

Installation Operation Maintenance Manual

G Series Sealed Internal Gear Pumps

Where Innovation Flows

envirogearpump.com



Envirogear TABLE OF CONTENTS

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	PUMP DESIGNATION SYSTEM.HOW IT WORKS—INTERNAL GEAR TECHNOLOGY.SUGGESTED INSTALLATION & OPERATIONMAINTENANCE.DISASSEMBLYREASSEMBLYEXPLODED VIEW AND PARTS LISTINGG1-2/4.G1-55/69.G1-82.G1-133.G1-222.

CAUTIONS—READ FIRST!

CAUTION: Only personnel who are familiar with the operation and repair of mechanical products should perform the necessary maintenance. You must familiarize yourself with the entire contents of this manual prior to operating and/or performing any maintenance.

CAUTION: When selecting a G Series pump for an application, you must first ensure that the pump components are compatible with the process media.

CAUTION: Prior to startup, review and understand end-clearance adjustments. Following these guidelines will ensure proper end-clearance adjustment avoiding interference between the gears and head. Interference may cause heat generation and premature wear.

CAUTION: Do not operate this pump in excess of its rated capacity, pressure, speed and temperature.

CAUTION: Before any maintenance and repair is attempted, disconnect the drive.

CAUTION: Before any maintenance or repair is attempted, bleed all pressure from the pump through the suction or discharge lines.

CAUTION: Do not remove any pressure-containing components during pump operation.

CAUTION: All G Series pumps contain residual hydraulic oil from the factory production test. Hypar-FG 15 food-grade oil is the standard production test fluid, but any certified performance testing may be done on a non-food grade oil, such as Unilube 32 (ISO 32) or Unilube 100 (ISO 100). Determine if this is compatible with the fluid you are pumping. If the fluid is incompatible, then the pump must be fully flushed prior to use.

CAUTION: When pumping fluids at elevated temperatures, care should be taken to gradually increase temperature. Rapid temperature increase can damage internal components.

CAUTION: Ensure that the pump has cooled to a safe temperature before any maintenance or repair is attemped.

CAUTION: When pumping fluids at elevated temperatures the piping may expand, resulting in excessive stress on the pump. This can cause pump failure. Care must be taken when considering pipe design to avoid damage from thermal expansion.

CAUTION: Do not run the pump dry. This can cause damage to internal components and generate heat, creating a hazardous condition for volatile fluids.

CAUTION: Prevention of static sparking – If static sparking occurs, fire or explosion could result. Pump, valves and containers must be grounded to a proper grounding point when handling flammable fluids and whenever discharge of static electricity is a hazard.

CAUTION: The packing in a packed pump is designed to leak. Therefore, when pumping hazardous liquids, a mechanical seal is recommended to minimize any potential source of leakage that could result in a hazardous condition.

CAUTION: Do not adjust packing while pump is in operation.

CAUTION: All inlet and discharge plumbing should be clean and free from foreign material prior to startup of pump.

CAUTION: Keep hands and fingers away from any pump opening while the pump is connected to the drive.

CAUTION: When connecting to an electric motor, follow all safety recommendations provided by the motor manufacturer.

WARNING: In any positive-displacement pump system, a reliable pressure-protection device must be used in the discharge piping to avoid a dangerous pressure increase, which could cause the pump or any component in the discharge piping to burst and can lead to serious injury. A pump-mounted integral relief valve is not intended to be used in this manner.



CAUTION: Never remove safety quards from shafts. couplings, V-belts or pulleys during operation. Doing so could result in injury.

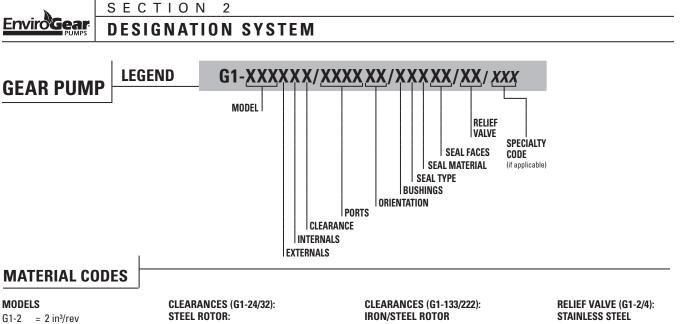


CAUTION: When pumping high-temperature fluids, avoid contact with the pump. Serious injury could occur.



CAUTION: Do not wear loose or dangling clothing or jewelry near the equipment. These items could become caught in the equipment and cause injury.

CAUTION: Before any maintenance or repair is attemped, ensure that the pump has been thoroughly flushed of any hazardous fluids. Review the Material Safety Data Sheet (MSDS) applicable to the fluid for proper handling.



G1-4 = 4 in³/rev G1-24 = 24 in³/rev G1-32 = 32 in³/rev G1-55 = 55 in³/rev G1-69 = 69 in³/rev G1-82 = 82 in³/rev G1-133 = 133 in³/rev G1-222 = 222 in³/rev

MATERIAL (EXTERNAL)

C = CARBON STEEL S = STAINLESS STEEL W = CAST IRON

MATERIAL (INTERNALS)

- C = STEEL
- D = DUCTILE IRON
- N = NITRONIC 60
- S = STAINLESS STEEL
- W= CAST IRON

CLEARANCES (G1-2/4): **IRON/STEEL ROTOR**

A = [<540 cSt, <107°C (<225°F)] $B = [<540 \text{ cSt}, 108-232^{\circ}C (226-450^{\circ}F)]$ C = [<540 cSt, 233-301°C (451-575°F)] D = [540-5,400 cSt, 302-343°C (576-650°F)] $E = [5,400-431,000 \text{ cSt}, 302-343^{\circ}C (576-650^{\circ}F)]$

CLEARANCES (G1-2/4): **STAINLESS STEEL ROTOR**

A = [<540 cSt, <107°C (<225°F)] B = [<540 cSt, 108-149°C (226-300°F)] $C = [540-5,400 \text{ cSt}, 150-260^{\circ}C (301-500^{\circ}F)]$ D = [5,400-431,000 cSt, 150-260°C (301-500°F)]

CLEARANCES (G1-24/32): **IRON ROTOR**

- A = [<160 cSt, <107°C (<225°F)] $B = [<160 \text{ cSt}, 108-149^{\circ}C (226-300^{\circ}F)]$ $C = [160-1,600 \text{ cSt}, 150-232^{\circ}C (301-450^{\circ}F)]$
- $D = [1,600-16,000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$
- $E = [16,000-431,000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$

G SERIES GEAR PUMP

- A = [<160 cSt, <107°C (<225°F)]
- $B = [<160 \text{ cSt}, 108-232^{\circ}C(226-450^{\circ}F)]$
- C = [160-1,600 cSt, 233-343°C (451-650°F)]
- $D = [1.600-16.000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$
- $E = [16,000-431,000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$

CLEARANCES (G1-24/32): **STAINLESS STEEL ROTOR**

- A = [<1600 cSt. <107°C (<225°F)]
- $B = [<1600 \text{ cSt}, 108-177^{\circ}C (226-350^{\circ}F)]$
- $C = [1.600 16.000 \text{ cSt}, 177 260^{\circ}C (351 500^{\circ}F)]$
- $D = [16,000-431,000 \text{ cSt}, 177-260^{\circ}C (351-500^{\circ}F)]$

CLEARANCES (G1-55/69): IRON ROTOR

- $A = [<160 \text{ cSt}, <107^{\circ}\text{C}(<225^{\circ}\text{F})]$
- $B = [<160 \text{ cSt}, 108-149^{\circ}C (226-300^{\circ}F)]$
- $C = [160-1.600 \text{ cSt}, 150-232^{\circ}C (301-450^{\circ}F)]$
- $D = [1,600-16,000 \text{ cSt}, 233-302^{\circ}C (451-575^{\circ}F)]$
- $E = [1,600-16,000 \text{ cSt}, 303-343^{\circ}C (576-650^{\circ}F)]$ $F = [16,000-431,000 \text{ cSt}, 303-343^{\circ}C (576-650^{\circ}F)]$

CLEARANCES (G1-55/69) STEEL ROTOR

- A = [<160 cSt, <107°C (<225°F)]
- B = [160-1,600 cSt, 108-232°C (226-450°F)]
- C = [1,600-16,000 cSt, 233-301°C (451-575°F)] D = [1,600-16,000 cSt, 302-343°C (576-650°F)]
- $E = [16,000-431,000 \text{ cSt}, 302-343^{\circ}C (576-650^{\circ}F)]$

CLEARANCES (G1-55/69): **STAINLESS STEEL ROTOR**

- A = [<1,600 cSt, <107°C (<225°F)]
- $B = [1,600-16,000 \text{ cSt}, 108-177^{\circ}C (226-350^{\circ}F)]$
- $C = [1,600-16,000 \text{ cSt}, 177-260^{\circ}C (351-500^{\circ}F)]$
- D = [16,000-431,000 cSt, 177-260°C (351-500°F)]

CLEARANCES (G1-82): IRON/STEEL ROTOR

- A = [<160 cSt, <107°C (<225°F)]
- B = [160-1,600 cSt, 108-232°C (226-450°F)]
- C = [1,600-16,000 cSt, 233-301°C (451-575°F)]
- $D = [1,600-16,000 \text{ cSt}, 302-343^{\circ}C (576-650^{\circ}F)]$
- E = [16,000-431,000 cSt, 302-343°C (576-650°F)]

CLEARANCES (G1-82): **STAINLESS STEEL ROTOR**

- A = [<160 cSt, <107°C (<225°F)]
- B = [160-1,600 cSt, 108-163°C (226-325°F)]
- $C = [1,600-16,000 \text{ cSt}, 163-260^{\circ}C (326-500^{\circ}F)]$
- D = [16,000-431,000 cSt, 163-260°C (326-500°F)]

- A = [<160 cSt, <107°C (<225°F)]
- $B = [160-1,600 \text{ cSt}, 108-232^{\circ}C (226-450^{\circ}F)]$
- $C = [1,600-16,000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$
- $D = [16,000-431,000 \text{ cSt}, 233-343^{\circ}C (451-650^{\circ}F)]$

CLEARANCES (G1-133/222): STAINLESS STEEL ROTOR

- A = [<1,600 cSt, <135°C (<275°F)]
- $B = [1.600 16.000 \text{ cSt}, 136 260^{\circ}C (276 500^{\circ}F)]$
- $C = [16,000-431,000 \text{ cSt}, 136-260^{\circ}C (276-500^{\circ}F)]$

PORTS

- 1.5A = 1.5 in ANSI
- 1.5N = 1.5 in NPT
- 2A = 2 in ANSI 2N = 2 in NPT
- 2.5A = 2.5 in ANSI
- 3A = 3 in ANSI
- 4A = 4 in ANSI
- 6A = 6 in ANSI

ORIENTATION (when looking at the shaft)

- RT = Right Port, Top Port
- LT = Left Port, Top Port
- RB = Right Port, Bottom Port
- LB = Left Port, Bottom Port
- RL = Right Port, Left Port
- LR = Left Port, Right Port

BUSHING

- С = Carbon-graphite bushings
- В = Bronze bushings т = Tungsten-carbide bushings

SEAL TYPE/MATERIAL

- 1B = Type 1 Mechanical Seal (Buna-N)
- 1V = Type 1 Mechanical Seal (Viton)
- 9T = Type 9 Mechanical Seal (PTFE)
- PG = Packing (PTFE-GRAPHITE)

SEAL FACES

2

- CN = CARBON NI-RESIST
- NA = NOT APPLICABLE (PACKING)
- NS = NO SEAL

RELIEF VALVE (G1-2/4): CAST IRON / **CARBON STEEL**

- N = NO RELIEF VALVE
- 07 = 2.1 to 5.2 bar (30 to 75 psi) 12 = 5.2 to 8.6 bar (76 to 125 psi)
- 20 = 8.7 to 13.8 bar (126 to 200 psi)

= NO RELIEF VALVE Ν 07 = 2.1 to 5.2 bar (30 to 75 psi)

RELIEF VALVE (G1-24/32):

N = NO RELIFE VALVE

RELIEF VALVE (G1-24/32):

N = NO RELIEF VALVE

STAINLESS STEEL

05

06

06

05

08

13

05

CAST IRON / CARBON STEEL

12 = 5.2 to 8.6 bar (76 to 125 psi)

15 = 8.7 to 10.34 bar (126 to 150 psi)

= 1.0 to 3.5 bar (15 to 50 psi)

15 = 5.6 to 10.3 bar (81 to 150 psi)

20 = 10.4 to 13.8 bar (151 to 200 psi)

08 = 3.5 to 5.5 bar (51 to 80 psi)

05 = 1.0 to 3.5 bar (15 to 50 psi)

08 = 3.5 to 5.5 bar (51 to 80 psi)

RELIEF VALVE (G1-55/69/82):

CAST IRON /CARBON STEEL

RELIEF VALVE (G1-55/69/82):

N = NO RELIEF VALVE

RELIEF VALVE (G1-133/222)

N = NO RELIEF VALVE

RELIEF VALVE (G1-133/222)

N = NO RELIEF VALVE

STAINLESS STEEL

STAINLESS STEEL

CAST IRON

N = NO RELIEF VALVE

15 = 5.6 to 10.3 bar (81 to 150 psi)

= 1.4 to 4.1 bar (20 to 60 psi)

16 = 6.3 to 11.1 bar (91 to 160 psi)

20 = 11.1 to 13.8 bar (161 to 200 psi)

= 1.4 to 4.1 bar (20 to 60 psi)

15 = 6.3 to 10.3 bar (91 to 150 psi)

= 1.4 to 3.5 bar (20 to 50 psi)

= 3.5 to 5.5 bar (51 to 80 psi)

= 5.6 to 9.0 bar (81 to 130 psi)

20 = 9.0 to 13.8 bar (131 to 200 psi)

= 1.4 to 3.5 bar (20 to 50 psi)

08 = 3.5 to 5.5 bar (51 to 80 psi)

13 = 5.6 to 9.0 bar (81 to 130 psi)

15 = 9.0 to 10.3 bar (131 to 150 psi)

ENV-12000-E-03

09 = 4.2 to 6.2 bar (61 to 90 psi)

09 = 4.2 to 6.2 bar (61 to 90 psi)

DESIGNATION SYSTEM

EnviroG

	Nom Pump F		Max Discharge Pressure	Max Ten	nperature	Nom Pump		Max Discharge Pressure	Max Tem	iperature	Nom Pump		Max Discharge Pressure	Max Ten	nperature
	CAST IRON					CARBO	N STEEL				STAINL	ESS STEEL			
Model	RPM	GPM	PSIG	Celcius	Fahrenheit	RPM	GPM	PSIG	Celcius	Fahrenheit	RPM	GPM	PSIG	Celcius	Fahrenheit
G1-2	1,750	15	200 (>20 cSt)	-60° to 650°	-51° to 343°	1,750	15	200 (>20 cSt)	-20° to 650°	-29° to 343°	1,150	10	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-4	1,750	30	200 (>20 cSt)	-60° to 650°	-51° to 343°	1,750	30	200 (>20 cSt)	-20° to 650°	-29° to 343°	1,150	20	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-24	780	75	200 (>20 cSt)	-60° to 650°	-51° to 343°	780	75	200 (>20 cSt)	-20° to 650°	-29° to 343°	520	50	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-32	780	100	200 (>20 cSt)	-60° to 650°	-51° to 343°	780	100	200 (>20 cSt)	-20° to 650°	-29° to 343°	520	65	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-55	640	135	200 (>20 cSt)	-60° to 650°	-51° to 343°	640	135	200 (>20 cSt)	-20° to 650°	-29° to 343°	420	90	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-69	520	140	200 (>20 cSt)	-60° to 650°	-51° to 343°	520	140	200 (>20 cSt)	-20° to 650°	-29° to 343°	420	110	150 (>550 cSt)	-120° to 500°	-84° to 260°
G1-82	640	200	200 (>165 cSt)	-60° to 500°	-51° to 260°	640	200	200 (>165 cSt)	-20° to 500°	-29° to 260°	520	160	125 (>550 cSt)	-120° to 500°	-84° to 260°
G1-133	520	300	200 (>165 cSt)	-60° to 500°	-51° to 260°	520	300	200 (>165 cSt)	-20° to 500°	-29° to 260°	350	200	125 (>550 cSt)	-120° to 500°	-84° to 260°
G1-222	520	500	200 (>165 cSt)	-60° to 500°	-51° to 260°	520	500	200 (>165 cSt)	-20° to 500°	-29° to 260°	350	320	125 (>550 cSt)	-120° to 500°	-84° to 260°

NOTE¹: Maximum Differential Pressure = 13.8 bar (200 psig).

NOTE²: Maximum Allowable Working Pressure = 13.8 bar (200 psig).

NOTE³: To ensure proper selection of a specific pump model, always use the performance data provided in the Installation, Operations & Maintenance manuals.

SPECIALTY CODES

¹Special order option. May require additional lead times.

²Standard temperature ratings on seals and packing. For higher temperatures consult factory.

NOTE: BOLD items above are typically stocked materials.

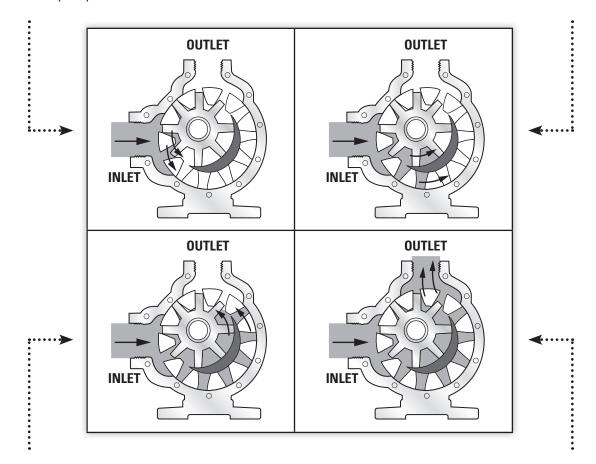
HOW IT WORKS—INTERNAL GEAR TECHNOLOGY

Z

The G SERIES GEAR PUMP is a rotating, positive displacement pump. These drawings show the flow pattern through the pump upon its initial rotation. It is assumed that the pump has no fluid in it prior to its initial rotation.

The shaded area indicates the liquid as it is drawn into the liquid inlet port of the pump. As the rotor turns, atmospheric pressure forces the liquid between the rotor teeth and idler teeth. The two arrows indicate the rotational direction of the pump.

As the rotor continues to turn, the liquid is forced through the crescent-shaped area of the wetted path. The crescentshaped area divides the liquid and acts as a barrier between the inlet and discharge ports.



As the rotor continues to turn, the liquid is forced past the crescent-shaped area and moves toward the discharge port. As the rotor completes one complete rotation, the rotor and idler teeth interlock, forcing the liquid through the discharge of the pump. The pump may take several rotations to completely prime depending on the conditions of the application. G Series gear pumps are designed to meet the performance requirements of even the most demanding pumping applications. They have been designed and manufactured to the highest standards and are available in a number of different sizes to meet your pumping needs. Refer to the performance section of this manual for an in-depth analysis of the performance characteristics of your pump.

INSTALLATION

Months of careful planning, study and selection efforts can result in unsatisfactory pump performance if installation details are left to chance.

Premature failure and long-term dissatisfaction can be avoided if reasonable care is exercised throughout the installation process.

LOCATION

Noise, safety and other logistical factors usually dictate where equipment will be situated on the production floor. Multiple installations with conflicting requirements can result in congestion of utility areas, leaving few choices for additional pumps.

Within the framework of these and other existing conditions, every pump should be located in such a way that key factors are balanced against each other to maximum advantage.

