pump internals, remove the pump housing bolts and rear housing (Item 3).
2. The gears (Items 6, 7) and wear plates (Item 15) are now accessible and can readily be removed along with the drive and idler shafts (Items 4, 5) from the center/front housings (Items 2, 1).
3. The gears can be removed from the shafts by removing one of the retaining rings and sliding the gears off their respective shafts.
4. Inspect all parts for signs of wear or damage. The maximum diametral clearance (bearing I.D. - shaft O.D.) that is acceptable is .010 inches. Shafts and bearings that are scored or worn must be replaced. Gears and wear plates with excessive wear or scoring must also be replaced.
5. Clean all parts before reassembly.

REASSEMBLY

I. Pump Internals

It is recommended that an Eco KOPkit be used when repairing a pump. The KOPkit comes with gears already assembled to the shafts and significantly reduces the repair time. If a KOPkit is being used proceed to Step 2.

1. Install the drive and idler gear (Items 6, 7) onto their respective shafts (Items 4, 5) using keys (Items 8, 9) and retaining rings (Items 10, 11). Take care not to scratch the shafts when installing the rings. Check the ends of the rings for sharp burrs. If a plastic and metal gear set are being used, the plastic gear is always the idler gear.

2. Install new bearings (Items 12, 13) in both the front and rear housing. Make sure that bearing lock pins (Item 14) are installed on each bearing.

3. Install (2) new O-rings (Item 16) in the groove on each side of the center housing.

4. Install a pair of wear plates (Item 15) on the front housing. Bring the front and center housing together with the (2) housing pins (Item 17) installed in their location holes.

5. Install the drive and idler gear shaft assemblies into the center/front housings assembly.

6. Install a pair of wear plates (Item 15) into the rear housing and assemble the rear housing to the pump along with (2) more housing pins.

7. Install the 4 housing bolts and nuts and tighten.

II. Single Internal Mechanical Seal (G2, G4, G6, G8).

Reference Drawings SD-2537, SD-2538

1. Prior to installation of new seal, clean seal housing (Item 30) and shaft. Burrs, etc. on shaft may damage the TFE wedge when passing over the shaft.

2. Lightly coat seal head face and I.D. with oil or TFE spray and carefully slip over shaft and into seal housing with the face end out.

3. If using a refurbished seal seat (Item 55), install new TFE O-ring (Item 55A) and pass over shaft, pushing seal head (Item 60) in front of it until inboard side of O-ring groove in seal seat (Item 55) comes flush with end of seal housing (Item 30).

4. Carefully tighten seal head set screws through pipe plug port in seal housing, taking up on each gradually while rotating shaft.

5. Reinstall gland nut (Item 36) and tighten, thereby compressing seal seat surface against spring loaded seal face.

6. Tighten gland nut and gland lock nut (Item 35).

III. Single Internal Mechanical Seal (GH8, GA12, GA16).

Reference Drawing SD-2613, SD-2775

1. Before replacing seat assembly, lubricate seal ring with lightweight machine oil or other lubricant compatible with pumped fluid. Then carefully align slot in seal seat (Item 55) with seat retainer pin. Place protective material over polished seal seat surface and press seal seat into seat retainer (Item 36).

2. To reassemble, install seal head (Item 60) on drive shaft and remove holding clips. Adjust seal head so that seal face is approximately .145 inches back from the front surface of the front housing on GA12/16 models. On GH8 model center set screw on seal head in pipe plug port.

3. Tighten seal head set screws through tapped port. Replace pipe plug (Item 62 or 63).

4. Assemble seat retainer (Item 36) with seal seat installed and a <u>new</u> seat retainer O-ring (Item 55A) over drive shaft (Item 4).

5. Tighten seat retainer bolts (Item 39A) which will set proper compression on seal head.

IV. Single External Mechanical Seal (G2, G4, G6, G8).

Reference Drawing SD-2537, SD-2538

1. Prior to installation of either refurbished or new seal parts, clean housing and shaft. Remove any burrs or buildup which could damage TFE wedge. Make sure there are no sharp edges on end of shaft or on shaft flat.

2. If using refurbished seal seat install with a new TFE O-ring, and slide over shaft into the front housing (Item 1) with the lapped side facing out.

3. Screw on gland nut (Item 36) to position seat and tighten.

4. Tighten gland lock nut (Item 35).

5. Lightly coat seal head face and I.D. with oil or TFE spray. Carefully and gently, push seal head over shaft, taking care not to damage TFE wedge or seal face.

6. Pull shaft away from pump as far as built-in end play will allow it, then fully compress seal head face against seal seat, and then back off seal head until 1/32" of seal face becomes visible. Tighten seal head set screws securely.

V. Double Mechanical Seal (G2, G4, G6, G8).

Reference Drawing SD-2537, SD-2538

1. Install new seal housing gasket (Item 31), screwing it down the front housing hub until it meets the lock nut.

2. Install new or refurbished pump end seal seat (Item 56) with new O-ring. Slide seal seat over shaft until O-ring is still visible and has not yet entered front housing (Item 1).

3a. For G2 & G4 pumps, replace seal housing (Item 30) and install new or refurbished seal head (Item 60), making sure set screws are backed out and will not mar shaft. Do not tighten set screws.

3b. For G6 and G8 pumps, install new seal head as above, but prior to replacing seal housing (Item 30), push seal head against pump end seal seat (Item 56) compressing seal face as far as it will go. Tighten seal head set screws.

4. Screw seal housing tightly on pump hub, compressing O-ring and locking pump end seal seat firmly in place.

5. Push seal housing gasket (Item 31) up against recessed bore in seal housing and tighten lock nut (Item 32).

6. Install new or refurbished drive end seal seat (Item 55) with new seat O-ring.

7. Screw on gland nut (Item 36) and tighten firmly compressing seat O-ring and locking drive end seal seat in place. Tighten gland lock nut (Item 35).

8. With G2 & G4 pumps, center seal head setscrews with seal housing port and tighten set screws.

9. Reinstall flush connections.

Note: It is recommended that seal be tested at this point by pressurizing seal housing with suitable fluid at 10-15 psi above pump discharge pressure. Rotate shaft by hand and observe for any leakage along the shaft in either direction. If leakage rate is small sometimes a run in period of 5-20 minutes will cause everything to seat properly.

VI. Double Mechanical Seal (GH8, GA12, GA16).

Reference Drawing SD-2613, SD-2775

1. Before replacing seat, lightly lubricate seat ring. Then carefully align slot in seal seat with pump end seat pin. Place protective material over polished seal seat surface and press seal seat into front housing (Item 1).

2. Reassemble front housing to pump. Replacement of housing O-ring (Item 16) is recommended, Install seal head on drive shaft (Item 4). Remove holding clips. Adjust seal head so that contact is made with pump end seal seat. Assembly seat retainer with drive end seal seat, previously installed and a new seat retainer O-ring (Item 37). Tighten seat retainer bolts (Item 39A) which will set proper compression on seal head.

3. Tighten seal head set screws through port. Replace pipe plug (Item 62 or 63) and previous piping for flushing of double seal.

4. Test seal installation before returning pump to service. Using flush connections in front housing, pressurize the seal cavity in the front housing at 10-15 psi above pump discharge pressure. To be sure components are seated properly, rotate shaft by hand several times. Remove front drive bearing flush plug to observe pump end of shaft. Observe shaft and gland at coupling end. There should be zero leakage from either end.

BOLT-ON THERMAL JACKETS
INSTALLATION

The following tools are required:

- Suitable wrenches (open end socket or adjustable) to bolt jacket halves together with 1/4", 3/8", or ½". Bolts provided with jacket.
- Heat transfer cement (Termon "standard grade: or equivalent) to fill any slight clearance between the interior surface of the bolt-on jacket and the exterior surface of the pump.
- A suitable mason's trowel to apply heat transfer cement to the interior surface of the jacket.
- Damp paper towels or rags for clean-up.

1. Install Gearchem pump that is to be jacketed in the process line.

2. Visually inspect pump to be jacketed and remove any foreign material (debris, packing lists, or identification tags) which might come between the inner jacket surface and the pump. NOTE: Pumps having painted surfaces require no special preparation. Paint should be dry.

3. Check for proper fit of the bolt-on jacket halves by removing bolts which hold the halves together, and place both halves around the pump. Normally there is a slight clearance between the inner jacket surface and the pump.

4. Remove jacket halves from the pump and lay them on a clean, dry, work area, inner surfaces face up.

5. With a trowel, coat the inner surfaces of the jacket halves with heat transfer cement. Coating should be approximately 1/8" to 1/4" thick. Also dab a small quantity of the cement on the back of the pump flanges in three or four places.

6. Place jacket halves with heat transfer cement on pump and press firmly in place. Bolt jacket halves together with jacket bolts removed in Step 3.

7. Tighten bolts alternately to assure snug, even seating of the jacket halves on the pump. NOTE: As bolts are tightened alternately excess heat transfer cement will extrude from edges of the jackets and at flange interfaces. Remove this excess cement with trowel.

8. Use damp rags or paper towels to clean any excess heat transfer cement from the installation. Make sure there is no heat transfer cement on the threads of the valve stems.

9. Allow heat transfer cement to dry for 24 hours (above 32°F) before applying heating medium to the bolt-on jacket.

REMOVAL

The following tools are required:

- Rubber or plastic mallet to dislodge jacket halves form heat transfer cement and pump.
- Suitable wrenches (open-end, socket or adjustable) to remove bolts holding jacket halves on pump.
- A hand chisel to remove any chunks of heat transfer cement that adhered to the inner surfaces of the bolt-on jacket.

1. **Turn off heating medium supply and allow jacket/pump to cool to ambient temperature**. Remove heating medium jumpovers from jacket halves with suitable wrenches. NOTE: If jacket halves are being removed to repair the pump or replace it with an identical component and flexible metal hoses are used as jumpovers, it is normally unnecessary to remove the jumpovers. Work on the pump can proceed with the jacket halves dislodged from the pump while the heating medium jumpovers remain connected to the drain and supply couplings.

2. Remove bolts holding jacket halves on the pump. Tap the jacket halves lightly with a rubber or plastic mallet to dislodge them from the pump. NOTE: Jacket halves may be pried apart with a screwdriver or hand chisel, but this should be done very carefully with only nominal force.

3. In most instances, the heat transfer cement adheres to the pump and not the inner surfaces of the jacket. The cement can be easily chipped away from the pump surface with a hand chisel. Any chunks of the heat transfer cement adjoining to the inner surface of the jacket halves should be removed also. Residual traces of heat transfer cement on the inner surfaces of the jacket halves need not be removed. These traces neither affect a good fit nor inhibit good thermal performance.

4. When inside surfaces of jacket halves are clean, the jacket is ready for re-use. If the gear pump is to be repaired and reused, be sure to remove heat transfer cement adhering to its surface before reinstalling the ECO bolt-on jacket.

TROUBLESHOOTING

DIFFICULTY	PROBABLE CAUSE	REMEDY
NO LIQUID DELIVERY	1. Pump not primed. 2. Suction and/or discharge valve closed. 3. Wrong direction or rotation. 4. Suction plugged. 5. Air leak in suction. 6. Suction lift too high. 7. Motor incorrectly wired.	1. Prime pump. 2. Open valves. 3. Reverse rotation 4. Eliminate plug. 5. Locate and repair leak. 6. Do not exceed vapor pressure of liquid. 7. Check wiring diagram.
LOW LIQUID DELIVERY	1. Discharge pressure higher than expected. 2. Air leak in suction. 3. Rotational speed incorrect. 4. Pump worn or damaged internal parts.	1. Reduce pressure. 2. Locate and repair leak. 3. Check speed and wiring 4. Inspect and repair as required.
PUMP GRADUALLY LOSES PRIME	1. Air leak in suction 2. Suction lift too high. 3. Air or gas in liquid. 4. Pump worn or damaged.	1. Locate and repair leak. 2. Increase suction pressure. 3. Eliminate air or gas. 4. Inspect and repair as required.
PUMP NOISY	1. Pump cavitating. 2. Pump worn or damaged. 3. Air or gas in liquid. 4. Foreign particles in liquid.	1. Increase suction pressure to provide sufficient NPSH 2. Inspect and repair as required. 3. Eliminate air or gas. 4. Install (or clean) strainer in inlet pipe.
MOTOR RUNS HOT OR OVERLOADS	1. It is normal for motors to feel hot even when not overloading. 2. Discharge pressure too high. 3. Liquid viscosity higher than expected. 4. Rotational speed too high. 5. Binding internal pump parts. 6. Motor wired incorrectly.	1. Check motor amp draw to be sure. 2. Lower pressure. Check pressure relief valve setting and for defective discharge pressure gauge. 3. Thin liquid or install larger motor. 4. Reduce speed. 5. Inspect and correct condition. 6. Check wiring diagram.
SEAL LEAKS	1. Operated pump dry (starved suction, dry prime). 2. Solids in product. 3. Material incompatibility with product. 4. Viscosity.	1. Open valves and prime pump. 2. Add strainer in suction piping (100 mesh). 3. Consult Factory. 4. Consult Factory.

PUMP SPECIFICATION CHART

	PUMP SIZE	G2	G4	G6	G8
	MAXIMUM FLOW @ 1750 RPM, 0 PRESSURE GPM (M^3/HR)	1.5 (.34)	3.0 (.68)	10.0 (2.3)	22.0 (5.0)
	MAXIMUM FLOW @ 1150 RPM, 0 PRESSURE GPM (M^3/HR)	1.0 (.23)	2.0 (.45)	6.4 (1.5)	14.5 (3.3)
	THEORETICAL DISPLACEMENT GAL/100 REV (cc/REV)	108 (4.08)	189 (7.15)	.684 (25.89)	1.3687 (51.78)
	MAXIMUM DIFFERENTIAL PRESSURE PSI (BARS)	100 (6.9)	100 (6.9)	100 (6.9)	50 (3.45)
	MAX DIFF.PRES. PLASTIC/PLASTIC GEARS PSI (BARS)	50 (3.45)	50 (3.45)	50 (3.45)	50 (3.45)
	MAXIMUM CASING PRESSURE PSIG (BARS)	150 (10.3)	150 (10.3)	150 (10.3)	150 (10.3)
	TEMPERATURE RANGE : METAL/METAL GEARS METAL/CARBON GEARS METAL/PEEK GEARS PEEK/PEEK GEARS	-100 TO +450 °F (-73 TO +232 °C)	-100 TO +450 °F (-73 TO +232 °C)	-100 TO +450 °F (-73 TO +232 °C)	-100 TO +450 °F (-73 TO +232 °C)
(1)	METAL/PLASTIC GEARS	0 TO +210 °F	0 TO +210 °F	0 TO +210 °F	0 TO +210 °F
(1)	PLASTIC/PLASTIC GEARS	(-18 TO +99 °C)	(-18 TO +99 °C)	(-18 TO +99 °C)	(-18 TO +99 °C)
(2)	MAXIMUM VISCOSITY SSU (CPS)	500000 (100000)	500000 (100000)	500000 (100000)	500000 (100000)
	MINIMUM VISCOSITY: METAL/METAL GEARS SSU (CPS)	500 (100)	500 (100)	500 (100)	500 (100)
	MINIMUM VISCOSITY: CERAMIC WEAR PLATES SSU (CPS)	500 (100)	500 (100)	500 (100)	500 (100)
	MAXIMUM ROTATIONAL SPEED	1750 RPM	1750 RPM	1750 RPM	1750 RPM
	MAX ROTATIONAL SPEED: METAL/METAL GEARS	1450 RPM	1450 RPM	1450 RPM	1450 RPM
	INLET PORT SIZE NPT, BSPT	1/4 THD	1/2 THD	3/4 THD	1 THD
	OUTLET PORT SIZE NPT, BSPT	1/4 THD	1/2 THD	3/4 THD	1 THD
	ROTATION DIRECTION	REVERSIBLE	REVERSIBLE	REVERSIBLE	REVERSIBLE
	DRIVE SHAFT DIAMETER INCH (mm)	.375 (9.525)	.375 (9.525)	.500 (12.7)	.500 (12.7)
	BEARING TYPE	INTERNAL SLEEVE	INTERNAL SLEEVE	INTERNAL SLEEVE	INTERNAL SLEEVE
	BEARING LUBRICATION	BY PUMPED FLUID	BY PUMPED FLUID	BY PUMPED FLUID	BY PUMPED FLUID
(3)	AVAILABLE SEALING ARRANGEMENTS: PACKING	STD OR LANTERN RING	STD OR LANTERN RING	STD OR LANTERN RING	STD OR LANTERN RING
	U-CUP LIP SEAL	VITON	VITON	VITON	VITON
	MECHANICAL SEALS	SGL,DBL,EXTERNAL SGL	SGL,DBL,EXTERNAL SGL	SGL,DBL,EXTERNAL SGL	SGL,DBL,EXTERNAL SGL
	PUMP WEIGHT LBS (kg)	4.5 (2.0)	4.5 (2.0)	7 (3.2)	10 (4.5)

	PUMP SIZE	GH8	GA12	GA16
	MAXIMUM FLOW @ 1750 RPM, 0 PRESSURE GPM (M^3/HR)	22.0 (5.0)	NA	NA
	MAXIMUM FLOW @ 1150 RPM, 0 PRESSURE GPM (M^3/HR)	14.5 (3.3)	28.0 (6.4)	55.0 (12.5)
	THEORETICAL DISPLACEMENT GAL/100 REV (cc/REV)	1.3687 (51.78)	2.792 (105.7)	5.584 (211.4)
	MAXIMUM DIFFERENTIAL PRESSURE PSI (BARS)	100 (6.9)	100 (6.9)	100 (6.9)
	MAX DIFF.PRES. METAL/METAL GEARS PSI (BARS)	100 (6.9)	150 (10.3)	100 (6.9)
	MAXIMUM CASING PRESSURE PSIG (BARS)	150 (10.3)	150 (10.3)	150 (10.3)
	TEMPERATURE RANGE : METAL/METAL GEARS METAL/CARBON GEARS METAL/PEEK GEARS	-100 TO +450 °F (-73 TO +232 °C)	-50 TO +450 °F (-45 TO +232 °C)	-50 TO +450 °F (-45 TO +232 °C)
(1)	METAL/PLASTIC GEARS	0 TO +210 °F (-18 TO +99 °C)	0 TO +210 °F (-18 TO +99 °C)	0 TO +210 °F (-18 TO +99 °C)
(2)	MAXIMUM VISCOSITY SSU (CPS)	500000 (100000)	500000 (100000)	500000 (100000)
	MINIMUM VISCOSITY: METAL/METAL GEARS SSU (CPS)	500 (100)	500 (100)	500 (100)
	MINIMUM VISCOSITY: CERAMIC WEAR PLATES SSU (CPS)	500 (100)	500 (100)	500 (100)
	MAXIMUM ROTATIONAL SPEED	1750 RPM	1150 RPM	1150 RPM
	MAX ROTATIONAL SPEED: METAL/METAL GEARS	1450 RPM	1150 RPM	1150 RPM
	INLET PORT SIZE NPT, BSPT, 150 LB FLG	1 THD	1 1/2 THD OR FLG	2 FLG
	OUTLET PORT SIZE NPT, BSPT, 150 LB FLG	1 THD	1 1/2 THD OR FLG	2 FLG
	ROTATION DIRECTION	REVERSIBLE	REVERSIBLE	REVERSIBLE
	DRIVE SHAFT DIAMETER INCH (mm)	.750 (19.05)	1.000 (25.4)	1.000 (25.4)
	BEARING TYPE	INTERNAL SLEEVE	INTERNAL SLEEVE	INTERNAL SLEEVE
	BEARING LUBRICATION	BY PUMPED FLUID	BY PUMPED FLUID	BY PUMPED FLUID
(3)	AVAILABLE SEALING ARRANGEMENTS: PACKING	LANTERN RING	LANTERN RING	LANTERN RING
	MECHANICAL SEALS	INTERNAL SGL, DBL	INTERNAL SGL, DBL	INTERNAL SGL, DBL
	PUMP WEIGHT LBS (kg)	14 (6.3)	50 (23)	70 (32)

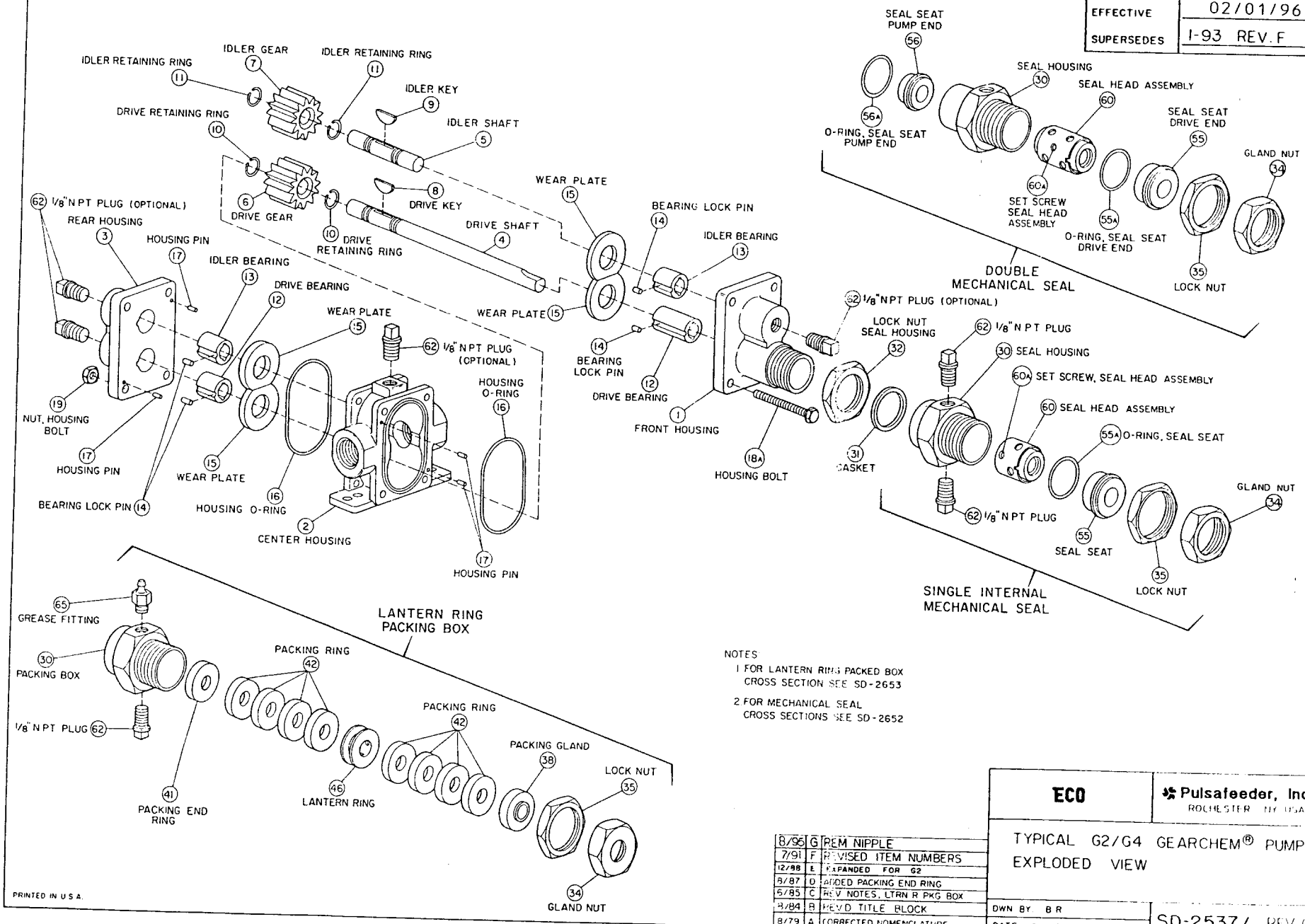
NOTES:

(1) FOR TEMPERATURES OVER 110 °F TRIMMED PLASTIC GEARS ARE REQUIRED.

(2) HIGHER VISCOSITIES REQUIRE REDUCED SPEEDS

(3) THE ISOCHEM SERIES OF PUMPS OFFERS SEALLESS DESIGNS

SECTION/PAGE	C/4200
EFFECTIVE	02/01/96
SUPERSEDES	1-93 REV.F



NOTES

1 FOR LANTERN RING PACKED BOX CROSS SECTION SEE SD-2653

2 FOR MECHANICAL SEAL CROSS SECTIONS SEE SD-2652

8/96	G	REM NIPPLE
7/91	F	REVISED ITEM NUMBERS
12/88	E	EXPANDED FOR G2
8/87	D	ADDED PACKING END RING
5/85	C	REV NOTES, LTRN R PKG BOX
3/84	B	REVD TITLE BLOCK
8/79	A	CORRECTED NOMENCLATURE

ECO

Pulsafeeder, Inc. ROCHESTER NY USA

TYPICAL G2/G4 GEARCHEM® PUMP EXPLODED VIEW

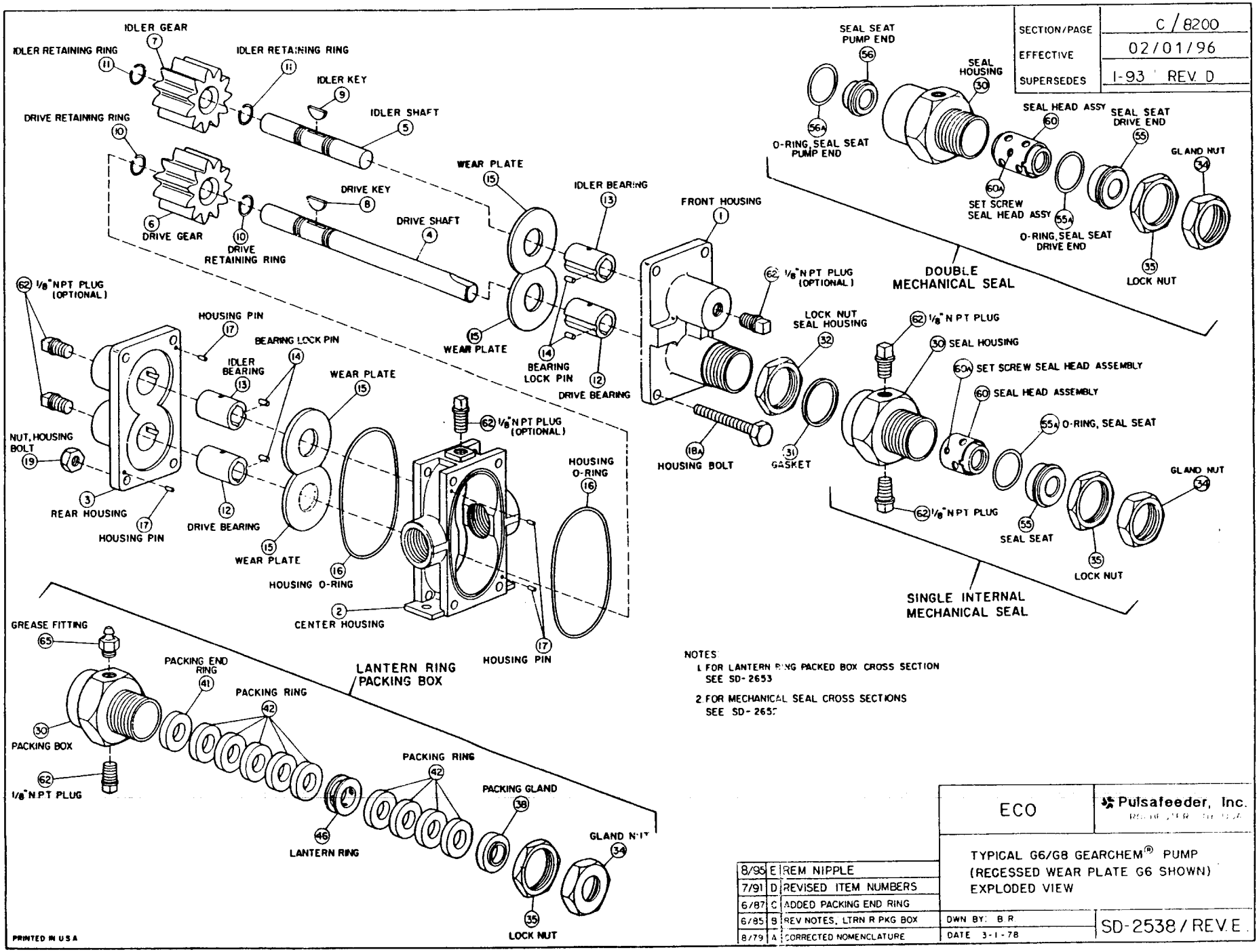
DWN BY B R

DATE 3-1-78

SD-2537/ REV G

PRINTED IN U.S.A.