ACCESS

The location of the pumping unit should be accessible. If it's easy to reach the pump for maintenance personnel will have an easier time carrying out routine inspections and adjustments. Should major repairs

Washer Baseplate Per Pump Grout Drawing 0.75" _ Bo Sleeve Anchor Leveling 12" - 18" Wedges Nasher Concrete Foundation

FIGURE A - TYPICAL ANCHOR BOLT (SLEEVE TYPE)

become necessary, ease of access can play a key role in speeding the repair process and reducing total downtime.

FOUNDATION

BASEPLATES AND ANCHORS:

The preferred mounting for a baseplate is on a concrete pad with grouting. No matter how robust the design, there is always some flexibility in the baseplate itself. If there is insufficient support under the baseplate, it can distort causing alignment difficulties and normal vibrations can be amplified to unacceptable levels through resonance in the pump support and/or piping. A properly grouted baseplate will resist distortion and will provide sufficient mass to dampen any vibration.

NOTE: When pumps and motors are assembled on a baseplate at the factory, a preliminary alignment is done to ensure that the pump and motor can be aligned at its installation. This alignment is not to be considered as a final alignment. The factory alignment can, and does, change during shipment and when the pumping unit is installed. Actually, several alignments are necessary as will be described later.

Anchor (foundation) bolts are used to hold the baseplate to its support structure, whatever that may be. In the preferred case of mounting the pump unit on a concrete pad, the anchor bolts are set into the pad as indicated in the following illustration. When pouring the pad, it's helpful to have a wooden template attached to the foundation form to position the anchor bolts at their locations as indicated on the pump unit assembly drawing.

> Anchor bolts are usually sized smaller than the anchor bolt hole size in the base. Calculate bolt length as indicated in the Figure A on the left.

The ID of the sleeve should be two bolt sizes larger than the anchor bolt.

Allow approx. $\frac{3}{4}$ " - $\frac{1}{2}$ " space between the bottom edge of the baseplate and the foundation for grouting.

A "Sleeve" type anchor bolt is shown here. Alternatively, a "hook" or "J" type anchor bolt may be used.

Pack the space between the anchor bolt and sleeve to prevent concrete and/or grout from entering this area.

Enviro**Gear**

BASE INSTALLATION AND GROUTING:

NOTE: Before the baseplate is installed, it is advisable to thoroughly clean the underside to enable the grouting to adhere to it. Do not use oil-based cleaners since grout will not bond to it.

Once the concrete pad has cured, the baseplate can be carefully lowered over the anchor bolts.

Place shims or tapered wedges under the baseplate at each of the anchor bolt positions to provide about 0.75" - 1.50" clearance between the base and the foundation. Adjust shims/wedges to level the baseplate. Since there may be some flexibility in the baseplate, we must perform an initial alignment prior to grouting to ensure that a final alignment can be achieved. See section covering Alignment of Pump/Driver Shafts. Potential problems here include bowing and/or twisting of the baseplate. If gross misalignment is observed, shims/ wedges may have to be added under the mid-point of the base or the shims/wedges at the corners may have to be adjusted to eliminate any twist. If the driver feet are bolt-bound for horizontal alignment, it may be necessary to loosen the pump hold-down bolts and shift the pump and driver to attain horizontal alignment. When alignment has been achieved, lightly tighten the anchor bolts. The anchor bolts should not be fully tightened until the grout has set.

Grouting furnishes support for the pump unit baseplate providing rigidity, helping to dampen any vibration and serves to distribute the weight of the pump unit over the foundation. To be effective, grouting must completely fill all voids under the baseplate. For proper adhesion or bonding, all areas of the baseplate that will be in contact with the grout should be thoroughly cleaned. See note above. The grout must be non-shrinking. Follow the directions of the grout manufacturer for mixing. Proceed with grouting as follows:

NOTE: If the size of the equipment or the layout of the installation requires it, grouting can be done in two steps as long as the first step is allowed to cure completely before the second step is applied

- 1. Build a sturdy form on the foundation around the baseplate to contain the grout.
- 2. Soak the top of the concrete foundation pad thoroughly. Remove surface water before pouring.
- Pour the grout through the hole(s) in the top and/or through the open ends of the channel steel baseplate, eliminating air bubbles by tapping, using a vibrator or pumping the grout into place. If necessary, drill vent holes into the top of the base to evacuate air.

- 4. Allow grout to set completely, usually a minimum of 48 hours.
- 5. Tighten foundation anchor bolts.
- 6. Recheck alignment to ensure that there have been no changes.
- 7. After the grout has dried thoroughly, apply an oil base paint to shield the grout from air and moisture.

PIPING

Final determination of the pump site should not be made until the piping challenges of each possible location have been evaluated. The impact of current and future installations should be considered ahead of time to make sure that inadvertent restrictions are not created for any remaining sites.

The best choice possible will be a site involving the shortest and straightest hookup of suction and discharge piping. Unnecessary elbows, bends and fittings should be avoided. Pipe sizes should be selected to keep friction losses within practical limits.

All piping should be supported independently of the pump. In addition, the piping should be aligned to avoid placing stress on the pump fittings. To eliminate possible closing of the line when performing pump maintenance, a gate valve should be installed at the suction line.

G Series gear pumps are positive displacement pumps; as such, care must be used in protecting piping and components used in your system. Pumps equipped with an internal relief valve are designed to protect the pump only. A system relief valve should be installed along with the pump's internal relief valve.

When placing the pump, choose a location as close to the product source as possible. Care should be taken in your supply line to avoid cavitation due to viscosity and suction lift. **NOTE**: Some liquids may become thicker with temperature changes. Please refer to your supplier of product being pumped for information on viscosity changes due to temperature. Avoid air pockets on suction side of pump when designing piping layout. This will also reduce the possibility of cavitation. The weight of the piping should not be supported or absorbed by the pump. Suction and discharge piping should be supported by pipe hangers or another suitable means.

SUGGESTED INSTALLATION & OPERATION

G SERIES GEAR PUMPS ARE NOT SUITED FOR PUMPING DIRTY, SOLID-LADEN LIQUIDS. A strainer should be used on the suction side of the pump. The strainer should consist of an adequate size mesh screen as to not cause excessive friction loss. It is suggested that a maintenance program is created to assure that the inlet strainer remains free of obstructions and blockage.

ALIGNMENT OF PUMP/DRIVER SHAFTS

WARNING!

NOTE: Driver power must be locked out before beginning any alignment procedure. Failure to lockout driver power may result in serious physical injury.

NOTE: Proper alignment is the responsibility of the installer and user of the equipment.

NOTE: Check alignment if process temperature changes, piping changes and/or pump service is performed.

Pump and driver shafts need to be aligned for both parallel and angular alignment. If there is a misalignment of the shafts, it will place a mechanical load on the pump and driver shaft/bearing assemblies as well as the coupling. This will result in vibration, noise and premature failures. Furthermore, due to the tight internal clearances of the G-Series pump, misalignment can cause deflection of the rotor into the stationary case or head. This can cause premature wear that will increase clearances, lead to decreased pump performance and potentially lead to pump failure. This is particularly important for stainless steel pumps.

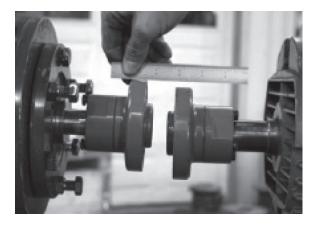


FIGURE B - PARALLEL MISALIGNMENT



FIGURE C – ANGULAR MISALIGNMENT

To bring shafts into alignment, we first need to determine the amount and direction of both parallel and angular misalignments. We can then shim and reposition to correct.

It's preferable to shim ONLY under the driver feet since good contact between the pump foot and the base is necessary to resist any pump flange loading that might be imposed by the suction and/or discharge piping.

There are three methods commonly used to determine misalignment:

- 1. Straight edge and calipers or inside micrometer (least accurate)
- 2. Dial indicator (reasonably accurate)
- 3. Laser alignment equipment; see manufacturer's instructions for use

Since any misalignment will impose loads on the pump and driver shafts, the objective is to minimize any misalignment in order to protect the pump and driver and minimize any tendency for vibration. Suggested misalignment limits are:

MISALIGNMENT LIMITS							
PUMP FRAME GROUP MAX. PARALLEL MAX. ANGULAR							
2/4, 24/32, 55/69, 82	0.005"	0.005"					
133/222	0.010"	0.010"					

For optimum performance and Mean Time Between Pump Maintenance (MTBPM), use alignment limits half of those shown above.

NOTE: In any case, disregard the coupling manufacturer's published misalignment limits, as these will impose unacceptable loads on the pump and motor shafts and bearings.

Envirogear SUGGESTED INSTALLATION & OPERATION

Alignment must be done at several different times:

- 1. Prior to grouting baseplate during installation
- 2. After grouting baseplate and tightening anchor bolts
- 3. After attaching suction and discharge piping prior to initial operation
- 4. Hot alignment after equipment temperatures have stabilized
- 5. After pump maintenance bearing housing is removed

Since the G-Series pump is foot-mounted, its shaft centerline will rise when handling pumpage at elevated temperatures. Similarly, the motor shaft centerline will rise as it reaches its operating temperature. Therefore, we will often purposely misalign shafts vertically during cold alignment to allow for thermal growth, thus bringing the shafts into alignment at operating temperature. This is shown in the "COLD SETTING OF PARALLEL VERTICAL ALIGNMENT " table.

The most simple alignment check is with a straight edge and calipers or inside micrometer. This method is the least accurate, but it will serve if a dial indicator or laser is not available.

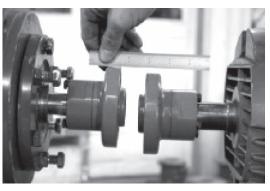


FIGURE E – PARALLEL MISALIGNMENT

With coupling hubs stationary, lay straight edge flat against rim of coupling hub to determine vertical and horizontal alignment offsets. Adjust and/or shim equipment until the straight edge lies flat against both hub rims, vertical and horizontal.

DIAL INDICATOR METHOD

The dial indicator method is preferred for checking alignment.

ALIGNMENT WITH STRAIGHT EDGE AND

MICROMETER:

FIGURE D – ANGULAR ALIGNMENT

With coupling hubs stationary, use inside micrometer or calipers to measure the gap between the coupling hubs at 90° intervals. Adjust and/or shim equipment until the gap difference at all points around the hub(s) is less than the value shown in the "MISALIGNMENT LIMITS" table.

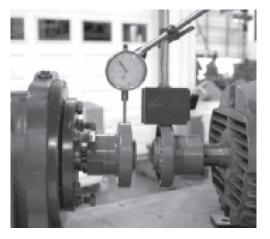


FIGURE F - DIAL INDICATOR SETUP

- 1. Scribe or mark index lines on both coupling hubs to indicate where the dial indicator point rests.
- 2. Set dial indicator to zero.
- 3. Slowly turn BOTH coupling hubs so that the index lines match or the indicator point is always on the mark.
- 4. Observe dial reading to determine required adjustments.

5. Acceptable parallel and angular alignment occurs when the total indicator reading (TIR) for a complete turn does not exceed the values shown in the "MISALIGNMENT LIMITS" table.

LASER ALIGNMENT METHOD:

The laser alignment method is preferred for checking alignment.

Laser alignment is usually the most accurate method. Follow the laser alignment equipment manufacturer's instructions for this method.

As previously mentioned, pump and motor shafts need to be in alignment while they are at their intended operating temperature. When the shafts are aligned "cold" (at ambient temperature), we will intentionally position the motor shaft up or down in vertical parallel alignment to allow for thermal growth. Then, when the alignment is checked "hot" (at stable operating temperature), the shafts should be confirmed to be in alignment. Use the values in the following table as starting point for cold alignment settings. The actual cold alignment is performed.

COLD SETTING OF PARALLEL VERTICAL ALIGNMENT						
PUMPAGE TEMPERATURE SET DRIVER SHAFT, INCHES						
10°C (50°F)	0.002" LOW					
66°C (150°F)	0.001" HIGH					
121°C (250°F)	0.005" HIGH					
177°C (350°F)	0.009" HIGH					
232°C (450°F)	0.013" HIGH					
288°C (550°F)	0.017" HIGH					
343°C (650°F)	0.021" HIGH					

PORT ORIENTATION AND SHAFT ROTATION:

G Series pumps can be operated in either a clockwise or counterclockwise rotation. The shaft rotation determines which port is suction or discharge.

PRESSURE RELIEF VALVES:

 G Series pumps are positive displacement pumps, which means the system must have provisions for pressure relief protection, such as a relief valve mounted directly on the pump or inline with the system. Alternatively, the system can be installed with a torque-limiting device or a rupture disk.

- If the system requires the pump to operate in both directions, pressure relief protection is required on both sides of pump.
- When using an integral relief valve, the adjusting screw cap must always point towards the suction side of pump. If shaft rotation has to be reversed, simply remove the pressure relief valve and reinstall it in the proper configuration to avoid over-pressurization of the system.
- Pressure relief valves are not intended to control pump flow or regulate discharge pressure.
- The pump-mounted integral relief valve should never be relied upon for system protection.

START UP

- Check to ensure that the pressure/vacuum gauges are installed on inlet and discharge side of the pump.
- Check to ensure that installation and piping are correctly fastened and supported.
- Check to ensure that the pump and driver are properly aligned. Refer to "Alignment" section.
- Verify that the motor is wired correctly. Check to ensure that the thermal overload relays are properly sized and set for operation.
- With motor/driver locked out, check that the pump rotates by hand.
- Jog motor to validate correct rotation.
- Check to ensure that the coupling guard and all other safety-related devices and instrumentation are in place and in working order.
- Check to ensure that the pressure relief valve is installed correctly.
- Lubricate any grease fittings and/or bearings.
- Open suction, discharge and any auxiliary valves, such as in-line PRV loops, to ensure proper flow into and out of pump.
- Prime pumping chamber and seal chamber, if possible.
- If pump handles pumpage at temperature greater than 93°C (200°F), the pump should be gradually warmed until its temperature is within 38°C (100°F) of intended operating temperature.
- Start pump. If flow is not achieved in 30 seconds shutoff immediately. "Dry" running a pump for extended periods of time will damage the pump. If fluid does not start to flow in 30 seconds, revisit the previous steps. If every step has been followed, manually fill

Envirogear SUGGESTED INSTALLATION & OPERATION

the pump with the process fluid or a lubricating fluid compatible with the process and restart the pump. If no fluid is flowing within 30 seconds shut the pump down and proceed to trouble shooting section of this document.

- One pump is operational, listen for any untoward noise, check for any significant vibration or indications of binding. If any of these are observed, the pump should be stopped immediately and a thorough check of the installation should be made to determine the cause. Correct any fault(s) prior to re-starting the pump.
- Check the shaft seal. If pump has mechanical seal(s), there should be no visible leakage. If pump has packing, there should be a steady leakage stream. Packing leakage should be reduced gradually by tightening the gland nuts ¼-turn at a time until a leakage rate of 40-60 drops per minute is achieved. This may take several hours and several adjustments, but it is required to ensure adequate packing and shaft life.

SECTION 5

GENERAL MAINTENANCE

CLEANING: G Series pumps must be maintained and kept as clean as possible. This will allow for quick inspection, adjustment and repair work.

LUBRICATION: Use multi-purpose NLGI #2 grease on all lubrication fittings every 500 hours of operation. Do not over-grease. Applications involving extreme temperatures (high or low) may require other types of lubrication. Consult factory for specific lubrication recommendations.

STORAGE: If a pump is to be stored for more than six (6) months, the pump must be drained prior to storing. A light coat of light oil should be applied to all internal pump parts in order to prevent corrosion. Operators should also lubricate the fittings and apply grease to the pump shaft, while periodically rotating the pump shaft by hand one (1) complete revolution every 30 days to circulate the oil. Be sure to inspect the fastener torque before putting the pump in service after being stored.

PACKING MAINTENANCE

PACKING ADJUSTMENT: Newly packed pumps require initial packing adjustments to control leakage. Small initial adjustments are needed to prevent overtightening the packing gland. After initial startup, additional adjustments may be required. Finally, the packing should also be checked periodically and adjusted. Refer to "START UP" section for more detail.

REMOVAL:

- 1. Remove packing gland fasteners.
- 2. Slide the packing gland out of the stuffing box.
- 3. Remove the packing.
- 4. Remove packing retaining washer.

INSTALLATION:

- 1. Ensure packing is chemically compatible with the liquid being pumped; consult with factory recommendations.
- 2. Install packing retaining washer in the gland.
- 3. Lubricate packing rings with oil, grease or graphite to aid with assembly.
- 4. Stagger the packing joints from one side of the shaft to the other. The joints of adjacent strands should never be in line with each other.
- 5. Install the packing gland, fasteners and nuts.
- 6. Ensure that the gland is installed squarely and that the nuts are tightened evenly.
- 7. Tighten the nuts until packing gland contacts packing. Final adjustment should be made per "START UP" procedure.

COMPONENT SEAL MAINTENANCE

REMOVAL:

- 1. Remove bearing housing (see Disassembly Section).
- 2. If installed, remove all flush lines
- 3. Remove packing gland fasteners.
- 4. Slide the packing gland out of the stuffing box.
- 5. Remove the seal components.
- 6. Remove the pipe plug in the bracket.
- 7. Loosen the two (2) set screws on the mechanical seal collar.
- 8. Remove the mechanical seal collar.

INSTALLATION:

NOTE: Never touch mechanical seal faces with anything except clean hands or a clean cloth. Small particles can scratch and damage the seal faces resulting in seal leakage.

- Clean the rotor shaft and the seal housing bore. Make sure they are free of dirt, burrs and scratches. Using emery paper, gently smooth the leading edge of the shaft's diameter.
- A tapered sleeve is required over the shaft locknut threads to prevent damage of the seal during installation. Slide the tapered sleeve on to the shaft.
- 3. Coat the tapered sleeve and the inside diameter of the rotary members of the seal generously with light oil.
- 4. Place the rotary member of the seal onto the shaft over the tapered sleeve (mechanical seal collar first.) Position the rotary member so that the set screws of the mechanical seal collar are directly in-line with the seal access hole on the side of the bracket. For Type 1 seals, use the second hole from the seal housing bore face. For Type 9 seals, use the first hole from the seal housing bore face. For all other seal types, use the seal manufacturer's recommended working height when setting the mechanical seal collar. Do not tighten the seal collar set screws at this time.
- 5. Install the stationary seal face followed by the seal gland loosely onto the shaft. Do not install gland nuts at this time.
- 6. Reinstall the bearing housing (see Reassembly Section.)
- 7. Adjust the end clearance (see Reassembly Section.)

- 8. After the rotor end clearance is set, ensure the mechanical seal collar is directly in line with the proper seal access hole and tighten the mechanical seal collar using two (2) or four (4) set screws, depending upon seal type.
- 9. Install pipe plug on bracket.
- 10. For stationary O-ring seal seats, lubricate the outer diameter of the O-ring with light oil.
- 11. Install the stationary seal face.
- 12.Install the packing gland, fasteners and nuts.
- 13. Tighten nuts securely and evenly.
- 14.As required, connect flush line.

CARTRIDGE SEAL MAINTENANCE

REMOVAL:

- 1. Remove bearing housing (see Disassembly Section).
- 2. If installed, disconnect all flush lines or barrier fluid tubes.
- 3. Loosen the set screws on the seal collar to free the cartridge seal from the shaft.
- 4. Remove the two (2) gland fasteners.
- 5. Slide cartridge seal out through bearing housing.

INSTALLATION:

- Clean the rotor shaft and the seal housing bore. Make sure they are free of dirt, burrs and scratches. Using emery paper, gently smooth the leading edge of the shaft's diameter.
- 2. A tapered sleeve is required over the shaft locknut threads in order to prevent damage to the seal during installation. Slide the tapered sleeve on to the shaft.
- 3. Coat the tapered sleeve and the inside diameter of the seal generously with light oil.
- 4. Slide the cartridge seal over the tapered sleeve until it contacts the seal chamber face.
- 5. Remove the tapered sleeve from the shaft.
- 6. Reinstall the bearing housing (see Assembly Section).
- 7. Adjust the end clearance (see Assembly Section).
- 8. Install the gland fasteners and nuts.
- 9. Turn the shaft several times while the gland is loose to the center seal.

SECTION 6 DISASSEMBLY

- 10. Tighten nuts securely and evenly.
- 11. Lock the cartridge seal drive collar to shaft and remove to clear the drive collar.
- 12. Turn shaft by hand or bump motor in order to test the rotation and to check the drive collar for run-out.
- 13. As required, connect flush line.

NOTE: For maximum seal life and increased seal retention, a flush line is recommended.

BEARING HOUSING REMOVAL:

- 1. Insert a length of brass through the port opening and in-between the rotor teeth in order to lock the pump and secure the shaft from turning.
- 2. Bend the lock washer tang upwards.
- 3. Using a spanner wrench, remove lock nut and lock washer from shaft.
- 4. Loosen the two (2) set screws in the face of the bearing housing and remove the bearing housing assembly from the bracket.
- 5. Remove the two (2) semi-round rings under the inner spacer collar from the shaft.

NOTE: There are no semi-round rings on the G1-2, G1-4, G1-133 or G1-222 models.

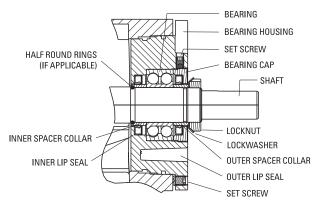


FIGURE G – G1-2 THROUGH G1-82 BEARING HOUSING ASSEMBLY

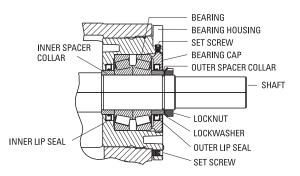


FIGURE H - G1-133 THROUGH G1-222 BEARING HOUSING ASSEMBLY

WET END DISASSEMBLY:

- Mark the head and casing prior to disassembly as this will ensure proper reassembly. The idler pin must be positioned an equal distance between the port connections in order to allow for proper flow of liquid through the pump.
- 2. Remove the head from pump. **WARNING:** Protect the idler from falling as it may become loose during removal of the head.
- 3. Remove the idler and bushing assembly.
- 4. Remove seal or packing (see Maintenance Section).
- 5. Carefully remove the rotor and shaft to avoid damaging bracket bushing.
- 6. Remove the case from the bracket, as necessary.
- 7. Clean all parts thoroughly and examine the parts for wear or damage. Replace bracket bushings, idler bushings and idler pins, as necessary.

BEARING HOUSING DISASSEMBLY:

- 1. Loosen the two (2) radial set screws from the bearing housing end cap.
- 2. Using a spanner wrench, loosen the bearing housing end cap.
- 3. Remove outer bearing spacer collar.
- 4. Remove the double-row ball bearing (G1-2 through G1-82 models) or tapered roller bearings (G1-133 and G-222 models).
- 5. Remove the inner bearing spacer collar.
- Clean all parts thoroughly and examine the parts for wear or damage. Replace lip seals and bearings, as necessary. It is recommended to replace the lip seals whenever replacing the bearings.

PRESSURE RELIEF VALVE DISASSEMBLY:

- 1. Place a mark on the valve and head prior to disassembly in order to ensure proper reassembly.
- 2. Remove the pressure relief valve cap.
- 3. Measure and record the extension length of the adjusting screw.
- 4. Loosen the pressure relief valve lock nut and then back out pressure relief valve bonnet and adjusting screw until the spring pressure is released.
- 5. Remove, clean and inspect all parts (i.e., bonnet, spring guide, spring and poppet) for wear or damage and replace as needed.

BEARING HOUSING ASSEMBLY:

- 1. Clean all parts thoroughly.
- 2. Install the bearing housing lip seal. Refer to Figure G and Figure H for proper orientation.
- Insert the packed bearings into the housing. G1-2 through G1-82 use one (1) double-row ball bearing. G1-133 and G-222 use two (2) tapered roller bearings installed with the large end of inner races together. Refer to Figure G and Figure H for proper installation.
- 4. Install the bearing cap lip seal. Refer to Figure G and Figure H for proper orientation.
- 5. Install the end-cap into the bearing housing. For G1-133 and G1-222 models, make sure to tighten completely against the outer race of the bearing.
- 6. Insert the outer bearing spacer collar into the end cap.
- Use two (2) bearing housing inserts and two (2) set screws to lock the end cap in place.
 NOTE: Bearing housing inserts must be used to prevent damage of the end cap threads.
- 8. Insert the inner bearing spacer collar. For G1-24 through G1-82 models, the recessed end of the inner bearing spacer collar must face rotor.

WET END ASSEMBLY:

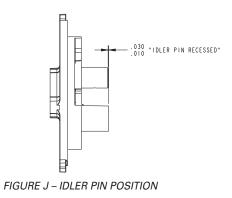
- 1. Clean all parts thoroughly.
- Install the bracket bushing. If the bracket bushing has a lubrication groove, install the bushing with lubrication groove towards the bottom of the bracket. Carbon graphite bushings require additional precautions during installation to prevent cracking:
 - a. Use a press for installation.
 - b. Lightly lubricate the bushing and the bore.
 - c. Ensure bushing is aligned straight before starting.
 - d. Do not stop the pressing operation until bushing is in the proper position; starting and stopping will result in a cracked bushing.
 - e. Check bushing for cracks after installation.
- Install the bracket gasket on the bracket, aligning the holes with the bolt pattern.
- 4. Attach the case to the bracket.
- 5. Coat the rotor shaft assembly with light oil.

- 6. Insert the end of the shaft into the bracket bushing by adjusting the shaft from right to left. Slowly push the rotor into the casing.
- 7. Press the idler pin into the head.

NOTE: Idler pin cooling port should face the crescent while aligning the cross port with the appropriate porting in the head casting.***

The idler pin must be recessed 0.010" - 0.030" below the face of the crescent. Refer to Figure J.*

NOTE: Install the NPT plug on the suction side of dovetail located on head casting.***



- 8. Install the idler bushing. Carbon graphite bushings require additional precautions during installation to prevent cracking**:
 - a. Use a press for installation.
 - b. Lightly lubricate the bushing and the bore.
 - c. Ensure bushing is aligned straight before starting.
 - d. Do not stop the pressing operation until bushing is in the proper position; starting and stopping will result in a cracked bushing.
 - e. Check bushing for cracks after installation.

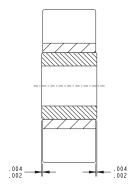


FIGURE K – IDLER BUSHING PROTRUSION

^{*}For stainless steel pumps, factory recommends a 149°C (300°F) temperature difference between the head and idler pin prior to installation.

^{**} For stainless steel pumps fitted with carbon graphite bushings, factory recommends heating these idler to 93°C (200°F) prior to installing bushings.

^{***} For pumps with carbon steel and iron externals only.

Envirögear REASSEMBLY

- 9. Coat the idler pin with light oil.
- 10.Place the idler and bushing assembly on the idler pin.
- 11. Install the head gasket on the head, aligning the holes with the bolt pattern.
- 12 Install the head/idler assembly.
- 13.Locate the markings previously placed on the pump head and casing to ensure proper reassembly. Ensure that the idler pin is positioned equally between port connections as this will allow for liquid to flow properly through the pump. Tighten head fasteners evenly.
- 14.Install mechanical seal or packing (see Maintenance Section).

BEARING HOUSING INSTALLATION:

1. Place a pair of semi-round rings on the shaft and slide the inner bearing spacer collar over semi-round rings to lock in place.

NOTE: There are no semi-round rings on G1-2, G1-4, G1-133 and G1-222 models.

2. Place the lock washer and lock nut on the shaft with the small end of the locknut facing the bearing. Insert a length of brass between rotor teeth to keep shaft from turning. Tighten lock nut per torque values in table below.

Pump Model	Torque Value
G1-2	01 Nem (60 ft lbs)
G1-4	81 N∙m (60 ft-lbs)
G1-24	
G1-32	150 Nem (115 ft lbs)
G1-55	156 N•m (115 ft-lbs)
G1-69	
G1-82	190 N•m (140 ft-lbs)
G1-133	244 New (100 ft lb c)
G1-222	244 N•m (180 ft-lbs)

- 3. Stake one (1) tang of lock washer into the slot of lock nut after torquing. Failure to properly torque the lock nut or engage the lock washer tang could result in premature bearing failure and damage to the pump. Finally, remove the length of the brass from the gear teeth.
- 4. Lubricate all grease fittings with NLGI #2 multipurpose grease.

END-CLEARANCE ADJUSTMENT:

G Series pumps rely on proper internal clearances for efficient operation. The required end clearance dimension depends on the temperature and viscosity of the fluid being pumped as well as the material of construction and size of the pump. The tables below shows the end clearance dimensions needed to adjust the gap between the rotor/idler and head of the G Series gear pump.

- Loosen bearing housing set screws (2) in the face of the bearing housing flange enough so that they do not interfere with the bearing housing rotation during end clearance setting.
- 2. By hand or with a small spanner wrench, spin the shaft to find the rotor to head zero clearance setting.
 - a. Turn the bearing housing clockwise to move the rotor into the head, and counter clock wise to move it away from the head.
 - b. Turn the bearing housing clockwise until the shaft becomes difficult to spin with the spanner wrench or cannot be spun by hand.
 - c. Loosen the bearing housing slightly until the shaft will spin by hand with a slight drag on the head. This drag is caused by contact between the end of the rotor tooth and the head. This is the Zero Clearance point.

NOTE: Proper end clearance adjustment is very critical to pump performance and reliability. The zero setting should never be established by forcing the rotor into the head until the shaft will no longer spin. This will lead to high horsepower draw, rubbing during operation, and the potential for the pump to seize up. Never operate a G Series pump with zero clearance.

- 3. Make a continuous line on the bracket and bearing housing outside diameter to mark the zero clearance point. This will be the reference for zero end clearance.
- 4. Make another line on the bracket by measuring the correct radial distance from the first line on the bracket based on the size and clearance of the pump. The correct radial distance can be found in the End Clearance Setting Table for the appropriate size and material of pump. This second line will always be made to the left of the first line when looking from the shaft end of the pump.
- 5. Rotate the bearing housing counter clockwise so that the line on the bearing housing aligns with the second line on the bracket.
- 6. Evenly tighten set screws in back of bearing housing to secure bearing housing to bracket, preventing rotation of the bearing housing.

CAST IRON/CARBON STEEL EXTERNALS (G1-W, G1-C)

Pump Model	Clearance	Viscosity (cSt)	TEMP C (F)	Radial Distance on OD of Bearing Housing mm (inches)	Additional Length on OD Brg. Housing for .001" End Cl. (inches)
	А		Thru 107 (Thru 225)	19.1 (0.75)	
G1-2/4	В	Up to 540	108-232 (226-450)	41.4 (1.63)	
Iron and Steel Internals	С		233-301 (451-575)	52.6 (2.07)	0.22
(G1-WW, G1-CC)	D	540 - 5,400		63.8 (2.51)	-
	E	5,400 - 431,000	302-343 (576-650)	63.8 (2.51)	
	А	11 . 100	Thru 107 (Thru 225)	31.8 (1.25)	
G1-24/32	В	Up to 160	108-149 (226-300)	50.8 (2)	
Iron Internals (G1-WW, G1-WD,	С	160 - 1,600	150-232 (301-450)	63.5 (2.5)	
G1-CW, G1-CD)	D	1,600 - 16,000	000 040 (454 050)	95.3 (3.75)	
	E	16,000 - 431,000	233-343 (451-650)	127.0 (5)	
	А	Up to 160	Thru 107 (Thru 225)	31.8 (1.25)	0.25
G1-24/32	В	160 - 1,600	108-232 (226-450)	63.5 (2.5)	
Steel Internals	С	1 000 10 000		95.3 (3.75)	
(G1-WC, G1-CC)	D	1,600 - 16,000	233-343 (451-650)	127.0 (5)	
	E	16,000 - 431,000		127.0 (5)	
	А	lin to 160	Thru 107 (Thru 225)	31.8 (1.25)	
	В	Up to 160	108-149 (226-300)	50.8 (2)	
G1-55/69	С	160 - 1,600	150-232 (301-450)	63.5 (2.5)	
Iron Internals (G1-WW, G1-CW)	D	1 000 10 000	233-302 (451-575)	82.6 (3.25)	
	E	1,600 - 16,000	000 040 (570 050)	108.0 (4.25)	
	F	16,000 - 431,000	303-343 (576-650)	127.0 (5)	0.25
	А	Up to 160	Thru 107 (Thru 225)	31.8 (1.25)	
G1-55/69	В	160 - 1,600	108-232 (226-450)	63.5 (2.5)	
Steel Internals	С	1 000 10 000	233-301 (451-575)	82.6 (3.25)	
(G1-WC, G1-CC)	D	1,600 - 16,000		127.0 (5)	
	E	16,000 - 431,000	302-343 (576-650)	127.0 (5)	
	А	Up to 160	Thru 107 (Thru 225)	31.8 (1.25)	
G1-82	В	160 - 1,600	108-232 (226-450)	63.5 (2.5)	
Iron Internals	С	1.000 40.000	233-301 (451-575)	95.3 (3.75)	0.25
(G1-WD, G1-CD)	D	1,600 - 16,000	000 040 (570 050)	127.0 (5)	
	E	16,000 - 431,000	302-343 (576-650)	127.0 (5)	
	A	Up to 160	Thru 107 (Thru 225)	78.7 (3.1)	
G1-133/222	В	160 - 1,600	108-232 (226-450)	118.1 (4.65)	0.01
Iron Internals (G1-WD, G1-CD)	С	1,600 - 16,000	000 040 (454 050)	157.5 (6.2)	0.31
	D	16,000 - 431,000	233-343 (451-650)	196.9 (7.75)	

NOTE: For pumps with cast iron and carbon steel externals, steel rotors are recommended above the following viscosities:

	G1-2	G1-4	G-24	G1-32	G1-55	G1-69
SSU	25,000	7,500	25,000	75,000	25,000	2,500
cSt	5,500	1,650	5,500	16,500	5,500	550

Enviro**Gear**

STAINLESS STEEL EXTERNALS (G1-S)

Pump Model	Clearance	Viscosity (cSt)	TEMP C (F)	Radial Distance on OD of Bearing Housing mm (inches)	Additional Length on OD Brg. Housing for .001" End Cl. (inches)
G1-2/4	Α	Lin to E40	Thru 107 (Thru 225)	28.4 (1.12)	
Stainless Steel	В	Up to 540	108-149 (226-300)	56.4 (2.22)	0.22
Internals	С	540 - 5,400	150, 260 (201, 500)	73.2 (2.88)	0.22
(G1-SS)	D	5,400 - 431,000	150-260 (301-500)	73.2 (2.88)	
G1-24/32	А	Un to 1 000	Thru 107 (Thru 225)	50.8 (2)	
Stainless Steel	В	Up to 1,600	108-177 (226-350)	82.6 (3.25)	0.05
Internals	С	1,600 - 16,000	170,000 (001,000)	114.3 (4.5)	0.25
(G1-SS)	D	16,000 - 431,000	178-260 (351-500)	146.1 (5.75)	
G1-55/69	Α	Up to 1,600	Thru 107 (Thru 225)	50.8 (2)	
Stainless Steel	В	1 000 10 000	108-177 (226-350)	82.6 (3.25)	0.25
Internals	С	1,600 - 16,000	170, 200 (201, 000)	114.3 (4.5)	0.25
(G1-SS)	D	16,000 - 431,000	178-260 (351-500)	146.1 (5.75)	
G1-82	А	Up to 160	Thru 107 (Thru 225)	63.5 (2.5)	
Stainless Steel	В	160 - 1,600	108-163 (226-325)	95.3 (3.75)	0.25
Internals	С	1,600 - 16,000	162,260 (226, 500)	127.0 (5)	0.25
(G1-SN)	D	16,000 - 431,000	163-260 (326-500)	158.8 (6.25)	
G1-133/222	Α	Up to 1,600	Thru 135 (thru 275)	78.7 (3.1)	
Stainless Steel	В	1,600 - 16,000		118.1 (4.65)	0.31
Internals (G1-SN)	С	16,000 - 431,000	136-260 (276-500)	196.9 (7.75)	0.31

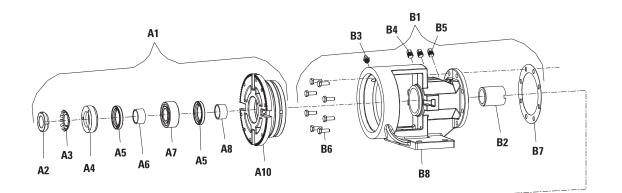
PRESSURE RELIEF VALVE ASSEMBLY:

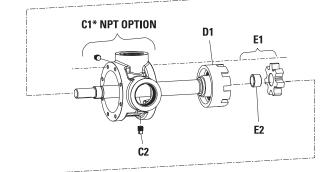
- 1. Clean all parts thoroughly.
- 2. Install the poppet.
- 3. Insert the required springs.
- 4. Insert the spring guide.
- 5. Install the bonnet with a gasket. Securely tighten the bonnet.
- 6. Install adjusting screw and lock nut.
- 7. Tighten the adjustment screw to original setting.
- 8. Install the cap and gasket. Securely tighten the gasket.
- 9. Attach the pressure relief valve to the head using gaskets.

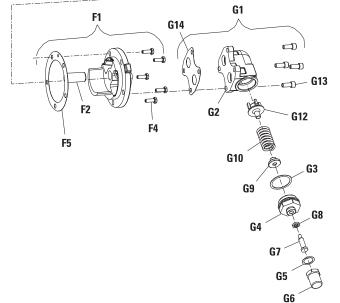
- 10.If a new spring is installed or if the pressure setting is to be changed, the following instructions must be carefully followed:
 - a. Carefully remove the valve cap covering the adjusting screw.
 - b. Loosen the adjusting screw lock nut.
 - c. Install a pressure gauge in the discharge line.
 - d. Turn the adjusting screw inward (clockwise) to increase pressure and outward (counterclockwise) to decrease pressure.
 - e. With the discharge line valve closed (at a point beyond the pressure gauge), the gauge will show the maximum pressure (that the pressure relief valve will allow) while the pump is in operation.