SECTION/PAGE	C / 8200
EFFECTIVE	02/01/96
SUPERSEDES	1-93 REV. D



NOTES:
1. FOR LANTERN RING PACKED BOX CROSS SECTION SEE SD-2653
2. FOR MECHANICAL SEAL CROSS SECTIONS SEE SD-2652

8/95	E	REM NIPPLE
7/91	D	REVISED ITEM NUMBERS
6/87	C	ADDED PACKING END RING
6/85	B	REV NOTES, LTRN R PKG BOX
8/79	A	CORRECTED NOMENCLATURE

ECO

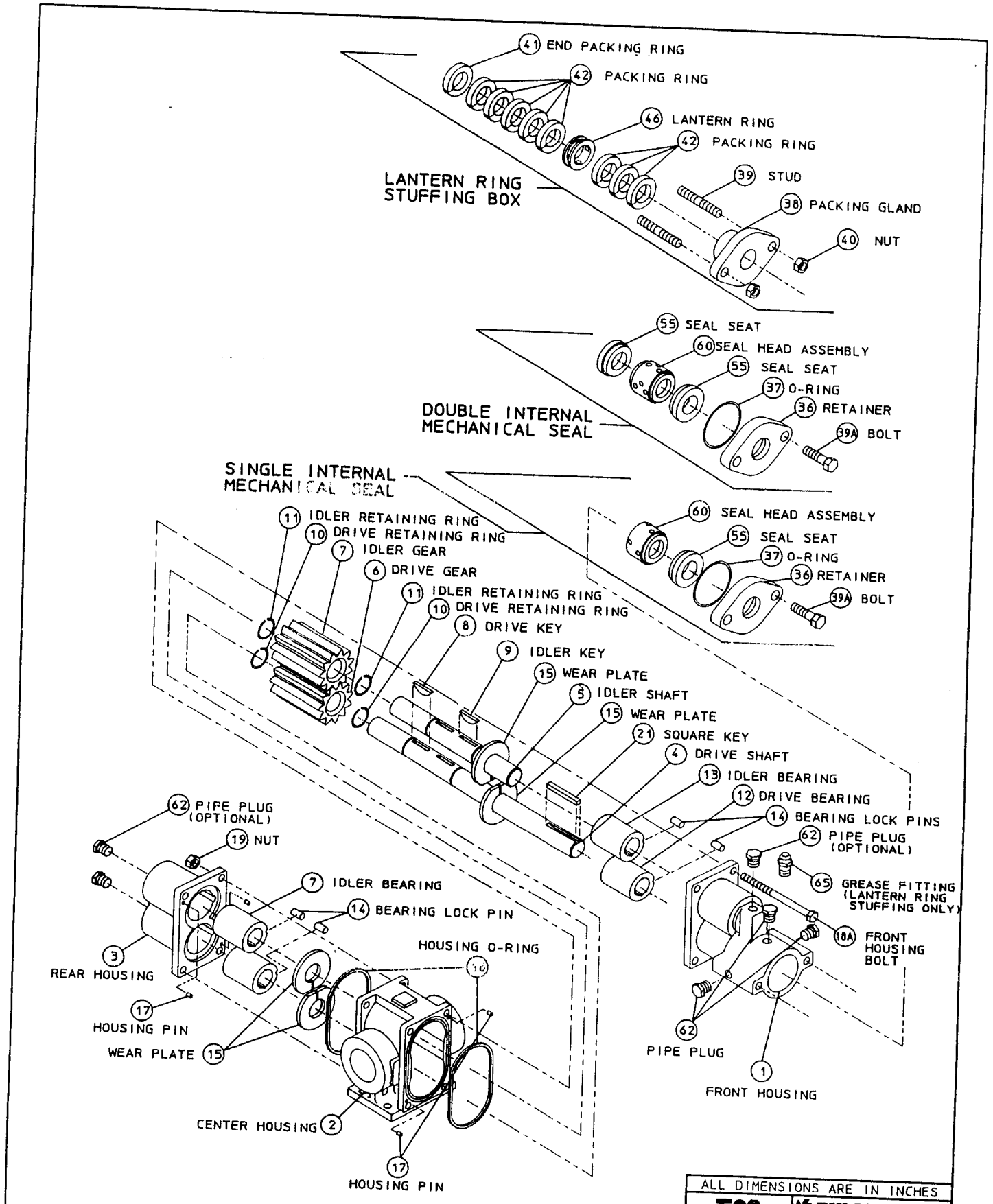
Pulsafeeder, Inc.

TYPICAL G6/G8 GEARCHEM® PUMP
(RECESSED WEAR PLATE G6 SHOWN)
EXPLODED VIEW

DWN BY: B.R.
DATE 3-1-78

SD-2538 / REV.E

PRINTED IN U.S.A.



REF	REVISION UPDATE	DATE
A		

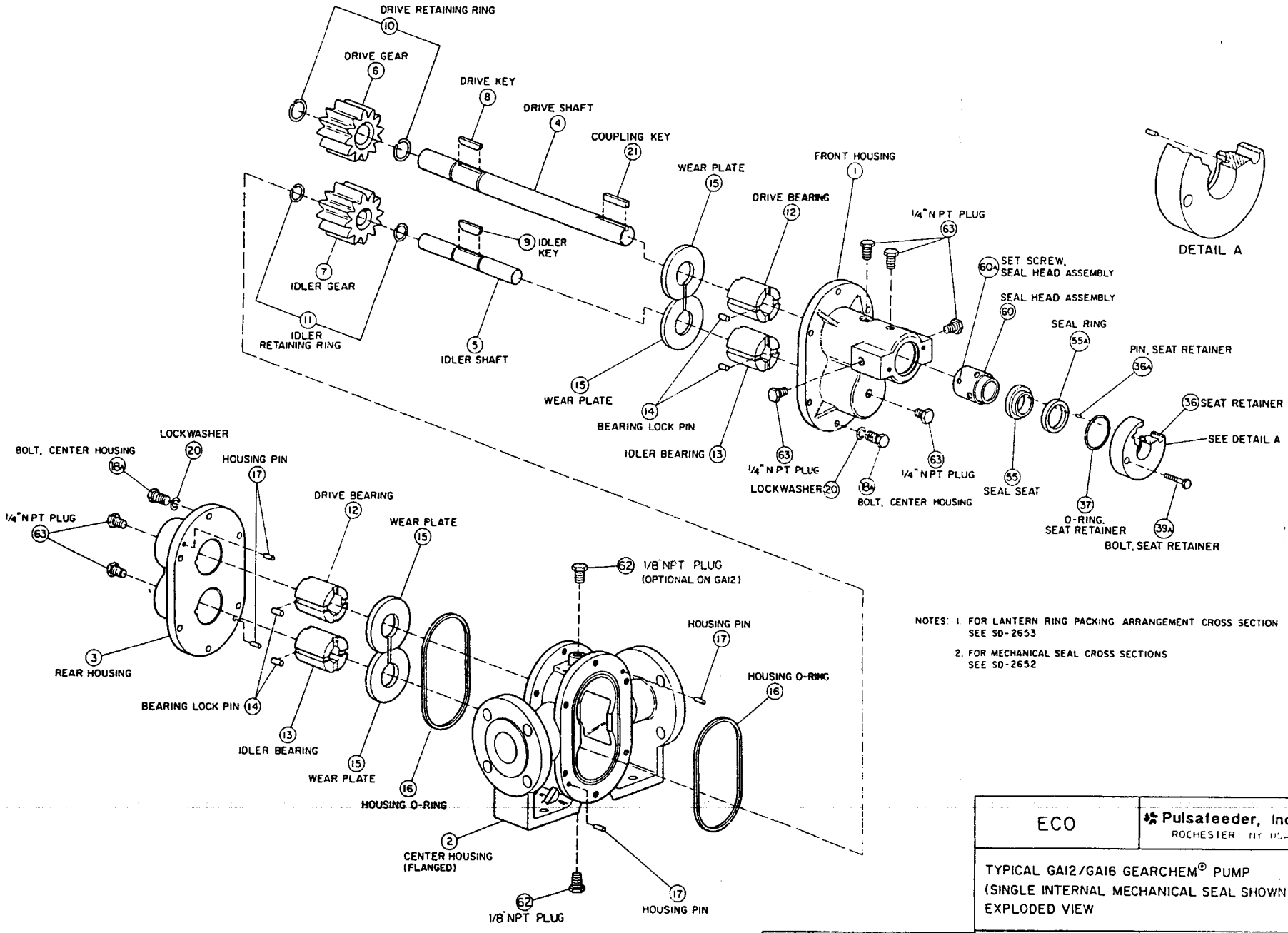
ALL DIMENSIONS ARE IN INCHES

ECO | PULSAFEEDER A Unit of IDEX Corporation

GH8 GEARCHEM PUMP
EXPLODED VIEW

DWN BY: CLA
DATE: 04/04/94

SD-2775



NOTES: 1. FOR LANTERN RING PACKING ARRANGEMENT CROSS SECTION SEE SD-2653

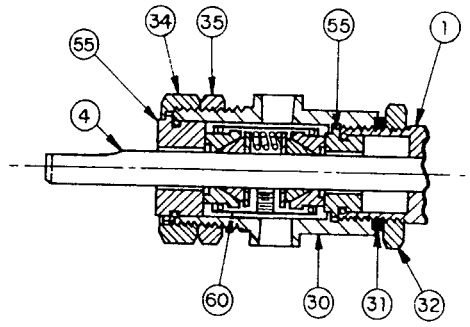
2. FOR MECHANICAL SEAL CROSS SECTIONS SEE SD-2652

ECO			Pulsafeeder, Inc. ROCHESTER NY USA	
TYPICAL GAI2/GAI6 GEARCHEM® PUMP (SINGLE INTERNAL MECHANICAL SEAL SHOWN) EXPLODED VIEW				
7/91	B	REVISED ITEM NUMBERS	DWN. BY: B.R.	SD-2613 / REV. B.
6/85	A	REV. NOTES & NOMENCLATURE	DATE: 10-1-79	

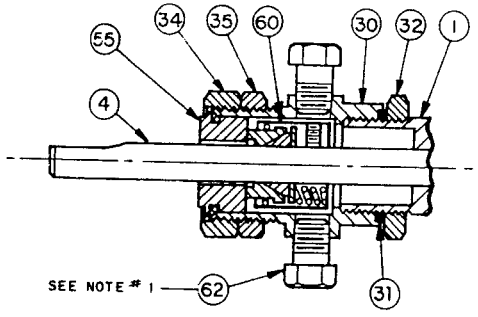
PRINTED IN U.S.A.

ITEM	PART NAME
1	FRONT HOUSING
4	DRIVE SHAFT
30	SEAL HOUSING
31	GASKET
32	LOCK NUT, HOUSING
34	GLAND NUT
35	LOCK NUT
36	SEAT RETAINER W/PIN
37	O-RING, SEAT RETAINER
39A	BOLT, SEAT RETAINER
55	SEAL SEAT W/SEAL RING GA12,16
55	SEAL SEAT W/O-RING G2,4,6,8
59	PIN, PUMP END SEAT
60	SEAL HEAD ASSEMBLY
62	PLUG, 1/8" NPT
63	PLUG, 1/4" NPT

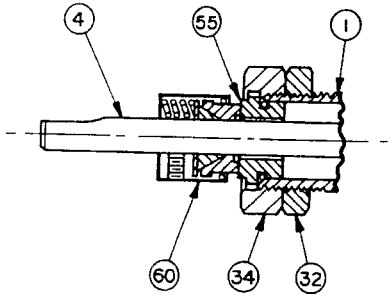
SECTION / PAGE	C / 4202
EFFECTIVE	02-01-96
SUPERSEDES	01-01-95



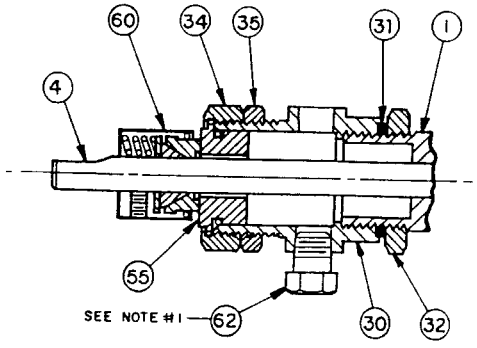
DOUBLE INTERNAL SEAL
A6, G2, G4, G6, G8



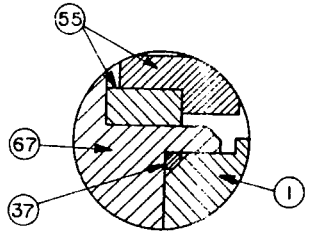
SINGLE INTERNAL SEAL
A6, G2, G4, G6, G8



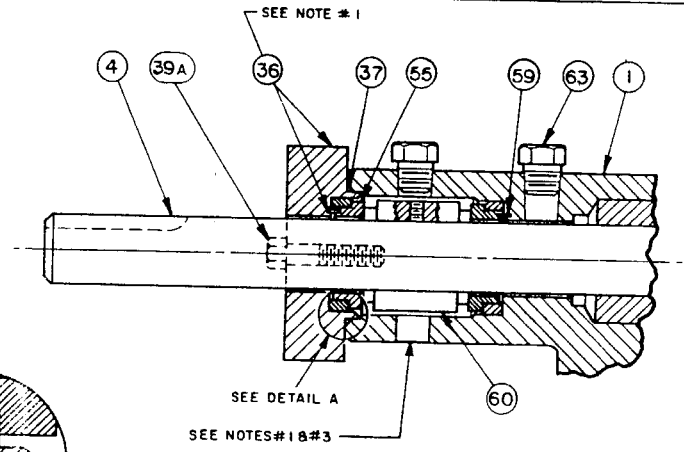
SINGLE EXTERNAL SEAL
A6, G2, G4, G6, G8



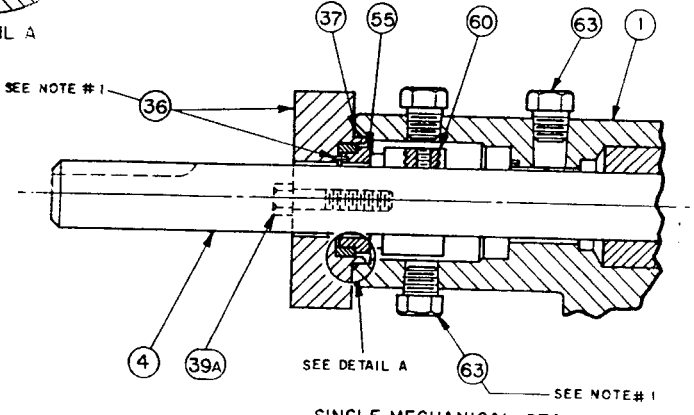
EXTERNAL SEAL FOR VACUUM SERVICE
G2, G4, G6, G8



DETAIL A



DOUBLE MECHANICAL SEAL
GA12, GA16



SINGLE MECHANICAL SEAL
GA12, GA16

NOTES: 1. PARTS SHOWN 90° OUT OF POSITION.
2. REFER TO STANDARD SALES BILL OF MATERIAL FOR PART NUMBERS AND QUANTITY.
3. FOR ALL DOUBLE MECHANICAL SEALS, CIRCULATE SUITABLE FLUID AT 25-30 PSI ABOVE PUMP DISCHARGE PRESSURE. FLUID TEMPERATURE & FLOW MUST BE ADEQUATE TO MAINTAIN A MAXIMUM TEMPERATURE OF 160°F IN SEAL HOUSING.

8/95	B	REM NIPPLE	
7/91	A	UPDATED ITEM NUMBERS	

ECO

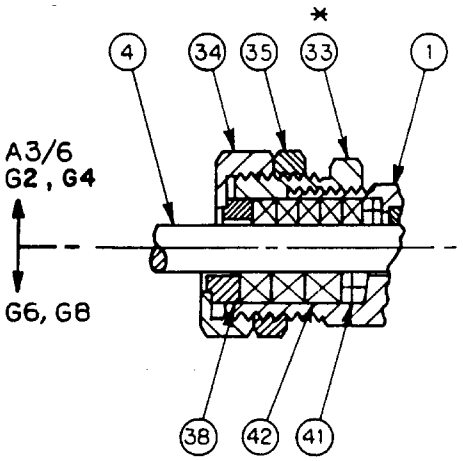
Pulsafeeder, Inc.
ROCHESTER, NY USA

MECHANICAL SEAL ARRANGEMENTS FOR GEARCHEM/ROTARY PUMPS

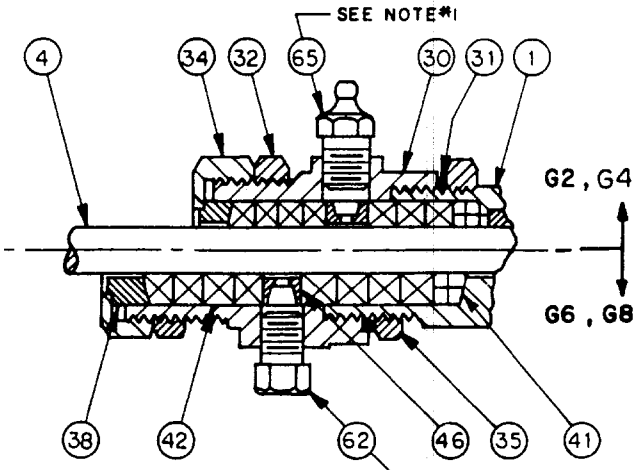
DWN BY: KRY
DATE: 6-19-85

SD-2652

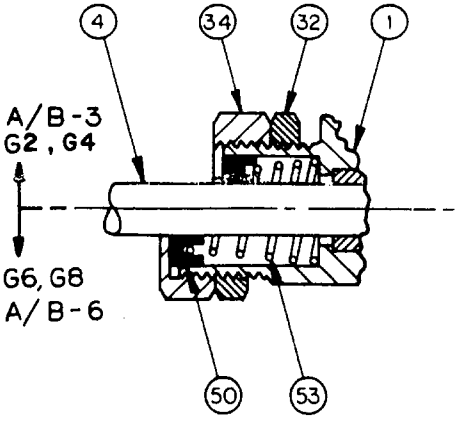
STANDARD STUFFING BOX

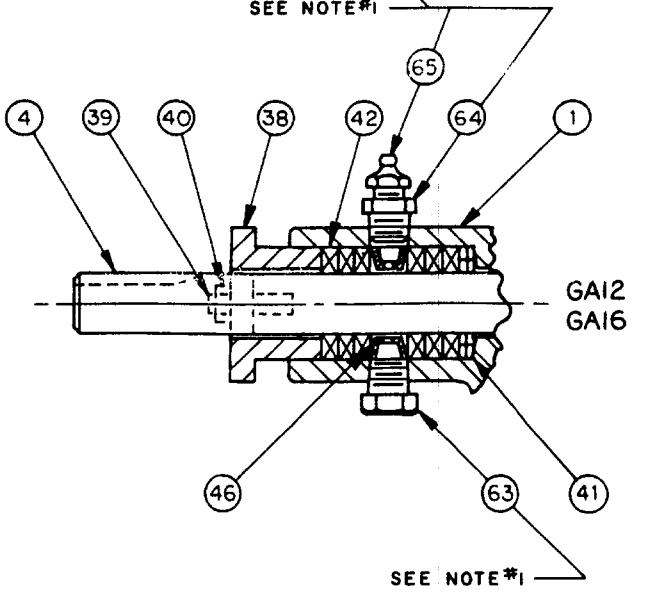


LANTERN RING STUFFING BOX



U-CUP LIP SEAL





ITEM	PART NAME
65	GREASE FITTING
64	ADAPTOR, 1/4" TO 1/8" NPT
63	PLUG, 1/4" NPT
62	PLUG, 1/8" NPT
53	SPRING, U-CUP
50	LIP SEAL, U-CUP
46	LANTERN RING
42	PACKING RING
41	PACKING END RING
40	NUT, STUD
39	STUD, PACKING GLAND
38	PACKING GLAND
35	LOCK NUT
34	GLAND NUT
33	HOUSING EXTENSION
32	LOCK NUT, HOUSING
31	GASKET
30	PACKING BOX
4	DRIVE SHAFT
1	FRONT HOUSING

NOTES:
1. PARTS SHOWN 90° OUT OF POSITION.
2. *ITEM 33 COMPONENT ONLY A3/6, G2/4.
3. REFER TO STANDARD SALES BILL OF MATERIAL FOR PART NUMBERS & QUANTITY.

7/91	C	UPDATED ITEM NUMBERS
7/88	B	ADDED G2 SERIES
8/87	A	ADDED PACKING END RING

ECO

Pulsafeeder, Inc.
ROCHESTER, NY USA

PACKING ARRANGEMENTS FOR GEARCHEM/ROTARY PUMPS

DWN BY:	KRY
DATE:	6-19-85
REV.	B

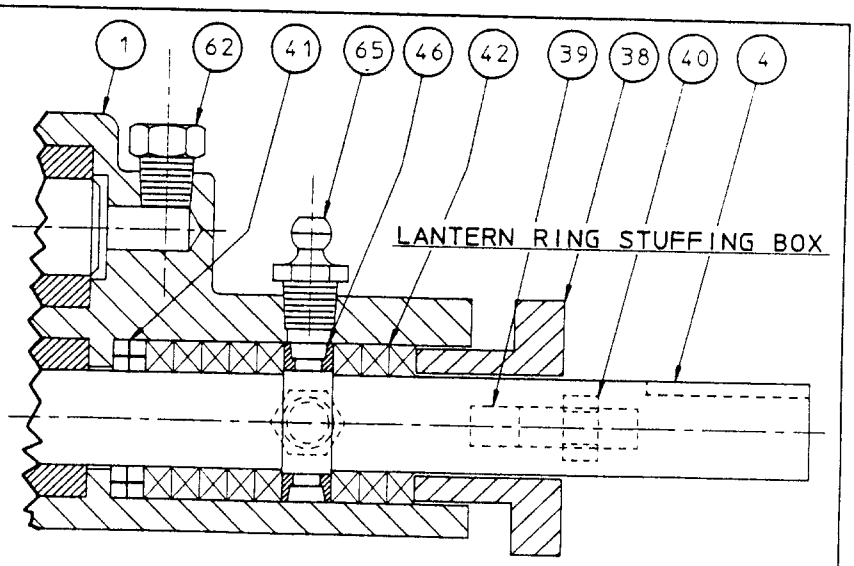
SD-2653

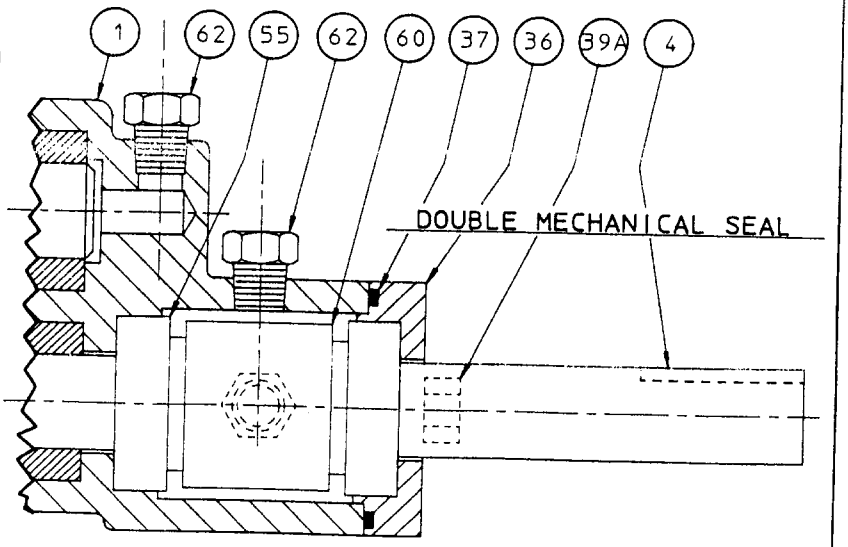
ITEM	PART NAME
1	FRONT HOUSING
4	DRIVE SHAFT
36	SEAT RETAINER
37	O RING, SEAT RETAINER
38	PACKING GLAND
39	STUD, PACKING GLAND
39A	BOLT, SEAT RETAINER
40	NUT, STUD
41	PACKING END RING
42	PACKING RING
46	LANTERN RING
55	SEAT W/SEAL RING
60	SEAL HEAD ASSEMBLY
62	PLUG, 1/8" NPT

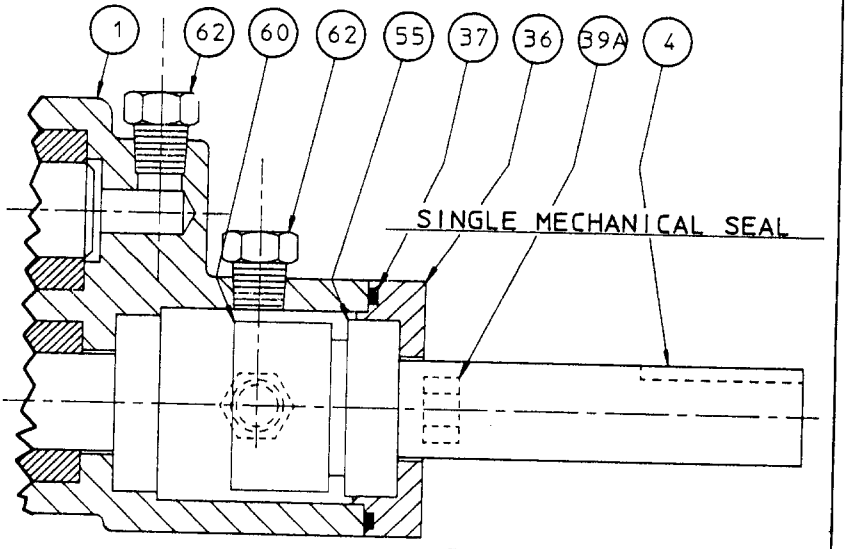
NOTES:

1.) REFER TO STANDARD SALES BILL OF MATERIALS.

2.) FOR ALL DOUBLE MECHANICAL SEALS, CIRCULATE SUITABLE FLUID AT 25-30 PSI ABOVE PUMP DISCHARGE PRESSURE. FLUID TEMPERATURE AND FLOW MUST BE ADEQUATE TO MAINTAIN A MAXIMUM TEMPERATURE OF 160° IN SEAL HOUSING.