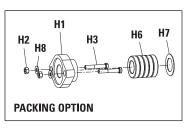
NOTES	Envirogear PUMPS

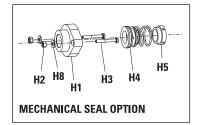
G1-2_4













LM0002 REV. D

CAST IRON

EXPLODED VIEW & PARTS LISTING

EnviroGear

ltem	Description	G1-2	G1-4	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0020-10)00-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0020-17	710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0020-1720-230		1	STEEL
A4	ENDCAP, BEARING HOUSING	0020-12	200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0020-19	900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0020-13	300-230	1	STEEL
A7	BEARING	0020-14	100-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER	0020-13	300-230	1	STEEL
A10	HOUSING, BEARING	0020-11	100-110	1	CAST IRON
A11	SET SCREW (1/4"-20 X 5/8"), BEARING HOUSING (NOT SHOWN)	S57U2506	25WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/8"),END CAP (NOT SHOWN)	S57U3136	25WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-17	790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0020-20	000-110	1	CAST IRON/CARBON GRAPHITE
51		0020-20		1	CAST IRON/BRONZE
B2	BUSHING, BRACKET	0020-28		1	CARBON GRAPHITE
	booming, birrioker	0020-28		1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013		1	STEEL
B4	PLUG, PIPE (1/8" NPT)	PLUG-013		2	STEEL
B5	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013		1	STEEL
	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013		1	STEEL
B6	SCREWS (5/16"-18 X 3/4"), BRACKET	S01C3127		8	STEEL
B7	GASKET, BRACKET	0020-29		1	INTERFACE TS-9003
B8	BRACKET	0020-21	0	1	CAST IRON
C1	CASE, 1.5" NPT KIT (INCLUDES B6, B7, C2, F4, F5)	0020-30		1	CAST IRON
C2	PLUG, PIPE (1/8" NPT)	PLUG-013	1	2	STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	0020-4000-110	0040-4000-110	1	CAST IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	0020-4002-110	0040-4002-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0020-4003-110	0040-4003-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0020-4004-130	0040-4004-130		STEEL
E1	GEAR, IDLER ASSEMBLY	0020-5000-110	0040-5000-110	1	CAST IRON/CARBON GRAPHITE
	- ,	0020-5010-110	0040-5010-110	1	CAST IRON/BRONZE
E2	BUSHING, IDLER	0020-5800-300	0040-5800-300	1	CARBON GRAPHITE
		0020-5800-320	0040-5800-320	1	BRONZE
F1	HEAD, KIT (INCLUDES F2 THRU F5)	0020-6010-110	0040-6010-110	1	CAST IRON/STEEL
F2	PIN, IDLER	0020-6200-231	0040-6200-231	1	HARDENED STEEL
F4	CAPSCREW (5/16"-18 X 3/4"), HEAD	S01C3127		5	STEEL
F5	GASKET, HEAD	0020-69		1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13, AND G14)	0020-70		1	STEEL
G1	VALVE, ASSEMBLY-75 PSI (INCLUDES G2 THRU G14)	0020-70		1	CAST IRON
	VALVE, ASSEMBLY-125 PSI (INCLUDES G2 THRU G14)	0020-70		1	CAST IRON CAST IRON
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)	0020-70		1	CAST IRON
G2		0020-71			
<u></u>	VALVE, COVER (NOT SHOWN)	0020-71		1	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0020-79		1	KLINGERSIL® C-4401
G4	VALVE, BONNET		200-110	1	CAST IRON
G5	VALVE, GASKET CAP	0020-79		1	KLINGERSIL® C-4401
G6 G7	VALVE, CAP	0020-73		1	STEEL STEEL
G7 G8	VALVE, ADJUSTMENT SCREW VALVE, LOCK NUT	0020-77			STEEL
G8 G9	VALVE, LOCK NOT VALVE, SPRING GUIDE	0020-77		1	STEEL
ບປ	VALVE, SPRING GUIDE VALVE, SPRING-75 PSI				STEEL STAINLESS STEEL
G10	VALVE, SPRING-75 PSI VALVE, SPRING-125 PSI	0020-76		1	STAINLESS STEEL
010	VALVE, SPRING-125 PSI VALVE, SPRING-200 PSI	0020-76		1	STAINLESS STEEL
G12	VALVE, POPPET	0020-74		1	CAST IRON
G12	CAPSCREW (5/16"-18 X 3/4"), VALVE		50WA6L7	4	STEEL
G14	GASKET, VALVE	0020-79		1	INTERFACE TS-9003
H1	GLAND, PACKING	0020-82		1	CAST IRON
H2	NUT (5/16"-18), PACKING GLAND		81WA2A2	2	STEEL
114	CAPSCREW (5/16"-18), PACKING GLAND	S01C312E		2	STAINLESS STEEL
H3		30103125			BUNA-N
H3		0000 00			
	TYPE 1, COMPONENT SEAL	0020-80		1	
H3 H4	TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL	0020-80	000-910	1	VITON
H4	TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL	0020-80 0020-80	000-910 001-920	1	VITON PTFE
H4 H5	TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL COLLAR, MECHANICAL SEAL ASSEMBLY	0020-80 0020-80 0020-80	000-910 001-920 050-230	1 1 1	VITON PTFE STEEL
H4	TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL	0020-80 0020-80	000-910 001-920 050-230 100-925	1	VITON PTFE

EnviroGear

EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-2	G1-4	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0020-1	0020-1000-110		CAST IRON
A2	LOCKNUT, SHAFT	0020-1	0020-1710-230		STEEL
A3	LOCKWASHER, SHAFT	0020-1	720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0020-1	200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0020-1	900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER		300-230	1	STEEL
A7	BEARING		400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER		300-230	1	STEEL
A10	HOUSING, BEARING		100-110	1	CAST IRON
A11	SET SCREW (1/4"-20 X 5/8"), BEARING HOUSING (NOT SHOWN)		25WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/8"),END CAP (NOT SHOWN)		25WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)		790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)		000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2	BUSHING, BRACKET		B00-300	1	CARBON GRAPHITE
B3 B4	FITTING, GREASE (1/8" NPT)		3NST-230	1	STEEL STAINLESS STEEL
B4 B5	PLUG, PIPE (1/8" NPT) PLUG, PIPE (1/8" NPT)		3NSH-250 3NSH-250	1	STAINLESS STEEL STAINLESS STEEL
B5 B6	SCREWS (5/16"-18 X 3/4"), BRACKET		/50AA9A1	8	STAINLESS STEEL
B7	GASKET, BRACKET		900-950	0	INTERFACE TS-9003
B7 B8	BRACKET		100-150	1	STAINLESS STEEL
C1	CASE, 1.5" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)		D01-150	1	STAINLESS STEEL
C2	PLUG, PIPE (1/8" NPT)		3NSH-250	2	STAINLESS STEEL
- 02	ROTOR, ASSEMBLY (A/B CLEARANCE)	0020-4000-155	0040-4000-155	1	STAINLESS STEEL
		0020-4000-176	0040-4000-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (C CLEARANCE)	0020-4002-155	0040-4002-155	1	STAINLESS STEEL
D1		0020-4002-176	0040-4002-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0020-4003-155	0040-4003-155	1	STAINLESS STEEL
		0020-4003-176	0040-4003-176	1	NITRONIC 60/STAINLESS STEEL
		0020-5000-255	0040-5000-255	1	STAINLESS STEEL/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	0020-5000-276	0040-5000-276	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	0020-5801-300	0040-5801-300	1	CARBON GRAPHITE
F1	HEAD, KIT (INCLUDES F2 THRU F5)	0020-6010-150	0040-6010-150	1	STAINLESS/HARDENED STAINLESS
F2	PIN, IDLER	0020-6200-254	0040-6200-254	1	HARDENED STAINLESS STEEL
F4	CAPSCREW (5/16"-18 X 3/4"), HEAD	S01C312	50AA9A1	5	STAINLESS STEEL
F5	GASKET, HEAD	0020-6	900-950	1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13, AND G14)	0020-7	000-250	1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-75 PSI (INCLUDES G2 THRU G14)	0020-7	001-150	1	STAINLESS STEEL
ui	VALVE, ASSEMBLY-125 PSI (INCLUDES G2 THRU G14)	0020-7	002-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G14)	0020-7	003-150	1	STAINLESS STEEL
G2	VALVE, BODY		100-150	1	STAINLESS STEEL
	VALVE, COVER (NOT SHOWN)		101-250	1	STAINLESS STEEL
G3	VALVE, GASKET BONNET		910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET		200-150	1	STAINLESS STEEL
G5	VALVE, GASKET CAP		920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP		300-250	1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW		700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT		710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE		500-250	1	STAINLESS STEEL
C10	VALVE, SPRING-75 PSI		600-250	1	STAINLESS STEEL
G10	VALVE, SPRING-125 PSI		601-250	1	STAINLESS STEEL
C12	VALVE, SPRING-200 PSI	0020-7602-250		1	STAINLESS STEEL
G12 G13	VALVE, POPPET CAPSCREW (5/16"-18 X 3/4"), VALVE	0020-7400-150		4	STAINLESS STEEL STAINLESS STEEL
G13 G14	GASKET, VALVE	S14U312750AA9A1		4	INTERFACE TS-9003
H1	GLAND, PACKING	0020-7900-950		1	STAINLESS STEEL
H2	NUT (5/16"-18), PACKING GLAND	0020-8200-150 N04C312281AA9A1		2	STAINLESS STEEL
H3	CAPSCREW (5/16"-18 X 3/4"), PACKING GLAND		325CL0A1	2	STAINLESS STEEL STAINLESS STEEL
H4	TYPE 9, COMPONENT SEAL		D01-920	1	PTFE
H6	PACKING		100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING		150-250	1	STAINLESS STEEL
H8	WASHER, PACKING GLAND		ACLOA1	2	STAINLESS STEEL
110		VV2337		4	