ALL DIMENSIONS ARE IN INCHES

ECO | PULSAFEEDER — A Unit of IDEX Corporation

GH8 GEARCHEM PUMP
SEAL ARRANGEMENTS
CROSS SECTIONAL VIEWS

DWN BY: CLA
DATE: 04/04/94

SD-2778

SECTION/PAGE	C/GH8-8211			
EFFECTIVE	02/01/96			
SUPERSEDES	12/02/94			
A	DRAWING UPDATE	10/23/95		
REF	REVISION UPDATE	DATE		

GEARCHEM PUMP

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

G2, G4, G6, G8, GH8 [G] ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

GA12, GA16 [GA] ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

POSITION NO.: 1 2 3 4 5 6 7 8 9

POSITION 1 SERIES G - GEARCHEM® EXTERNAL SPUR GEAR PUMP								
POSITION 2 PUMP SIZE	2	4	6	8	H8	12	16
Port Size	.25"	.50"	.75"	1.00"	1.00"	1.50"	2.00"
Capacity (GPM MAX)	1.5	3	10	20	20	26	55
Discharge pressure (PSIG MAX)	100	100	100	50	100	100	100
POSITION 3 AVAILABLE PUMP METALLURGIES AND TYPE PORT CONNECTION							
A = 316SS FNPT	X	X	X	X	X	X	
C = ALLOY C FNPT	X	X	X	X	X	X	
D = ALLOY 20 FNPT	X	X	X	X	X	X	
K = 316SS FBSPT	X	X	X	X	X	X	
M = ALLOY C FBSPT	X	X	X	X	X	X	
N = ALLOY 20 FBSPT	X	X	X	X	X	X	
U = 316SS FLANGED						X	X
V = ALLOY C FLANGED						X	X
W = ALLOY 20 FLANGED						X	X
POSITION 4 DRIVE GEAR MATERIAL							
C = ALLOY C	X	X	X	X	X	X	X
D = ALLOY 20	X	X	X	X			
T = TFE (Glass Filled) (1)	X	X	X	X			
E = PEEK (1)	X	X	X	X			
POSITION 5 IDLER GEAR MATERIAL							
C = ALLOY C (2)	X	X	X	X	X	X	X
D = ALLOY 20 (2)	X	X	X	X	X		
K = Carbon	X	X	X	X	X	X	X
T = TFE (Glass Filled)	X	X	X	X	X	X	X
E = PEEK	X	X	X	X	X	X	X
POSITION 6 WEAR PLATE MATERIAL							
K = Carbon	X	X	X	X	X	X	X
T = TFE (Glass Filled)	X	X	X	X	X	X	X
Z = Ceramic (3)	X	X	X	X	X	X	X
E = Peek	X	X	X	X	X		
POSITION 7 BEARING MATERIAL							
K = Carbon	X	X	X	X	X	X	X
T = TFE (Glass Filled)	X	X	X	X	X	X	X
4 = Carbon - Slotted						X	X
POSITION 8 SEAL ARRANGEMENT							
STANDARD STUFFING BOX							
B = Split TFE Rings	X	X	X	X			
G = Grafoil(®) Rings	X	X	X	X			
U-CUP LIP SEAL							
J = Viton Lip Seal, H-C Spring (4)	X	X	X	X			
LANTERN RING STUFFING BOX							
N = Split TFE Rings	X	X	X	X			
R = Grafoil (®) Rings	X	X	X	X			
13 = Braided TFE Rings					X	X	X
15 = Grafoil (®) Rings					X	X	X
MECHANICAL SEALS (5)							
K = Internal Seal: TFE Face, MTLC Seat	X	X	X	X			
Q = Internal Seal: TFE Face, Silicon CBD Seal	X	X	X	X	X		
T = Internal Seal: CBN Face, MTLC Seat	X	X	X	X			
U = Internal Seal: CBN Face, Silicon CBD Seal	X	X	X	X	X		
V = External Seal: CBN Face, MTLC Seat	X	X	X	X			
W = External Seal: CBN Face, Silicon CBD Seal			X	X			
Y = Double Seal: (6) CBN Face, MTLC Seat	X	X	X	X			
Z = External Seal for Vacuum Service: CBN Face, MTLC Seat	X	X	X	X			
22 = Internal Seal: CBN Face, Ceramic Seat						X	X
24 = Internal Seal: CBN Face, MTLC Seat						X	X
42 = Double Seal: (6) CBN Face, Ceramic Seat						X	X
44 = Double Seal: (6) CBN Face, MTLC Seat						X	X
E = Double Seal: (6) CBN Face, Silicon CBD Seal					X		

GEARCHEM PUMP

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

(CONTINUED)

PUMP SIZE	2	4	6	8	H8	12 (7)	16 (7)
POSITION 9 OPTIONS							
A - Bearing Flush Ports	X	X	X	X	X	STD	STD
B - PFA Coated, SS Hsg O-Rings, Metallic Bearing Lock Pins	X	X	X	X	X	X	X
C - Bearing Flush Ports, PFA Coated, SS Hsg O-Rings, Metallic Bearing Lock Pins	X	X	X	X	X		
D - Bearing Flush Ports, PFA Coated, SS Hsg O-Rings, Metallic Bearing Lock Pins, Slotted Bearings (8)	X	X	X	X	X		
E - Bearing Flush Ports, PFA Coated, SS Hsg O-Rings, Metallic Bearing Lock Pins, Slotted Bearings, (8) Slotted Wear Plates (9)	X	X	X	X			
J - GA12 with 1" Idler Shaft, (10) (Metallic Gear Only)						X	
N - Narrow Width Gears (11)		X	X				
T - Temperature Trimmed Plastic Gear	X	X	X	X	X	X	X
V - Center Hsg - Vent	X	X	X	X	X	X	STD
X - Special (12)	X	X	X	X	X	X	X

NOTES:

(1) Maximum differential pressure allowed for plastic/plastic gears is 50 PSIG.

(2) Pumps with metallic drive and idler gears require minimum viscosity of 100 cps and are limited to 1440 RPM maximum speed for G2-H8 pumps and 1150 RPM for GA12-16 pumps.

(3) Ceramic wear plates with metallic gears require minimum viscosity of 100 cps.

(4) Viton U-Cup lip seals are limited to 1150 RPM maximum speed.

(5) Not all mechanical seals available in all metallurgies.

(6) Double mechanical seals must be pressurized with seal fluid 15 to 20 PSIG above the pump discharge pressure.

(7) Standard GA12 and GA16 pumps furnished with bearing flush ports, metallic bearing lock pins, and slotted wear plates.

(8) Slotted bearings (GA12 and GA16) listed POSITION 7.

(9) Slotted wear plates reduce volumetric efficiency.

(10) J OPTION available only with metal idler gear.

(11) Designation for reduced capacity pump.

(12) Consult Factory.

(13) Specifications and availability subject to change without notice.

(*) Registered Trademark

G2 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MATL	ALLOY C (C) OR (M) PART NO	MATL	ALLOY 20 (D) OR (N) PART NO	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	70109	316SS	70110	ALLOY C	70111	ALLOY 20	1
HOUSING, FRONT - LIP SEAL		70145	316SS	70146	ALLOY C	70147	ALLOY 20	1
HOUSING, CENTER FNPT	1	70026	316SS	70027	ALLOY C	70028	ALLOY 20	2
HOUSING, CENTER FBSPT		70029	316SS	70030	ALLOY C	70031	ALLOY 20	2
HOUSING, REAR	1	70214	316SS	70215	ALLOY C	70216	ALLOY 20	3
•SHAFT, DRIVE	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
•SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
•RING, RETAINING	4	76702	ALLOY 20	76701	ALLOY C	76702	ALLOY 20	10,11
•KEY, METAL DRIVE GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	8
•KEY, PLASTIC DRIVE GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	8
•KEY, MTL/CBN IDLER GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	9
•KEY, PLASTIC IDLER GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	9
•PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
•O-RING, HOUSING	2	61101	TFE	61101	TFE	61101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	72006	188SS	72006	188SS	72006	188SS	18A
NUT, HOUSING BOLT	4	72101	188SS	72101	188SS	72101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS								
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M								
V: HOUSING, CENTER - VENT FNPT	1	70026-2	316SS	70027-2	ALLOY C	70028-2	ALLOY 20	2
V: HOUSING, CENTER - VENT FBSPT		70029-2	316SS	70030-2	ALLOY C	70031-2	ALLOY 20	2
V: PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C, A: HOUSING, FRONT - BRG FLUSH	1	70115	316SS	70117	ALLOY C	70123	ALLOY 20	1
C, A: HOUSING, FRONT-BRG FLUSH LIP SEAL		70148	316SS	70149	ALLOY C	70150	ALLOY 20	1
C, A: HOUSING, REAR - BRG FLUSH	1	70212	316SS	70234	ALLOY C	70233	ALLOY 20	3
C: PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C, B: •PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
C, B: •O-RING, HOUSING	2	61104	SS/PFA	61104	SS/PFA	61104	SS/PFA	16
D: •BEARING, SLOTTED	5	70419	CARBON	70419	CARBON	70419	CARBON	12,13
E: •WEAR PLATE, SLOTTED	4	70526	CARBON	70526	CARBON	70526	CARBON	15
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C: •GEAR, DRIVE/IDLER	1-2	70672	ALLOY C	70672	ALLOY C	70672	ALLOY C	6,7
D: •GEAR, DRIVE/IDLER	1-2	70673	ALLOY 20	---	---	70673	ALLOY 20	6,7
K: •GEAR, IDLER	1	70674	CARBON	70674	CARBON	70674	CARBON	7
T: •GEAR, DRIVE/IDLER	1-2	70675	TFE(GF)	70675	TFE(GF)	70675	TFE(GF)	6,7
E: •GEAR, DRIVE/IDLER	1-2	70676	PEEK	70676	PEEK	70676	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL								
K: •WEAR PLATE	4	70523	CARBON	70523	CARBON	70523	CARBON	15
T: •WEAR PLATE		70524	TFE(GF)	70524	TFE(GF)	70524	TFE(GF)	15
Z: •WEAR PLATE		70525	CERAMIC	70525	CERAMIC	70525	CERAMIC	15
E: •WEAR PLATE		70534	PEEK	70534	PEEK	70534	PEEK	15
POSITION 7 BEARING MATERIAL								
K: •BEARING	5	70404	CARBON	70404	CARBON	70404	CARBON	12,13
T: •BEARING	1	70401	TFE(GF)	70401	TFE(GF)	70401	TFE(GF)	12
T: •BEARING	3	70402	TFE(GF)	70402	TFE(GF)	70402	TFE(GF)	12,13

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G2 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
	DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT									
STANDARD STUFFING BOX									
COMMON PARTS	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	HOUSING EXTENSION	1	14503	ALLOY 20	74501	ALLOY C	14503	ALLOY 20	33
	PACKING GLAND	1	71506	ALLOY 20	71504	ALLOY C	71506	ALLOY 20	38
B	•PACKING RING	5	62608	TFE(BRD)	62608	TFE(BRD)	62608	TFE(BRD)	42
	•PACKING END RING	1	62702	TFE(GF)	62702	TFE(GF)	62702	TFE(GF)	41
G	•PACKING RING	6	62606	GRAFOIL	62606	GRAFOIL	62606	GRAFOIL	42
U-CUP LIP SEAL									
COMMON PARTS	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	11724	ALLOY 20	11728	ALLOY C	11724	ALLOY 20	34
J	•LIP SEAL	1	71402	VITON	71402	VITON	71402	VITON	50
	SPRING, LIP SEAL	1	11206	ALLOY C	11206	ALLOY C	11206	ALLOY C	53
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING BOX	1	74504	ALLOY 20	74503	ALLOY C	74504	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	LANTERN RING	1	77113	TFE	77113	TFE	77113	TFE	46
	PACKING GLAND	1	71506	ALLOY 20	71504	ALLOY C	71506	ALLOY 20	38
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
N	•PACKING RING	8	62608	TFE(BRD)	62608	TFE(BRD)	62608	TFE(BRD)	42
	•PACKING END RING	1	62702	TFE(GF)	62702	TFE(GF)	62702	TFE(GF)	41
R	•PACKING RING	9	62606	GRAFOIL	62606	GRAFOIL	62606	GRAFOIL	42
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	74509	ALLOY 20	74510	ALLOY C	74509	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
K	•SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HC0/TFE	77033	020/TFE	60
	•SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
Q	•SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HC0/TFE	77033	020/TFE	60
	•SEAL SEAT W/ O-RING (TFE)	1	71557	SICBD	71557	SICBD	71557	SICBD	55
T	•SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
U	•SEAL HEAD ASSEMBLY	1	77037	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71557	SICBD	71557	SICBD	71557	SICBD	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

POSITION 8 SEAL ARRANGEMENT (CONT'D)

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO.	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO.	ALLOY 20 (D) OR (N) MATL	ITEM
EXTERNAL MECHANICAL SEAL									
COMMON PARTS	GLAND NUT	1	11719	ALLOY 20	11716	ALLOY C	11719	ALLOY 20	34
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
V	*SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	*SEAL SEAT W/ O-RING (TFE)	1	71554	ALLOY 20	71556	ALLOY C	71554	ALLOY 20	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	74523	ALLOY 20	74519	ALLOY C	74523	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	*SEAL HEAD ASSEMBLY	1	77051	316/CBN	77051	316/CBN	77051	316/CBN	60
Y	*SEAL SEAT W/ O-RING (TFE) DR	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
	*SEAL SEAT W/ O-RING (TFE) PUMP	1	71554	ALLOY 20	71556	ALLOY C	71554	ALLOY 20	56
EXTERNAL MECHANICAL SEAL FOR VACUUM SERVICE									
COMMON PARTS	SEAL HOUSING	1	74509	ALLOY 20	74510	ALLOY C	74509	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
Z	*SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	*SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G4 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO.	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO.	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	70109	316SS	70110	ALLOY C	70111	ALLOY 20	1
HOUSING, FRONT - LIP SEAL	1	70145	316SS	70146	ALLOY C	70147	ALLOY 20	1
HOUSING, CENTER FNPT	1	70014	316SS	70016	ALLOY C	70015	ALLOY 20	2
HOUSING, CENTER FBSPT	1	70020	316SS	70022	ALLOY C	70021	ALLOY 20	2
HOUSING, REAR	1	70214	316SS	70215	ALLOY C	70216	ALLOY 20	3
•SHAFT, DRIVE	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
•SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
•RING, RETAINING	4	76702	ALLOY 20	76701	ALLOY C	76702	ALLOY 20	10,11
•KEY, METAL DRIVE GEAR	*1	71906	ALLOY 20	71904	ALLOY C	71906	ALLOY 20	8
•KEY, PLASTIC DRIVE GEAR	*1	71905	ALLOY 20	71903	ALLOY C	71905	ALLOY 20	8
•KEY, MTL/CBN IDLER GEAR	*1	71906	ALLOY 20	71904	ALLOY C	71906	ALLOY 20	9
•KEY, PLASTIC IDLER GEAR	*1	71905	ALLOY 20	71903	ALLOY C	71905	ALLOY 20	9
•PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
•O-RING, HOUSING	2	61101	TFE	61101	TFE	61101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	72006	188SS	72006	188SS	72006	188SS	18A
NUT, HOUSING BOLT	4	72101	188SS	72101	188SS	72101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS								
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M								
V: HOUSING, CENTER - VENT FNPT	1	70014-2	316SS	70016-2	ALLOY C	70015-2	ALLOY 20	2
V: HOUSING, CENTER - VENT FBSPT	1	70020-2	316SS	70022-2	ALLOY C	70021-2	ALLOY 20	2
V: PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
A: HOUSING, FRONT - BRG FLUSH	1	70115	316SS	70117	ALLOY C	70123	ALLOY 20	1
A: HOUSING, FRONT-BRG FLUSH LIP SEAL	1	70148	316SS	70149	ALLOY C	70150	ALLOY 20	1
A: HOUSING, REAR - BRG FLUSH	1	70212	316SS	70234	ALLOY C	70233	ALLOY 20	3
C: PLUG, 1/8" NPT	*3	52300	ALLOY 20	52301	ALLOY C	52300	ALLOY 20	62
B: •PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
B: •O-RING, HOUSING	2	61104	SS/PFA	61104	SS/PFA	61104	SS/PFA	16
D: •BEARING, SLOTTED	5	70419	CARBON	70419	CARBON	70419	CARBON	12,13
E: •WEAR PLATE, SLOTTED	4	70509	CARBON	70509	CARBON	70509	CARBON	15
N: •GEAR, DRIVE/IDLER	1-2	70613	ALLOY C	70613	ALLOY C	70613	ALLOY C	6,7
N: •GEAR, DRIVE/IDLER	1-2	70633	ALLOY 20	---	---	70633	ALLOY 20	6,7
N: •GEAR, IDLER	1	70651	CARBON	70651	CARBON	70651	CARBON	7
N: •GEAR, DRIVE/IDLER	1-2	70623	TFE(GF)	70623	TFE(GF)	70623	TFE(GF)	6,7
N: •GEAR, DRIVE/IDLER	1-2	70677	PEEK	70677	PEEK	70677	PEEK	6,7
N: •KEY, METAL DRIVE GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	8
N: •KEY, PLASTIC DRIVE GEAR	*1	71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	8
N: •KEY, MTL/CBN IDLER GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	9
N: •KEY, PLASTIC IDLER GEAR	*1	71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	9

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G4 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
	DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 4 & 5 DRIVE AND IDLER GEAR									
C	*GEAR, DRIVE/IDLER	1-2	70638	ALLOY C	70638	ALLOY C	70638	ALLOY C	6,7
D	*GEAR, DRIVE/IDLER	1-2	70642	ALLOY 20	---	---	70642	ALLOY 20	6,7
K	*GEAR, IDLER	1	70611	CARBON	70611	CARBON	70611	CARBON	7
T	*GEAR, DRIVE/IDLER	1-2	70600	TFE(GF)	70600	TFE(GF)	70600	TFE(GF)	6,7
E	*GEAR, DRIVE/IDLER	1-2	70671	PEEK	70671	PEEK	70671	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL - **QTY 8 WHEN USING NARROW WIDTH GEARS									
K	*WEAR PLATE	4	70501	CARBON	70501	CARBON	70501	CARBON	15
	*WEAR PLATE, NARROW WIDTH GEARS	4	70536	CARBON	70536	CARBON	70536	CARBON	15
T	*WEAR PLATE	**4	70504	TFE(GF)	70504	TFE(GF)	70504	TFE(GF)	15
Z	*WEAR PLATE	**4	70503	CERAMIC	70503	CERAMIC	70503	CERAMIC	15
E	*WEAR PLATE	**4	70535	PEEK	70535	PEEK	70535	PEEK	15
POSITION 7 BEARING MATERIAL									
K	*BEARING	5	70404	CARBON	70404	CARBON	70404	CARBON	12,13
T	*BEARING	1	70401	TFE(GF)	70401	TFE(GF)	70401	TFE(GF)	12
	*BEARING	3	70402	TFE(GF)	70402	TFE(GF)	70402	TFE(GF)	12,13
POSITION 8 SEAL ARRANGEMENT									
STANDARD STUFFING BOX									
COMMON PARTS	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	HOUSING EXTENSION	1	14503	ALLOY 20	74501	ALLOY C	14503	ALLOY 20	33
	PACKING GLAND	1	71506	ALLOY 20	71504	ALLOY C	71506	ALLOY 20	38
B	*PACKING RING	5	62608	TFE(BRD)	62608	TFE(BRD)	62608	TFE(BRD)	42
	*PACKING END RING	1	62702	TFE(GF)	62702	TFE(GF)	62702	TFE(GF)	41
G	*PACKING RING	6	62606	GRAFOIL	62606	GRAFOIL	62606	GRAFOIL	42
U-CUP LIP SEAL									
COMMON PARTS	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	11724	ALLOY 20	11728	ALLOY C	11724	ALLOY 20	34
J	*LIP SEAL	1	71402	VITON	71402	VITON	71402	VITON	50
	SPRING, LIP SEAL	1	11206	ALLOY C	11206	ALLOY C	11206	ALLOY C	53
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING BOX	1	74504	ALLOY 20	74503	ALLOY C	74504	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	LANTERN RING	1	77113	TFE	77113	TFE	77113	TFE	46
	PACKING GLAND	1	71506	ALLOY 20	71504	ALLOY C	71506	ALLOY 20	38
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/8' NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
N	*PACKING RING	8	62608	TFE(BRD)	62608	TFE(BRD)	62608	TFE(BRD)	42
	*PACKING END RING	1	62702	TFE(GF)	62702	TFE(GF)	62702	TFE(GF)	41
R	*PACKING RING	9	62606	GRAFOIL	62606	GRAFOIL	62606	GRAFOIL	42

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
*DENOTES RECOMMENDED SPARE PART

G4 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
DESCRIPTION		QTY	PART NO	MATL	PART NO	MATL	PART NO	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT (CONT'D)									
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	74509	ALLOY 20	74510	ALLOY C	74509	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
K	•SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HC0/TFE	77033	020/TFE	60
	•SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
Q	•SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HC0/TFE	77033	020/TFE	60
	•SEAL SEAT W/ O-RING (TFE)	1	71557	SICBD	71557	SICBD	71557	SICBD	55
T	•SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
U	•SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71557	SICBD	71557	SICBD	71557	SICBD	55
EXTERNAL MECHANICAL SEAL									
COMMON PARTS	GLAND NUT	1	11719	ALLOY 20	11716	ALLOY C	11719	ALLOY 20	34
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
V	•SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71554	ALLOY 20	71556	ALLOY C	71554	ALLOY 20	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	74523	ALLOY 20	74519	ALLOY C	74523	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	•SEAL HEAD ASSEMBLY	1	77051	316/CBN	77051	316/CBN	77051	316/CBN	60
Y	•SEAL SEAT W/ O-RING (TFE) DR	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55
	•SEAL SEAT W/ O-RING (TFE) PUMP	1	71554	ALLOY 20	71556	ALLOY C	71554	ALLOY 20	56
EXTERNAL MECHANICAL SEAL FOR VACUUM SERVICE									
COMMON PARTS	SEAL HOUSING	1	74509	ALLOY 20	74510	ALLOY C	74509	ALLOY 20	30
	GASKET	1	71101	TFE	71101	TFE	71101	TFE	31
	LOCK NUT, HOUSING	1	11603	316SS	11603	316SS	11603	316SS	32
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
Z	•SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HC0/CBN	77036	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	71551	ALLOY 20	71553	ALLOY C	71551	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G6 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO.	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO.	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	40111	316SS	40112	ALLOY C	40113	ALLOY 20	1
HOUSING, CENTER FNPT	1	40002	316SS	40006	ALLOY C	40008	ALLOY 20	2
HOUSING, CENTER FBSPT	1	40011	316SS	40023	ALLOY C	40017	ALLOY 20	2
HOUSING, REAR	1	40218	316SS	40219	ALLOY C	40220	ALLOY 20	3
+SHAFT, DRIVE	1	40359	316SS	40361	ALLOY C	40373	ALLOY 20	4
+SHAFT, IDLER	1	40360	316SS	40362	ALLOY C	40374	ALLOY 20	5
+RING, RETAINING	4	46702	ALLOY 20	46701	ALLOY C	46702	ALLOY 20	10,11
+KEY, METAL DRIVE GEAR	*1	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	8
+KEY, PLASTIC DRIVE GEAR	*1	41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	8
+KEY, MTL/CBN IDLER GEAR	*1	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	9
+KEY, PLASTIC IDLER GEAR	*1	41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	9
+PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
+O-RING, HOUSING	2	41101	TFE	41101	TFE	41101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	62005	188SS	62005	188SS	62005	188SS	18A
NUT, HOUSING BOLT	4	62101	188SS	62101	188SS	62101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS								
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M								
V: HOUSING, CENTER - VENT FNPT	1	40002-2	316SS	40006-2	ALLOY C	40008-2	ALLOY 20	2
V: HOUSING, CENTER - VENT FBSPT	1	40011-2	316SS	40023-2	ALLOY C	40017-2	ALLOY 20	2
V: PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C, A: HOUSING, FRONT - BRG FLUSH	1	40117	316SS	40123	ALLOY C	40125	ALLOY 20	1
C, A: HOUSING, REAR - BRG FLUSH	1	40224	316SS	40231	ALLOY C	40234	ALLOY 20	3
C: PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B: +PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
B: +O-RING, HOUSING	2	41107	SS/PFA	41107	SS/PFA	41107	SS/PFA	16
D: +BEARING, SLOTTED	4	40428	CARBON	40428	CARBON	40428	CARBON	12,13
D: +BEARING, SLOTTED	4	40417	TFE(GF)	40417	TFE(GF)	40417	TFE(GF)	12,13
E: +WEAR PLATE, SLOTTED	4	40511	CARBON	40511	CARBON	40511	CARBON	15
E: +WEAR PLATE, SLOTTED	4	40513	TFE(GF)	40513	TFE(GF)	40513	TFE(GF)	15
N: +GEAR, DRIVE/IDLER	1-2	40604	ALLOY C	40604	ALLOY C	40604	ALLOY C	6,7
N: +GEAR, IDLER	1	40681	CARBON	40681	CARBON	40681	CARBON	7
N: +GEAR, DRIVE/IDLER	1-2	40648	TFE(GF)	40648	TFE(GF)	40648	TFE(GF)	6,7
N: +GEAR, DRIVE/IDLER	1-2	40717	PEEK	40717	PEEK	40717	PEEK	6,7
N: +KEY, METAL DRIVE GEAR	*1	41920	ALLOY 20	41913	ALLOY C	41920	ALLOY 20	8
N: +KEY, PLASTIC DRIVE GEAR	*1	41921	ALLOY 20	41914	ALLOY C	41921	ALLOY 20	8
N: +KEY, MTL/CBN IDLER GEAR	*1	41920	ALLOY 20	41913	ALLOY C	41920	ALLOY 20	9
N: +KEY, PLASTIC IDLER GEAR	*1	41921	ALLOY 20	41914	ALLOY C	41921	ALLOY 20	9

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
+DENOTES RECOMMENDED SPARE PART

G6 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
DESCRIPTION		QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 4 & 5 DRIVE AND IDLER GEAR									
C	+GEAR, DRIVE/IDLER	1-2	40668	ALLOY C	40668	ALLOY C	40668	ALLOY C	6,7
D	+GEAR, DRIVE/IDLER	1-2	40674	ALLOY 20	---	---	40674	ALLOY 20	6,7
K	+GEAR, IDLER	1	40622	CARBON	40622	CARBON	40622	CARBON	7
T	+GEAR, DRIVE/IDLER	1-2	40600	TFE(GF)	40600	TFE(GF)	40600	TFE(GF)	6,7
E	+GEAR, DRIVE/IDLER	1-2	40715	PEEK	40715	PEEK	40715	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL - **QTY 8 WHEN USING NARROW WIDTH GEARS									
K	+WEAR PLATE	**4	40501	CARBON	40501	CARBON	40501	CARBON	15
T	+WEAR PLATE		40504	TFE(GF)	40504	TFE(GF)	40504	TFE(GF)	15
Z	+WEAR PLATE		40503	CERAMIC	40503	CERAMIC	40503	CERAMIC	15
E	+WEAR PLATE		40523	PEEK	40523	PEEK	40523	PEEK	15
POSITION 7 BEARING MATERIAL									
K	+BEARING	4	40426	CARBON	40426	CARBON	40426	CARBON	12,13
T	+BEARING		40425	TFE(GF)	40425	TFE(GF)	40425	TFE(GF)	12,13
POSITION 8 SEAL ARRANGEMENT									
STANDARD STUFFING BOX									
COMMON PARTS	GLAND NUT	1	21716	ALLOY 20	21711	ALLOY C	21716	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PACKING GLAND	1	21514	ALLOY 20	21512	ALLOY C	21514	ALLOY 20	38
B	+PACKING RING	4	26408	TFE(BRD)	26408	TFE(BRD)	26408	TFE(BRD)	42
	+PACKING END RING	1	26301	TFE	26301	TFE	26301	TFE	41
G	+PACKING RING	4	26409	GRAFOIL	26409	GRAFOIL	26409	GRAFOIL	42
U-CUP LIP SEAL									
COMMON PARTS	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
J	+LIP SEAL	1	21417	VITON	21417	VITON	21417	VITON	50
	SPRING, LIP SEAL	1	21206	ALLOY C	21206	ALLOY C	21206	ALLOY C	53
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING BOX	1	24510	ALLOY 20	24509	ALLOY C	24510	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	GLAND NUT	1	21716	ALLOY 20	21711	ALLOY C	21716	ALLOY 20	34
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	LANTERN RING	1	27103	ALLOY 20	27111	TFE	27103	ALLOY 20	46
	PACKING GLAND	1	21514	ALLOY 20	21512	ALLOY C	21514	ALLOY 20	38
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
N	+PACKING RING	9	26408	TFE(BRD)	26408	TFE(BRD)	26408	TFE(BRD)	42
	+PACKING END RING	1	26301	TFE	26301	TFE	26301	TFE	41
R	+PACKING RING	9	26409	GRAFOIL	26409	GRAFOIL	26409	GRAFOIL	42

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
+DENOTES RECOMMENDED SPARE PART

G6 SERIES PUMP
CONSOLIDATED B/M

POSITION 8 SEAL ARRANGEMENT (CONT'D)

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	MATL	ALLOY C (C) OR (M) PART NO.	MATL	ALLOY 20 (D) OR (N) PART NO.	MATL	ITEM
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
K	+SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HC0/TFE	27097	020/TFE	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
Q	+SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HC0/TFE	27097	020/TFE	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
T	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
U	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
EXTERNAL MECHANICAL SEAL									
COMMON PARTS	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
V	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
W	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
Y	+SEAL HEAD ASSEMBLY	1	27092	316/CBN	27092	316/CBN	27092	316/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	2	21566	ALLOY 20	21568	ALLOY C	21566	ALLOY 20	55
EXTERNAL MECHANICAL SEAL FOR VACUUM SERVICE									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	+SHAFT, DRIVE - 10"LG,	**1	40381	316SS	40395	ALLOY C	40395	ALLOY C	4
Z	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
**DELETE CORRESPONDING STANDARD PUMP COMPONENT, POSITION 3
+DENOTES RECOMMENDED SPARE PART

G8 SERIES PUMP
CONSOLIDATED B/M

POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO.	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO.	ALLOY 20 (D) OR (N) MATL	ITEM
HOUSING, FRONT	1	40111	316SS	40112	ALLOY C	40113	ALLOY 20	1
HOUSING, CENTER FNPT	1	40052	316SS	40053	ALLOY C	40054	ALLOY 20	2
HOUSING, CENTER FBSPT		40064	316SS	40065	ALLOY C	40066	ALLOY 20	2
HOUSING, REAR	1	40218	316SS	40219	ALLOY C	40220	ALLOY 20	3
•SHAFT, DRIVE	1	40351	ALLOY 20	40347	ALLOY C	40351	ALLOY 20	4
•SHAFT, IDLER	1	40350	ALLOY 20	40346	ALLOY C	40350	ALLOY 20	5
•RING, RETAINING	4	46702	ALLOY 20	46701	ALLOY C	46702	ALLOY 20	10, 11
•KEY, METAL DRIVE GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	8
•KEY, PLASTIC DRIVE GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	8
•KEY, MTL/CBN IDLER GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	9
•KEY, PLASTIC IDLER GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	9
•PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
•O-RING, HOUSING	2	41101	TFE	41101	TFE	41101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	62006	188SS	62006	188SS	62006	188SS	18A
NUT, HOUSING BOLT	4	62101	188SS	62101	188SS	62101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--

NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS

POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M

	V	HOUSING, CENTER - VENT FNPT	1	40052-2	316SS	40053-2	ALLOY C	40054-2	ALLOY 20	2
		HOUSING, CENTER - VENT FBSPT		40064-2	316SS	40065-2	ALLOY C	40066-2	ALLOY 20	2
		PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C	A	HOUSING, FRONT- BRG FLUSH	1	40117	316SS	40123	ALLOY C	40125	ALLOY 20	1
		HOUSING, REAR - BRG FLUSH	1	40224	316SS	40231	ALLOY C	40234	ALLOY 20	3
		PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	B	•PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
		•O-RING, HOUSING	2	41107	SS/PFA	41107	SS/PFA	41107	SS/PFA	16
D		•BEARING, SLOTTED	4	40428	CARBON	40428	CARBON	40428	CARBON	12, 13
		•BEARING, SLOTTED		40417	TFE(GF)	40417	TFE(GF)	40417	TFE(GF)	12, 13
E		•WEAR PLATE, SLOTTED	4	40511	CARBON	40511	CARBON	40511	CARBON	15
		•WEAR PLATE, SLOTTED		40513	TFE(GF)	40513	TFE(GF)	40513	TFE(GF)	15

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G8 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
DESCRIPTION		QTY	PART NO	MATL	PART NO	MATL	PART NO	MATL	ITEM
POSITION 4 & 5 DRIVE AND IDLER GEAR									
C	•GEAR, DRIVE/IDLER	1-2	40689	ALLOY C	40689	ALLOY C	40689	ALLOY C	6,7
D	•GEAR, DRIVE/IDLER	1-2	40691	ALLOY 20	---	---	40691	ALLOY 20	6,7
K	•GEAR, IDLER	1	40623	CARBON	40623	CARBON	40623	CARBON	7
T	•GEAR, DRIVE/IDLER	1-2	40701	TFE(GF)	40701	TFE(GF)	40701	TFE(GF)	6,7
E	•GEAR, DRIVE/IDLER	1-2	40716	PEEK	40716	PEEK	40716	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL									
K	•WEAR PLATE	4	40501	CARBON	40501	CARBON	40501	CARBON	15
T	•WEAR PLATE		40504	TFE(GF)	40504	TFE(GF)	40504	TFE(GF)	15
Z	•WEAR PLATE		40503	CERAMIC	40503	CERAMIC	40503	CERAMIC	15
E	•WEAR PLATE		40523	PEEK	40523	PEEK	40523	PEEK	15
POSITION 7 BEARING MATERIAL									
K	•BEARING	4	40426	CARBON	40426	CARBON	40426	CARBON	12,13
T	•BEARING		40425	TFE(GF)	40425	TFE(GF)	40425	TFE(GF)	12,13
POSITION 8 SEAL ARRANGEMENT									
STANDARD STUFFING BOX									
COMMON PARTS	GLAND NUT	1	21716	ALLOY 20	21711	ALLOY C	21716	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	PACKING GLAND	1	21514	ALLOY 20	21512	ALLOY C	21514	ALLOY 20	38
B	•PACKING RING	4	26408	TFE(BRD)	26408	TFE(BRD)	26408	TFE(BRD)	42
	•PACKING END RING	1	26301	TFE	26301	TFE	26301	TFE	41
G	•PACKING RING	4	26409	GRAFOIL	26409	GRAFOIL	26409	GRAFOIL	42
U-CUP LIP SEAL									
COMMON PARTS	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	11710	ALLOY 20	11709	ALLOY C	11710	ALLOY 20	34
J	•LIP SEAL	1	21417	VITON	21417	VITON	21417	VITON	50
	SPRING, LIP SEAL	1	21206	ALLOY C	21206	ALLOY C	21206	ALLOY C	53
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING BOX	1	24510	ALLOY 20	24509	ALLOY C	24510	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	GLAND NUT	1	21716	ALLOY 20	21711	ALLOY C	21716	ALLOY 20	34
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	LANTERN RING	1	27103	ALLOY 20	27111	TFE	27103	ALLOY 20	46
	PACKING GLAND	1	21514	ALLOY 20	21512	ALLOY C	21514	ALLOY 20	38
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
N	•PACKING RING	9	26408	TFE(BRD)	26408	TFE(BRD)	26408	TFE(BRD)	42
	•PACKING END RING	1	26301	TFE	26301	TFE	26301	TFE	41
R	•PACKING RING	9	26409	GRAFOIL	26409	GRAFOIL	26409	GRAFOIL	42

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

G8 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
DESCRIPTION		QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT (CONT'D)									
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
K	+SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HCO/TFE	27097	020/TFE	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
Q	+SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HCO/TFE	27097	020/TFE	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
T	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
U	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
EXTERNAL MECHANICAL SEAL									
COMMON PARTS	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	LOCK NUT	1	21602	316SS	21602	316SS	21602	316SS	35
V	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	ALLOY 20	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55
W	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	ALLOY 20	60
	+SEAL SEAT W/ O-RING (TFE)	1	21571	SICBD	21571	SICBD	21571	SICBD	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
Y	+SEAL HEAD ASSEMBLY	1	27092	316/CBN	27092	316/CBN	27092	316/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	2	21566	ALLOY 20	21568	ALLOY C	21566	ALLOY 20	55
EXTERNAL MECHANICAL SEAL FOR VACUUM SERVICE									
COMMON PARTS	SEAL HOUSING	1	24518	ALLOY 20	24519	ALLOY C	24518	ALLOY 20	30
	GASKET	1	21106	TFE	21106	TFE	21106	TFE	31
	LOCK NUT	2	21602	316SS	21602	316SS	21602	316SS	35
	GLAND NUT	1	21727	ALLOY 20	21726	ALLOY C	21727	ALLOY 20	34
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
Z	+SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	21563	ALLOY 20	21565	ALLOY C	21563	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
+DENOTES RECOMMENDED SPARE PART

GH8 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT - MECH. SEAL	1	40150	316SS	40151	ALLOY C	40152	ALLOY 20	1
HOUSING, FRONT - LRS SEAL	1	40153	316SS	40154	ALLOY C	40155	ALLOY 20	1
HOUSING, CENTER FNPT	1	40052	316SS	40053	ALLOY C	40054	ALLOY 20	2
HOUSING, CENTER FBSPT	1	40064	316SS	40065	ALLOY C	40066	ALLOY 20	2
HOUSING, REAR	1	40247	316SS	40248	ALLOY C	40249	ALLOY 20	3
†SHAFT, DRIVE	1	41327	316SS	41328	ALLOY C	41329	ALLOY 20	4
†SHAFT, IDLER 5/8"	1	41337	316SS	41338	ALLOY C	41339	ALLOY 20	5
†SHAFT, IDLER (METAL) 3/4"	1	41342	316SS	41343	ALLOY C	41344	ALLOY 20	5
†RING, RETAINING 5/8"	0-2	Y9901400-020	ALLOY 20	Y9901400-HC0	ALLOY C	Y9901400-020	ALLOY 20	11
†RING, RETAINING 3/4"	2-4	46710	ALLOY 20	46711	ALLOY C	46710	ALLOY 20	10
†KEY, METAL DRIVE GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	8
†KEY, MTL/CBN IDLER GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	9
†KEY, PLASTIC IDLER GEAR	*2	41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	9
†KEY, COUPLING	1	W773098-008	STL	W773098-008	STL	W773098-008	STL	21
†PIN, BEARING LOCK	4	41811	TFE	41811	TFE	41811	TFE	14
†O-RING, HOUSING	2	41101	TFE	41101	TFE	41101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	62006	188SS	62006	188SS	62006	188SS	18A
NUT,HOUSING BOLT	4	62101	188SS	62101	188SS	62101	188SS	19
NAMEPLATE	1	41210	188SS	41210	188SS	41210	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS								
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M								
V: HOUSING, CENTER - VENT FNPT	1	40052-2	316SS	40053-2	ALLOY C	40054-2	ALLOY 20	2
V: HOUSING, CENTER - VENT FBSPT		40064-2	316SS	40065-2	ALLOY C	40066-2	ALLOY 20	2
V: PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C, A: HOUSING, FRONT MECH. - BRG FLUSH	1	40150-2	316SS	40151-2	ALLOY C	40152-2	ALLOY 20	1
C, A: HOUSING, FRONT LRS - BRG FLUSH	1	40153-2	316SS	40154-2	ALLOY C	40155-2	ALLOY 20	1
C, A: HOUSING, REAR - BRG FLUSH	1	40247-2	316SS	40248-2	ALLOY C	40249-2	ALLOY 20	3
C, A: PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
C, B: †PIN, BEARING LOCK	4	41812	316SS	41813	ALLOY C	41814	ALLOY 20	14
C, B: †O-RING, HOUSING	2	41107	SS/PFA	41107	SS/PFA	41107	SS/PFA	16
D: †BEARING, SLOTTED 3/4"	2-4	40443	TFE(GF)	40443	TFE(GF)	40443	TFE(GF)	12
D: †BEARING, SLOTTED 3/4"	2-4	40442	CARBON	40442	CARBON	40442	CARBON	12
D: †BEARING, SLOTTED 5/8"	0-2	40440	CARBON	40440	CARBON	40440	CARBON	13
D: †BEARING, SLOTTED 5/8"	0-2	40441	TFE(GF)	40441	TFE(GF)	40441	TFE(GF)	13

* COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M.
† DENOTES RECOMMENDED SPARE PART.

GH8 SERIES PUMP
CONSOLIDATED B/M

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO.	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO.	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO.	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 4 & 5 DRIVE AND IDLER GEAR MATERIAL									
C	+GEAR, DRIVE/IDLER 3/4"	1-2	40605	ALLOY C	40605	ALLOY C	40605	ALLOY C	6,7
K	+GEAR, IDLER 5/8"	0-1	40606	CARBON	40606	CARBON	40606	CARBON	7
T	+GEAR, IDLER 5/8"	0-1	40608	TFE(GF)	40608	TFE(GF)	40608	TFE(GF)	7
E	+GEAR, IDLER 5/8"	0-1	40609	PEEK	40609	PEEK	40609	PEEK	7
POSITION 6 WEAR PLATE MATERIAL									
K	+WEAR PLATE, SLOTTED	4	40511	CARBON	40511	CARBON	40511	CARBON	15
T	+WEAR PLATE, SLOTTED	4	40513	TFE(GF)	40513	TFE(GF)	40513	TFE(GF)	15
Z	+WEAR PLATE, SLOTTED	4	40525	CERAMIC	40525	CERAMIC	40525	CERAMIC	15
E	+WEAR PLATE, SLOTTED	4	40526	PEEK	40526	PEEK	40526	PEEK	15
POSITION 7 BEARING MATERIAL									
K	+BEARING, DRIVE/IDLER SHAFT 3/4"	2-4	40436	CARBON	40436	CARBON	40436	CARBON	12
K	+BEARING, IDLER SHAFT 5/8"	0-2	40432	CARBON	40432	CARBON	40432	CARBON	13
T	+BEARING, DRIVE/IDLER SHAFT 3/4"	2-4	40438	TFE(GF)	40438	TFE(GF)	40438	TFE(GF)	12
T	+BEARING, IDLER SHAFT 5/8"	0-2	40434	TFE(GF)	40434	TFE(GF)	40434	TFE(GF)	13
POSITION 8 SEAL ARRANGEMENT									
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING GLAND	1	21572	316SS	21573	ALLOY C	21574	ALLOY 20	38
COMMON PARTS	+RING, LANTERN	1	27112	TFE(GF)	27112	TFE(GF)	27112	TFE(GF)	46
COMMON PARTS	STUD, PACKING GLAND	2	92014	ALLOY 20	92012	ALLOY C	91014	ALLOY 20	39
COMMON PARTS	NUT, STUD	2	92103	ALLOY 20	92102	ALLOY C	92103	ALLOY 20	40
COMMON PARTS	GREASE FITTING 1/8" NPT	1	27201	310SS	27201	310SS	27201	310SS	65
COMMON PARTS	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
13	+RING, PACKING	8	26144	TFE	26144	TFE	26144	TFE	42
13	+END RING, PACKING	1	26303	TFE	26303	TFE	26303	TFE	41
15	+RING, PACKING	9	26415	GRAFOIL	26415	GRAFOIL	26415	GRAFOIL	42
INTERNAL MECHANICAL SEAL									
COMMON PARTS	RETAINER, SEAT	1	21752	316SS	21753	ALLOY C	21754	ALLOY 20	36
COMMON PARTS	SCREW, RETAINER	2	W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	39A
COMMON PARTS	+O RING, SEAT RETAINER	1	W212170-TFE	TFE	W212170-TFE	TFE	W212170-TFE	TFE	37
COMMON PARTS	PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
Q	+HEAD ASSEMBLY, SEAL	1	27187	316/TFE	27189	HC0/TFE	27188	020/TFE	60
Q	+SEAT, SEAL W/ TFE RING	1	21575	SICBD	21575	SICBD	21575	SICBD	55
U	+HEAD ASSEMBLY, SEAL	1	27181	316/CBN	27182	HC0/CBN	27186	020/CBN	60
U	+SEAT, SEAL W/ TFE RING	1	21575	SICBD	21575	SICBD	21575	SICBD	55
DOUBLE MECHANICAL SEAL									
E	RETAINER, SEAT	1	21752	316SS	21753	ALLOY C	21754	ALLOY 20	36
E	SCREW, RETAINER	2	W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	39A
E	+O RING, SEAT RETAINER	1	W212170-TFE	TFE	W212170-TFE	TFE	W212170-TFE	TFE	37
E	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
E	+HEAD ASSEMBLY, SEAL	1	27183	316/CBN	27183	316/CBN	27183	316/CBN	60
E	+SEAT, SEAL W/ TFE RING	2	21575	SICBD	21575	SICBD	21575	SICBD	55

* COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M.
+ DENOTES RECOMMENDED SPARE PART.

GA12 SERIES PUMP
CONSOLIDATED B/M

		STANDARD PUMP MATERIAL						
		316SS (A, K, OR U)		ALLOY C (C, M, OR V)		ALLOY 20 (D, N, OR W)		
DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT - MECH. SEAL	1	90129	316SS	90130	ALLOY C	90131	ALLOY 20	1
HOUSING, FRONT - LRS SEAL		90138	316SS	90140	ALLOY C	90139	ALLOY 20	1
HOUSING, CENTER FNPT	1	90001	316SS	90006	ALLOY C	90005	ALLOY 20	2
HOUSING, CENTER FBSPT		90012	316SS	90013	ALLOY C	90014	ALLOY 20	2
HOUSING, CENTER FLGD		90003	316SS	90007	ALLOY C	90010	ALLOY 20	2
HOUSING, REAR	1	90201	316SS	90205	ALLOY C	90204	ALLOY 20	3
+SHAFT, MTL DRIVE GR 1" DIA	1	90307	316SS	90317	ALLOY C	90315	ALLOY 20	4
+SHAFT, IDLER 3/4" DIA	1	90306	316SS	90322	ALLOY C	90334	ALLOY 20	5
+SHAFT, CBN IDLER GR 3/4" DIA		90346	316SS	90347	ALLOY C	90348	ALLOY 20	5
+RING, RETAINING - DR/IDLR 1"	2-4	96702	316SS	96708	ALLOY C	96708	ALLOY C	10
+RING, RETAINING - IDLER 3/4"	0-2	96701	316SS	96709	ALLOY C	96709	ALLOY C	11
+KEY, DRIVE/IDLER GR 1" BORE	1-2	91904	316SS	91910	ALLOY C	91910	ALLOY C	8,9
+KEY, MTL IDLER GR 3/4" BORE	0-1	91903	316SS	91911	ALLOY C	91911	ALLOY C	9
+KEY, CBN IDLER GR 3/4" BORE	0-2	91925	316SS	91926	ALLOY C	91926	ALLOY C	9
+KEY, PLSTC IDL GR 3/4" BORE	0-2	91901	316SS	91912	ALLOY C	91912	ALLOY C	9
+PIN, BEARING LOCK	*4	90801	316SS	90803	ALLOY C	90803	ALLOY C	14
+O-RING, HOUSING	2	91101	TFE	91101	TFE	91101	TFE	16
PIN, HOUSING	*4	90801	316SS	90801	316SS	90801	316SS	17
BOLT, CTR HSG FNPT, FBSPT	*10	W770413-188	188SS	W770413-188	188SS	W770413-188	188SS	18A
BOLT, CTR HSG FNPT, FBSPT	1	W770422-188	188SS	W770422-188	188SS	W770422-188	188SS	18A
NUT, HSG BOLT FNPT, FBSPT	11	W771214-188	188SS	W771214-188	188SS	W771214-188	188SS	19
LOCK WASHER FNPT, FBSPT	11	W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
BOLT, CENTER HSG FLGD	12	W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	18A
LOCK WASHER FLGD	12	W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
PLUG, 1/4" NPT	*4	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
KEY, COUPLING/DRIVE SHAFT	1	91924	STL	91924	STL	91924	STL	21
PLUG, 1/8" NPT	**1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS								
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M								
V HOUSING, CENTER - VENT FNPT	1	90001-2	316SS	90006-2	ALLOY C	90005-2	ALLOY 20	2
V HOUSING, CENTER - VENT FBSPT		90012-2	316SS	90013-2	ALLOY C	90014-2	ALLOY 20	2
V HOUSING, CENTER - VENT FLGD		90003-2	316SS	90007-2	ALLOY C	90010-2	ALLOY 20	2
V PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B +O-RING, HOUSING	2	91106	SS/PFA	91106	SS/PFA	91106	SS/PFA	16
J +SHAFT, MTL IDLER GR 1" DIA	1	90308	316SS	90318	ALLOY C	90364	ALLOY 20	5
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C +GEAR, DRIVE/IDLER 1" BORE	1-2	90627	ALLOY C	90627	ALLOY C	90627	ALLOY C	6,7
C +GEAR, IDLER 3/4" BORE	0-1	90626	ALLOY C	90626	ALLOY C	90626	ALLOY C	7
K +GEAR, IDLER 3/4" BORE	0-1	90664	CARBON	90664	CARBON	90664	CARBON	7
T +GEAR, IDLER 3/4" BORE		90663	TFE(GF)	90663	TFE(GF)	90663	TFE(GF)	7
E +GEAR, IDLER 3/4" BORE		90677	PEEK	90677	PEEK	90677	PEEK	7

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M

**QTY (2) WHEN PUMP HAS FNPT OR FBSPT CENTER HOUSING, COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M

+DENOTES RECOMMENDED SPARE PART

GA12 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A, K, OR U) PART NO.	316SS MATL	ALLOY C (C, M, OR V) PART NO.	ALLOY C MATL	ALLOY 20 (D, N, OR W) PART NO.	ALLOY 20 MATL	ITEM

POSITION 6 WEAR PLATE MATERIAL

K	*WEAR PLATE, SLOTTED	4	90503	CARBON	90503	CARBON	90503	CARBON	15
T	*WEAR PLATE, SLOTTED		90510	TFE(GF)	90510	TFE(GF)	90510	TFE(GF)	15
Z	*WEAR PLATE, SLOTTED		90512	CERAMIC	90512	CERAMIC	90512	CERAMIC	15

POSITION 7 BEARING MATERIAL

K	*BEARING	1" BORE	2-4	90424	CARBON	90424	CARBON	90424	CARBON	12, 13
	*BEARING	3/4" BORE	0-2	90429	CARBON	90429	CARBON	90429	CARBON	13
T	*BEARING	1" BORE	2-4	90428	TFE(GF)	90428	TFE(GF)	90428	TFE(GF)	12, 13
	*BEARING	3/4" BORE	0-2	90430	TFE(GF)	90430	TFE(GF)	90430	TFE(GF)	13
4	*BEARING, SLOTTED	1" BORE	2-4	90431	CARBON	90431	CARBON	90431	CARBON	12, 13
	*BEARING, SLOTTED	3/4" BORE	0-2	90432	CARBON	90432	CARBON	90432	CARBON	13

POSITION 8 SEAL ARRANGEMENT

LANTERN RING STUFFING BOX

COMMON PARTS	PACKING GLAND	1	A91515	ALLOY 20	A91517	ALLOY C	A91515	ALLOY 20	38
	LANTERN RING	1	97104	ALLOY 20	97105	ALLOY C	97104	ALLOY 20	46
	STUD, PACKING GLAND	2	92014	ALLOY 20	92012	ALLOY C	92014	ALLOY 20	39
	NUT, STUD	*2	92103	ALLOY 20	92102	ALLOY C	92103	ALLOY 20	40
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/4" NPT	*1	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
	ADAPTOR, 1/4" TO 1/8" NPT	1	27217	ALLOY 20	27216	ALLOY C	27217	ALLOY 20	64
13	*PACKING RING	6	96515	TFE(BRD)	96515	TFE(BRD)	96515	TFE(BRD)	42
	*PACKING END RING	1	96505	TFE	96505	TFE	96505	TFE	41
15	*PACKING RING	7	96510	GRAFOIL	96510	GRAFOIL	96510	GRAFOIL	42

INTERNAL MECHANICAL SEAL

COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	*2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*3	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
	*SEAL HEAD ASSEMBLY	1	A97011	020/CBN	A97023	HC0/CBN	A97011	020/CBN	60
22	*SEAL SEAT W/ SEAL RING (TFE)	1	A97044	CER 99%	A97044	CER 99%	A97044	CER 99%	55
24	*SEAL SEAT W/ SEAL RING (TFE)	1	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55

DOUBLE MECHANICAL SEAL

COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	*2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*1	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
	PIN, PUMP END SEAT	1	91565	ALLOY 20	91561	ALLOY C	91565	ALLOY 20	59
	*SEAL HEAD ASSEMBLY	1	A97022	020/CBN	A97027	HC0/CBN	A97022	020/CBN	60
42	*SEAL SEAT W/ SEAL RING (TFE)	2	A97044	CER 99%	A97044	CER 99%	A97044	CER 99%	55
44	*SEAL SEAT W/ SEAL RING (TFE)	2	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
+DENOTES RECOMMENDED SPARE PART

GA16 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (U)		ALLOY C (V)		ALLOY 20 (W)		
DESCRIPTION	QTY		PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS									
HOUSING, FRONT - MECH. SEAL	1		90129	316SS	90130	ALLOY C	90131	ALLOY 20	1
HOUSING, FRONT - LRS SEAL			90138	316SS	90140	ALLOY C	90139	ALLOY 20	1
HOUSING, CENTER FLGD	1		90020	316SS	90021	ALLOY C	90022	ALLOY 20	2
HOUSING, REAR	1		90201	316SS	90205	ALLOY C	90204	ALLOY 20	3
*SHAFT, DRIVE 1"	1		90355	316SS	90357	ALLOY C	90356	ALLOY 20	4
*SHAFT, CBN/PLSTC IDLER 3/4"	1		90362	ALLOY 20	90361	ALLOY C	90362	ALLOY 20	5
*SHAFT, MTL IDLER 1"			90349	316SS	90351	ALLOY C	90350	ALLOY 20	5
*RING, RETAINING - DR/IDLER 1"	2-4		96702	316SS	96708	ALLOY C	96708	ALLOY C	10, 11
*RING, RETAINING - IDLER 3/4"	0-2		96701	316SS	96709	ALLOY C	96709	ALLOY C	11
*KEY, MTL DR/IDLER GR 1" BORE	2-4		91904	316SS	91910	ALLOY C	91910	ALLOY C	8, 9
*KEY, CBN/PLSTC GEAR 3/4" BORE	0-2		91929	ALLOY C	91929	ALLOY C	91929	ALLOY C	9
*PIN, BEARING LOCK	#4		90801	316SS	90803	ALLOY C	90803	ALLOY C	14
*O-RING, HOUSING	2		91101	TFE	91101	TFE	91101	TFE	16
PIN, HOUSING	#4		90801	316SS	90801	316SS	90801	316SS	17
BOLT, CTR HSG FLGD	12		W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	18A
LOCK WASHER	12		W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
PLUG, 1/4" NPT	#6		16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
KEY, COUPLING/DRIVE SHAFT	1		91924	STL	91924	STL	91924	STL	21
NAMEPLATE	1		41201	188SS	41201	188SS	41201	188SS	--
NON-VARIABLE COMPONENTS FOR POSITION 9 OPTIONAL PUMPS									
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
B *O-RING, HOUSING	2		91106	SS/PFA	91106	SS/PFA	91106	SS/PFA	16
POSITION 4 & 5 DRIVE AND IDLER GEAR									
C *GEAR, DRIVE/IDLER 1" BORE	1-2		90667	ALLOY C	90667	ALLOY C	90667	ALLOY C	6, 7
K *GEAR, IDLER 3/4" BORE	0-1		90676	CARBON	90676	CARBON	90676	CARBON	7
T *GEAR, IDLER 3/4" BORE			90670	TFE(GF)	90670	TFE(GF)	90670	TFE(GF)	7
E *GEAR, IDLER 3/4" BORE			90678	PEEK	90678	PEEK	90678	PEEK	7
POSITION 6 WEAR PLATE MATERIAL									
K *WEAR PLATE, SLOTTED	4		90503	CARBON	90503	CARBON	90503	CARBON	15
T *WEAR PLATE, SLOTTED			90510	TFE(GF)	90510	TFE(GF)	90510	TFE(GF)	15
Z *WEAR PLATE, SLOTTED			90512	CERAMIC	90512	CERAMIC	90512	CERAMIC	15
POSITION 7 BEARING MATERIAL									
K *BEARING 1" BORE	2-4		90424	CARBON	90424	CARBON	90424	CARBON	12, 13
*BEARING 3/4" BORE	0-2		90429	CARBON	90429	CARBON	90429	CARBON	13
T *BEARING 1" BORE	2-4		90428	TFE(GF)	90428	TFE(GF)	90428	TFE(GF)	12, 13
*BEARING 3/4" BORE	0-2		90430	TFE(GF)	90430	TFE(GF)	90430	TFE(GF)	13
4 *BEARING, SLOTTED 1" BORE	2-4		90431	CARBON	90431	CARBON	90431	CARBON	12, 13
*BEARING, SLOTTED 3/4" BORE	0-2		90432	CARBON	90432	CARBON	90432	CARBON	13