CARBON STEEL

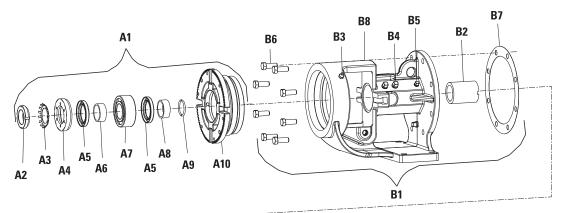
EXPLODED VIEW & PARTS LISTING

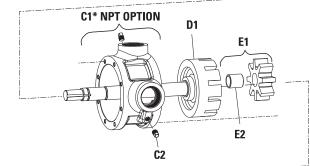
AI DOUCHING, ERAPHINA CASCING, CAST, FRANCISCO, CAS	ltem	Description	G1-2	G1-4	Qty.	Material
A3 DCCWASHE, SHAFT DDD-1702-200 1 STEEL A5 UP SAL, BEANINE NUUSING DDD-1702-200 1 STEEL A5 UP SAL, BEANINE SHOLSING DDD-1702-200 1 STEEL A6 DULAR, DUDE BEARING SPACER DDD-1702-200 1 STEEL A7 BEAAMB DDD-1702-200 1 STEEL A7 BEAAMB DDD-1702-200 1 STEEL A7 DEAAMB DDD-1702-200 1 CAST INON A1 INSTEEL STEINING TOLSTSTEWARD DDD-1700-200 1 CAST INON A1 INSTEEL STEINING TOLSTSTEWARD DDD-2700-200 1 CARDIN STEEL/CARBON GRAPHITE B1 INSTEEL, GEARDER HUUSING NOT SHOWN DDD-2700-200 1 CARDIN STEEL/CARBON GRAPHITE B2 BUSING, RIACKET DDD2-2000-200 1 CARDIN STEEL/CARBON GRAPHITE B3 ITTING, GRASE PIN MY PUTUS PIUE ON 2002-200 1 STEEL B4 PUUE, PITEN ATTIN PIUE ON 2002-200 1 STEEL B5 </td <td>A1</td> <td>HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)</td> <td>0020-10</td> <td>000-110</td> <td>1</td> <td>CAST IRON</td>	A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0020-10	000-110	1	CAST IRON
# ENCARD BEARINS HOUSING 0001-100 200 1 STEEL AL DFSALE, SARINNE HOUSING 0000-1900 200 1 STEEL AB OLLAR, DUTFN BEARING FACER 0000-1900 200 1 STEEL AB OLLAR, NUMER BEARING SACER 0000-1900 100 1 STEEL AB OLLAR, NUMER BEARING SACER 0000-1900 100 1 STEEL AB STEEL SCHEW (Hr20: X60) EAR HOUSING (NOT SHOWN) SSTUDIBEZWARD 2 STEEL SET SCHEW (Hr20: X50) EAR HOUSING (NOT SHOWN) 0000-1900 100 1 CARRING TELECARDIN GRAPHITE AB BACKET ASSMELY (INCLUDES 21 THRU BS) 0000-2000 300 1 CARRING TELECARDIN GRAPHITE B BACKET ASSMELY (INCLUDES 21 THRU BS) 0000-2000 300 1 CARRING TELECARDIN GRAPHITE B BACKET ASSMELY (INCLUDES 21 THRU BS) 0000-2000 300 1 STEEL B PLUG, PTEN, NYT) PLUG-01005H-320 1 STEEL B PLUG, PTEN, NYT) PLUG-01005H-320 1 STEEL B PLUG, PTEN, NYT) PLUG-01	A2	LOCKNUT, SHAFT	0020-1710-230		1	STEEL
45 UP STAL, BLANINK POLISING 0000-1002-000 2 ULUAA M 46 CULUAA, OUER BEARING SPACER 0002-1000-201 1 STEEL 47 BEARING 0002-1000-201 1 STEEL 47 BEARING 0002-1000-201 1 STEEL 48 CULUA, MINER BEARING SPACER 0002-1010-111 1 CAST (NON 41 MULUNA, REARING 0002-1100-111 1 CAST (NON 42 STEEL SCHEW (NIGH - 14 XWIT), END CAP (NOT SHOWN) 0002-200-113 1 CARDON STEEL/ARBON GRAPHITE 43 INSTIT, REARING HOUSING (NOT SHOWN) 0002-200-131 1 CARDON STEEL/ARBON GRAPHITE 44 NULP, PRE (NY NT) 0002-200-131 1 CARDON STEEL/ARBON GRAPHITE 45 NULP, PRE (NY NT) PLUE-01019-1/20 1 STEEL 46 PLUP, PRE (NY NT) PLUE-01019-1/20 2 STEEL 47 MULP, PRE (NY NT) PLUE-01019-1/20 1 STEEL 48 PLUP, PRE (NY NT) PLUE-01019-1/20 1 STEEL <	A3	LOCKWASHER, SHAFT	0020-17	/20-230	1	STEEL
AM COULAR, DUTE REARING SPACER 0003-1402 203 1 STEEL AM DELLAR, INKER BEARING SPACER 0003-1402 208 1 STEEL AM DELLAR, INKER BEARING SPACER 0003-1402 208 1 STEEL AM DELLAR, INKER BEARING PLOUSING (NOT SHOWN) SSTU202204WAL7 2 STEEL 21 STESTERV (INF-3X XEP, BCARING PLOUSING (NOT SHOWN) SSTU2032204WAL7 2 STEEL 21 STESTERV (INF-3X XEP, BCARING PLOUSING (NOT SHOWN) 0003-2000-313 1 CARBON STEEL/CARBON GRAPHITE 21 STERENC, GREASE (INF MPT) 0003-2000-313 1 CARBON STEEL/CARBON GRAPHITE 22 SURHING, GREASE (INF MPT) 0003-2000-30 1 CARBON GRAPHITE 23 INTING, GREASE (INF MPT) 0003-2000-30 1 STEEL 24 INTING, GREASE (INF MPT) 0003-2000-30 1 STEEL 24 BURCHING, GREASE (INF MPT) PLUE (114)-43/32 1 STEEL 25 STEEL STEEL STEEL 1 STEEL 26 MULP, PELLOR MP	A4	ENDCAP, BEARING HOUSING	0020-12	200-230	1	STEEL
A/V BARNING 0002-1002-200 1 STEEL AID BARNING 0002-1002-200 1 STEEL AID MULSIND, SEARING 0002-1002-200 1 CAST INON SET SCIEW, VIT-32 X XY, BEARING HOUSING (NOT SHOWN) SSTUSTERSWARD 2 STEEL AIT SET SCIEW, VIT-32 X XY, BEARING HOUSING (NOT SHOWN) 0002-1000-00 2 NVCIN AIT SET SCIEW, VIT-32 XY, BEARING HOUSING (NOT SHOWN) 0002-2001-130 1 CARBON STELLGARDING RAPPHITE BI BRACKT, ASSIMBLY (INCLUDES B2 THIRU BB) 0002-2001-130 1 CARBON STELLGARDING RAPPHITE BI BINANG, BRACKT 0002-2002-201 1 BINANGE BI MULG, PRÉTINE MUT 0002-2001-30 1 CARBON STELLGARDING RAPPHITE BI MULG, PRÉTINE MUT 0002-2001-30 1 CARBON STELLGARDING RAPPHITE BI MULG, PRÉTINE MUT 0002-2001-30 1 CARBON STELLGARDING RAPPHITE BI CASET, ISS ANSING THOMONULUS BURCHED BUSINNO 0002-2001-30 1 CARBON STELL BI CASET, ISS ANSING THOMONULUS BURCHED BUS	A5	LIP SEAL, BEARING HOUSING	0020-19	000-900	2	BUNA-N
AB CULLAR, INNER BEARING SPACER 0003-100-202 1 STEL 01 BUSING, BEARING SPACER 0003-100-10 1 CAST RORN 11 SET SCREW (IN-'20, SPI), BEARING HOUSING (INT SHOWN) SSUIJUSIASSWARJ/ 2 STEEL 12 SET SCREW (IN-'20, SPI), BEARING HOUSING (INT SHOWN) 0003-100-10 1 CARBON STELL/ARION DRAPHTE 13 BRACKT, ASSEMBLY (INCLUES B2 THRU BB) 0003-2000-00 1 CARBON STELL/ARION DRAPHTE 14 BRACKT, ASSEMBLY (INCLUES B2 THRU BB) 0003-2000-200 1 CARBON STELL/ARION DRAPHTE 15 BITTING, GRAASE INF NPT) 0003-2000-200 1 CARBON STELL/ARION CRAPHTE 16 RUG, FIPE (UN NPT) (USE OWTH LUBRICATED BUSHING) FULG FIPE (UN NPT) STEREL 1 STEREL 16 SCREWS ISSEMBLY (IN CARACTE 0003-2000-500 1 INTING, GRAASE INK NPT) SCREWS ISSEMBLY (IN CLUES BA, BT, CL, FL) 0003-2010-700 1 INTING, GRAAF INCLUES BA, BT, CL, FL > 0003-2000-700 1 INTING, GRAAF INCLUES BA, BT, CL, FL > 0003-2000-700 1 INTING, GRAAF INCLUES BA, BT, CL, FL > 0002-2000-700 1 INTING, GRAAF INCLUES BA, BT, CL, FL	A6	COLLAR, OUTER BEARING SPACER	0020-13	800-230	1	
400 HOUSING. EEARING 0000-1100-110 11 CAST RINN 11 SET SORV (INT-02 X SFEL EARING HOUSING NOT SHOWN) SSTU250529WABL7 2 STEEL 12 SET SORV (INT-02 X SFEL EARING HOUSING NOT SHOWN) SSTU250529WABL7 2 STEEL 13 INSERT EARING HOUSING NOT SHOWN) 0007-7390-300 1 CARBON STEEL/ARBON GRAPHITE 14 BARAKET ASSEMBLY (INCLUDES B2 THRU B8) 0007-2380-300 1 CARBON STEEL/ARBON GRAPHITE 16 PULG, PRE (INT NPT) GRSS-038X57-220 1 STEEL 16 PULG, PRE (INT NPT) GRSS-038X57-220 1 STEEL 16 PULG, PRE (INT NPT) GRSS-038X57-220 1 STEEL 17 GRSS-038X57-220 1 STEEL COUP 3388-220 2 STEEL 16 GASKEY SK1947 BRACKET 9002-2100-130 1 CARBON STEEL COUP 3388-220 2 STEEL 10 GASKEY SK1947 BRACKET 9002-4001-10 004-4001-10 1 CAST HON/STEEL 10 GASKEY SK1947 BRACKET 9002-4001-10 <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td>					-	
A11 EFT SDREW (U.Y. 2015, SPA), BEARING HOLDING (MOT SHOWN) SSU/1013229905/MARU/T 2 STEEL A12 EST SOREW (UNC - 2015, SPA), SPA SAMING HOLDING (AD C PMO 5 MOVN) SSU/10132299040/17 2 STEEL A13 INSERT, BEARING HOLDING IND SHOWN) SSU/20132290401 1 CARBON STEEL/CARBON GRAPHITE B1 BARACET, ASSEMBLY (INCLUGES B2 THRU BB) 0002-000-100 1 CARBON STEEL/CARBON GRAPHITE B1 FUTING, GRASE INK NPT) 0002-200-200 2 STEEL B1 FUTING, GRASE INK NPT) PULG - 01945-1393475-220 1 STEEL B1 FUTING, GRASE PIN (WPT) USED WTH INU BING INTER PULG - 01945-1393475-220 1 STEEL B1 SCREWS INSERVER VICH WPT) USED WTH INU BING INTER 0002-2000-90 1 INTERN, GRASE PIN (WPT) USED WTH INU BING INTERNO MARUMARA 8 STEEL B1 SCREWS INSERVER VICH AND INTERNO MARUMARA 0002-2000-90 1 INTERNO, GRASE PIN (WPT) USED WTH INU BING INTERNO MARUMARA 0002-2000-90 1 INTERNO, GRASE PIN (WPT) USED WTH INU BING INTERNO MARUMARA 0002-2000-90 1 INTERNO, GRASE PIN (WPT) USED WTH INU BING INTERNO MARUMARA 0002-2000-10 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
AI2 STS SOREW (virs):*3 & yargithm CAP MOT SHOWN) SNUTL SAME (virs):*3 & yargithm CAP MOT SHOWN) SNUTL SAME (virs):*3 & yargithm CAP MOT SHOWN) B BRACKET, ASSEMBLY INCLUES B2 THRU BB 0020-300-100 1 CARBON STELL/CARBON REAPHITE B BRACKET, ASSEMBLY INCLUES B2 THRU BB 0020-300-100 1 CARBON STELL/CARBON REAPHITE B BUSHING, BRACKET 0020-300-100 1 CARBON STELL/CARBON REAPHITE B3 MITHING, GRACKET 0020-300-100 1 BRONZE B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 1 STEEL B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 1 STEEL B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 1 STEEL B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 2 STEEL B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 2 STEEL B4 PLUG, PIPE IDS PPT) PLUG-01981-82.20 2 STEEL B4 PLUG, PIPE IDS PPT) PLUG 01981-92.20 2 STEEL B400001100 IDS PLUG 0198					-	
A13 NSERT BEARINE FOLSIONE INT SHOWN) 000-1780-400 2 MUNN B BRACKET, ASSEMBLY INCLUDES B2 THINU BB 0002-3001-300 1 CARBON STELE/ARBON BRAPHTE B BUSHING, BRACKET 0002-3001-300 1 CARBON STELE/ARBON BRAPHTE B1 TUTING, GRASS FURY MTT) 0027-3001-370 1 BROBIN STELE/ARBON STELE/ARB						
BRACKET, ASSEMBLY (INCLUDES B2 THRU B8) 0020-200-130 1 CARBON STEEL/CARBON 068APHTE B2 BUSHING, BRACKET 0020-200-130 1 CARBON STEEL/RENOVZE B3 BTTING, GREASE (INF NPT) GRS-013NST 220 1 BROINZE B4 PLUG, PPE (INF NPT) GRS-013NST 220 1 STEEL B7 DRS-013NST 220 1 STEEL STEEL B7 DRS-013NST 220 1 DRS-013NST 220 1 DRS-013NST 220 B7 DRS-013NST 220 1 DRS-013NST 220 1 DR					-	
BI PHACKE1, ASSEMBLY (PRCLUCES 82, 1HPU B8) 0020-2010-130 1 CARBON STEEL, BRONZE B2 BUSHING, BRACKET 0020-2010-320 1 RADON STEEL, BRONZE B3 FITTIG, GRASSE (I/A TWP1) PRUG, PIPE (I/G *NPT) STEEL B4 PLUG, PIPE (I/G *NPT) PLUG, PIPE (I/G *NPT) STEEL B5 FITTIG, GRASSE (I/A TWP) PLUG, PIPE (I/G *NPT) STEEL B6 SORKET, STET *X 24/4, BRACKET 0002-2000-130 1 STEEL B7 DRACKET 0002-2000-130 1 CARBON STEEL 0002-2000-130 1 CARBON STEEL B7 DRACKET 0002-2000-130 1 CARBON STEEL 0002-2000-130	A13	INSERT, BEARING HOUSING (NOT SHOWN)			-	
BUSHING, BRACKET 0002-3203-300 1 RABDN GRAPHITE 03 FTTING, GREASE (INY MPT) 0R59-0130S1-20 1 BRDNZE 04 FULG, FPEL (INY MPT) 0R59-0130S1-20 1 STEL 05 FULG, FPEL (INY MPT) 0R59-0130S1-20 1 STEL 05 GREWS (SIDE 14 X AV), BRACKET 0R03-200-980 1 STEL 06 SCREWS (SIDE 14 X AV), BRACKET 0R03-200-980 1 CHERKELTS - S003 07 CASEL, SANIS KATURCLUBE RUMEN (NULUBER LATE) 0R03-200-980 1 CARBON STEL 07 CASEL, SANIS KATURCLUBES B, BJ, CZ, F, FS) 0R02-300-180 1 CARBON STEL 07 PLUG, FPIL (INY MPT) PLUG-01918H: 200 2 STEL STEL 07 ROTOR, ASSEMBLY CLEARANCE1 0020-4002-110 0R94-4002-110 1 CAST IRON/STEL 070 RASSEMBLY CLEARANCE1 0020-4002-110 0R94-4002-10 1 CAST IRON/STEL 10 GRAR, IDLER 0020-4001-10 1 CAST IRON/STEL COST RASSEMBLY CLEARANCE1 0020-4002-10 <td>B1</td> <td>BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)</td> <td></td> <td></td> <td></td> <td></td>	B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)				
BIG USAMING, BMALKEL DBOARE BIT NOTAC BI FTITUG, GREASE (18 PTT) GRES-0130875/20 1 STEEL. FTUG, GREASE (18 PTT) FULG, PIPE (19' MPT) FULG, PIPE (19' MPT) STEEL. FTITUG, GREASE PLAY FUR VALUBBICATED BUSHING) GRES-0130875/20 1 STEEL. FTITUG, GREASE PLAY IN PART (18 DEW VTH NULBBICATED BUSHING) GRES-0130875/20 1 STEEL. FTITUG, GREASE PLAY INFO VEPT) (18 DEW VTH NULBBICATED BUSHING) GRES-0130875/20 1 CASE FI GASKET BRACKET 60002-2000-100 1 CASENDATEL FI GASKET BRACKET 6002-4000-110 1 CASENDATEL FI GASKET BRACKET 6002-4000-110 1 CASENDATEL FI GASKET RANCKEL 6002-4000-110 1 CASENDATION STEEL FI GREAR INCR ASSEMBLY CICLEARANCEL 6002-4000-110 1 CASENDATION STEEL FI GREAR INCR ASSEMBLY CICLEARANCEL 6002-4000-130 1 CASENDATION STEEL FI GREAR INCR ASSEMBLY CICLEARANCEL 60020-4000-130 1 CASEND						
B3 FITTING, GREASE (MY NPT) GRSE-0130ST-220 1 STEEL B4 PUUS, PIPE (MY NPT) FUID STEEL STEEL B5 PUUS, PIPE (MY NPT) STEEL STEEL B6 SODEWS (S) F5 18 X 34'), BRACKET SODE SODE (S) F1 10 X 34'), BRACKET CARED SODE (S) F1 10 X 34'), BRACKET CARED SODE (S) F1 10 X 34', BRACKET CARED SODE (S) F1 10 X 55', F1	B2	BUSHING, BRACKET				
64 PLUG, PIPE LIG* NPT) STEEL 85 PLUG, PIPE LIG* NPT) STEEL 86 SCREWS (S/16'-18'X, 34'), BRACKET SOE10312720WA2A2 8 STEEL 86 SCREWS (S/16'-18'X, 34'), BRACKET SOE10312720WA2A2 8 STEEL 87 GASKET, BRACKET SOE200-580 1 INTERACETS-8003 88 BRACKET 0020-2000-130 1 CARBON STEEL 91 GASKET, BRACKET 0020-4000-100 1 CARBON STEEL 91 GASKET, BRACKET 0020-4000-100 1 CARBON STEEL 91 ROTOR, ASSEMSTI (IN CLEBRAANCE) 0020-4000-110 1 CAST IRON/STEEL 80 TOR, ASSEMSTI (IN CLEBRAANCE) 0020-4000-110 1 CAST IRON/STEEL 80 TOR, ASSEMSTI (IN CLEBRAANCE) 0020-4001-10 1 CAST IRON/STEEL 80 TOR, ASSEMSTI (IN CLEBRAANCE) 0020-4001-10 1 CAST IRON/STEEL 80 TOR, ASSEMSTI (IN CLEBRAANCE) 0020-4000-10 1 CAST IRON/STEEL 80 TOR, ASSEMSTI (IN CLEBRAANCE) 0020-4000-20 1 IRON/STEEL	B3	FITTING GREASE (1/8" NPT)				
B PLUG, PIPE (1/9' NPT) (USED WITH NUBRICATED BUSHING) PLUG-0130SH-220 1 STEEL 66 SCREWS (S/16'-19 X 34'), BRACKET S001312750WA2A2 8 STEEL 70 ACAKET, BRACKET 0020-2800-580 11 INTERFACE TS-4003 81 BRACKET 0022-2001-130 1 CARBON STEEL C1 CASE, TS-ANSI KTI (NCLUDES B6, B7, C2, F4, F5) 0020-4000-110 10 CARBON STEEL C2 PLUG, PIPE (I/6' N'7) PLUG-0130SH-230 2 STEEL 70 ROTOR, ASSEMALY (OL CLARANCE) 0020-4000-110 10 CAST IRON/STEEL 70 ROTOR, ASSEMALY (OL CLARANCE) 0020-4000-110 10 CAST IRON/STEEL 71 ROTOR, ASSEMALY (OL CLARANCE) 0020-4001-10 10 CAST IRON/STEEL 71 BOTOR, ASSEMALY (OL CLARANCE) 0020-4001-10 10 CAST IRON/STEEL 72 BUSHINS, DLER 0020-4001-10 10 CAST IRON/STEEL 73 BEAR 0020-4001-10 10 CAST IRON/STEEL 74 DEASSEMALY (D CLEARANCE)					-	
B3 FITTING, DERASE PINUER, NOTU USED WITH NON-LUBRICATED BUSHING) URSE-0130ST-200 1 STEEL 67 GASKET, BRACKET 0020-200-960 1 INTERFACE TS-9003 68 BRACKET 0020-2100-130 1 CARBON STEEL 61 CARS, IS-3 ANSI KIT [INCLUDES BE, BT, C2, F4, F5) 0020-2100-130 1 CARBON STEEL 62 PLUG, PIPE L/R WTH PLUG-0130ST-200 2 STEEL 7007 ASSEMMELY AGE LEARANCE 0020-4000-110 1 CAST IRON/STEEL 80107 ASSEMMELY IC LEARANCE 0020-4000-110 1 CAST IRON/STEEL 80107 ASSEMMELY IC CLEARANCE 0020-4001-10 1 CAST IRON/STEEL 80107 ASSEMMELY IC CLEARANCE 0020-4001-10 1 CAST IRON/STEEL 80107 CE AR, IDLER ASSEMBLY IC CLEARANCE 0020-4001-10 10 CAST IRON/STEEL 80108 GEAR, IDLER ASSEMBLY IC CLEARANCE 0020-4001-10 1 CAST IRON/STEEL 80108 GEAR OLER STEEL CAST IRON/STEEL CAST IRON/STEEL 80109 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
B6 SCREWS (5/16 ⁺): 8X 3/4 ⁺), BRACKET SD1C312750WA2A2 B STEEL 9 GASKET BRACKET 0020-2000-950 1 INTERACE TS-0003 B8 BRACKET 0020-2000-950 1 CARBON STEEL C2 PULG, PPULG PERVIN PULG-0130SH-230 2 STEEL D ROTOR, ASSEMBLY (CLEARANCE) 0020-4000-110 004-4000-10 1 CAST IRON/STEEL D ROTOR, ASSEMBLY (CLEARANCE) 0020-4000-110 004-4000-10 1 CAST IRON/STEEL ROTOR, ASSEMBLY (CLEARANCE) 0020-4000-110 004-4000-10 1 CAST IRON/STEEL ROTOR, ASSEMBLY (CLEARANCE) 0020-4000-10 004-4000-10 1 CAST IRON/SRON/STEEL E1 GEAR, IDLER ASSEMBLY 0020-5000-10 0040-5000-20 1 CARBON AGRAPHITE E2 BUSHING, IDLER 0020-5000-10 0040-5000-20 1 CARBON AGRAPHITE F1 HEAD, KIT (INCLUDES R2 THRU F5) 0020-5000-20 10 0040-5000-20 1 BONZE F1 HEAD, KIT (INCLUDES C2, GI3, AND GI4) 0	B5 -					
BB BRACKET DD2/ 200-30 1 CARRON STELL C1 CASE, 15 / NNI KIT UNCLUDES BB, B7, C2, FA, FS) DD29 200-130 1 CARRON STELL C2 PLUG, PIPE (I/K NPT) PLUG-013NSH-230 2 STEEL ROTOR, ASSEMBLY (CLEARANCE) 0020-4002-110 004-4002-110 1 CAST IRON/STELL D1 ROTOR, ASSEMBLY (CLEARANCE) 0020-4002-110 004-4002-110 1 CAST IRON/STELL D1 ROTOR, ASSEMBLY (CLEARANCE) 0020-4003-110 004-400-110 1 CAST IRON/GROWARD ROTOR, ASSEMBLY (D CLEARANCE) 0020-4001-10 004-500-110 1 CAST IRON/GROWARD ROTOR, ASSEMBLY 0020-5001-10 004-500-10 1 CAST IRON/GROWARD C2 BUSHING, IDLER 0020-5001-10 004-500-300 1 CARBON STEEL F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-600-300 004-600-320 1 RABONZE F2 PIN, IDLER 0020-700-320 1 CARBON STEEL 1 NATENANCE F4 CASTEREW (Inft*18 X 34"), HEAD 0	B6				8	
BB BRACKET 0020 2100-130 1 CARBON STELL C1 CASE, TS/NIKT (INUCLUDES BB, B7, CZ, F4, F5) 0020-200-130 1 CABRON STELL C2 PLUG, PIPE (I/G* NPT) PLUG, ADD 10 0040-4000-110 1 CAST (RON/STELL) RTOTR, ASSEMAUT (IC LEARANCE) 0020-4002-110 1004-4002-110 1 CAST (RON/STELL) RTOTR, ASSEMAUT (IC LEARANCE) 0020-4001-10 004-4002-110 1 CAST (RON/STELL) RTOTR, ASSEMAUT (IC LEARANCE) 0020-4001-10 004-4001-10 1 CAST (RON/RABON GRAPHITE) RTOTR, ASSEMAUT (IC LEARANCE) 0020-4001-10 004-500-110 1 CAST (RON/RABON GRAPHITE) E1 GEAR, IDLER ASSEMBUT 0020-5001-10 004-500-300 1 CAST (RON/RABON GRAPHITE) E2 BUSHING, IDLER 0020-5001-10 0040-5003-20 1 BRONZE F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-5001-30 1 CAST (RON/RABON GRAPHITE) F2 PIN, IDLER 0202-5001-30 1 CAST (RON/RABON GRAPHITE) F4 CAST (RON/RABON GRAPHITE) <t< td=""><td></td><td></td><td></td><td></td><td>1</td><td></td></t<>					1	
C2 PLUG. PPE (IN_TPT) PLUG-013NSH-320 2 STEEL R0TOR, ASSEMBLY (IAB CLEARANCE) 0020-4000-110 0040-4002-110 1 CAST IRON/STEEL R0TOR, ASSEMBLY (C CLEARANCE) 0020-4003-110 0040-4002-110 1 CAST IRON/STEEL R0TOR, ASSEMBLY (C CLEARANCE) 0020-4003-110 0040-4002-110 1 CAST IRON/STEEL R0TOR, ASSEMBLY (C CLEARANCE) 0020-4003-110 0040-4002-10 1 CAST IRON/GRAD GRAPHITE R0TOR, ASSEMBLY (C LEARANCE) 0020-5000-110 0040-500-300 1 CAST IRON/GRAD GRAPHITE R1 GEAR, IDLER 0020-5000-100 0040-500-300 1 CARBON GRAPHITE R1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-6000-320 1 I HARD/KED STEEL R1 HEAD, KIT (INCLUDES G2 THRU F5) 0020-6000-230 1 INTEFRACE T5-9003 VALVE, COVER ASSEMBLY (F) SIN INCLUDES G2 THRU G14) 0020-7000-230 1 CARBON STEEL VALVE, ASSEMBLY (F) SIN INCLUDES G2 THRU G14) 0020-7000-130 1 CARBON STEEL VALVE, GOVER VALVE, GOVER ASSEMENTY (INCLUDES G2 THRU G14) 0020-700-	B8	BRACKET			1	CARBON STEEL
BOTOR, ASSEMBLY (AB CLEARANCE) 0024-000-110 0040-000-110 1 CAST IRDNYSTEL BOTOR, ASSEMBLY (C CLEARANCE) 0020-002-110 0040-002-110 1 CAST IRDNYSTEL BOTOR, ASSEMBLY (C CLEARANCE) 0020-0002-110 0040-000-110 1 CAST IRDNYSTEL BOTOR, ASSEMBLY (C CLEARANCE) 0020-0001-110 0040-000-110 1 CAST IRDNYSTEL BOTOR, ASSEMBLY (C CLEARANCE) 0020-5000-110 0040-5000-110 1 CAST IRDNYCARDON GRAPHITE CAST IRDNYSTEL 0020-5000-110 0040-5000-200 1 CAST IRDNYRSDNYE FI HEAD, KIT (INCLUDES YZ THRU F5) 0022-6010-300 0040-500-200 1 CARBON GRAPHITE F2 PIN, IDLER 0020-5020-31 014 HARDENED STEL CAST IRDNYRSDNYE CAST IRDNYRSDNY F3 GASKEH, HAD 0020-5020-31 1 IARDENED STEL CAST IRDNYRSDNY F4 CAPSCREW (S/N'I SA 24'I), HEAD 0020-700-130 1 CARBON STEL CAST IRDNYRSDNY CAST IRDNYRSDNY CAST IRDNYRSDNYRSDNYN CAST IRDNYRSDNYNN CAST IRDNYRSDNYNNN CAST IRDNYRSDNYNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	C1	CASE, 1.5" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0020-30	001-130	1	CARBON STEEL
D1 R0TOR. ASSEMBLY (© LCEARANCE) 0021-002.110 0040-002.110 1 CAST IRON/STEEL R0TOR. ASSEMBLY (© CLEARANCE) 0022-4003.110 0040-4004.130 0040-4004.130 1 CAST IRON/STEEL R0TOR. ASSEMBLY (© CLEARANCE) 0022-4001.130 0040-4004.130 0140-4004.130 STEEL E1 GEAR, IDLER ASSEMBLY 0020-5000.200 10 0406-5001.110 1 CAST IRON/SRDXZ E2 BUSHING, IDLER 0020-5000.200 0040-5010.130 1 CARBON GRAPHITE F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-5000.200 0040-5010.130 1 CARBON STEEL. F2 PIN, IDLER 0020-5000.231 0440-500-231 1 HARDONED STEEL F4 CAPSCRW (SirC-18X 3/47), HEAD S0121275/WAZA22 5 STEEL F3 GASKET, HEAD 0020-5000.230 1 NTEFFACE TS-9003 VALVE, ASSEMBLY (INCLUDES 62 THRU 614) 0020-7001.30 1 CARBON STEEL VALVE, ASSEMBLY (INCLUDES 62 THRU 614) 0020-7002.300 1 CARBON STEEL VALVE, ASSEMBLY (INCLUDES 62 THRU	C2	PLUG, PIPE (1/8" NPT)	PLUG-013	INSH-230	2	STEEL
J1 R0TOR, ASSEMBLY (0 CLEARANCE) 0020-4003-110 0040-4004-130 STEEL B0TOR, ASSEMBLY (E CLEARANCE) 0020-4004-130 0040-4004-130 STEEL E1 GEAR, IDLER ASSEMBLY 0020-5000-110 0040-5000-110 1 CAST IRON/CARBON GRAPHITE E2 BUSHING, IDLER 0020-5000-300 0040-5000-110 1 CARBON GRAPHITE E2 BUSHING, IDLER 0020-5000-300 0040-5000-110 1 CARBON GRAPHITE E2 PIN, IDLER 0020-5000-300 0040-5000-130 1 CARBON GRAPHITE E2 PIN, IDLER 0020-5000-300 0040-5000-230 1 RABON STEEL F4 CAPSCREW (KI*18 X 34*), HEAD S01C312750WA2A2 5 STEEL F5 GASKET, KEAD 0020-7000-230 1 CARBON STEEL VALVE, ASSEMBLY (INCLUDES 62 THRU G14) 0020-7001-30 1 CARBON STEEL VALVE, ASSEMBLY 200 PSI (INCLUDES 62 THRU G14) 0020-7001-30 1 CARBON STEEL VALVE, ASSEMBLY 200 PSI (INCLUDES 62 THRU G14) 0020-7001-30 1 CARBON STEEL VA		ROTOR, ASSEMBLY (A/B CLEARANCE)	0020-4000-110	0040-4000-110	1	CAST IRON/STEEL
BTOR, ASSEMBLY (DICLEARANCE) 0020-4003-110 0040-4003-130 I CAST IRON/STEEL. F1 GEAR, IDLER ASSEMBLY 0020-500-110 0040-4004-130 I CAST IRON/CARBON GRAPHITE F2 BUSHING, IDLER 0020-500-110 0040-500-300 1 CAST IRON/CARBON GRAPHITE F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-500-300 0040-500-300 1 CARBON GRAPHITE F2 PIN, IDLER 0020-500-300 0040-500-300 1 CARBON STEEL/STEEL F4 CAPSCREW (SI/G*18 X 3/4), HEAD 0020-600-321 1 INTERACC TS-9003 F4 CAPSCREW (SI/G*18 X 3/4), HEAD 0020-600-320 1 STEEL F4 CAPSCREW (SI/G*18 X 3/4), HEAD 0020-7000-230 1 STEEL F4 CAPSCREW (SI/G*18 X 3/4), HEAD 0020-7000-330 1 CARBON STEEL F4 VALVE, SOSEMBLY'120 PSI (INCLUDES G2 THRU G14) 0020-7002-130 1 CARBON STEEL F4 VALVE, ASSEMBLY'120 PSI (INCLUDES G2 THRU G14) 0020-7101-30 1 CARBON STEEL F4 VALVE, GONCH <	D1	ROTOR, ASSEMBLY (C CLEARANCE)	0020-4002-110	0040-4002-110	1	CAST IRON/STEEL