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
*DENOTES RECOMMENDED SPARE PART

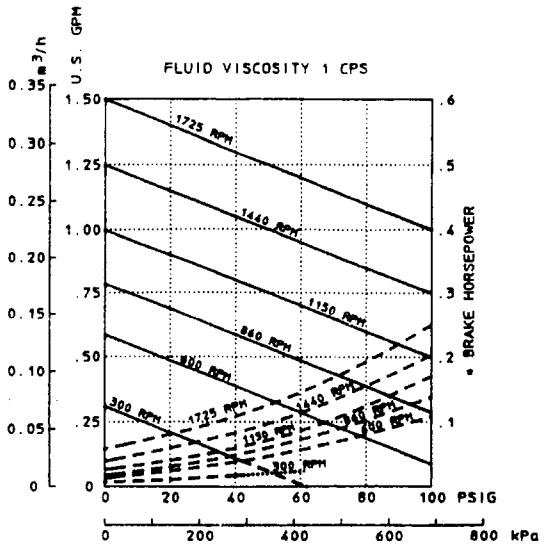
GA16 SERIES PUMP
CONSOLIDATED B/M

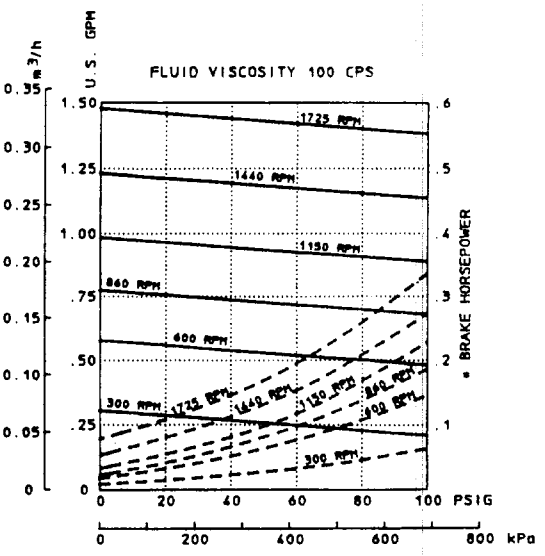
		STANDARD PUMP MATERIAL						
		316SS (U)		ALLOY C (V)		ALLOY 20 (W)		
DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT								
LANTERN RING STUFFING BOX								
COMMON PARTS	PACKING GLAND	1	A91515	ALLOY 20	A91517	ALLOY C	A91515	ALLOY 20	38
	LANTERN RING	1	97104	ALLOY 20	97105	ALLOY C	97104	ALLOY 20	46
	STUD, PACKING GLAND	2	92014	ALLOY 20	92012	ALLOY C	92014	ALLOY 20	39
	NUT, STUD	2	92103	ALLOY 20	92102	ALLOY C	92103	ALLOY 20	40
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/4" NPT	*1	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
	ADAPTOR, 1/4" TO 1/8" NPT	1	27217	ALLOY 20	27216	ALLOY C	27217	ALLOY 20	64
13	•PACKING RING	6	96515	TFE(BRD)	96515	TFE(BRD)	96515	TFE(BRD)	42
	•PACKING END RING	1	96505	TFE	96505	TFE	96505	TFE	41
15	•PACKING RING	7	96510	GRAFOIL	96510	GRAFOIL	96510	GRAFOIL	42
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*3	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
22	•SEAL HEAD ASSEMBLY	1	A97011	020/CBN	A97023	HC0/CBN	A97011	020/CBN	60
	•SEAL SEAT W/ SEAL RING (TFE)	1	A97044	CER 99%	A97044	CER 99%	A97044	CER 99%	55
24	•SEAL HEAD ASSEMBLY	1	A97011	020/CBN	A97023	HC0/CBN	A97011	020/CBN	60
	•SEAL SEAT W/ SEAL RING (TFE)	1	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*1	16432	ALLOY 20	16422	ALLOY C	16432	ALLOY 20	63
	PIN, PUMP END SEAT	1	91565	ALLOY 20	91561	ALLOY C	91565	ALLOY 20	59
42	•SEAL HEAD ASSEMBLY	1	A97022	020/CBN	A97027	HC0/CBN	A97022	020/CBN	60
	•SEAL SEAT W/ SEAL RING (TFE)	2	A97044	CER 99%	A97044	CER 99%	A97044	CER 99%	55
44	•SEAL HEAD ASSEMBLY	1	A97022	020/CBN	A97027	HC0/CBN	A97022	020/CBN	60
	•SEAL SEAT W/ SEAL RING (TFE)	2	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

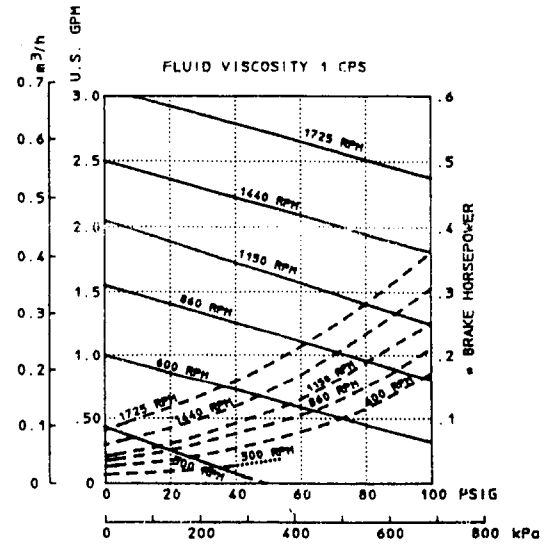
PERFORMANCE CHARTS

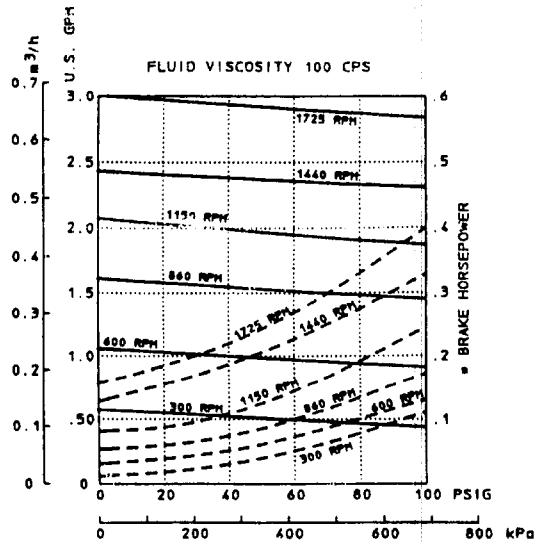
G2



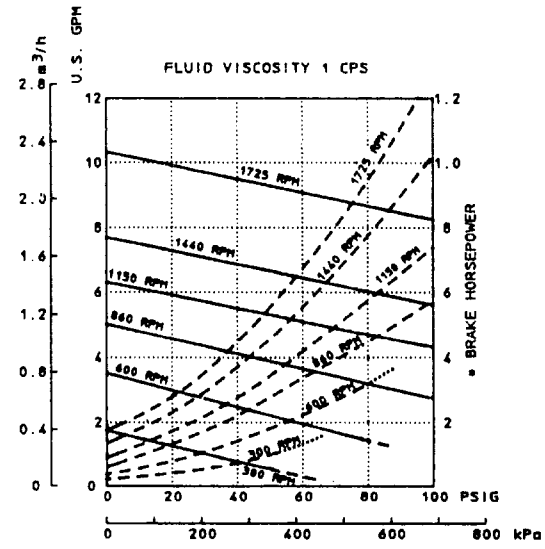


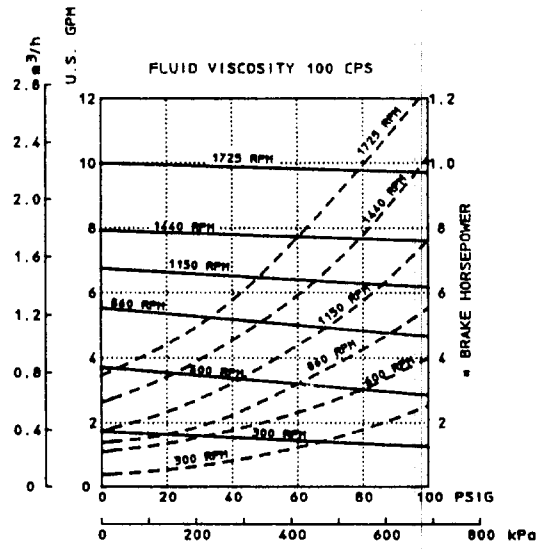
G4





G6

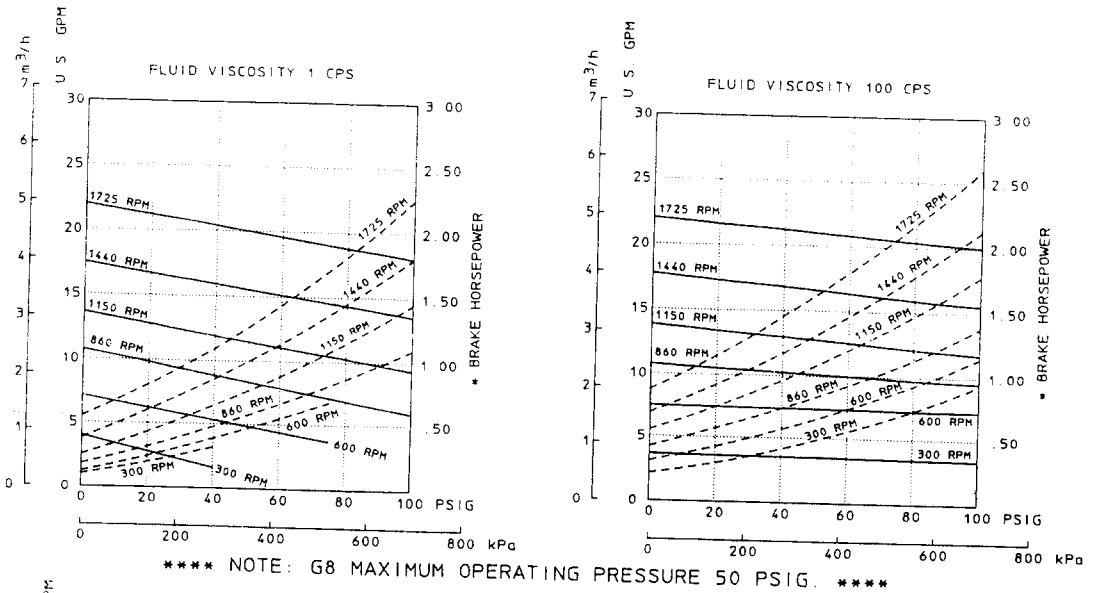




* BRAKE HORSEPOWER SHOWN AS DASHED CURVES

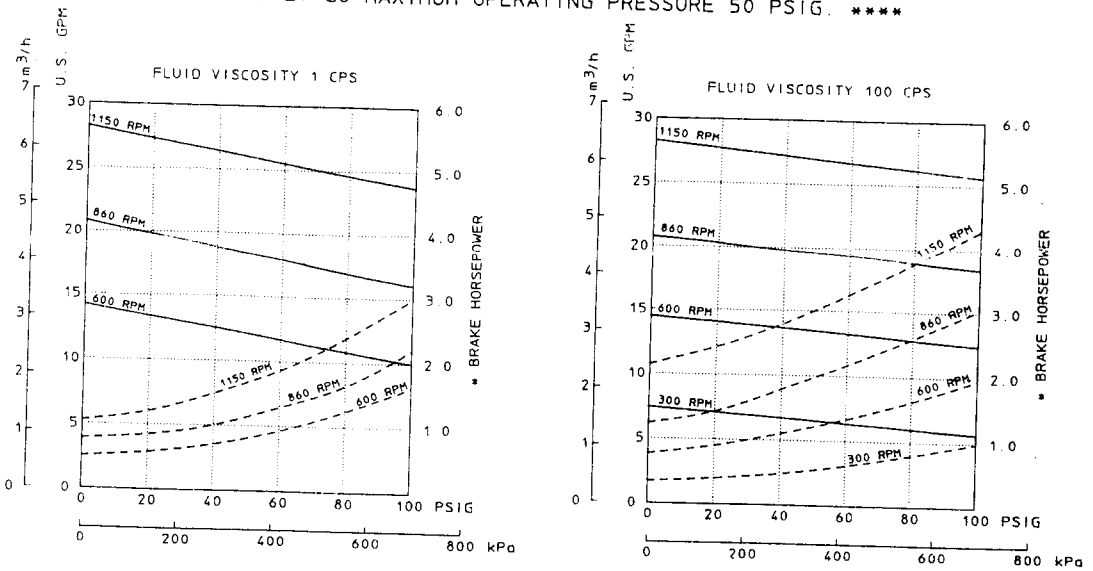
PERFORMANCE CHARTS

G8/GH8

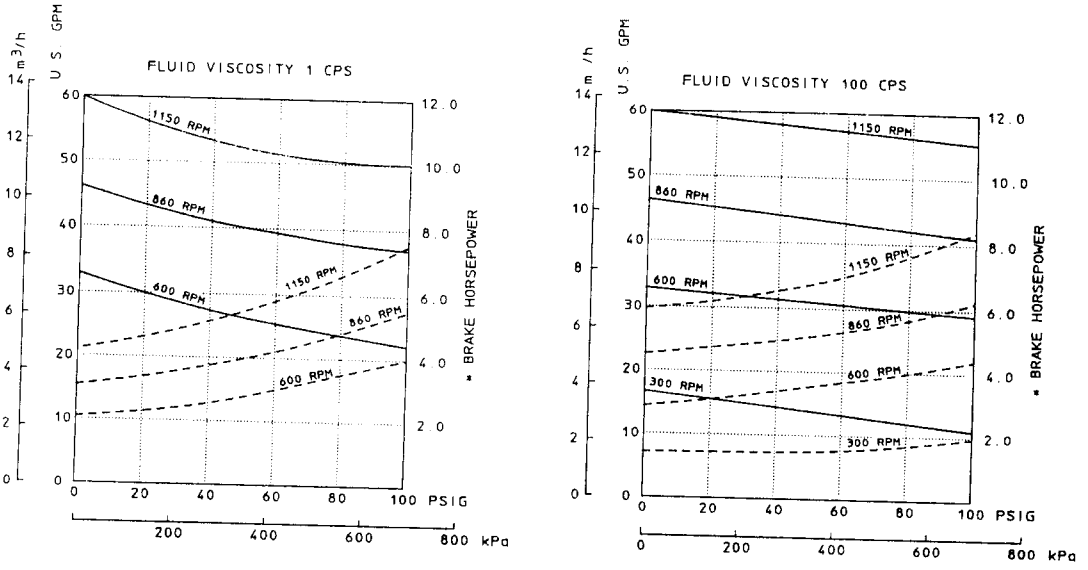


**** NOTE: G8 MAXIMUM OPERATING PRESSURE 50 PSIG. ****

GA12



GA16



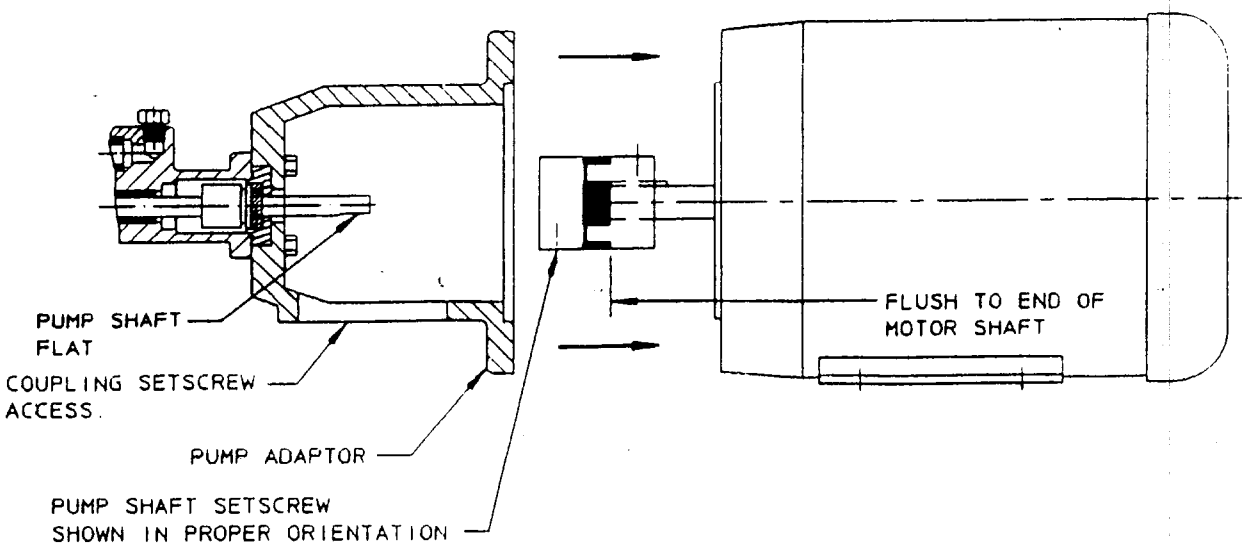
* BRAKE HORSEPOWER SHOWN AS DASHED CURVES

PULSAFEEDER

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IDEX CORPORATION

PUMP TO MOTOR ASSEMBLY INSTRUCTIONS



INSTRUCTION:

1.) POSITION PUMP SHAFT FLAT DIRECTLY OVER COUPLING SETSCREW ACCESS.

2.) SETSCREW COUPLING HALF, FLUSH TO END OF MOTOR SHAFT. ASSEMBLE SPIDER AND OTHER COUPLING HALF TO MOTOR HALF. (OPTIONAL; WRAP COUPLING JAWS AND SPIDER WITH MASKING TAPE)

3.) SLIDE SHAFT OF PUMP ASSEMBLY INTO COUPLING MOUNTED ON MOTOR. FASTEN PUMP ADAPTOR TO MOTOR WITH BOLTS PROVIDED.

4.) BY USING COUPLING ACCESS IN THE PUMP ADAPTOR, TIGHTEN REMAINING SETSCREW ON COUPLING TO PUMP SHAFT.

NOTE: THIS PRODUCT MAY BE ASSEMBLED IN MORE THAN ONE WAY, BUT WE HAVE DETERMINED THIS PROCEDURE TO BE THE MOST TIME EFFICIENT.

GEARCHEM PUMPS
PRESSURES TO 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

POSITION NO.	1	2	3	4	5	6	7	8	9

POSITION 1 GEARCHEM EXTERNAL SPUR GEAR PUMP

G = ORIGINAL VERSION, FOOT MOUNTED ONLY - 2,4,6,8,
GA= MECHANICAL SEAL, FOOT MOUNTED ONLY - 2,4,6,8,12,16
GC= MECHANICAL SEAL, C-FACE MOTOR MOUNTING ASSEMBLY - 2,4,6,8
GH= HIGHER PRESSURE MODEL, FOOT MOUNTED ONLY * - 8

POSITION 2 PUMP SIZE	2	4	6	8	*8	12	16
Port Size	.25"	.50"	.75"	1.00"	1.00"	1.50"	2.00"
Capacity (GPM MAX)	1.5	3	10	20	20	26	55
Differential pressure (PSI MAX)	100	100	100	50	100	100	100

POSITION 3 AVAILABLE PUMP METALLURGIES AND TYPE PORT CONNECTION

A = 316SS	FNPT	X	X	X	X	X	X	
C = ALLOY C	FNPT	X	X	X	X	X	X	
D = ALLOY 20	FNPT	X	X	X	X	X	X	
K = 316SS	FBSPT	X	X	X	X	X	X	
M = ALLOY C	FBSPT	X	X	X	X	X	X	
N = ALLOY 20	FBSPT	X	X	X	X	X	X	
U = 316SS	FLANGED						X	X
V = ALLOY C	FLANGED						X	X
W = ALLOY 20	FLANGED						X	X

POSITION 4 DRIVE GEAR MATERIAL

C = ALLOY C		X	X	X	X	X	X	X
D = ALLOY 20		X	X	X	X			
T = TFE (Glass Filled)	(1)	X	X	X	X			
E = PEEK	(1)	X	X	X	X			

POSITION 5 IDLER GEAR MATERIAL

C = ALLOY C	(2)	X	X	X	X	X	X	X
D = ALLOY 20	(2)	X	X	X	X			
K = Carbon		X	X	X	X	X	X	X
T = TFE (Glass Filled)		X	X	X	X	X	X	X
E = PEEK		X	X	X	X	X	X	X

POSITION 6 WEAR PLATE MATERIAL

K = Carbon		X	X	X	X	X	X	X
T = TFE (Glass Filled)		X	X	X	X	X	X	X
Z = Ceramic	(3)	X	X	X	X	X	X	X
E = Peek		X	X	X	X	X	X	X

POSITION 7 SHAFT AND BEARING MATERIAL

K = Standard Carbon		X	X	X	X	X	X	X
T = TFE (Glass Filled)		X	X	X	X	X	X	X
L = Extended Life carbon		X	X	X	X	X	X	X
C = Extended Life Carbon - "CW" Shafts	(14)	X	X	X	X	X	X	X
4 = Standard Carbon - Slotted							X	X

POSITION 8 SEAL ARRANGEMENT	G 2 - 4	GA/GC 2 - 4	G 6 - 8	GA/GC 6 - 8	GH *8	GA 12-16
PACKING						
B = TFE Rings	X		X			
G = Grafoil Rings	X		X			
J = Viton Lip Seal, H-C Spring	X		X			
N = TFE Rings / Lantern	X		X		X	X
R = Grafoil / Lantern	X		X		X	X

(4)

* HIGHER PRESSURE MODEL

GEARCHEM PUMPS
PRESSURES TO 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

(CONTINUED)

POSITION 8 SEAL ARRANGEMENT	G 2 - 4	GA/GC 2 - 4	G 6 - 8	GA/GC 6 - 8	GH *8	GA 12-16
MECHANICAL SEALS (5)						
BELLOWS						
A = Single Seal: (13) Carbon Rotary / Viton Ceramic Seat / Viton		X		X		
C = Double Seal: (6,13) Carbon Rotary / Viton Ceramic Seat / Viton		X		X		
P = Single Seal: (13) Siliconized Rotary / EPR Silicon CBD Seat / TFE		X		X		
WEDGE						
E = Double Seal: (6) Carbon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	X
Q = Single Seal: Teflon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	
U = Single Seal: Carbon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	X
V = External Seal: (15) Carbon Rotary / TFE Metallic Seat / TFE	X		X			
W = External Seal: (15) Carbon Rotary / TFE Silicon CBD Seat / TFE			X			
Z = External Seal - Vacuum Carbon Rotary / TFE (15) Metallic Seat / TFE	X		X			
24 = Single Seal: Carbon Rotary / TFE Metallic Seat / TFE						X
44 = Double Seal: (6) Carbon Rotary / TFE Metallic Seat / TFE						X

POSITION 9 OPTIONS PUMP SIZE	2	4	6	8	*8	12	16
A = Bearing Flush Ports (7)	X	X	X	X	X	STD	STD
B = PFA Coated, SS Hsg O-Rings (7) Metallic Bearing Lock Pins	X	X	X	X	X	X	X
C = Bearing Flush Ports PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins	X	X	X	X	X		
D = Bearing Flush Ports, PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins Slotted Bearings (8)	X	X	X	X	X		
E = Bearing Flush Ports, PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins Slotted Bearings (8) Slotted Wear Plates (9)	X	X	X	X			
F = GC Series Only 63 Frame Metric Motor	X	X					
G = GC Series Only 71 Frame Metric Motor	X	X	X	X			
J = GA12 with 1" Idler Shaft (10) (Metallic Gear Only)						X	
K = GC Series Only 80 Frame Metric Motor	X	X	X	X			
L = GC Series Only Large Coupling For 143T/182C/184C Frame Motors.	X	X	X	X			
M = GC Series Only 90 Frame Metric Motor			X	X			
N = Narrow Width Gears (11)		X	X				
T = Temperature Trimmed Plastic Gear	X	X	X	X	X	X	X
V = Center Hsg - Vent	X	X	X	X	X	X	STD
X = Special (12)	X	X	X	X	X	X	X

* HIGHER PRESSURE MODEL

GEARCHEM PUMPS
PRESSURES TO 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

NOTES:

(1) Maximum differential pressure allowed for plastic/plastic gears is 50 PSI.

(2) Pumps with metallic drive and idler gears require minimum viscosity of 100 cps and are limited to 1440 RPM maximum speed for G2-GH8 pumps and 1150 RPM for GA12-16 pumps.

(3) Ceramic wear plates with metallic gears require minimum viscosity of 100 cps.

(4) Viton lip seals are limited to 25 PSIG.

(5) Not all mechanical seals available in all metallurgies.

(6) Double mechanical seals must be pressurized with seal fluid 15 to 20 PSIG above the pump discharge pressure.

(7) Standard GA12 and GA16 pumps furnished with bearing flush ports, metallic bearing lock pins, and slotted wear plates.

(8) Slotted bearings (GA12 and GA16) listed POSITION 7.

(9) Slotted wear plates reduce volumetric efficiency.

(10) J OPTION available only with metal idler gear.

(11) Designation for reduced capacity pump.

(12) Consult Factory.

(13) Position 8 option A,C and P seals are only available in 316 stainless steel.

(14) "CW" means corrosion/wear shaft material.

(15) External seals are limited to 50 PSIG.