E1 GEAR, IDLER ASSEMBLY 0022-5000-110 0040-5000-100 1 CAST IRON/CABBON GRAPHITE E2 BUSHING, IDLER 0020-5000-300 0040-5000-300 1 CAST IRON/CABBON/ZE F1 HEAD, KTT (INCLUDES F2 THRU F5) 0020-5000-320 0040-6000-320 1 BRONZE F2 PIN, IDLER 0020-6200-231 0040-6200-231 1 HARDON STELL/STELL F2 PIN, IDLER 0020-6200-231 0040-6200-231 1 HARDON STELL F3 GASK, HEAD S01C312750/WAZA2 5 STELL 5 F4 CAPSCREW (K)/16*18 X 3/1, HEAD 0020-6200-231 1 INTERFACE TS-9003 VALVE, COVER ASSEMBLY (INCLUDES 62, G13, AND G14) 0020-7000-30 1 CARBON STELL VALVE, ASSEMBLY-78 INICULUDES 62 THRU G14) 0020-7000-130 1 CARBON STELL VALVE, ASSEMBLY-120 PSI (INCLUDES 62 THRU G14) 0020-7100-130 1 CARBON STELL VALVE, BONNET 0020-7100-130 1 CARBON STELL 020-7100-130 1 CARBON STELL G2 VALVE, GOYER (NOT SHOWN) <td></td> <td>ROTOR, ASSEMBLY (D CLEARANCE)</td> <td>0020-4003-110</td> <td>0040-4003-110</td> <td>1</td> <td>CAST IRON/STEEL</td>		ROTOR, ASSEMBLY (D CLEARANCE)	0020-4003-110	0040-4003-110	1	CAST IRON/STEEL
E1 BEAR, JULER ASSEMBLY 0022-5010-110 1 CAST IROVERONZE E2 BUSHING, IDLER 0020-5800-300 0040-5800-300 1 CARBON GRAPHITE F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-6800-320 0040-5800-320 1 CARBON STEEL/STEEL F2 PIN, IDLER 0020-6800-321 0040-6200-231 1 CARBON STEEL/STEEL F4 CAPSCREW (5/16*18 X 3/4'), HEAD S01C312750WA2A2 5 STEEL F5 GASKET, HEAD 0020-6200-331 1 INTERFACE TS-9003 VALVE, ASSEMBLY (INCLUDES 62, G13, AND 614) 0020-7001-130 1 CARBON STEEL VALVE, ASSEMBLY-125 PSI (INCLUDES 62 THRU 614) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-105 PSI (INCLUDES 62 THRU 614) 0020-7001-130 1 CARBON STEEL VALVE, BODY VALVE, GASKET BONNET 0020-7001-130 1 CARBON STEEL VALVE, BODY VALVE, GASKET BONNET 0020-7001-30 1 CARBON STEEL G3 VALVE, GASKET BONNET 0020-7002-30 1 STEIL G4 <td></td> <td>ROTOR, ASSEMBLY (E CLEARANCE)</td> <td>0020-4004-130</td> <td>0040-4004-130</td> <td></td> <td></td>		ROTOR, ASSEMBLY (E CLEARANCE)	0020-4004-130	0040-4004-130		
EDD 0020-5010-110 1 CAS1 HRUMPHONZE E2 BUSHING, IDLER 0020-5800-300 10 CARBON SRAPHITE F1 HEAD, KIT (INCLUDES F2 THRU F5) 0020-5800-300 0040-6800-130 1 CARBON SRAPHITE F2 PIN, IDLER 0020-600-130 0040-6800-130 1 HARDENED STEL F4 CAPSCREW (5/16*18 X 3/4"), HEAD S01C312750WA2A2 5 STEEL F5 GASKET, HEAD 0020-6900-580 1 INTERFACE TS-9003 VALVE, COVER ASSEMBLY (INCLUDES G2 THRU G14) 0020-7000-130 1 CARBON STEEL VALVE, ASSEMBLY-SPS (INCLUDES G2 THRU G14) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-SPS (INCLUDES G2 THRU G14) 0020-7003-130 1 CARBON STEEL VALVE, ASSEMBLY-SPS (INCLUDES G2 THRU G14) 0020-7100-130 1 CARBON STEEL VALVE, GASKET BONNET 0020-7200-310 1 CARBON STEEL VALVE, GASKET BONNET 0020-7200-300 1 STEEL G3 VALVE, GASKET CAP 0020-7200-300 1 STEEL	E1	GEAR. IDLER ASSEMBLY				
E2 BOSHING, JULER 0020-5800-320 100-45800-320 1 BRONZE F1 HEAD, KIT (INCLIDES F2 THRU F5) 0020-6010-130 0040-6010-130 1 HARDENUS STELL F2 PIN, IUER 0020-600-230 1 HARDENUS STELL F4 CAPSCREW (6)F-18 X 3(4'), HEAD S01C312750VA2A2 5 STEEL F6 GASKET, HEAD 0020-7000-230 1 STEEL VALVE, COVER ASSEMBLY (INCLUDES 62, G13, AND 614) 0020-7000-230 1 STEEL VALVE, ASSEMBLY-5PS1 (INCLUDES 62 THRU 614) 0020-7000-130 1 CARBON STEEL VALVE, ASSEMBLY-25 PS1 (INCLUDES 62 THRU 614) 0020-7000-130 1 CARBON STEEL VALVE, ASSEMBLY-25 PS1 (INCLUDES 62 THRU 614) 0020-7100-130 1 CARBON STEEL VALVE, BODY 0020-7100-130 1 CARBON STEEL 1 VALVE, GOVER (NOT SHOWN) 0020-7100-300 1 STAINLESS STEEL G3 VALVE, GASKET BONNET 0020-7200-300 1 STAINLESS STEEL G4 VALVE, GASKET CAP 0020-7700-230 1						
Image: Name of the second se	E2	BUSHING, IDLER				
F2 PIN, IDLER 0020-6200-231 040-6200-231 1 HARDENED STEEL F4 CAPSCREW (s/16*18 X 34*), HEAD S01C312750WA2A2 5 STEEL F5 GASKET, HEAD 0020-6900-950 1 INTERFACE TS-9003 G1 VALVE, COVER ASSEMBLY (INCLUDES 62, 613, AND 614) 0020-700-730 1 CARBON STEEL VALVE, ASSEMBLY 75 PS1 (INCLUDES 62 THRU 614) 0020-700-130 1 CARBON STEEL VALVE, ASSEMBLY 75 PS1 (INCLUDES 62 THRU 614) 0020-700-130 1 CARBON STEEL VALVE, ASSEMBLY 200 PS1 (INCLUDES 62 THRU 614) 0020-700-130 1 CARBON STEEL VALVE, BODY 0020-7101-730 1 CARBON STEEL 0020-7101-730 VALVE, GASKET BONNET 0020-7101-730 1 CARBON STEEL 0020-730-730 G3 VALVE, GASKET CAP 0020-730-730 1 STEEL 0020-730-730 G4 VALVE, GASKET CAP 0020-7700-230 1 STEEL 0020-730-730 1 STEEL G5 VALVE, GASKET CAP 0020-7500-730 1 STEEL 0020-7500-	F 4					
F4 CAPSCREW (5/16'-18 X 3/4'), HEAD S01C312750WA2A2 5 STEEL F5 GASKET, HEAD 0020-690-960 1 INITERACE TS-9003 VALVE, COVER ASSEMBLY (INCLUDES G2, G13, AND G14) 0020-7000-230 1 CARBON STEEL VALVE, ASSEMBLY-75 PSI (INCLUDES G2 THRU G14) 0020-7001-130 1 CARBON STEEL VALVE, ASSEMBLY-20 PSI (INCLUDES G2 THRU G14) 0020-7003-130 1 CARBON STEEL VALVE, ASSEMBLY-20 PSI (INCLUDES G2 THRU G14) 0020-7001-130 1 CARBON STEEL VALVE, GOVER (NOT SHOWN) 0020-7100-130 1 CARBON STEEL G2 VALVE, GOVER (NOT SHOWN) 0020-7201-930 1 SCARBON STEEL G3 VALVE, GASKET CAP 0020-7200-930 1 SCARBON STEEL G4 VALVE, BONNET 0020-7200-930 1 SCARBON STEEL G5 VALVE, GASKET CAP 0020-7200-930 1 STEEL G6 VALVE, GASKET CAP 0020-7700-230 1 STEEL G6 VALVE, GASKET CAP 0020-7700-230 1 STEEL G7 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
F5 GASKET, HEAD 0020-6900 1 INTERFACE TS-9003 VALVE, COVER ASSEMBLY (INCLUDES Q, G13, AND G14) 0020-7000-203 1 STEL VALVE, COVER ASSEMBLY-125 PSI (INCLUDES G2 THRU G14) 0020-7001-130 1 CARBON STEEL VALVE, ASSEMBLY-125 PSI (INCLUDES G2 THRU G14) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14) 0020-7003-130 1 CARBON STEEL VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14) 0020-7100-130 1 CARBON STEEL VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14) 0020-7100-130 1 CARBON STEEL VALVE, ASSERT BONNET 0020-7101-250 1 STAINLESS STEEL G3 VALVE, GASKET CAP 0020-7100-951 1 KLINGERSL® C-4401 G4 VALVE, GASKET CAP 0020-700-320 1 STEEL G5 VALVE, GASKET CAP 0020-700-230 1 STEEL G6 VALVE, GASKET CAP 0020-700-230 1 STEEL G4 VALVE, SPRING-125 PSI 0020-700-230 1 STEEL G4						
VALVE, COVER ASSEMBLY (INCLUDES 62, G13, AND G14) 0020-7000-230 1 STEEL VALVE, ASSEMBLY-75 PSI (INCLUDES 62 THRU G14) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-75 PSI (INCLUDES 62 THRU G14) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-75 PSI (INCLUDES 62 THRU G14) 0020-7003-130 1 CARBON STEEL VALVE, SSEMBLY-75 PSI (INCLUDES 62 THRU G14) 0020-7013-130 1 CARBON STEEL VALVE, SSEMBLY-76 PSI (INCLUDES 62 THRU G14) 0020-7101-30 1 CARBON STEEL VALVE, GASKET BONNET 0020-7101-250 1 STAINLESS STEEL G1 VALVE, GASKET CAP 0020-7200-130 1 CARBON STEEL G4 VALVE, GASKET CAP 0020-7200-130 1 STEEL G6 VALVE, CAP 0020-7200-230 1 STEEL G6 VALVE, CAP 0020-7700-230 1 STEEL G7 VALVE, ADJUSTMENT SCREW 0020-7700-230 1 STEEL G8 VALVE, SPRING GUIDE 0020-7600-250 1 STAINLESS STEEL G10 VAL						
G1 VALVE, ASSEMBLY-75 PSI (INCLUDES 62 THRU 614) 0020-7001-130 1 CARBON STEEL VALVE, ASSEMBLY-125 PSI (INCLUDES 62 THRU 614) 0020-7003-130 1 CARBON STEEL VALVE, ASSEMBLY-125 PSI (INCLUDES 62 THRU 614) 0020-7100-130 1 CARBON STEEL 020 VALVE, COVER (NOT SHOWN) 0020-7101-30 1 CARBON STEEL G3 VALVE, COVER (NOT SHOWN) 0020-7101-250 1 STAINLESS STEEL G4 VALVE, GASKET BONNET 0020-7100-951 1 KLINGERSIL® C-4401 G4 VALVE, GASKET CAP 0020-7300-230 1 STEEL G6 VALVE, GASKET CAP 0020-7700-230 1 STEEL G6 VALVE, ADJUSTMENT SCREW 0020-7700-230 1 STEEL G7 VALVE, ADJUSTMENT SCREW 0020-7700-230 1 STEEL G8 VALVE, SPRING-75 PSI 0020-7700-230 1 STEEL G10 VALVE, SPRING-75 PSI 0020-7600-250 1 STAINLESS STEEL G11 VALVE, SPRING-75 PSI 0020-7600-250 1 STAINLE	15					
G1 VALVE, ASSEMBLY-125 PSI (INCLUDES G2 THRU G14) 0020-7002-130 1 CARBON STEEL VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14) 0020-7003-130 1 CARBON STEEL G2 VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14) 0020-7100-130 1 CARBON STEEL G3 VALVE, GOVER (NOT SHOWN) 0020-7101-250 1 STAINLESS STEEL G4 VALVE, GASKET BONNET 0020-7910-951 1 KLINGERSIL® C-4401 G6 VALVE, GASKET CAP 0020-7920-951 1 STEEL G6 VALVE, GASKET CAP 0020-7700-230 1 STEEL G7 VALVE, LOCK NUT 0020-7700-230 1 STEEL G8 VALVE, SPRING GUIDE 0020-7700-230 1 STEEL G9 VALVE, SPRING GUIDE 0020-7600-250 1 STAINLESS STEEL VALVE, SPRING-125 PSI 0020-7602-250 1 STAINLESS STEEL VALVE, SPRING-200 PSI 0020-7602-250 1 STAINLESS STEEL G10 VALVE, SPRING-200 PSI 0020-7602-250 1 STAINLESS STEEL <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td>	-				-	
VALVE, ASSEMBLY-200 PSI (INCLUDES 62 THRU G14)0020-7003-1301CARBON STEELG2VALVE, BODY0020-7100-1301CARBON STEELG3VALVE, GAVER (NOT SHOWN)0020-7101-2501STAINLESS STEELG4VALVE, GASKET BONNET0020-7910-9511K LINGERSIL® C-4401G4VALVE, GASKET CAP0020-7300-2301STEELG6VALVE, CAP0020-7300-2301STEELG7VALVE, ADJUSTMENT SCREW0020-7700-2301STEELG8VALVE, SPRING GUIDE0020-7700-2301STEELG9VALVE, SPRING SGUIDE0020-7700-2301STEELG9VALVE, SPRING-125 PSI0020-7600-2501STAINLESS STEELG10VALVE, SPRING-125 PSI0020-7600-2501STAINLESS STEELG11VALVE, SPRING-125 PSI0020-7602-2501STAINLESS STEELG12VALVE, SPRING-125 PSI0020-7602-2501STAINLESS STEELG14GASKET, VALVE0020-7602-2501STAINLESS STEELG12VALVE, POPPET0020-7600-9501INTERFACE TS-9003G13CAPSCREW (5/16'-18X 3/4''), VALVES141/12750WA6L74STEELG14GASKET, VALVE0020-7600-9501INTERFACE TS-9003H1GLAND, PACKING0020-800-9101CAST IRONH2NUT (5/16'-18), PACKING GLANDNO4C312281WA2A22STEELH3CAPSCREW (6/16'-18), PACKING GLANDS01212825CL0A12STAINLESS STEE	G1 -					
VALVE, BODY 0020-7100-130 1 CARBON STEEL G3 VALVE, COVER (NOT SHOWN) 0020-7101-250 1 STAINLESS STEEL G3 VALVE, GASKET BONNET 0020-7910-951 1 KLINGERSIL® C-4401 G4 VALVE, BONNET 0020-7200-130 1 CARBON STEEL G5 VALVE, GASKET CAP 0020-7300-951 1 KLINGERSIL® C-4401 G6 VALVE, CAP 0020-7300-951 1 KLINGERSIL® C-4401 G6 VALVE, CAP 0020-7300-951 1 STEEL G7 VALVE, CAP 0020-7700-230 1 STEEL G8 VALVE, LOCK NUT 0020-7700-230 1 STEEL G9 VALVE, SPRING GUDE 0020-7600-250 1 STAINLESS STEEL VALVE, SPRING-75 PSI 0020-7600-250 1 STAINLESS STEEL VALVE, SPRING-200 PSI 0020-7600-250 1 STAINLESS STEEL VALVE, SPRING-200 PSI 0020-7600-250 1 STAINLESS STEEL G12 VALVE, SPRING-200 PSI 0020-7600-250 1	-				-	
G2 VALVE, COVER (NOT SHOWN) 0020-7101-250 1 STAINLESS STEEL G3 VALVE, GASKET BONNET 0020-7200-951 1 KLINGERSIL® C-4401 G4 VALVE, GASKET CAP 0020-7200-130 1 CARBON STEEL G5 VALVE, CAP 0020-7200-951 1 KLINGERSIL® C-4401 G6 VALVE, CAP 0020-7300-230 1 STEEL G7 VALVE, LOCK NUT 0020-7700-230 1 STEEL G8 VALVE, LOCK NUT 0020-7700-230 1 STEEL G9 VALVE, LOCK NUT 0020-7700-230 1 STEEL G9 VALVE, SPRING GUIDE 0020-7600-250 1 STAINLESS STEEL G10 VALVE, SPRING-75 PSI 0020-7600-250 1 STAINLESS STEEL G11 VALVE, SPRING-200 PSI 0020-7600-250 1 STAINLESS STEEL G12 VALVE, SPRING-200 PSI 0020-7600-250 1 STAINLESS STEEL G12 VALVE, SPRING-200 PSI 0020-7600-250 1 STAINLESS STEEL G13						
G4VALVE, BONNET0020-7200-1301CARBON STEELG5VALVE, GASKET CAP0020-7300-2301KLINGERSIL® C-4401G6VALVE, CAP0020-7300-2301STEELG7VALVE, ADJUSTMENT SCREW0020-7700-2301STEELG8VALVE, LOCK NUT0020-7700-2301STEELG9VALVE, SPRING GUIDE0020-7700-2301STEELG9VALVE, SPRING GUIDE0020-7600-2301STEELG10VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELG11VALVE, SPRING-200 PSI0020-7601-2501STAINLESS STEELG12VALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEELG13CAPSCREW (5/16'-18 X 3/4'), VALVES14U312750WA6L74STEELG14GASKET, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING GLANDN04C312281WA2A22STEELH2NUT (5/16'-18), PACKING GLANDS01C312825CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-800-9101BUNA-NH4TYPE 1, COMPONENT SEAL0020-800-9101VITONTYPE 9, COMPONENT SEAL0020-800-9201PTFEH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-800-9201PTFEH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-810-9201PTFEH7WASHER, PACKING RETAINING0020-810-9201STEELH7WASHER, PACKING RETAINING </td <td>G2 -</td> <td></td> <td>0020-71</td> <td>01-250</td> <td>1</td> <td></td>	G2 -		0020-71	01-250	1	
65VALVE, GASKET CAP0020-7920-9511KLINGERSIL® C-440166VALVE, CAP0020-7300-2301STEEL67VALVE, ADJUSTMENT SCREW0020-7700-2301STEEL68VALVE, LOCK NUT0020-7710-2301STEEL69VALVE, SPRING GUIDE0020-7500-2301STEEL610VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEEL610VALVE, SPRING-125 PSI0020-7600-2501STAINLESS STEEL611VALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEEL612VALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEEL613CAPSCREW (5/16'-18 X 3/4'), VALVES14U312750WA6L74STEEL614GASKET, VALVE0020-7900-9501INTEFACE TS-9003613CAPSCREW (5/16'-18), PACKING0020-8200-1101CAST IRON614GLAND, PACKING GLANDN04C312281WA2A22STEEL77NUT (5/16'-18), PACKING GLANDN04C312281WA2A22STEEL77TYPE 1, COMPONENT SEAL0020-8000-9001BUNA-N77PACKING GLAND0020-800-9101VITON77PS, COMPONENT SEAL0020-800-9201PTFE77P, COMPONENT SEAL0020-800-9201PTFE77P, COMPONENT SEAL0020-800-9201PTFE77P, COMPONENT SEAL0020-800-9201PTFE77P, COMPONENT SEAL0020-800-9201 <td>G3</td> <td>VALVE, GASKET BONNET</td> <td>0020-79</td> <td>010-951</td> <td>1</td> <td>KLINGERSIL[®] C-4401</td>	G3	VALVE, GASKET BONNET	0020-79	010-951	1	KLINGERSIL [®] C-4401
G6VALVE, CAP0020-7300-2301STEELG7VALVE, ADJUSTMENT SCREW0020-7700-2301STEELG8VALVE, LOCK NUT0020-7700-2301STEELG9VALVE, SPRING GUIDE0020-7500-2301STEELG10VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELVALVE, SPRING-125 PSI0020-7600-2501STAINLESS STEELVALVE, SPRING-200 PSI0020-7600-2501STAINLESS STEELG12VALVE, POPPET0020-7602-2501STAINLESS STEELG13CAPSCREW (5/16"-18 X 3/4"), VALVES14U312750WA6L74STEELG14GASKT, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING0020-800-1101CAST IRONH2NUT (5/16"-18), PACKING GLANDN04C312281WA2A22STEELH3CAPSCREW (5/16"-18), PACKING GLANDS01C312B25CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-8000-9001BUNA-NH4TYPE 9, COMPONENT SEAL0020-8000-9101VITONH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-8001-9201PTFEH6PACKING0020-8100-9251STEELH7WASHER, PACKING RETAINING0020-8100-9251STEEL	G4	VALVE, BONNET	0020-72	200-130	1	CARBON STEEL
G7VALVE, ADJUSTMENT SCREW0020-7700-2301STEELG8VALVE, LOCK NUT0020-7710-2301STEELG9VALVE, SPRING GUIDE0020-7500-2301STEELG10VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELVALVE, SPRING-125 PSI0020-7601-2501STAINLESS STEELVALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEELG12VALVE, POPPET0020-7400-1101CAST IRONG13CAPSCREW (5/16*-18 X 3/4*), VALVES14/J312750WA6L74STEELG14GASKET, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING GLANDN04C312281WA2A22STEELH3CAPSCREW (5/16*-18), PACKING GLANDS01C312B25CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-8000-9001BUNA-NH4FYPE 1, COMPONENT SEAL0020-8001-9201VITONH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-8000-9251STEELH6PACKING0020-8100-9251STEELH7WASHER, PACKING RETAINING0020-8150-2301STEEL	G5	VALVE, GASKET CAP	0020-79	920-951	1	KLINGERSIL® C-4401
G8VALVE, LOCK NUT0020-7710-2301STEELG9VALVE, SPRING GUIDE0020-7500-2301STEELG10VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELG10VALVE, SPRING-125 PSI0020-7601-2501STAINLESS STEELG12VALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEELG13CAPSCREW (5/16"-18 X 3/4"), VALVE0020-7400-1101CAST IRONG14GASKET, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING0020-8000-9501INTERFACE TS-9003H2NUT (5/16"-18), PACKING GLANDN04C312281WA2A22STEELH3CAPSCREW (5/16"-18), PACKING GLANDS01C312B25CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-80001BUNA-NH4COLLAR, MECHANICAL SEAL ASSEMBLY0020-8001-9201PTFEH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-800-9251STEELH6PACKING0020-8100-9251STEELH7WASHER, PACKING RETAINING0020-8100-23001STEEL	G6	VALVE, CAP	0020-73	800-230	1	STEEL
G9VALVE, SPRING GUIDE0020-7500-2301STEELVALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELG10VALVE, SPRING-125 PSI0020-7601-2501STAINLESS STEELVALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEELG12VALVE, POPPET0020-7400-1101CAST IRONG13CAPSCREW (5/16"-18 X 3/4"), VALVES14U312750WA6L74STEELG14GASKET, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING0020-8200-1101CAST IRONH2NUT (5/16"-18), PACKING GLANDN04C312281WA2A22STEELH3CAPSCREW (5/16"-18), PACKING GLANDS01C312B25CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-8000-9001BUNA-NH4COLLAR, MECHANICAL SEAL ASSEMBLY0020-8001-9201PTFEH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-8050-2301STEELH6PACKING RETAINING0020-8100-9251PTFE - GRAPHITEH7WASHER, PACKING RETAINING0020-8100-9251STEEL	G7	VALVE, ADJUSTMENT SCREW	0020-77	/00-230	1	
VALVE, SPRING-75 PSI0020-7600-2501STAINLESS STEELG10VALVE, SPRING-125 PSI0020-7601-2501STAINLESS STEELVALVE, SPRING-200 PSI0020-7602-2501STAINLESS STEELG12VALVE, POPPET0020-7400-1101CAST IRONG13CAPSCREW (5/16"-18 X 3/4"), VALVES14U312750WA6L74STEELG14GASKET, VALVE0020-7900-9501INTERFACE TS-9003H1GLAND, PACKING0020-8200-1101CAST IRONH2NUT (5/16"-18), PACKING GLANDN04C312281WA2A22STEELH3CAPSCREW (5/16"-18), PACKING GLANDS01C312B25CL0A12STAINLESS STEELH4TYPE 1, COMPONENT SEAL0020-8000-9001BUNA-NH44TYPE 9, COMPONENT SEAL0020-8000-9101VITONTYPE 9, COMPONENT SEAL0020-8000-9101STEELH5COLLAR, MECHANICAL SEAL ASSEMBLY0020-8000-9251STEELH6PACKING0020-8100-9251STEELH7WASHER, PACKING RETAINING0020-8150-2301STEEL						
G10 VALVE, SPRING-125 PSI 0020-7601-250 1 STAINLESS STEEL G12 VALVE, SPRING-200 PSI 0020-7602-250 1 STAINLESS STEEL G12 VALVE, POPPET 0020-7400-110 1 CAST IRON G13 CAPSCREW (5/16"-18 X 3/4"), VALVE S14U312750WA6L7 4 STEEL G14 GASKET, VALVE 0020-7900-950 1 INTERFACE TS-9003 H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16"-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16"-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N H44 TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8000-910 1 STEEL H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8150-230 1 STEEL <	G9					
VALVE, SPRING-200 PSI 0020-7602-250 1 STAINLESS STEEL G12 VALVE, POPPET 0020-7400-110 1 CAST IRON G13 CAPSCREW (5/16*-18 X 3/4*), VALVE S14U312750WA6L7 4 STEEL G14 GASKET, VALVE 0020-7900-950 1 INTERFACE TS-9003 H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16*-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N H44 TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8000-910 1 VITON H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL		·				
G12 VALVE, POPPET 0020-7400-110 1 CAST IRON G13 CAPSCREW (5/16*-18 X 3/4*), VALVE S14U312750WA6L7 4 STEEL G14 GASKET, VALVE 0020-7900-950 1 INTERFACE TS-9003 H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16*-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL	G10	·				
G13 CAPSCREW (5/16*-18 X 3/4*), VALVE S14U312750WA6L7 4 STEEL G14 GASKET, VALVE 0020-7900-950 1 INTERFACE TS-9003 H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16*-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N H4 TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL	010					
G14 GASKET, VALVE 0020-7900-950 1 INTERFACE TS-9003 H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16"-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16"-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL					-	
H1 GLAND, PACKING 0020-8200-110 1 CAST IRON H2 NUT (5/16"-18), PACKING GLAND N04C312281WA2A2 2 STEEL H3 CAPSCREW (5/16"-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H3 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N H4 TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL						
H2 NUT (5/16*-18), PACKING GLAND N04C312281WA2A2 2 STEL H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL H4 TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING RETAINING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL						
H3 CAPSCREW (5/16*-18), PACKING GLAND S01C312B25CL0A1 2 STAINLESS STEEL TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8000-910 1 PTFE F COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL						
TYPE 1, COMPONENT SEAL 0020-8000-900 1 BUNA-N TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8000-910 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL					-	
H4 TYPE 1, COMPONENT SEAL 0020-8000-910 1 VITON TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL						
TYPE 9, COMPONENT SEAL 0020-8001-920 1 PTFE H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL	H4					
H5 COLLAR, MECHANICAL SEAL ASSEMBLY 0020-8050-230 1 STEEL H6 PACKING 0020-8100-925 1 PTFE - GRAPHITE H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL		,				
H7 WASHER, PACKING RETAINING 0020-8150-230 1 STEEL	H5					
	H6				1	
H8 WASHER, PACKING GLAND W2337ACL0A1 2 STAINLESS STEEL	H7	WASHER, PACKING RETAINING	0020-81	50-230	1	STEEL
	H8	WASHER, PACKING GLAND	W23374	ACLOA1	2	STAINLESS STEEL