COMMENTS:
Specifications and availability subject to change without notice

GEARCHEM PUMPS EXTENDED PRESSURE
PRESSURES ABOVE 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

POSITION NO.:	1	2	3	4	5	6	7	8	9

POSITION 1 GEARCHEM EXTERNAL SPUR GEAR PUMP

G = ORIGINAL VERSION, FOOT MOUNTED ONLY - 2.4.6
GA= MECHANICAL SEAL, FOOT MOUNTED ONLY - 2.4.6.12
GC= MECHANICAL SEAL, C-FACE MOTOR MOUNTING ASSEMBLY - 2.4.6
GH= HIGHER PRESSURE MODEL, FOOT MOUNTED ONLY * - 6

POSITION 2 PUMP SIZE

	2	4	6	*6	12
Port Size	.25"	.50"	.75"	.75"	1.50"
Capacity (GPM MAX)	1.5	2.1	8.0	10	26
Differential pressure (PSI MAX)	175	140*	125*	200	150

POSITION 3 AVAILABLE PUMP METALLURGIES AND TYPE PORT CONNECTION

		2	4	6	*6	12
A = 316SS	FNPT	X	X	X	X	X
C = ALLOY C	FNPT	X	X	X	X	X
D = ALLOY 20	FNPT	X	X	X	X	X
K = 316SS	FBSPT	X	X	X	X	X
M = ALLOY C	FBSPT	X	X	X	X	X
N = ALLOY 20	FBSPT	X	X	X	X	X
U = 316SS	FLANGED	X	X	X	X	X
V = ALLOY C	FLANGED					X
W = ALLOY 20	FLANGED					X
						X

POSITION 4 DRIVE GEAR MATERIAL

	2	4	6	*6	12
C = ALLOY C	X	X*	X*	X	X
D = ALLOY 20	X	X*	X*		

POSITION 5 IDLER GEAR MATERIAL

		2	4	6	*6	12
C = ALLOY C	(2)	X	X*	X*	X	X
D = ALLOY 20	(2)	X	X*	X*		
E = PEEK		X	X*	X*	X	X

POSITION 6 WEAR PLATE MATERIAL

	2	4	6	*6	12
K = Carbon	X	X	X	X	X
T = TFE (Glass Filled)	X	X	X	X	X
Z = Ceramic (3)	X	X	X	X	X
E = Peek	X	X	X	X	X

POSITION 7 SHAFT AND BEARING MATERIAL

	2	4	6	*6	12
K = Standard Carbon	X	X	X	X	X
L = Extended Life carbon	X	X	X	X	X
C = Extended Life Carbon - "CW" Shafts (14)	X	X	X	X	X
4 = Standard Carbon - Slotted					X

POSITION 8 SEAL ARRANGEMENT	G 2 - 4	GA/GC 2 - 4	G 6	GA/GC 6	GH *6	GA 12
PACKING						
B = TFE Rings	X		X			
G = Grafoil Rings	X		X			
N = TFE Rings / Lantern	X		X			
R = Grafoil / Lantern	X		X		X	X
					X	X

* MODEL REQUIRES OPTION "N" (Narrow Width Gears) IN POSITION 9
* HIGHER PRESSURE MODEL

GEARCHEM PUMPS EXTENDED PRESSURE
PRESSURES ABOVE 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

(CONTINUED)

POSITION 8 SEAL ARRANGEMENT	G 2 - 4	GA/GC 2 - 4	G 6	GA/GC 6	GH •6	GA 12
MECHANICAL SEALS (5)						
BELLOWS						
A - Single Seal: (13) Carbon Rotary / Viton Ceramic Seal / Viton		X		X		
C - Double Seal: (6,13) Carbon Rotary / Viton Ceramic Seal / Viton		X		X		
P - Single Seal: (13) Siliconized Rotary / EPR Silicon CBD Seal / TFE		X		X		
WEDGE						
E - Double Seal: (6) Carbon Rotary / TFE Silicon CBD Seal / TFE		X		X	X	X
Q - Single Seal: Teflon Rotary / TFE Silicon CBD Seal / TFE		X		X	X	
U - Single Seal: Carbon Rotary / TFE Silicon CBD Seal / TFE		X		X	X	X
24 - Single Seal: Carbon Rotary / TFE Metallic Seal / TFE						X
44 - Double Seal: (6) Carbon Rotary / TFE Metallic Seal / TFE						X

POSITION 9 OPTIONS PUMP SIZE	2	•4	•6	•8	12
A - Bearing Flush Ports	X	X	X	X	STD
B - PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins	X	X	X	X	X
C - Bearing Flush Ports PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins	X	X	X	X	
D - Bearing Flush Ports PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins Slotted Bearings (8)	X	X	X	X	
E - Bearing Flush Ports PFA Coated, SS Hsg O-Rings Metallic Bearing Lock Pins Slotted Bearings (8) Slotted Wear Plates (9)	X	X	X		
F - GC Series Only 63 Frame Metric Motors	X	X			
G - GC Series Only 71 Frame Metric Motors	X	X	X		
J - GA12 with 1" Idler Shaft (10) (Metallic Gear Only)					X
K - GC Series Only 80 Frame Metric Motors	X	X	X		
L - GC Series Only Large Coupling For 143T/182C/184C Frame Motors	X	X	X		
M - GC Series Only 90 Frame Metric Motors			X		
N - Narrow Width Gears		REQ	REQ		
V - Center Hsg - Vent	X	X	X	X	X
X - Special (12)	X	X	X	X	X

• MODEL REQUIRES OPTION 'N' (Narrow Width Gears) IN POSITION 9
• HIGHER PRESSURE MODEL

GEARCHEM PUMPS EXTENDED PRESSURE PRESSURES ABOVE 100 PSI

SIGNIFICANT MODEL NUMBER SYSTEM AND AVAILABILITY TABLE

NOTES:

(1) Not applicable

(2) Pumps with metallic drive and idler gears require minimum viscosity of 100 cps and are limited to 1440 RPM maximum speed for G2-GH6 pumps and 1150 RPM for GA12 pump

(3) Ceramic wear plates with metallic gears require minimum viscosity of 100 cps.

(4) Not applicable

(5) Not all mechanical seals available in all metallurgies.

(6) Double mechanical seals must be pressurized with seal fluid 15 to 20 PSIG above the pump discharge pressure

(7) Standard GA12 pump furnished with bearing flush ports, metallic bearing lock pins, and slotted wear plates.

(8) Slotted bearings (GA12) listed POSITION 7

(9) Slotted wear plates reduce volumetric efficiency.

(10) J OPTION available only with metal idler gear

(11) Not applicable

(12) Consult factory.

(13) Position 8 option A,C and P seals are only available in 316 stainless steel.

(14) "CW" means corrosion/wear shaft material.

Comments:

Specifications and availability subject to change without notice

GA2/GC2 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	70153	316SS	70154	ALLOY C	70155	ALLOY 20	1
HOUSING, CENTER FNPT	1	70026	316SS	70027	ALLOY C	70028	ALLOY 20	2
HOUSING, CENTER FBSPT	1	70029	316SS	70030	ALLOY C	70031	ALLOY 20	2
HOUSING, REAR	1	70214	316SS	70215	ALLOY C	70216	ALLOY 20	3
*RING, RETAINING	4	76702	ALLOY 20	76701	ALLOY C	76702	ALLOY 20	10,11
*RING, RETAINING POS 8 OPT A,P	5							
*KEY, METAL DRIVE GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	8
*KEY, PLASTIC DRIVE GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	8
*KEY, METAL IDLER GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	9
*KEY, PLASTIC IDLER GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	9
*PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
*O-RING, HOUSING	2	61101	TFE	61101	TFE	61101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	72006	188SS	72006	188SS	72006	188SS	18A
NUT, HOUSING BOLT	4	72101	188SS	72101	188SS	72101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C *GEAR, DRIVE/IDLER	1-2	70672	ALLOY C	70672	ALLOY C	70672	ALLOY C	6,7
D *GEAR, DRIVE/IDLER	1-2	70673	ALLOY 20	---	---	70673	ALLOY 20	6,7
K *GEAR, IDLER	1	70674	CARBON	70674	CARBON	70674	CARBON	7
T *GEAR, DRIVE/IDLER	1-2	70675	TFE(GF)	70675	TFE(GF)	70675	TFE(GF)	6,7
E *GEAR, DRIVE/IDLER	1-2	70676	PEEK	70676	PEEK	70676	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL								
K *WEAR PLATE	4	70523	CARBON	70523	CARBON	70523	CARBON	15
T *WEAR PLATE		70524	TFE(GF)	70524	TFE(GF)	70524	TFE(GF)	15
Z *WEAR PLATE		70525	CERAMIC	70525	CERAMIC	70525	CERAMIC	15
E *WEAR PLATE		70534	PEEK	70534	PEEK	70534	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K *BEARING	5	70404	CARBON	70404	CARBON	70404	CARBON	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
T *BEARING	1	70401	TFE(GF)	70401	TFE(GF)	70401	TFE(GF)	12
*BEARING	3	70402	TFE(GF)	70402	TFE(GF)	70402	TFE(GF)	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
EXTENDED LIFE - BEARINGS								
L *BEARING	5	70431	EWCBN	70431	EWCBN	70431	EWCBN	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND 'CW' SHAFTS								
C *BEARING	5	70431	EWCBN	70431	EWCBN	70431	EWCBN	12,13
*SHAFT, DRIVE STD	1	70372-2	CW316	70373-2	CWALYC	70374-2	CWALY20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-6	CW316	70373-6	CWALYC	70374-6	CWALY20	4
*SHAFT, IDLER	1	70394	CW316	70397	CWALYC	70308	CWALY20	5

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
+DENOTES RECOMMENDED SPARE PART

GA2/GC2 SERIES PUMP
CONSOLIDATED B/M

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MAT.	ALLOY C (C) OR (N) PART NO	MAT.	ALLOY 20 (D) OR (N) PART NO	MAT.	ITEM
POSITION 8 GA2/GC2 SEAL ARRANGEMENT									
INTERNAL MECHANICAL SEAL									
GA2 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21759	316SS	21760	ALLOY C	21761	ALLOY 20	36
	SEAL RETAINER CODE C		21762	316SS	21763	ALLOY C	21764	ALLOY 20	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, SEAL RETAINER	2	W770401-188	188SS	W770401-188	188SS	W770401-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. E,C)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC2 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21765	316SS	21766	ALLOY C	21767	ALLOY 20	36
	SEAL RETAINER CODE C		21768	316SS	21769	ALLOY C	21770	ALLOY 20	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W210369-000	STEEL	W210369-000	STEEL	W210369-000	STEEL	68
	+ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
A	+SEAL HEAD ASSEMBLY	1	Y0900921-316	316/CBN/VTN	-----	-----	-----	-----	60
	+SEAL SEAT W/ O-RING (VTN)	1	Y1000521-000	CER/VTN	-----	-----	-----	-----	55
C	+SEAL HEAD ASSEMBLY	2	Y0900921-316	316/CBN/VTN	-----	-----	-----	-----	60
	+SEAL SEAT W/ O-RING (VTN)	2	Y1000521-000	CER/VTN	-----	-----	-----	-----	55
E	+SEAL HEAD ASSEMBLY	1	77051	316/CBN	-----	-----	-----	-----	60
	+SEAL SEAT W/ O-RING (TFE)	2	Y1000609-000	SIC/TFE	-----	-----	-----	-----	55
P	+SEAL HEAD ASSEMBLY	1	Y0901721-316	316/PBO/EPR	-----	-----	-----	-----	60
	+SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	-----	-----	-----	-----	55
Q	+SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HCO/TFE	77033	020/TFE	60
	+SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	55
U	+SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	+SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	55
EXTERNAL MECHANICAL SEAL									
GA2 COMMON PARTS	SEAL RETAINER	1	21783	316SS	21784	ALLOY C	21785	ALLOY 20	36
	BOLT, SEAL RETAINER	2	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC2 COMMON PARTS	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W210369-000	STEEL	W210369-000	STEEL	W210369-000	STEEL	68
	ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
V	+SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	+SEAT ASSY,EXT SEAL	1	71571	316/TFE	71573	HCO/TFE	71572	020/TFE	55
W	+SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	+SEAT ASSY,EXT SEAL	1	71574	SIC/TFE	71574	SIC/TFE	71574	SIC/TFE	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
A	HOUSING, FRONT - BRG FLUSH	1	70153-1	316SS	70154-1	ALLOY C	70155-1	ALLOY 20	1
C	HOUSING, REAR - BRG FLUSH	1	70212	316SS	70234	ALLOY C	70233	ALLOY 20	3
	PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B	+PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
	+O-RING, HOUSING	2	61104	SS/PFA	61104	SS/PFA	61104	SS/PFA	16
D	+BEARING, SLOTTED	5	70419	CARBON	70419	CARBON	70419	CARBON	12,13
E	+WEAR PLATE, SLOTTED	4	70526	CARBON	70526	CARBON	70526	CARBON	15
F	MOTOR BOLT	4	W770544-188	188SS	W770544-188	188SS	W770544-188	188SS	25
	C-FACE MOTOR ADAPTOR 63 FR	1	49743	ALUMINUM	49743	ALUMINUM	49743	ALUMINUM	66
	COUPLING L-050 63 FR	1	W213579-000	STEEL	W213579-000	STEEL	W213579-000	STEEL	68
G	MOTOR BOLT	4	W770545-188	188SS	W770545-188	188SS	W770545-188	188SS	25
	C-FACE MOTOR ADAPTOR 71 FR	1	49744	ALUMINUM	49744	ALUMINUM	49744	ALUMINUM	66
	COUPLING L-070 71 FR	1	W213581-000	STEEL	W213581-000	STEEL	W213581-000	STEEL	68
K	MOTOR BOLT	4	W770546-188	188SS	W770546-188	188SS	W770546-188	188SS	25
	C-FACE MOTOR ADAPTOR 80 FR	1	49745	ALUMINUM	49745	ALUMINUM	49745	ALUMINUM	66
	COUPLING L-075 80 FR	1	W213583-000	STEEL	W213583-000	STEEL	W213583-000	STEEL	68
L	COUPLING L-090 143TC-184C FR	1	W213229-000	STEEL	W213229-000	STEEL	W213229-000	STEEL	68
V	HOUSING, CENTER - VENT FNPT	1	70026-2	316SS	70027-2	ALLOY C	70028-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		70029-2	316SS	70030-2	ALLOY C	70031-2	ALLOY 20	2
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA4/GC4 SERIES PUMP
CONSOLIDATED B/M

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	316SS (A) OR (K) MATL	ALLOY C (C) OR (M) PART NO	ALLOY C (C) OR (M) MATL	ALLOY 20 (D) OR (N) PART NO	ALLOY 20 (D) OR (N) MATL	ITEM
POSITION 8 SEAL ARRANGEMENT									
INTERNAL MECHANICAL SEAL									
GA4 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21759	316SS	21760	ALLOY C	21761	ALLOY 20	36
	SEAL RETAINER CODE C		21762	316SS	21763	ALLOY C	21764	ALLOY 20	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, SEAL RETAINER	2	W770401-188	188SS	W770401-188	188SS	W770401-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC4 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21765	316SS	21766	ALLOY C	21767	ALLOY 20	36
	SEAL RETAINER CODE C		21768	316SS	21769	ALLOY C	21770	ALLOY 20	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W210369-000	STEEL	W210369-000	STEEL	W210369-000	STEEL	68
	*ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
A	*SEAL HEAD ASSEMBLY	1	Y0900921-316	316/CBN/VTN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (VTN)	1	Y1000521-000	CER/VTN	-----	-----	-----	-----	55
C	*SEAL HEAD ASSEMBLY	2	Y0900921-316	316/CBN/VTN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (VTN)	2	Y1000521-000	CER/VTN	-----	-----	-----	-----	55
E	*SEAL HEAD ASSEMBLY	1	77051	316/CBN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	2	Y1000609-000	SIC/TFE	-----	-----	-----	-----	55
P	*SEAL HEAD ASSEMBLY	1	Y0901721-316	316/PBO/EPR	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	-----	-----	-----	-----	55
Q	*SEAL HEAD ASSEMBLY	1	77033	020/TFE	77034	HCO/TFE	77033	020/TFE	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	55
U	*SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	Y1000609-000	SIC/TFE	55
EXTERNAL MECHANICAL SEAL									
GA4 COMMON PARTS	SEAL RETAINER	1	21783	316SS	21784	ALLOY C	21785	ALLOY 20	36
	BOLT, SEAL RETAINER	2	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC4 COMMON PARTS	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W210369-000	STEEL	W210369-000	STEEL	W210369-000	STEEL	68
	ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
V	*SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	*SEAT ASSY,EXT SEAL	1	71571	316/TFE	71573	HCO/TFE	71572	020/TFE	55
W	*SEAL HEAD ASSEMBLY	1	77036	020/CBN	77037	HCO/CBN	77036	020/CBN	60
	*SEAT ASSY,EXT SEAL	1	71574	SIC/TFE	71574	SIC/TFE	71574	SIC/TFE	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
C A	HOUSING, FRONT - BRG FLUSH	1	70153-1	316SS	70154-1	ALLOY C	70155-1	ALLOY 20	1
	HOUSING, REAR - BRG FLUSH	1	70212	316SS	70234	ALLOY C	70233	ALLOY 20	3
C	PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B	*PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
	*O-RING, HOUSING	2	61104	SS/PFA	61104	SS/PFA	61104	SS/PFA	16
D	*BEARING, SLOTTED	5	70419	CARBON	70419	CARBON	70419	CARBON	12,13
E	*WEAR PLATE, SLOTTED	4	70509	CARBON	70509	CARBON	70509	CARBON	15
F	MOTOR BOLT	4	W770544-188	188SS	W770544-188	188SS	W770544-188	188SS	25
	C-FACE MOTOR ADAPTOR 63 FR	1	49743	ALUMINUM	49743	ALUMINUM	49743	ALUMINUM	66
	COUPLING L-050 63 FR	1	W213579-000	STEEL	W213579-000	STEEL	W213579-000	STEEL	68
G	MOTOR BOLT	4	W770545-188	188SS	W770545-188	188SS	W770545-188	188SS	25
	C-FACE MOTOR ADAPTOR 71 FR	1	49744	ALUMINUM	49744	ALUMINUM	49744	ALUMINUM	66
	COUPLING L-070 71 FR	1	W213581-000	STEEL	W213581-000	STEEL	W213581-000	STEEL	68
K	MOTOR BOLT	4	W770546-188	188SS	W770546-188	188SS	W770546-188	188SS	25
	C-FACE MOTOR ADAPTOR 80 FR	1	49745	ALUMINUM	49745	ALUMINUM	49745	ALUMINUM	66
	COUPLING L-075 80 FR	1	W213583-000	STEEL	W213583-000	STEEL	W213583-000	STEEL	68
L	COUPLING L-090 143TC-184C FR	1	W213229-000	STEEL	W213229-000	STEEL	W213229-000	STEEL	68
N	*GEAR, DRIVE/IDLER	1-2	70613	ALLOY C	70613	ALLOY C	70613	ALLOY C	6,7
	*GEAR, DRIVE/IDLER	1-2	70633	ALLOY 20	-----	-----	70633	ALLOY 20	6,7
	*GEAR, IDLER	1	70651	CARBON	70651	CARBON	70651	CARBON	7
	*GEAR, DRIVE/IDLER	1-2	70623	TFE(GF)	70623	TFE(GF)	70623	TFE(GF)	6,7
	*GEAR, DRIVE/IDLER	1-2	70677	PEEK	70677	PEEK	70677	PEEK	6,7
	*KEY, METAL DRIVE GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	8
	*KEY, PLASTIC DRIVE GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	8
	*KEY, MTL/CBN IDLER GEAR	*1	71910	ALLOY 20	71911	ALLOY C	71910	ALLOY 20	9
	*KEY, PLASTIC IDLER GEAR		71916	ALLOY 20	71917	ALLOY C	71916	ALLOY 20	9
V	HOUSING, CENTER - VENT FNPT	1	70014-2	316SS	70016-2	ALLOY C	70015-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		70020-2	316SS	70022-2	ALLOY C	70021-2	ALLOY 20	2
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
*DENOTES RECOMMENDED SPARE PART

GA4/GC4 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MATL	ALLOY C (C) OR (M) PART NO	MATL	ALLOY 20 (D) OR (N) PART NO	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	70153	316SS	70154	ALLOY C	70155	ALLOY 20	1
HOUSING, CENTER FNPT	1	70014	316SS	70016	ALLOY C	70015	ALLOY 20	2
HOUSING, CENTER FBSPT		70020	316SS	70022	ALLOY C	70021	ALLOY 20	2
HOUSING, REAR	1	70214	316SS	70215	ALLOY C	70216	ALLOY 20	3
*RING, RETAINING	4	76702	ALLOY 20	76701	ALLOY C	76702	ALLOY 20	10,11
*RING, RETAINING POS.8 OPT A,P	5							
*KEY, METAL DRIVE GEAR	*1	71906	ALLOY 20	71904	ALLOY C	71906	ALLOY 20	8
*KEY, PLASTIC DRIVE GEAR		71905	ALLOY 20	71903	ALLOY C	71905	ALLOY 20	8
*KEY, MTL/CBN IDLER GEAR	*1	71906	ALLOY 20	71904	ALLOY C	71906	ALLOY 20	9
*KEY, PLASTIC IDLER GEAR		71905	ALLOY 20	71903	ALLOY C	71905	ALLOY 20	9
*PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
*O-RING, HOUSING	2	61101	TFE	61101	TFE	61101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	72006	188SS	72006	188SS	72006	188SS	18A
NUT, HOUSING BOLT	4	72101	188SS	72101	188SS	72101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C *GEAR, DRIVE/IDLER	1-2	70638	ALLOY C	70638	ALLOY C	70638	ALLOY C	6,7
D *GEAR, DRIVE/IDLER	1-2	70642	ALLOY 20	-----	-----	70642	ALLOY 20	6,7
K *GEAR, IDLER	1	70611	CARBON	70611	CARBON	70611	CARBON	7
T *GEAR, DRIVE/IDLER	1-2	70600	TFE(GF)	70600	TFE(GF)	70600	TFE(GF)	6,7
E *GEAR, DRIVE/IDLER	1-2	70671	PEEK	70671	PEEK	70671	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL - **QTY 8 WHEN USING NARROW WIDTH GEARS								
K *WEAR PLATE	4	70501	CARBON	70501	CARBON	70501	CARBON	15
*WEAR PLATE, NARROW WIDTH GEARS	4	70536	CARBON	70536	CARBON	70536	CARBON	15
T *WEAR PLATE	**4	70504	TFE(GF)	70504	TFE(GF)	70504	TFE(GF)	15
Z *WEAR PLATE	**4	70503	CERAMIC	70503	CERAMIC	70503	CERAMIC	15
E *WEAR PLATE	**4	70535	PEEK	70535	PEEK	70535	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K *BEARING	5	70404	CARBON	70404	CARBON	70404	CARBON	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
T *BEARING	1	70401	TFE(GF)	70401	TFE(GF)	70401	TFE(GF)	12
*BEARING	3	70402	TFE(GF)	70402	TFE(GF)	70402	TFE(GF)	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
EXTENDED LIFE - BEARINGS								
L *BEARING	5	70431	EWCBN	70431	EWCBN	70431	EWCBNN	12,13
*SHAFT, DRIVE STD	1	70372	316SS	70373	ALLOY C	70374	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-5	316SS	70373-5	ALLOY C	70374-5	ALLOY 20	4
*SHAFT, IDLER	1	70378	316SS	70379	ALLOY C	70380	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND 'CW' SHAFTS								
C *BEARING	5	70431	EWCBN	70431	EWCBN	70431	EWCBN	12,13
*SHAFT, DRIVE STD	1	70372-2	CW316	70373-2	CWALYC	70374-2	CWALY20	4
*SHAFT, DRIVE POS 8 OPT A,P		70372-6	CW316	70373-6	CWALYC	70374-6	CWALY20	4
*SHAFT, IDLER	1	70394	CW316	70397	CWALYC	70306	CWALY20	5

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA6/GC6 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A) OR (K)		ALLOY C (C) OR (M)		ALLOY 20 (D) OR (N)		
	DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT									
INTERNAL MECHANICAL SEAL									
GA6 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21771	316SS	21772	ALLOY C	21773	ALLOY 20	36
	SEAL RETAINER CODE C		21774	316SS	21775	ALLOY C	21776	ALLOY 20	36
	•O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, SEAL RETAINER	2	W770401-188	188SS	W770401-188	188SS	W770401-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	•2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC6 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21777	316SS	21778	ALLOY C	21779	ALLOY 20	36
	SEAL RETAINER CODE C		21780	316SS	21781	ALLOY C	21782	ALLOY 20	36
	•O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ C,E)	•2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W213232-000	STEEL	W213232-000	STEEL	W213232-000	STEEL	68
	•ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
A	•SEAL HEAD ASSEMBLY	1	Y0900121-316	316/CBN/VTN	-----	-----	-----	-----	60
	•SEAL SEAT W/ O-RING (VTN)	1	Y1000121-000	CER/VTN	-----	-----	-----	-----	55
C	•SEAL HEAD ASSEMBLY	2	Y0900121-316	316/CBN/VTN	-----	-----	-----	-----	60
	•SEAL SEAT W/ O-RING (VTN)	2	Y1000121-000	CER/VTN	-----	-----	-----	-----	55
E	•SEAL HEAD ASSEMBLY	1	27092	316/CBN	-----	-----	-----	-----	60
	•SEAL SEAT W/ O-RING (TFE)	2	Y1000209-000	SIC/TFE	-----	-----	-----	-----	55
P	•SEAL HEAD ASSEMBLY	1	Y0901621-316	316/P90/EPR	-----	-----	-----	-----	60
	•SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	-----	-----	-----	-----	55
Q	•SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HCO/TFE	27097	020/TFE	60
	•SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	55
U	•SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	•SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	55
EXTERNAL MECHANICAL SEAL									
GA6 COMMON PARTS	SEAL RETAINER	1	21783	316SS	21784	ALLOY C	21785	ALLOY 20	36
	BOLT, SEAL RETAINER	2	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	•2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC6 COMMON PARTS	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	•2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W213232-000	STEEL	W213232-000	STEEL	W213232-000	STEEL	68
	ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
V	•SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	•SEAT ASSY.EXT SEAL	1	21580	316/TFE	21582	HCO/TFE	21581	020/TFE	55
W	•SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HCO/CBN	27089	020/CBN	60
	•SEAT ASSY.EXT SEAL	1	21583	SIC/TFE	21583	SIC/TFE	21583	SIC/TFE	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
C A	HOUSING, FRONT - BRG FLUSH	1	40156-1	316SS	40157-1	ALLOY C	40158-1	ALLOY 20	1
	HOUSING, REAR - BRG FLUSH	1	40224	316SS	40231	ALLOY C	40234	ALLOY 20	3
C	PLUG, 1/8" NPT	•3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B	•PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
	•O-RING, HOUSING	2	41107	SS/PFA	41107	SS/PFA	41107	SS/PFA	16
D	•BEARING, SLOTTED	4	40428	CARBON	40428	CARBON	40428	CARBON	12,13
	•BEARING, SLOTTED		40417	TFE(GF)	40417	TFE(GF)	40417	TFE(GF)	12,13
E	•WEAR PLATE, SLOTTED	4	40511	CARBON	40511	CARBON	40511	CARBON	15
	•WEAR PLATE, SLOTTED		40513	TFE(GF)	40513	TFE(GF)	40513	TFE(GF)	15
G	MOTOR BOLT	4	W770545-188	188SS	W770545-188	188SS	W770545-188	188SS	25
	C-FACE MOTOR ADAPTOR 71 FR	1	49744	ALUMINUM	49744	ALUMINUM	49744	ALUMINUM	66
	COUPLING L-070 71 FR	1	W213582-000	STEEL	W213582-000	STEEL	W213582-000	STEEL	68
K	MOTOR BOLT	4	W770546-188	188SS	W770546-188	188SS	W770546-188	188SS	25
	C-FACE MOTOR ADAPTOR 80 FR	1	49745	ALUMINUM	49745	ALUMINUM	49745	ALUMINUM	66
	COUPLING L-075 80 FR	1	W213584-000	STEEL	W213584-000	STEEL	W213584-000	STEEL	68
L	CPLG EXT.SEAL L-090 143TC-184C FR	1	W213230-000	STEEL	W213230-000	STEEL	W213230-000	STEEL	68
	COUPLING L-095 143TC-184C FR		W213231-000	STEEL	W213231-000	STEEL	W213231-000	STEEL	68
M	MOTOR BOLT	4	W770547-188	188SS	W770547-188	188SS	W770547-188	188SS	25
	C-FACE MOTOR ADAPTOR 90 FR	1	49746	ALUMINUM	49746	ALUMINUM	49746	ALUMINUM	66
	COUPLING L-090 90 FR	1	W213586-000	STEEL	W213586-000	STEEL	W213586-000	STEEL	68
N	•GEAR, DRIVE/IDLER	1-2	40604	ALLOY C	40604	ALLOY C	40604	ALLOY C	6,7
	•GEAR, IDLER	1	40681	CARBON	40681	CARBON	40681	CARBON	7
	•GEAR, DRIVE/IDLER	1-2	40648	TFE(GF)	40648	TFE(GF)	40648	TFE(GF)	6,7
	•GEAR, DRIVE/IDLER	1-2	40717	PEEK	40717	PEEK	40717	PEEK	6,7
	•KEY, METAL DRIVE GEAR	•1	41920	ALLOY 20	41913	ALLOY C	41920	ALLOY 20	8
	•KEY, PLASTIC DRIVE GEAR		41921	ALLOY 20	41914	ALLOY C	41921	ALLOY 20	8
	•KEY, MTL/CBN IDLER GEAR	•1	41920	ALLOY 20	41913	ALLOY C	41920	ALLOY 20	9
	•KEY, PLASTIC IDLER GEAR		41921	ALLOY 20	41914	ALLOY C	41921	ALLOY 20	9
V	HOUSING, CENTER - VENT FNPT	1	40002-2	316SS	40006-2	ALLOY C	40008-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		40011-2	316SS	40023-2	ALLOY C	40017-2	ALLOY 20	2
	PLUG, 1/8" NPT	•1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62

•COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA6/GC6 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MATL	ALLOY C (C) OR (M) PART NO	MATL	ALLOY 20 (D) OR (N) PART NO	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	40156	316SS	40157	ALLOY C	40158	ALLOY 20	1
HOUSING, CENTER FNPT	1	40002	316SS	40006	ALLOY C	40008	ALLOY 20	2
HOUSING, CENTER FBSPT		40011	316SS	40023	ALLOY C	40017	ALLOY 20	2
HOUSING, REAR	1	40218	316SS	40219	ALLOY C	40220	ALLOY 20	3
*RING, RETAINING	4	46702	ALLOY 20	46701	ALLOY C	46702	ALLOY 20	10,11
*RING, RETAINING POS.8 OPT A,P	5							
*KEY, METAL DRIVE GEAR	*1	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	8
*KEY, PLASTIC DRIVE GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	8
*KEY, MTL/CBN IDLER GEAR	*1	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	9
*KEY, PLASTIC IDLER GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	9
*PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
*O-RING, HOUSING	2	41101	TFE	41101	TFE	41101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	62005	188SS	62005	188SS	62005	188SS	18A
NUT, HOUSING BOLT	4	62101	188SS	62101	188SS	62101	188SS	19
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C *GEAR, DRIVE/IDLER	1-2	40668	ALLOY C	40668	ALLOY C	40668	ALLOY C	6,7
D *GEAR, DRIVE/IDLER	1-2	40674	ALLOY 20	-----	-----	40674	ALLOY 20	6,7
K *GEAR, IDLER	1	40622	CARBON	40622	CARBON	40622	CARBON	7
T *GEAR, DRIVE/IDLER	1-2	40600	TFE(GF)	40600	TFE(GF)	40600	TFE(GF)	6,7
E *GEAR, DRIVE/IDLER	1-2	40715	PEEK	40715	PEEK	40715	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL - **QTY 8 WHEN USING NARROW WIDTH GEARS								
K *WEAR PLATE	**4	40501	CARBON	40501	CARBON	40501	CARBON	15
T *WEAR PLATE		40504	TFE(GF)	40504	TFE(GF)	40504	TFE(GF)	15
Z *WEAR PLATE		40503	CERAMIC	40503	CERAMIC	40503	CERAMIC	15
E *WEAR PLATE		40523	PEEK	40523	PEEK	40523	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K *BEARING	4	40426	CARBON	40426	CARBON	40426	CARBON	12,13
*SHAFT, DRIVE STD	1	40359	316SS	40361	ALLOY C	40373	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		40359-5	316SS	40361-5	ALLOY C	40373-5	ALLOY 20	4
*SHAFT, IDLER	1	40360	316SS	40362	ALLOY C	40374	ALLOY 20	5
T *BEARING	4	40425	TFE(GF)	40425	TFE(GF)	40425	TFE(GF)	12,13
*SHAFT, DRIVE STD	1	40359	316SS	40361	ALLOY C	40373	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		40359-5	316SS	40361-5	ALLOY C	40373-5	ALLOY 20	4
*SHAFT, IDLER	1	40360	316SS	40362	ALLOY C	40374	ALLOY 20	5
EXTENDED LIFE - BEARINGS								
L *BEARING	4	40430	EWCBN	40430	EWCBN	40430	EWCBN	12,13
*SHAFT, DRIVE STD	1	40359	316SS	40361	ALLOY C	40373	ALLOY 20	4
*SHAFT, DRIVE POS 8 OPT A,P		40359-5	316SS	40361-5	ALLOY C	40373-5	ALLOY 20	4
*SHAFT, IDLER	1	40360	316SS	40362	ALLOY C	40374	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND "CW" SHAFTS								
C *BEARING	4	40430	EWCBN	40430	EWCBN	40430	EWCBN	12,13
*SHAFT, DRIVE STD	1	40312	CW316	40361-2	CWALYC	40373-2	CWALY20	4
*SHAFT, DRIVE POS 8 OPT A,P		40359-6	CW316	40361-6	CWALYC	40373-6	CWALY20	4
*SHAFT, IDLER	1	40323	CW316	40302	CWALYC	40319	CWALY20	5

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
*DENOTES RECOMMENDED SPARE PART

GA8/GC8 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MATL	ALLOY C (C) OR (M) PART NO	MATL	ALLOY 20 (D) OR (N) PART NO.	MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT	1	40156	316SS	40157	ALLOY C	40158	ALLOY 20	1
HOUSING, CENTER FNPT	1	40052	316SS	40053	ALLOY C	40054	ALLOY 20	2
HOUSING, CENTER FBSPT		40064	316SS	40065	ALLOY C	40066	ALLOY 20	2
HOUSING, REAR	1	40218	316SS	40219	ALLOY C	40220	ALLOY 20	3
*RING, RETAINING STD	4	46702	ALLOY 20	46701	ALLOY C	46702	ALLOY 20	10,11
*RING, RETAINING POS.8 OPT A.P.	5							
*KEY, METAL DRIVE GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	8
*KEY, PLASTIC DRIVE GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	8
*KEY, MTL/CBN IDLER GEAR	*2	41905	ALLOY 20	41903	ALLOY C	41905	ALLOY 20	9
*KEY, PLASTIC IDLER GEAR		41906	ALLOY 20	41904	ALLOY C	41906	ALLOY 20	9
*PIN, BEARING LOCK	4	41801	TFE	41801	TFE	41801	TFE	14
*O-RING, HOUSING	2	41101	TFE	41101	TFE	41101	TFE	16
PIN, HOUSING	4	40801	316SS	40801	316SS	40801	316SS	17
BOLT, HOUSING	4	62006	18855	62006	18855	62006	18855	18A
NUT, HOUSING BOLT	4	62101	18855	62101	18855	62101	18855	19
NAMEPLATE	1	41201	18855	41201	18855	41201	18855	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C *GEAR, DRIVE/IDLER	1-2	40689	ALLOY C	40689	ALLOY C	40689	ALLOY C	6,7
D *GEAR, DRIVE/IDLER	1-2	40691	ALLOY 20	-----	-----	40691	ALLOY 20	6,7
K *GEAR, IDLER	1	40623	CARBON	40623	CARBON	40623	CARBON	7
T *GEAR, DRIVE/IDLER	1-2	40701	TFE(GF)	40701	TFE(GF)	40701	TFE(GF)	6,7
E *GEAR, DRIVE/IDLER	1-2	40716	PEEK	40716	PEEK	40716	PEEK	6,7
POSITION 6 WEAR PLATE MATERIAL								
K *WEAR PLATE	4	40501	CARBON	40501	CARBON	40501	CARBON	15
T *WEAR PLATE		40504	TFE(GF)	40504	TFE(GF)	40504	TFE(GF)	15
Z *WEAR PLATE		40503	CERAMIC	40503	CERAMIC	40503	CERAMIC	15
E *WEAR PLATE		40523	PEEK	40523	PEEK	40523	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K *BEARING	4	40426	CARBON	40426	CARBON	40426	CARBON	12,13
*SHAFT, DRIVE STD. GA8	1	40351	ALLOY 20	40347	ALLOY C	40351	ALLOY 20	4
*SHAFT, DRIVE STD. GC8		40351-7	ALLOY 20	40347-7	ALLOY C	40351-7	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GA8		40351-5	ALLOY 20	40347-5	ALLOY C	40351-5	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GC8		40351-9	ALLOY 20	40347-9	ALLOY C	40351-9	ALLOY 20	4
*SHAFT, IDLER	1	40350	ALLOY 20	40346	ALLOY C	40350	ALLOY 20	5
T *BEARING	4	40425	TFE(GF)	40425	TFE(GF)	40425	TFE(GF)	12,13
*SHAFT, DRIVE STD. GA8	1	40351	ALLOY 20	40347	ALLOY C	40351	ALLOY 20	4
*SHAFT, DRIVE STD. GC8		40351-7	ALLOY 20	40347-7	ALLOY C	40351-7	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GA8		40351-5	ALLOY 20	40347-5	ALLOY C	40351-5	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GC8		40351-9	ALLOY 20	40347-9	ALLOY C	40351-9	ALLOY 20	4
*SHAFT, IDLER	1	40350	ALLOY 20	40346	ALLOY C	40350	ALLOY 20	5
EXTENDED LIFE - BEARINGS								
L *BEARING	4	40430	EWCBN	40430	EWCBN	40430	EWCBN	12,13
*SHAFT, DRIVE STD. GA8	1	40351	ALLOY 20	40347	ALLOY C	40351	ALLOY 20	4
*SHAFT, DRIVE STD. GC8		40351-7	ALLOY 20	40347-7	ALLOY C	40351-7	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GA8		40351-5	ALLOY 20	40347-5	ALLOY C	40351-5	ALLOY 20	4
*SHAFT, DRIVE POS.8 OPT A.P. GC8		40351-9	ALLOY 20	40347-9	ALLOY C	40351-9	ALLOY 20	4
*SHAFT, IDLER	1	40350	ALLOY 20	40346	ALLOY C	40350	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND "CW" SHAFTS								
C *BEARING	4	40430	EWCBN	40430	EWCBN	40430	EWCBN	12,13
*SHAFT, DRIVE STD. GA8	1	40351-2	CWALY20	40347-2	EWALYC	40351-2	CWALY20	4
*SHAFT, DRIVE STD. GC8		40351-8	CWALY20	40347-8	EWALYC	40351-8	CWALY20	4
*SHAFT, DRIVE POS.8 OPT A.P. GA8		40351-6	CWALY20	40347-6	CWALYC	40351-6	CWALY20	4
*SHAFT, DRIVE POS.8 OPT A.P. GC8		40351-10	CWALY20	40347-10	CWALYC	40351-10	CWALY20	4
*SHAFT, IDLER	1	40333	CWALY20	40308	CWALYC	40333	CWALY20	5

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA8/GC8 SERIES PUMP
CONSOLIDATED B/M

	DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A) OR (K) PART NO	MATL	ALLOY C (C) OR (M) PART NO	MATL	ALLOY 20 (D) OR (N) PART NO	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT									
INTERNAL MECHANICAL SEAL									
GA8 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21771	316SS	21772	316SS	21773	316SS	36
	SEAL RETAINER CODE C		21774	316SS	21775	316SS	21776	316SS	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, SEAL RETAINER	2	W770401-188	188SS	W770401-188	188SS	W770401-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC8 COMMON PARTS	SEAL RETAINER CODE A,E,P,Q,U	1	21777	316SS	21778	316SS	21779	316SS	36
	SEAL RETAINER CODE C		21780	316SS	21781	316SS	21782	316SS	36
	*O-RING, RETAINER	1	W213270-TFE	TFE	W213270-TFE	TFE	W213270-TFE	TFE	37
	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT (NOT REQ. C,E)	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W213232-000	STEEL	W213232-000	STEEL	W213232-000	STEEL	68
	*ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
A	*SEAL HEAD ASSEMBLY	1	Y0900121-316	316/CBN/VTN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000121-000	CER/VTN	-----	-----	-----	-----	55
C	*SEAL HEAD ASSEMBLY	2	Y0900121-316	316/CBN/VTN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	2	Y1000121-000	CER/VTN	-----	-----	-----	-----	55
E	*SEAL HEAD ASSEMBLY	1	27092	316/CBN	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	2	Y1000209-000	SIC/TFE	-----	-----	-----	-----	55
P	*SEAL HEAD ASSEMBLY	1	Y0901621-316	316/P80/EPR	-----	-----	-----	-----	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	-----	-----	-----	-----	55
Q	*SEAL HEAD ASSEMBLY	1	27097	020/TFE	27099	HC0/TFE	27097	020/TFE	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	55
U	*SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	*SEAL SEAT W/ O-RING (TFE)	1	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	Y1000209-000	SIC/TFE	55
EXTERNAL MECHANICAL SEAL									
GA8 COMMON PARTS	SEAL RETAINER	1	21783	316SS	21784	ALLOY C	21785	ALLOY 20	36
	BOLT, SEAL RETAINER	2	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
GC8 COMMON PARTS	BOLT, C-FACE ADAPTOR	4	W770403-188	188SS	W770403-188	188SS	W770403-188	188SS	39A
	PLUG, 1/8" NPT	*2	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
	MOTOR BOLT	4	W770425-188	188SS	W770425-188	188SS	W770425-188	188SS	25
	C-FACE MOTOR ADAPTOR	1	49725	ALUMINUM	49725	ALUMINUM	49725	ALUMINUM	66
	COUPLING L-075 56C FR	1	W213232-000	STEEL	W213232-000	STEEL	W213232-000	STEEL	68
	ASSEMBLY INSTRUCTIONS	1	20051-A	-----	20051-A	-----	20051-A	-----	--
V	*SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	*SEAT ASSY,EXT SEAL	1	21580	316/TFE	21582	HC0/TFE	21581	020/TFE	55
W	*SEAL HEAD ASSEMBLY	1	27089	020/CBN	27090	HC0/CBN	27089	020/CBN	60
	*SEAT ASSY,EXT SEAL	1	21583	SIC/TFE	21583	SIC/TFE	21583	SIC/TFE	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
A	HOUSING, FRONT - BRG FLUSH	1	40156-1	316SS	40157-1	ALLOY C	40158-1	ALLOY 20	1
C	HOUSING, REAR - BRG FLUSH	1	40224	316SS	40231	ALLOY C	40234	ALLOY 20	3
	PLUG, 1/8" NPT	*3	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B	*PIN, BEARING LOCK	4	41802	ALLOY 20	41806	ALLOY C	41802	ALLOY 20	14
	*O-RING, HOUSING	2	41107	SS/PFA	41107	SS/PFA	41107	SS/PFA	16
D	*BEARING, SLOTTED	4	40428	CARBON	40428	CARBON	40428	CARBON	12,13
	*BEARING, SLOTTED		40417	TFE(GF)	40417	TFE(GF)	40417	TFE(GF)	12,13
E	*WEAR PLATE, SLOTTED	4	40511	CARBON	40511	CARBON	40511	CARBON	15
	*WEAR PLATE, SLOTTED		40513	TFE(GF)	40513	TFE(GF)	40513	TFE(GF)	15
G	MOTOR BOLT	4	W770545-188	188SS	W770545-188	188SS	W770545-188	188SS	25
	C-FACE MOTOR ADAPTOR 71 FR	1	49744	ALUMINUM	49744	ALUMINUM	49744	ALUMINUM	66
	COUPLING L-070 71 FR	1	W213582-000	STEEL	W213582-000	STEEL	W213582-000	STEEL	68
K	MOTOR BOLT	4	W770546-188	188SS	W770546-188	188SS	W770546-188	188SS	25
	C-FACE MOTOR ADAPTOR 80 FR	1	49745	ALUMINUM	49745	ALUMINUM	49745	ALUMINUM	66
	COUPLING L-075 80 FR	1	W213584-000	STEEL	W213584-000	STEEL	W213584-000	STEEL	68
L	CPLG EXT.SEAL L-090 143TC-184C FR	1	W212230-000	STEEL	W213230-000	STEEL	W213230-000	STEEL	68
	COUPLING L-095 143TC-184C FR		W213231-000	STEEL	W213231-000	STEEL	W213231-000	STEEL	68
M	MOTOR BOLT	4	W770547-188	188SS	W770547-188	188SS	W770547-188	188SS	25
	C-FACE MOTOR ADAPTOR 90 FR	1	49746	ALUMINUM	49746	ALUMINUM	49746	ALUMINUM	66
	COUPLING L-090 90 FR	1	W213586-000	STEEL	W213586-000	STEEL	W213586-000	STEEL	68
V	HOUSING, CENTER - VENT FNPT	1	40052-2	316SS	40053-2	ALLOY C	40054-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		40064-2	316SS	40065-2	ALLOY C	40066-2	ALLOY 20	2
	PLUG, 1/8" NPT	*1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA12 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (A, K, OR U)		ALLOY C (C, M, OR V)		ALLOY 20 (D, N, OR W)		
	DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 7 SHAFT AND BEARING MATERIAL (CONT'D)									
EXTENDED LIFE - BEARINGS									
L	•BEARING 1" BORE	2-4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12, 13
	•BEARING 3/4" BORE	0-2	90438	EWCBN	90438	EWCBN	90438	EWCBN	13
	•SHAFT, MTL DRIVE GR 1" DIA	1	90307	316SS	90317	ALLOY C	90315	ALLOY 20	4
	•SHAFT, IDLER 3/4" DIA	1	90306	316SS	90322	ALLOY C	90334	ALLOY 20	5
	•SHAFT, CBN IDLER GR 3/4" DIA		90346	316SS	90347	ALLOY C	90348	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND "CW" SHAFTS									
C	•BEARING 1" BORE	2-4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12, 13
	•BEARING 3/4" BORE	0-2	90438	EWCBN	90438	EWCBN	90438	EWCBN	13
	•SHAFT, MTL DRIVE GR 1" DIA	1	90307-2	CW316	90317-2	CWALYC	90315-2	CWALY20	4
	•SHAFT, IDLER 3/4" DIA	1	90376	CW316	90377	CWALYC	90378	CWALY20	5
	•SHAFT, CBN IDLER GR 3/4" DIA		90346-2	CW316	90347-2	CWALYC	90348-2	CWALY20	5
POSITION 8 SEAL ARRANGEMENT									
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING GLAND	1	A91517	ALLOY C	A91517	ALLOY C	A91517	ALLOY C	38
	LANTERN RING	1	97104	ALLOY 20	97105	ALLOY C	97104	ALLOY 20	46
	STUD, PACKING GLAND	2	92014	ALLOY 20	92012	ALLOY C	92014	ALLOY 20	39
	NUT, STUD	2	92103	ALLOY 20	92102	ALLOY C	92103	ALLOY 20	40
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/4" NPT	•1	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	ADAPTOR, 1/4" TO 1/8" NPT	1	27217	ALLOY 20	27216	ALLOY C	27217	ALLOY 20	64
N	•PACKING RING	6	96515	TFE(BRD)	96515	TFE(BRD)	96515	TFE(BRD)	42
	•PACKING END RING	1	96505	TFE	96505	TFE	96505	TFE	41
R	•PACKING RING	7	96510	GRAFOIL	96510	GRAFOIL	96510	GRAFOIL	42
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	•2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	•3	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	•SEAL HEAD ASSEMBLY	1	A97001	316/CBN	A97023	HCO/CBN	A97011	020/CBN	60
U	•SEAL SEAT W/ SEAL RING (TFE)	1	A97059	SICBD	A97059	SICBD	A97059	SICBD	55
24	•SEAL SEAT W/ SEAL RING (TFE)	1	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	•2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	•1	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	PIN, PUMP END SEAT	1	91565	ALLOY 20	91561	ALLOY C	91565	ALLOY 20	59
	•SEAL HEAD ASSEMBLY	1	A97022	020/CBN	A97027	HCO/CBN	A97022	020/CBN	60
E	•SEAL SEAT W/ SEAL RING (TFE)	2	A97059	SICBD	A97059	SICBD	A97059	SICBD	55
44	•SEAL SEAT W/ SEAL RING (TFE)	2	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
V	HOUSING, CENTER - VENT FNPT	1	90001-2	316SS	90006-2	ALLOY C	90005-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		90012-2	316SS	90013-2	ALLOY C	90014-2	ALLOY 20	2
	HOUSING, CENTER - VENT FLGD		90003-2	316SS	90007-2	ALLOY C	90010-2	ALLOY 20	2
	PLUG, 1/8" NPT	•1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
B	•O-RING, HOUSING	2	91106	SS/PFA	91106	SS/PFA	91106	SS/PFA	16
J	•SHAFT, MTL IDLER GR 1" DIA	1	90308	316SS	90318	ALLOY C	90364	ALLOY 20	5

•COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA12 SERIES PUMP
CONSOLIDATED B/M

DESCRIPTION	QTY	STANDARD PUMP MATERIAL: 316SS (A, K, OR U) PART NO	316SS MATL	ALLOY C (C, M, OR V) PART NO	ALLOY C MATL	ALLOY 20 (D, N, OR W) PART NO	ALLOY 20 MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT - MECH. SEAL	1	90129	316SS	90130	ALLOY C	90131	ALLOY 20	1
HOUSING, FRONT - LRS SEAL		90138	316SS	90140	ALLOY C	90139	ALLOY 20	1
HOUSING, CENTER FNPT	1	90001	316SS	90006	ALLOY C	90005	ALLOY 20	2
HOUSING, CENTER FBSPT		90012	316SS	90013	ALLOY C	90014	ALLOY 20	2
HOUSING, CENTER FLGD		90003	316SS	90007	ALLOY C	90010	ALLOY 20	2
HOUSING, REAR	1	90201	316SS	90205	ALLOY C	90204	ALLOY 20	3
*RING, RETAINING - DR/IDLR 1"	2-4	96702	316SS	96708	ALLOY C	96708	ALLOY C	10
*RING, RETAINING - IDLER 3/4"	0-2	96701	316SS	96709	ALLOY C	96709	ALLOY C	11
*KEY, DRIVE/IDLER GR 1" BORE	1-2	91904	316SS	91910	ALLOY C	91910	ALLOY C	8.9
*KEY, MTL IDLER GR 3/4" BORE	0-1	91903	316SS	91911	ALLOY C	91911	ALLOY C	9
*KEY, CBN IDLER GR 3/4" BORE	0-2	91925	316SS	91926	ALLOY C	91926	ALLOY C	9
*KEY, PLSTC IDL GR 3/4" BORE	0-2	91901	316SS	91912	ALLOY C	91912	ALLOY C	9
*PIN, BEARING LOCK	**4	90801	316SS	90803	ALLOY C	90803	ALLOY C	14
*O-RING, HOUSING	2	91101	TFE	91101	TFE	91101	TFE	16
PIN, HOUSING	**4	90801	316SS	90801	316SS	90801	316SS	17
BOLT, CTR HSG FNPT, FBSPT	**10	W770413-188	188SS	W770413-188	188SS	W770413-188	188SS	18A
BOLT, CTR HSG FNPT, FBSPT	1	W770422-188	188SS	W770422-188	188SS	W770422-188	188SS	18A
NUT, HSG BOLT FNPT, FBSPT	11	W771214-188	188SS	W771214-188	188SS	W771214-188	188SS	19
LOCK WASHER FNPT, FBSPT	11	W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
BOLT, CENTER HSG FLGD	12	W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	18A
LOCK WASHER FLGD	12	W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
PLUG, 1/4" NPT	**4	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
KEY, COUPLING/DRIVE SHAFT	1	91924	STL	91924	STL	91924	STL	21
PLUG, 1/8" NPT	**1	W772565-316	316SS	52301	ALLOY C	52300	ALLOY 20	62
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C *GEAR, DRIVE/IDLER 1" BORE	1-2	90627	ALLOY C	90627	ALLOY C	90627	ALLOY C	6.7
*GEAR, IDLER 3/4" BORE	0-1	90626	ALLOY C	90626	ALLOY C	90626	ALLOY C	7
K *GEAR, IDLER 3/4" BORE	0-1	90664	CARBON	90664	CARBON	90664	CARBON	7
T *GEAR, IDLER 3/4" BORE		90663	TFE(GF)	90663	TFE(GF)	90663	TFE(GF)	7
E *GEAR, IDLER 3/4" BORE		90677	PEEK	90677	PEEK	90677	PEEK	7
POSITION 6 WEAR PLATE MATERIAL								
K *WEAR PLATE, SLOTTED	4	90503	CARBON	90503	CARBON	90503	CARBON	15
T *WEAR PLATE, SLOTTED		90510	TFE(GF)	90510	TFE(GF)	90510	TFE(GF)	15
Z *WEAR PLATE, SLOTTED		90512	CERAMIC	90512	CERAMIC	90512	CERAMIC	15
E *WEAR PLATE, SLOTTED		90515	PEEK	90515	PEEK	90515	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K *BEARING 1" BORE	2-4	90424	CARBON	90424	CARBON	90424	CARBON	12,13
*BEARING 3/4" BORE	0-2	90429	CARBON	90429	CARBON	90429	CARBON	13
*SHAFT, MTL DRIVE GR 1" DIA	1	90307	316SS	90317	ALLOY C	90315	ALLOY 20	4
*SHAFT, IDLER 3/4" DIA	1	90306	316SS	90322	ALLOY C	90334	ALLOY 20	5
*SHAFT, CBN IDLER GR 3/4" DIA		90346	316SS	90347	ALLOY C	90348	ALLOY 20	5
T *BEARING 1" BORE	2-4	90428	TFE(GF)	90428	TFE(GF)	90428	TFE(GF)	12,13
*BEARING 3/4" BORE	0-2	90430	TFE(GF)	90430	TFE(GF)	90430	TFE(GF)	12,13
*SHAFT, MTL DRIVE GR 1" DIA	1	90307	316SS	90317	ALLOY C	90315	ALLOY 20	4
*SHAFT, IDLER 3/4" DIA	1	90306	316SS	90322	ALLOY C	90334	ALLOY 20	5
*SHAFT, CBN IDLER GR 3/4" DIA		90346	316SS	90347	ALLOY C	90348	ALLOY 20	5
4 *BEARING, SLOTTED 1" BORE	2-4	90431	CARBON	90431	CARBON	90431	CARBON	13
*BEARING, SLOTTED 3/4" BORE	0-2	90432	CARBON	90432	CARBON	90432	CARBON	13
*SHAFT, MTL DRIVE GR 1" DIA	1	90307	316SS	90317	ALLOY C	90315	ALLOY 20	4
*SHAFT, IDLER 3/4" DIA	1	90306	316SS	90322	ALLOY C	90334	ALLOY 20	5
*SHAFT, CBN IDLER GR 3/4" DIA		90346	316SS	90347	ALLOY C	90348	ALLOY 20	5