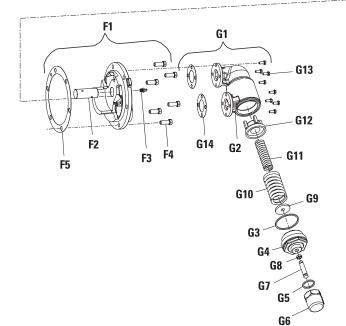
EnviroGear

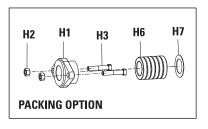
Envirogear EXPLODED VIEW & PARTS LISTING

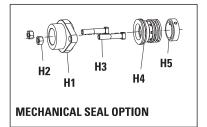
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LM0004, REV. C

CAST IRON

EXPLODED VIEW & PARTS LISTING

EnviroGear

ltem	Description	G1-24	G1-32	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0240-10	00-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0240-17	10-230	1	STEEL
A3	LOCKWASHER, SHAFT	0240-17	20-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0240-12		1	STEEL
A5	LIP SEAL, BEARING HOUSING	0240-19		2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0240-13		1	STEEL
A7	BEARING	0240-14		1	STEEL
A8	COLLAR, INNER BEARING SPACER	0240-13		1	STEEL
A9	SEMI-ROUND RINGS	0240-13		2	STEEL
A10		0240-11		1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U3755		2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN) INSERT, BEARING HOUSING (NOT SHOWN)	S57U3133 0020-17		2	STEEL NYLON
A13	INSERI, BEARING HOUSING (NUT SHOWN)	0240-20		2	CAST IRON/CARBON GRAPHITE
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0240-20		1	CAST IRON/BRONZE
		0240-20		1	CARBON GRAPHITE
B2	BUSHING, BRACKET	0240-28		1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013		1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025		3	STEEL
	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013		1	STEEL
B5	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013		1	STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET	S01C438A		8	STEEL
B7	GASKET, BRACKET	0240-29		1	INTERFACE TS-9003
B8	BRACKET	0240-21		1	CAST IRON
C1	CASE, 2" NPT KIT (INCLUDES B6, B7, C2, F4, F5)	0240-21		1	CAST IRON
C2	PLUG, PIPE (1/4" NPT)	PLUG-025		2	STEEL
		0240-4000-110	N/A	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	N/A	0320-4000-120	1	DUCTILE IRON/STEEL
		0240-4002-110	N/A	1	CAST IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	N/A	0320-4002-120	1	DUCTILE IRON/STEEL
		0240-4003-110	N/A	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	N/A	0320-4003-120	1	DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0240-4004-130	0320-4004-130	· ·	STEEL
_		0240-5000-110	0320-5000-110	1	CAST IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	0240-5010-110	0320-5010-110	1	CAST IRON/BRONZE
		0240-5800-300	0320-5800-300	1	CARBON GRAPHITE
E2	BUSHING, IDLER	0240-5800-320	0320-5800-320	1	BRONZE
F1	HEAD, KIT (INCLUDES F2 THRU F5)	0240-6010-110	0320-6010-110	1	CAST IRON/STEEL
F2	PIN, IDLER	0240-6200-231	0320-6200-231	1	HARDENED STEEL
50	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013	NSH-230	1	STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013	NST-230	1	STEEL
F4	CAPSCREW (7/16"-14 X 1-1/8"), HEAD	S01C438A	12WA2A2	6	STEEL
F5	GASKET, HEAD	0240-69	00-950	1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0240-70	00-230	1	STEEL
[VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G14)	0240-70	01-110	1	CAST IRON
G1 [VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G14)	0240-70	02-110	1	CAST IRON
[VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G14)	0240-70	03-110	1	CAST IRON
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)	0240-70	04-110	1	CAST IRON
G2	VALVE, BODY	0240-71	00-110	1	CAST IRON
32	VALVE, COVER (NOT SHOWN)	0240-71	01-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0240-79		1	KLINGERSIL [®] C-4401
G4	VALVE, BONNET	0240-72		1	CAST IRON
G5	VALVE, GASKET CAP	0240-79		1	KLINGERSIL® C-4401
36	VALVE, CAP	0240-73		1	CAST IRON
G7	VALVE, ADJUSTMENT SCREW	0240-77		1	STEEL
G8	VALVE, LOCK NUT	0240-77		1	STEEL
G9	VALVE, SPRING GUIDE	0240-75		1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 & 200 PSI VALVES)	0240-76		1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50 PSI VALVES)	0240-76		1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 80 & 200 PSI VALVES)	0240-76		1	STAINLESS STEEL
12		0240-74		1	CAST IRON
13	CAPSCREW (5/16"-18 X .625), VALVE	S01C3126		8	STEEL
i14	GASKET, VALVE	0240-79		2	INTERFACE TS-9003
-11	GLAND, PACKING	0240-82		1	CASTIRON
	GLAND, PACKING (TYPE 9)	0240-82		1	CAST IRON
12	NUT (7/16"-14), PACKING GLAND	N04C4383		2	STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND	S01C438E		2	STAINLESS STEEL
	TYPE 1, COMPONENT SEAL	0240-80		1	BUNA-N
-14	TYPE 1, COMPONENT SEAL	0240-80		1	VITON
15	TYPE 9, COMPONENT SEAL	0240-80		1	PTFE
15	COLLAR, MECHANICAL SEAL ASSEMBLY	0240-80		1	STEEL
16	PACKING	0240-81		1	PTFE - GRAPHITE
H7 _	WASHER, PACKING RETAINING	0240-81	50-230	1	STEEL

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EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-24	G1-32	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0240-10	000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0240-17	710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0240-17	720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0240-12	200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0240-19	900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0240-13	300-230	1	STEEL
A7	BEARING	0240-14	400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER	0240-13	301-230	1	STEEL
A9	SEMI-ROUND RINGS	0240-13	310-230	2	STEEL
A10	HOUSING, BEARING	0240-11	100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U3755	00WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U3133	13WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-17	790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0240-20	000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2	BUSHING, BRACKET	0240-28	300-300	1	CARBON GRAPHITE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013	3NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025	5NSH-250	3	STAINLESS STEEL
B5	PLUG, PIPE (1/8" NPT)	PLUG-013	SNSH-250	1	STAINLESS STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET	S01C438A	12AA9A1	8	STAINLESS STEEL
B7	GASKET, BRACKET	0240-29	900-950	1	INTERFACE TS-9003
B8	BRACKET	0240-21	100-150	1	STAINLESS STEEL
C1	CASE, 2" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0240-30	001-150	1	STAINLESS STEEL
C2	PLUG, PIPE (1/4" NPT)	PLUG-025		2	STAINLESS STEEL
		0240-4000-155	0320-4000-155	1	STAINLESS STEEL
	ROTOR, ASSEMBLY (A CLEARANCE)	0240-4000-176	0320-4000-176	1	NITRONIC 60/STAINLESS STEEL
		0240-4002-155	0320-4002-155	1	STAINLESS STEEL
D1	ROTOR, ASSEMBLY (B/C CLEARANCE)	0240-4002-176	0320-4002-176	1	NITRONIC 60/STAINLESS STEEL
		0240-4003-155	0320-4003-155	1	STAINLESS STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0240-4003-176	0320-4003-176	1	NITRONIC 60/STAINLESS STEEL
		0240-5000-255	0320-5000-255	1	STAINLESS STEEL/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	0240-5000-276	0320-5000-276	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	0240-5801-300	0320-5801-300	1	CARBON GRAPHITE
F1	HEAD, KIT (INCLUDES F2, F4, F5)	0240-6010-150	0320-6010-150	1	STAINLESS/HARDENED STAINLESS
F2	PIN, IDLER	0240-6200-254	0320-6200-254	1	HARDENED STAINLESS STEEL
F4	CAPSCREW (7/16"-14 X 1-1/8"), HEAD	S01C438A		6	STAINLESS STEEL
F5	GASKET, HEAD	0240-69		1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0240-70		1	STAINLESS STEEL
	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G14)	0240-70		1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G14)	0240-70		1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G14)	0240-70		1	STAINLESS STEEL
	VALVE, BODY	0240-71		1	STAINLESS STEEL
G2	VALVE, COVER (NOT SHOWN)	0240-71		2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0240-79		1	KLINGERSIL [®] C-4401
G4	VALVE, BONNET	0240-72		1	STAINLESS STEEL
G5	VALVE, GASKET CAP	0240-79		1	KLINGERSIL [®] C-4401
G6	VALVE, CAP	0240-73		1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW		700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	-	710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	0240-75		1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 & 200 PSI VALVES)		602-250	1	STAINLESS STEEL
010	VALVE, SPRING SMALL (USED WITH 150 G 200 FOI VALVES)	0240-76		1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 80 & 200 PSI VALVES)	0240-76		1	STAINLESS STEEL
G12	VALVE, POPPET		400-150	1	STAINLESS STEEL
G12	CAPSCREW (5/16"-18 X .625), VALVE	S01C3126		8	STAINLESS STEEL
G13	GASKET, VALVE	0240-79		2	INTERFACE TS-9003
H1	GLAND, PACKING	-	201-150	1	STAINLESS STEEL
	NUT (7/16"-14), PACKING GLAND			2	STAINLESS STEEL STAINLESS STEEL
HЭ	1101 (7/10 - 14), I AGNINO OLAND			2	STAINLESS STEEL STAINLESS STEEL
H2 H3		N04C438375AA9A1 S01C438B50CL0A1			
H3	CAPSCREW (7/16"-14), PACKING GLAND		0240-8001-920		
	CAPSCREW (7/16"-14), PACKING GLAND TYPE 9, COMPONENT SEAL PACKING	0240-80		1 1	PTFE GRAPHITE