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M

**QTY (2) WHEN PUMP HAS FNPT OR FBSPT CENTER HOUSING, COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M

•DENOTES RECOMMENDED SPARE PART

GA16 SERIES PUMP
CONSOLIDATED B/M

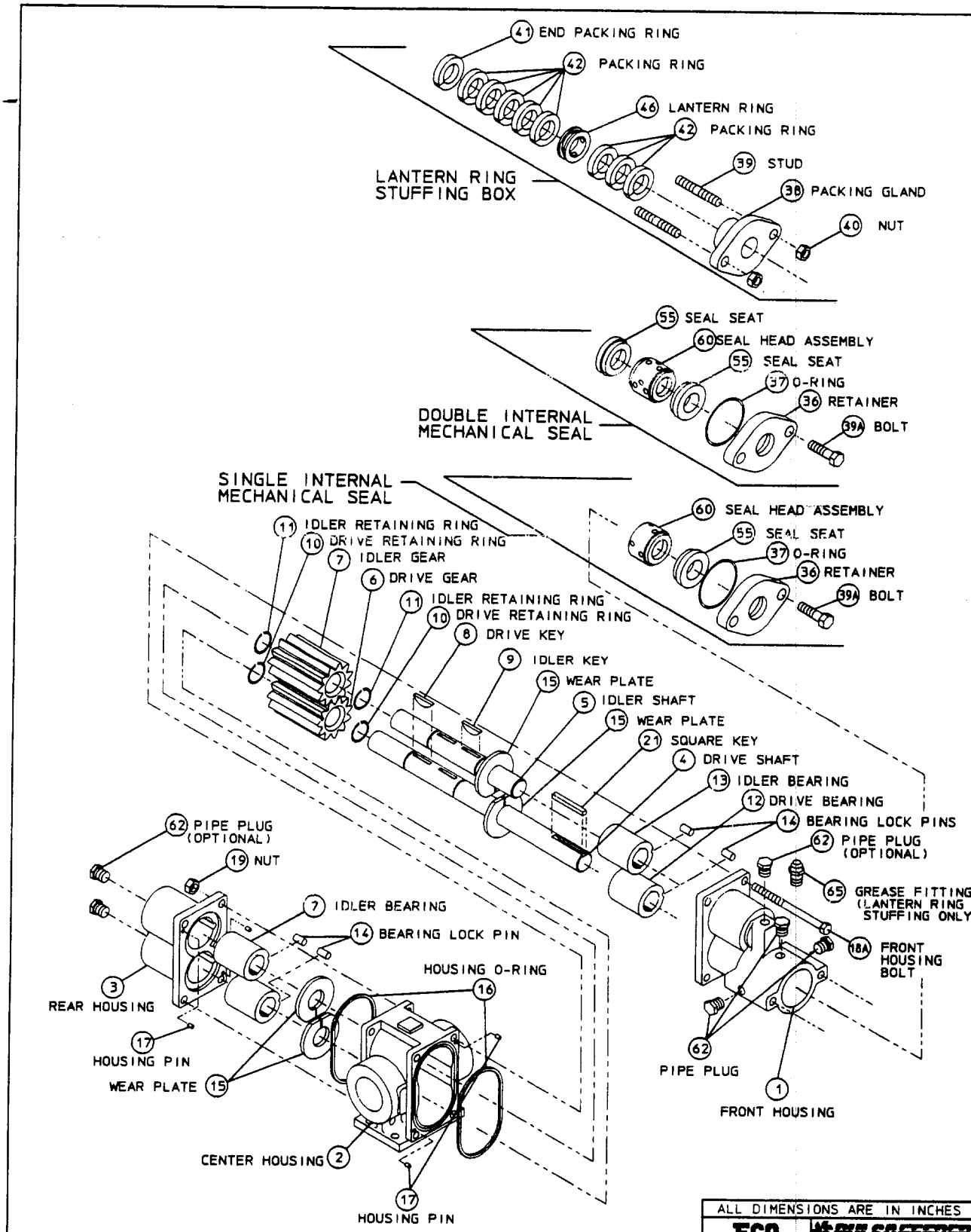
DESCRIPTION	QTY	STANDARD PUMP MATERIAL 316SS (U) PART NO	316SS (U) MATL	ALLOY C (V) PART NO	ALLOY C (V) MATL	ALLOY 20 (W) PART NO	ALLOY 20 (W) MATL	ITEM
POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS								
HOUSING, FRONT - MECH SEAL	1	90129	316SS	90130	ALLOY C	90131	ALLOY 20	1
HOUSING, FRONT - LRS SEAL	1	90138	316SS	90140	ALLOY C	90139	ALLOY 20	1
HOUSING, CENTER FLGD	1	90020	316SS	90021	ALLOY C	90022	ALLOY 20	2
HOUSING, REAR	1	90201	316SS	90205	ALLOY C	90204	ALLOY 20	3
•RING, RETAINING - DR/IDLER 1"	2-4	96702	316SS	96708	ALLOY C	96708	ALLOY C	10,11
•RING, RETAINING - IDLER 3/4"	0-2	96701	316SS	96709	ALLOY C	96709	ALLOY C	11
•KEY, MTL DR/IDLER GR 1" BORE	2-4	91904	316SS	91910	ALLOY C	91910	ALLOY C	8,9
•KEY, CBN/PLSTC GEAR 3/4" BORE	0-2	91929	ALLOY C	91929	ALLOY C	91929	ALLOY C	9
•PIN, BEARING LOCK	=4	90801	316SS	90803	ALLOY C	90803	ALLOY C	14
•O-RING, HOUSING	2	91101	TFE	91101	TFE	91101	TFE	16
PIN, HOUSING	=4	90801	316SS	90801	316SS	90801	316SS	17
BOLT, CTR HSG FLGD	12	W770412-188	188SS	W770412-188	188SS	W770412-188	188SS	18A
LOCK WASHER	12	W771107-188	188SS	W771107-188	188SS	W771107-188	188SS	20
PLUG, 1/4" NPT	=6	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
KEY, COUPLING/DRIVE SHAFT	1	91924	STL	91924	STL	91924	STL	21
NAMEPLATE	1	41201	188SS	41201	188SS	41201	188SS	--
POSITION 4 & 5 DRIVE AND IDLER GEAR								
C •GEAR, DRIVE/IDLER 1" BORE	1-2	90667	ALLOY C	90667	ALLOY C	90667	ALLOY C	6,7
K •GEAR, IDLER 3/4" BORE	0-1	90676	CARBON	90676	CARBON	90676	CARBON	7
T •GEAR, IDLER 3/4" BORE		90670	TFE(GF)	90670	TFE(GF)	90670	TFE(GF)	7
E •GEAR, IDLER 3/4" BORE		90678	PEEK	90678	PEEK	90678	PEEK	7
POSITION 6 WEAR PLATE MATERIAL								
K •WEAR PLATE, SLOTTED	4	90503	CARBON	90503	CARBON	90503	CARBON	15
T •WEAR PLATE, SLOTTED		90510	TFE(GF)	90510	TFE(GF)	90510	TFE(GF)	15
Z •WEAR PLATE, SLOTTED		90512	CERAMIC	90512	CERAMIC	90512	CERAMIC	15
E •WEAR PLATE, SLOTTED		90515	PEEK	90515	PEEK	90515	PEEK	15
POSITION 7 SHAFT AND BEARING MATERIAL								
STANDARD CONSTRUCTION								
K •BEARING 1" BORE	2-4	90424	CARBON	90424	CARBON	90424	CARBON	12,13
•BEARING 3/4" BORE	0-2	90429	CARBON	90429	CARBON	90429	CARBON	13
•SHAFT, DRIVE 1"	1	90355	316SS	90357	ALLOY C	90356	ALLOY 20	4
•SHAFT, CBN/PLSTC IDLER 3/4"	1	90362	ALLOY 20	90361	ALLOY C	90362	ALLOY 20	5
•SHAFT, MTL IDLER 1"		90349	316SS	90351	ALLOY C	90350	ALLOY 20	5
T •BEARING 1" BORE	2-4	90428	TFE(GF)	90428	TFE(GF)	90428	TFE(GF)	12,13
•BEARING 3/4" BORE	0-2	90430	TFE(GF)	90430	TFE(GF)	90430	TFE(GF)	13
•SHAFT, DRIVE 1"	1	90355	316SS	90357	ALLOY C	90356	ALLOY 20	4
•SHAFT, CBN/PLSTC IDLER 3/4"	1	90362	ALLOY 20	90361	ALLOY C	90362	ALLOY 20	5
•SHAFT, MTL IDLER 1"		90349	316SS	90351	ALLOY C	90350	ALLOY 20	5
4 •BEARING, SLOTTED 1" BORE	2-4	90431	CARBON	90431	CARBON	90431	CARBON	12,13
•BEARING, SLOTTED 3/4" BORE	0-2	90432	CARBON	90432	CARBON	90432	CARBON	13
•SHAFT, DRIVE 1"	1	90355	316SS	90357	ALLOY C	90356	ALLOY 20	4
•SHAFT, CBN/PLSTC IDLER 3/4"	1	90362	ALLOY 20	90361	ALLOY C	90362	ALLOY 20	5
•SHAFT, MTL IDLER 1"		90349	316SS	90351	ALLOY C	90350	ALLOY 20	5
EXTENDED LIFE - BEARINGS								
L •BEARING 1" BORE	2-4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12,13
•BEARING 3/4" BORE	0-2	90438	EWCBN	90438	EWCBN	90438	EWCBN	13
•SHAFT, DRIVE 1"	1	90355	316SS	90357	ALLOY C	90356	ALLOY 20	4
•SHAFT, CBN/PLSTC IDLER 3/4"	1	90362	ALLOY 20	90361	ALLOY C	90362	ALLOY 20	5
•SHAFT, MTL IDLER 1"		90349	316SS	90351	ALLOY C	90350	ALLOY 20	5
EXTENDED LIFE - BEARINGS AND 'CW' SHAFTS								
C •BEARING 1" BORE	2-4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12,13
•BEARING 3/4" BORE	0-2	90438	EWCBN	90438	EWCBN	90438	EWCBN	13
•SHAFT, DRIVE 1"	1	90355-2	CW316	90357-2	CWALYC	90356-2	CWALY20	4
•SHAFT, CBN/PLSTC IDLER 3/4"	1	90388	CW316	90389	CWALYC	90390	CWALY20	5
•SHAFT, MTL IDLER 1"		90385	CW316	90386	CWALYC	90387	CWALY20	5

•COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
•DENOTES RECOMMENDED SPARE PART

GA16 SERIES PUMP
CONSOLIDATED B/M

			STANDARD PUMP MATERIAL						
			316SS (U)		ALLOY C (V)		ALLOY 20 (W)		
	DESCRIPTION	QTY	PART NO.	MATL	PART NO.	MATL	PART NO.	MATL	ITEM
POSITION 8 SEAL ARRANGEMENT									
LANTERN RING STUFFING BOX									
COMMON PARTS	PACKING GLAND	1	A91517	ALLOY C	A91517	ALLOY C	A91517	ALLOY C	38
	LANTERN RING	1	97104	ALLOY 20	97105	ALLOY C	97104	ALLOY 20	66
	STUD, PACKING GLAND	2	92014	ALLOY 20	92012	ALLOY C	92014	ALLOY 20	39
	NUT, STUD	2	92103	ALLOY 20	92102	ALLOY C	92103	ALLOY 20	40
	GREASE FITTING	1	27201	310SS	27201	310SS	27201	310SS	65
	PLUG, 1/4" NPT	*1	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	ADAPTOR, 1/4" TO 1/8" NPT	1	27217	ALLOY 20	27216	ALLOY C	27217	ALLOY 20	64
N	*PACKING RING	6	96515	TFE(BRD)	96515	TFE(BRD)	96515	TFE(BRD)	42
	*PACKING END RING	1	96505	TFE	96505	TFE	96505	TFE	41
R	*PACKING RING	7	96510	GRAFOIL	96510	GRAFOIL	96510	GRAFOIL	42
INTERNAL MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*3	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	*SEAL HEAD ASSEMBLY	1	A97001	316/CBN	A97023	HC0/CBN	A97011	020/CBN	60
U	*SEAL SEAT W/ SEAL RING (TFE)	1	A97059	SICBD	A97059	SICBD	A97059	SICBD	55
24	*SEAL SEAT W/ SEAL RING (TFE)	1	A91569	ALLOY 20	A91570	ALLOY C	A91569	ALLOY 20	55
DOUBLE MECHANICAL SEAL									
COMMON PARTS	SEAT RETAINER W/ PIN	1	A91564	ALLOY 20	A91560	ALLOY C	A91564	ALLOY 20	36
	BOLT, SEAT RETAINER	2	W770413-188	188SS	92007	ALLOY C	W770413-188	188SS	39A
	O-RING, SEAT RETAINER	1	19031	TFE	19031	TFE	19031	TFE	37
	PLUG, 1/4" NPT	*1	16415	316SS	16422	ALLOY C	16432	ALLOY 20	63
	PIN, PUMP END SEAT	1	91565	ALLOY 20	91561	ALLOY C	91565	ALLOY 20	59
	*SEAL HEAD ASSEMBLY	1	A97022	020/CBN	A97027	HC0/CBN	A97022	020/CBN	60
E	*SEAL SEAT W/ SEAL RING (TFE)	2	A97059	SICBD	A97059	SICBD	A97059	SICBD	55
44	*SEAL SEAT W/ SEAL RING (TFE)	2	A91569	ALLOY 20	A91570	ALLOY C	A91570	ALLOY 20	55
POSITION 9 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B/M									
B	*O-RING, HOUSING	2	91106	SS/PFA	91106	SS/PFA	91106	SS/PFA	16

*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M
*DENOTES RECOMMENDED SPARE PART



A	ADDED GH6 PUMP	10/08/97
REF	REVISION UPDATE	DATE

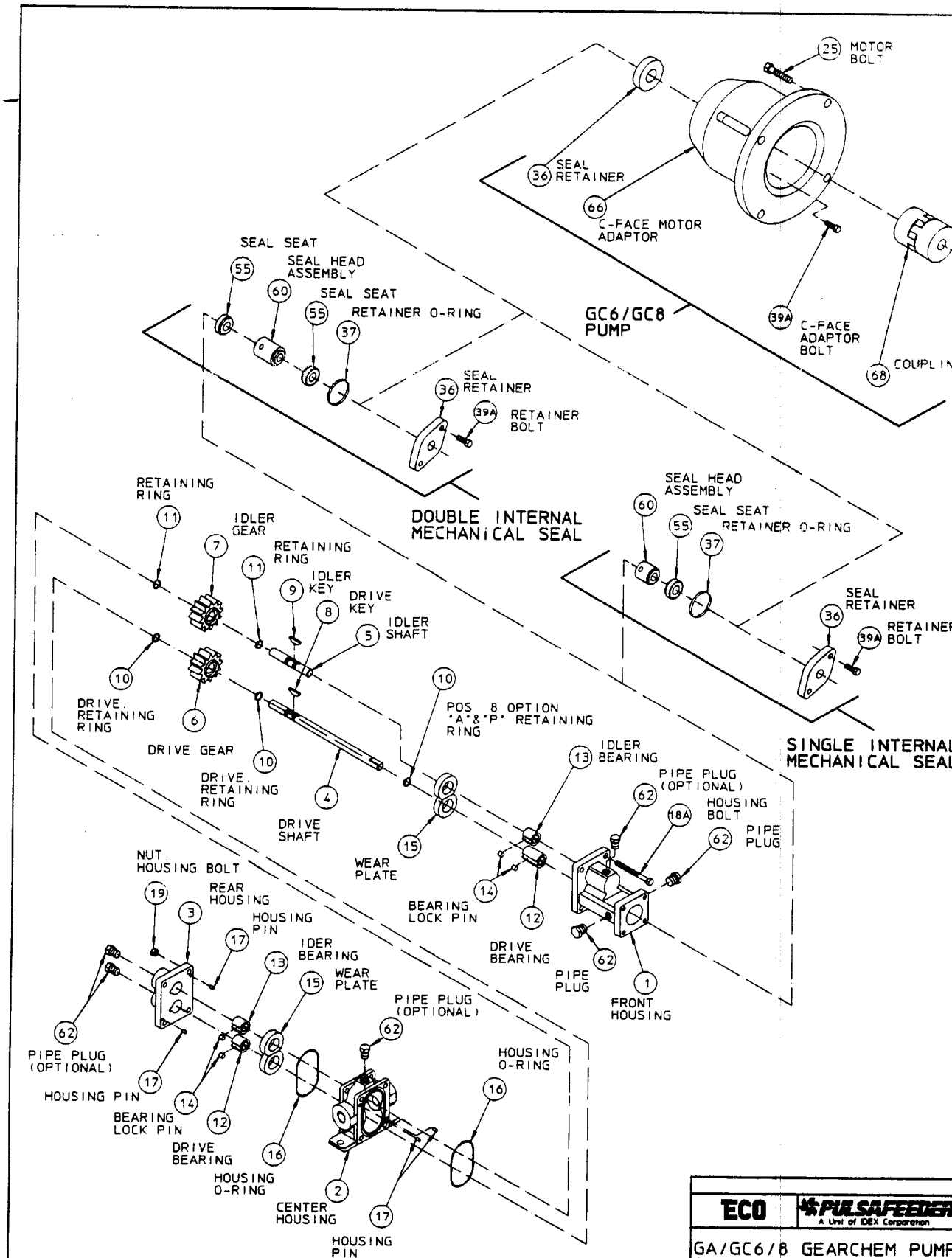
ALL DIMENSIONS ARE IN INCHES

ECO | PULSAFEEDER A Unit of IDEX Corporation

GH6-8 GEARCHEM PUMP
EXPLODED VIEW

DWN BY CLA
DATE 04/04/94

SD-2775



REF	REVISION UPDATE	DATE

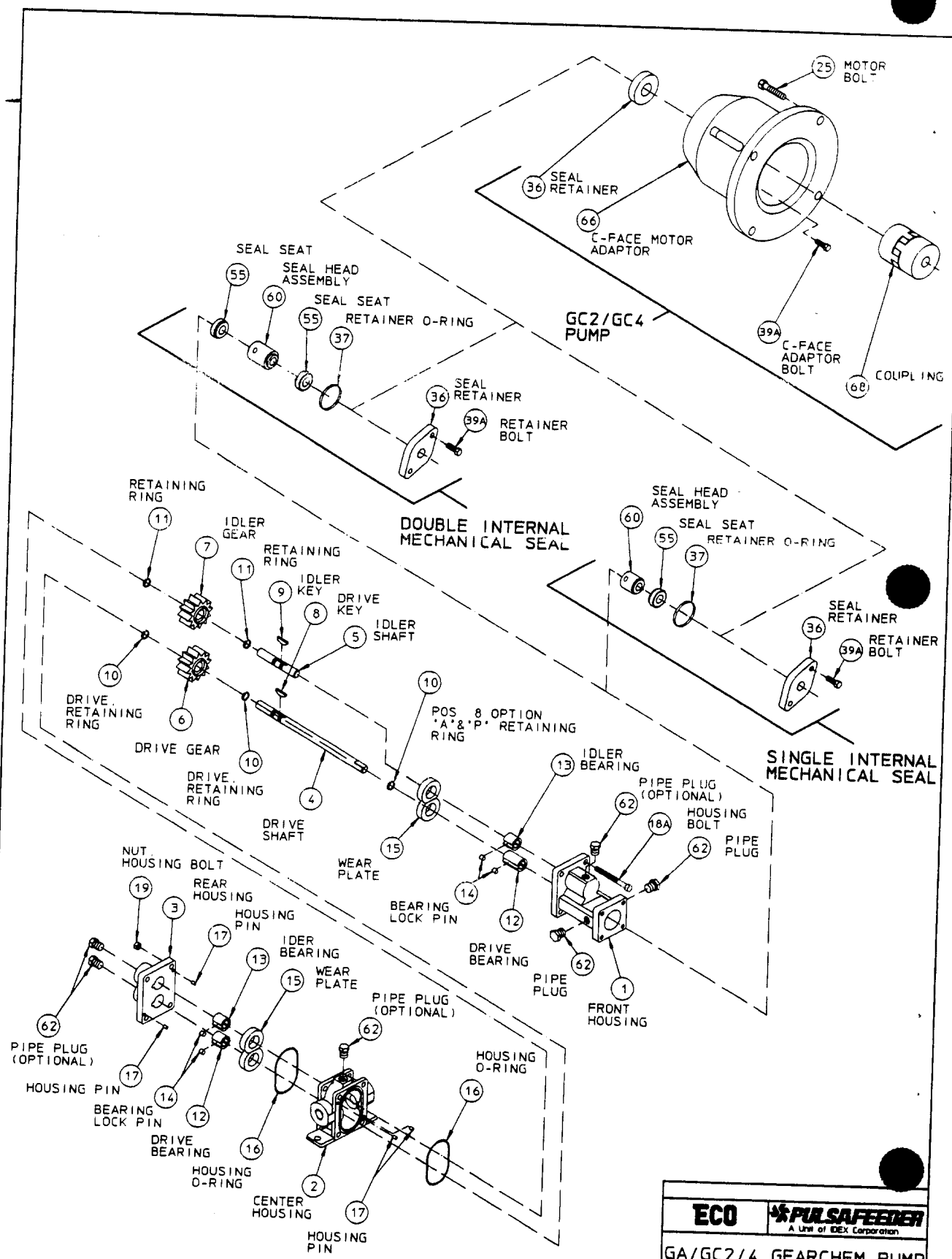
ECO

PULSAFEEDER
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GA/GC6/8 GEARCHEM PUMP
EXPLODED VIEW

DWN BY: PFM
DATE: 04/23/97

SD-2848



REF	REVISION UPDATE	DATE
A		

ECO

PULSAFEEDER
A Unit of IDEX Corporation

GA/GC2/4 GEARCHEM PUMP EXPLODED VIEW

DWN BY	PFM	SD-2847
DATE	04/23/97	

ECO
Gear Pumps

KOPkits®

Keep-On-Pumping Kits That Can Save You Time and Money.

ECO products have a reputation for superior reliability by supplying carefully designed high-quality equipment. Even the best equipment requires a minimal amount of maintenance. **KOPkits** are designed to guard against unnecessary downtime and assure you the highest level of efficient and uninterrupted service from your ECO pumps.

KOPkits contain recommended spare parts generally required for normal maintenance. A typical kit includes shaft mounted drive and idler gears (with keys and retaining rings), wear plates, bearings and lock pins, housing o-rings, packing rings or seal assembly (with seat) and an exploded view assembly drawing.

KOPkits will save you money. When you need a part, you've got it! You can cut downtime and production loss from days to minutes. You also save by buying parts in KOPkit form compared with buying individual parts.

Each **KOPkit** part is securely packed in a customized kit to protect parts when stored for long periods of time.

A **KOPkit** is a troubleshooter's best friend. In the event of a breakdown, it will put you back in business fast! Preventive maintenance will insure continuous high performance of your ECO pumps.

Keep on pumping! Get all the money saving and security benefits of ECO **KOPkits** immediately.

Standard KOPkits

The **KOPkit** part number as shown below covers current models. All ECO pumps have the model number stamped on the name plate.

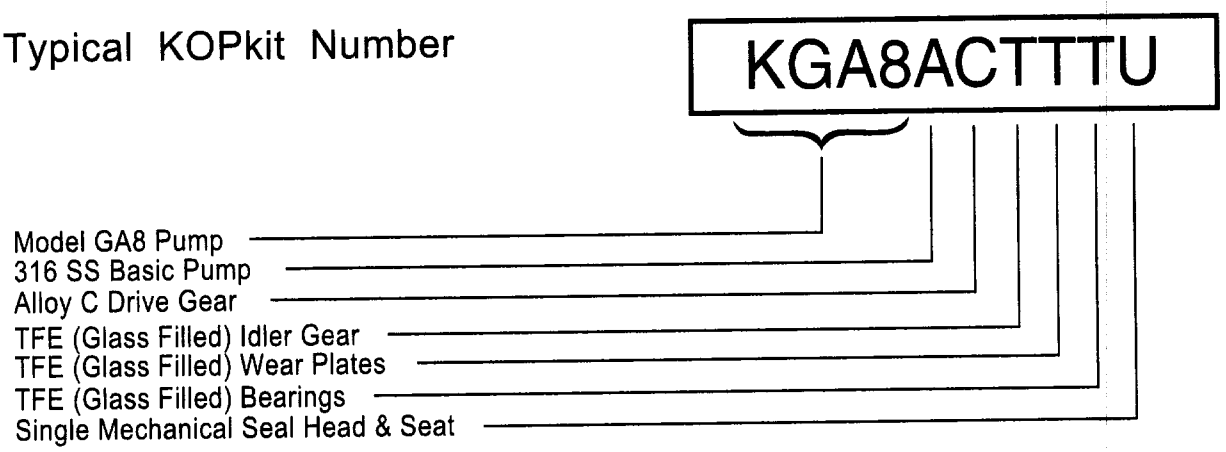
This model number, prefixed by a "K", becomes the kit number.
The table on the next page can be used to identify most kit numbers.

Special KOPkits

ECO Gearchem pumps have kits available for non-standard pumps.

Consult your representative or distributor for kit number and pricing.

Typical KOPkit Number



PULSAFEEDER®
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IDEX
Manufacturers of Quality Pumps, Controls and Systems

KOPkit® Nomenclature

K GA

Position No. 1 2 3 4 5 6 7 8 9

Position 1	Series G = Gearchem External Spur Gear Pump	
G =	Original version, foot mounted only	2, 4, 6, 8
GA =	Mechanical Seal, foot mounted only	2, 4, 6, 8, 12, 16
GC =	Mechanical Seal, C-face motor mounting assembly	2, 4, 6, 8
GH =	Higher pressure model, foot mounted only	6, 8

Position 2 Pump Size	2	4	6	8	H6	H8	12	16
Port Size	.25"	.50"	.75"	1.0"	.75"	1.0"	1.5"	2.0"
Capacity (GPM Max)	1.5	3	10	20	10	20	26	55
Differential pressure (PSIG Max)	100	100	100	50	200	100	100	100

Position 3 Available Pump Metallurgy's / Type Port Connections									
A = 316SS	FNPT	X	X	X	X	X	X	X	
C = Alloy C	FNPT	X	X	X	X	X	X	X	
D = Alloy 20	FNPT	X	X	X	X	X	X	X	
K = 316SS	FBSPT	X	X	X	X	X	X	X	
M = Alloy C	FBSPT	X	X	X	X	X	X	X	
N = Alloy 20	FBSPT	X	X	X	X	X	X	X	
U = 316SS	Flanged							X	X
V = Alloy C	Flanged							X	X
W = Alloy 20	Flanged							X	X

Position 4 Drive Gear Material								
C = Alloy C	X	X	X	X	X	X	X	X
D = Alloy 20	X	X	X	X				
T = TFE (Glass filled)	X	X	X	X				
E = Peek	X	X	X	X				

Position 5 Idler Gear Material								
C = Alloy C	X	X	X	X	X	X	X	X
D = Alloy 20	X	X	X	X				
K = Carbon	X	X	X	X		X	X	X
T = TFE (Glass filled)	X	X	X	X		X	X	X
E = Peek	X	X	X	X	X	X	X	X

Position 6 Wear Plate Material								
K = Carbon	X	X	X	X	X	X	X	X
T = TFE (Glass filled)		X	X	X	X	X	X	X
2 = Ceramic	X	X	X	X	X	X	X	X
E = Peek	X	X	X	X	X	X		

Position 7 Shaft & Bearing Material								
K = Standard Carbon	X	X	X	X	X	X	X	X
T = TFE (Glass filled)	X	X	X	X		X	X	X
L = Extended Life Carbon	X	X	X	X	X	X	X	X
C = Extended Life Carbon - "CW" Shafts	X	X	X	X	X	X	X	X
4 = Standard Carbon Slotted							X	X

Position 8 Seal Arrangement		G 2-4	GA/GC 2-4	G 6-8	GA/GC 6-8	GH 6	GH 8	GA 12-16
Packing								
B = TFE Rings		X		X				
G = Grafoil (*) Rings		X		X				
J = Viton Lip Seal H-C Spring		X		X				
N = TFE Rings / Lantern		X		X		X	X	X
R = Grafoil (*) / Lantern		X		X		X	X	X
Mechanical Seals								
Bellows								
A =	Single Seal: Carbon Rotary / Viton Ceramic Seat / Viton		X		X			
C =	Double Seal: Carbon Rotary / Viton Ceramic Seat / Viton		X		X			
P =	Single Seal: Siliconized CBN Rotary /EPR Silicon CBD Seat / TFE		X		X			
Wedge								
E =	Double Seal: Carbon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	X	X
K =	Single Seal: Teflon Rotary / TFE Metallic Seat / TFE	X		X				
Q =	Single Seal: Teflon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	X	
T =	Single Seal: Carbon Rotary / TFE Metallic Seat / TFE	X		X				
U =	Single Seal: Carbon Rotary / TFE Silicon CBD Seat / TFE		X		X	X	X	X
V =	External Seal: Carbon Rotary / TFE Metallic Seat / TFE		X		X			
W =	External Seal: Carbon Rotary / TFE Silicon CBD Seat / TFE		X		X			
Y =	Double Seal: Carbon Rotary / TFE Metallic Seat / TFE	X		X				
Z =	External Seal: Vacuum Carbon Rotary / TFE Metallic Seat / TFE	X		X				
24 =	Single Seal: Carbon Rotary / TFE Metallic Seat / TFE							X
44 =	Double Seal: Carbon Rotary / TFE Metallic Seat / TFE							X

Position 9 Options – Pump Size		2	4	6	8	6	8	12	16
B =	PFA coated: SS Hsg O-Rings, Metallic Bearing Lock Pins	X	X	X	X	X	X	X	X
C =	Bearing Flush Ports, PFA Coated SS Hsg O-Rings, Metallic Bearing Lock Pins	X	X	X	X	X	X		
D =	Bearing Flush Ports, PFA Coated SS Hsg O-Rings, Metallic Bearing Lock Pins, Slotted Bearings	X	X	X	X	X	X		
E =	Bearing Flush Ports, PFA Coated SS Hsg O-Rings, Metallic Bearing Lock Pins, Slotted Bearings, Slotted Wear plates	X	X	X	X				
J =	GA12 with 1" Idler Shaft (Metallic Gear Only)							X	
N =	Narrow Width Gears		X	X					
T =	Temperature Trimmed Plastic Gear	X	X	X	X	X	X	X	X

PULSAFEEDER®
A Unit of IDEX Corporation

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IDEX CORPORATION