CARBON STEEL

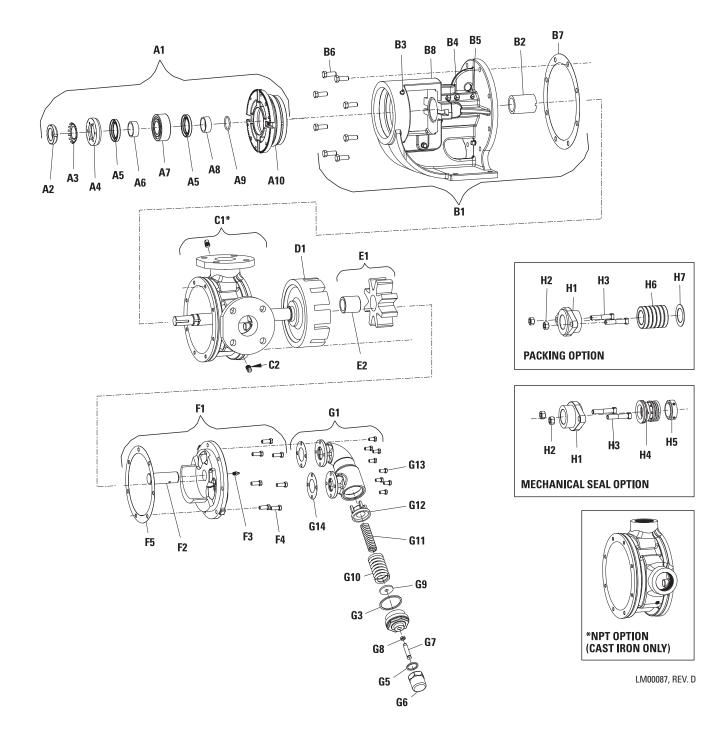
EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-24	G1-32	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	_	000-110	1	CAST IRON
A2	LOCKNUT, SHAFT		710-230	1	STEEL
A3	LOCKWASHER, SHAFT		720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING		200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING COLLAR. OUTER BEARING SPACER		900-900 300-230	2	BUNA-N STEEL
A6 A7	BEARING		400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER		301-230	1	STEEL
A9	SEMI-ROUND RINGS		310-230	2	STEEL
A10	HOUSING, BEARING		100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)		500WA6L7	2	STEEL
A12 A13	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)		313WA6L7 790-400	2	STEEL NYLON
	INSERT, BEARING HOUSING (NOT SHOWN)		790-400 000-130	1	CARBON STEEL/CARBON GRAPHITE
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)		010-130	1	CARBON STEEL/BRONZE
B2			800-300	1	CARBON GRAPHITE
	BUSHING, BRACKET		800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)		3NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)		5NSH-230	3	STEEL
B5	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING) FITTING. GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)		3NSH-230 3NST-230	1	STEEL STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET		12WA2A2	8	STEEL
B7	GASKET, BRACKET		900-950	1	INTERFACE TS-9003
B8	BRACKET		100-130	1	CARBON STEEL
C1	CASE, 2" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)		001-130	1	CARBON STEEL
C2	PLUG, PIPE (1/4" NPT)		5NSH-230	2	STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	0240-4000-110	N/A	1	CAST IRON/STEEL DUCTILE IRON/STEEL
		N/A 0240-4002-110	0320-4000-120 N/A	1	CAST IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	N/A	0320-4002-120	1	DUCTILE IRON/STEEL
		0240-4003-110	N/A	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	N/A	0320-4003-120	1	DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0240-4004-130	0320-4004-130		STEEL
E1	GEAR, IDLER ASSEMBLY	0240-5000-110	0320-5000-110	1	CAST IRON/CARBON GRAPHITE
		0240-5010-110 0240-5800-300	0320-5010-110 0320-5800-300	1	CAST IRON/BRONZE CARBON GRAPHITE
E2	BUSHING, IDLER	0240-5800-320	0320-5800-320	1	BRONZE
F1	HEAD, KIT (INCLUDES F2 THRU F5)	0240-6010-130	0320-6010-130	1	CARBON STEEL/STEEL
F2	PIN, IDLER	0240-6200-231	0320-6200-231	1	HARDENED STEEL
F3	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)		3NSH-230	1	STEEL
	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING) CAPSCREW (7/16"-14 X 1-1/8"), HEAD		3NST-230	1	STEEL STEEL
F4 F5	GASKET, HEAD		12WA2A2 900-950	6	INTERFACE TS-9003
15	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)		000-230	1	STEEL
	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G14)		001-130	1	CARBON STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G14)		002-130	1	CARBON STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G14)		003-130	1	CARBON STEEL
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)		004-130	1	CARBON STEEL
G2	VALVE, BODY VALVE, COVER (NOT SHOWN)		<u>100-130</u> 101-250	2	CARBON STEEL STAINLESS STEEL
G3	VALVE, GASKET BONNET		910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET		200-130	1	CARBON STEEL
G5	VALVE, GASKET CAP		920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP		300-110	1	CASTIRON
G7 G8	VALVE, ADJUSTMENT SCREW VALVE, LOCK NUT		700-230 710-230	1	STEEL STEEL
G8 G9	VALVE, LUCK NUT VALVE, SPRING GUIDE		710-230 500-230	1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 & 200 PSI VALVES)		602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50 PSI VALVES)		600-250	1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 80 & 200 PSI VALVES)		601-250	1	STAINLESS STEEL
G12			400-110	1	CASTIRON
G13 G14	CAPSCREW (5/16"-18 X .625), VALVE GASKET, VALVE		25WA2A2 900-950	8	STEEL INTERFACE TS-9003
	GLAND, PACKING		200-110	1	CAST IRON
H1	GLAND, PACKING (TYPE 9)		201-110	1	CAST IRON
H2	NUT (7/16"-14), PACKING GLAND		375WA2A2	2	STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND		B50CL0A1	2	STAINLESS STEEL
	TYPE 1, COMPONENT SEAL		000-900	1	BUNA-N
H4	TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL		000-910 001-920	1	VITON PTFE
H5	COLLAR, MECHANICAL SEAL ASSEMBLY		001-920	1	STEEL
H6	PACKING (7)		100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING		150-230	1	STEEL

EnviroGear

Envirogear EXPLODED VIEW & PARTS LISTING

G1-55_69



CAST IRON

EXPLODED VIEW & PARTS LISTING

EnviroGear

A1 A2 A3	Description	G1-55	G1-69	Qty.	Material
A3	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0240-10	000-110	1	CAST IRON
	LOCKNUT, SHAFT	0240-17		1	STEEL
	LOCKWASHER, SHAFT	0240-1720-230		1	STEEL
A4 A5	ENDCAP, BEARING HOUSING	0240-1200-230		1	STEEL BUNA-N
A5 A6	COLLAR, OUTER BEARING SPACER	0240-1900-900 0240-1300-230		1	STEEL
A7	BEARING	0240-14		1	STEEL
A8	COLLAR, INNER BEARING SPACER	0240-13		1	STEEL
A9	SEMI-ROUND RINGS	0240-13	310-230	2	STEEL
A10	HOUSING, BEARING	0240-11		1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U3755		2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U3133		2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-17		2	NYLON CAST IRON/CARBON GRAPHITE
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0550-20		1	CAST IRON/BRONZE
		0240-28		1	CARBON GRAPHITE
B2	BUSHING, BRACKET	0240-28		1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013	BNST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025		3	STEEL
B5	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013		1	STEEL
	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013		1	STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET	S01C438A		8	
B7 B8	GASKET, BRACKET BRACKET	0550-29		1	INTERFACE TS-9003 CAST IRON
в8 С1	CASE, 2" NPT KIT (INCLUDES B6, B7, C2, F4, F5)	0550-3000-110	N/A	1	CAST IRON
C1	CASE, 2.5" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0550-3001-110	N/A N/A	1	CASTIRON
C1	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	N/A	0690-3001-110	1	CAST IRON
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	PLUG-025NSH-230	2	STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	0550-4000-110	0690-4000-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (C CLEARANCE)	0550-4002-110	0690-4002-110	1	CAST IRON/STEEL
D1	ROTOR, ASSEMBLY (D CLEARANCE)	0550-4003-110	0690-4003-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0550-4004-110	0690-4004-110	1	CAST IRON/STEEL
		0550-4004-130	0690-4004-130	1	STEEL
	ROTOR, ASSEMBLY (F CLEARANCE)	0550-4005-130	0690-4005-130	1	STEEL
E1	GEAR, IDLER ASSEMBLY	0550-5000-110	0690-5000-110	1	CAST IRON/CARBON GRAPHITE
		0550-5010-110	0690-5010-110 0690-5800-300	1	CAST IRON/BRONZE CARBON GRAPHITE
E2	BUSHING, IDLER	0550-5800-320	0690-5800-300	1	BRONZE
F1	HEAD, ASSEMBLY KIT	0550-6010-110	0690-6010-110	1	CAST IRON/STEEL
F2	PIN, IDLER	0550-6200-231	0690-6200-231	1	HARDENED STEEL
F3	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013	NSH-230	1	STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013	3NST-230	1	STEEL
F4	CAPSCREW (7/16"-14 X 1-1/8"), HEAD	S01C438A		7	STEEL
F5	GASKET, HEAD	0550-69		1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0550-70		1	STEEL
C1	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G14)	0550-70		1	CAST IRON
G1	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G14) VALVE. ASSEMBLY-160 PSI (INCLUDES G2 THRU G14)	0550-70		1	CAST IRON CAST IRON
	VALVE, ASSEMBLY-100 PSI (INCLUDES G2 THRU G14)	0550-70		1	CASTIRON
	VALVE, BODY	0550-71		1	CAST IRON
G2	VALVE, COVER (NOT SHOWN)	0550-71		2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0240-79		1	KLINGERSIL® C-4401
G4	VALVE, BONNET	0240-72	200-110	1	CAST IRON
G5	VALVE, GASKET CAP	0240-79	020-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP	0240-73		1	CAST IRON
G7	VALVE, ADJUSTMENT SCREW	0240-77		1	STEEL
G8	VALVE, LOCK NUT	0240-77		1	STEEL
G9	VALVE, SPRING GUIDE	0240-75		1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 160 & 200 PSI VALVES) VALVE, SPRING SMALL (USED WITH 60 PSI VALVES)	0240-76		1	STAINLESS STEEL STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES) VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)	0240-76		1	STAINLESS STEEL
	VALVE, POPPET	0240-74		1	CAST IRON
G11					STEEL
G11 G12	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C3757		8	
G11 G12 G13				2	INTERFACE TS-9003
G11 G12 G13 G14	CAPSCREW (3/8"-16 X 3/4"), VALVE		00-950		
G11 G12 G13	CAPSCREW (3/8°-16 X 3/4°), VALVE GASKET, VALVE	0550-79	000-950 200-110	2	INTERFACE TS-9003
G11 G12 G13 G14 H1 H2	CAPSCREW (3/8°-16 X 3/4°), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16°-14), PACKING GLAND	0550-79 0240-82 0240-82 0240-82 N04C4383	000-950 200-110 201-110 75WA2A2	2 1 2	INTERFACE TS-9003 CAST IRON CAST IRON STEEL
G11 G12 G13 G14 H1	CAPSCREW (3/8"-16 X 3/4"), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND	0550-79 0240-82 0240-82 0240-82 N04C4383 S01C4388	000-950 200-110 201-110 75WA2A2 850CL0A1	2 1 2 2	INTERFACE TS-9003 CAST IRON CAST IRON STEEL STAINLESS STEEL
G11 G12 G13 G14 H1 H2 H3	CAPSCREW (3/8'-16 X 3/4'), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND TYPE 1, COMPONENT SEAL	0550-79 0240-82 0240-82 0240-82 N04C4383 S01C4388 0240-80	000-950 200-110 201-110 75WA2A2 350CL0A1 000-900	2 1 2 2 1	INTERFACE TS-9003 CAST IRON CAST IRON STEEL STAINLESS STEEL BUNA-N
G11 G12 G13 G14 H1 H2	CAPSCREW (3/8'-16 X 3/4'), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16''-14), PACKING GLAND CAPSCREW (7/16''-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL	0550-79 0240-82 0240-82 0240-82 N04C4383 S01C438E 0240-80 0240-80 0240-80	000-950 200-110 201-110 75WA2A2 350CL0A1 000-900 000-910	2 1 2 2 1 1	INTERFACE TS-9003 CAST IRON CAST IRON STEEL STAINLESS STEEL BUNA-N VITON
G11 G12 G13 G14 H1 H2 H3 H4	CAPSCREW (3/8'-16 X 3/4'), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16''-14), PACKING GLAND CAPSCREW (7/16''-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL	0550-79 0240-82 0240-82 N04C4383 S01C438E 0240-80 0240-80 0240-80	000-950 200-110 201-110 75WA2A2 350CL0A1 000-900 100-910 101-920	2 1 2 2 1 1 1 1	INTERFACE TS-9003 CAST IRON CAST IRON STEEL STAINLESS STEEL BUNA-N VITON PTFE
G11 G12 G13 G14 H1 H2 H3	CAPSCREW (3/8'-16 X 3/4'), VALVE GASKET, VALVE GLAND, PACKING GLAND, PACKING (TYPE 9) NUT (7/16''-14), PACKING GLAND CAPSCREW (7/16''-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL	0550-79 0240-82 0240-82 0240-82 N04C4383 S01C438E 0240-80 0240-80 0240-80	000-950 200-110 201-110 75WA2A2 350CL0A1 000-900 000-910 101-920 150-230	2 1 2 2 1 1	INTERFACE TS-9003 CAST IRON CAST IRON STEEL STAINLESS STEEL BUNA-N VITON

EnviroGear

EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-55	G1-69	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0240-1	000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0240-1	710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0240-1	720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0240-1	200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING		900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER		300-230	1	STEEL
A7	BEARING		400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER		301-230	1	STEEL
A9	SEMI-ROUND RINGS		310-230	2	STEEL
A10	HOUSING, BEARING		100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)		500WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)		313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)		790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)		000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2	BUSHING, BRACKET		800-300	1	CARBON GRAPHITE
B3	FITTING, GREASE (1/8" NPT)		3NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)		5NSH-250	3	STAINLESS STEEL
B5	PLUG, PIPE (1/8" NPT)		3NSH-250	1	STAINLESS STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET		A12AA9A1	8	STAINLESS STEEL
B7	GASKET, BRACKET		900-950	1	INTERFACE TS-9003
B8	BRACKET		100-150	1	STAINLESS STEEL
C1	CASE, 2.5" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0550-3001-150	N/A	1	STAINLESS STEEL
C1	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	N/A	0690-3001-150	1	STAINLESS STEEL
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	PLUG-025NSH-250	2	STAINLESS STEEL
	ROTOR, ASSEMBLY (A CLEARANCE)	0550-4000-155	0690-4000-155	1	STAINLESS STEEL
		0550-4000-176	0690-4000-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (B/C CLEARANCE)	0550-4002-155	0690-4002-155	1	STAINLESS STEEL
D1		0550-4002-176	0690-4002-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0550-4003-155	0690-4003-155	1	STAINLESS STEEL
	,	0550-4003-176	0690-4003-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0550-4004-110	N/A	1	CAST IRON/STEEL
E1	GEAR, IDLER ASSEMBLY	0550-5000-255	0690-5000-255	1	STAINLESS STEEL/CARBON GRAPHITE
	•	0550-5000-276	0690-5000-276	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	0550-5801-300	0690-5801-300	1	CARBON GRAPHITE
F1	HEAD, KIT (INCLUDES F2, F4, F5)	0550-6010-150	0690-6010-150	1	STAINLESS/HARDENED STAINLESS
F2	PIN, IDLER	0550-6200-254	0690-6200-254	1	HARDENED STAINLESS STEEL
F4	CAPSCREW (7/16"-14 X 1-1/8"), HEAD		A12AA9A1	7	STAINLESS STEEL
F5	GASKET, HEAD		900-950	1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)		000-250	1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G14)		001-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G14)		002-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G14)		003-150	1	STAINLESS STEEL
G2	VALVE, BODY		100-150	1	STAINLESS STEEL
	VALVE, COVER (NOT SHOWN)		101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET		910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET		200-150	1	STAINLESS STEEL
G5	VALVE, GASKET CAP		920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP		300-150	1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW		700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT		710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE		500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 160 & 200 PSI VALVES)		602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES)		600-250	1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)		601-250	1	STAINLESS STEEL
G12			400-150	1	STAINLESS STEEL
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE		750AA9A1	8	STAINLESS STEEL
G14	GASKET, VALVE		900-950	2	INTERFACE TS-9003
H1	GLAND, PACKING (TYPE 9)		201-150	1	STAINLESS STEEL
H2	NUT (7/16"-14), PACKING GLAND		375AA9A1	2	STAINLESS STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND		B50CL0A1	2	STAINLESS STEEL
H4	TYPE 9, COMPONENT SEAL		001-920	1	PTFE PTFE OPADUUTE
H6	PACKING		100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING	0240-8	150-250	1	STAINLESS STEEL

CARBON STEEL

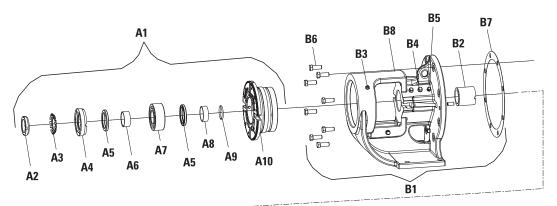
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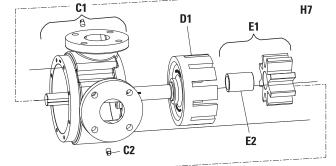
ltem	Description	G1-55	G1-69	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0240-10	000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0240-1	710-230	1	STEEL
A3	LOCKWASHER, SHAFT		720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING		200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING		900-900	2	BUNA-N
A6 A7	COLLAR, OUTER BEARING SPACER BEARING		300-230 400-230	1	STEEL STEEL
A7 A8	COLLAR, INNER BEARING SPACER		301-230	1	STEEL
A9	SEMI-ROUND RINGS		310-230	2	STEEL
A10	HOUSING, BEARING		100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)		500WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U3133	313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1	790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)		000-130	1	CARBON STEEL/CARBON GRAPHITE
			010-130	1	CARBON STEEL/BRONZE
B2	BUSHING, BRACKET		800-300 800-320	1	CARBON GRAPHITE BRONZE
B3	FITTING, GREASE (1/8" NPT)		3NST-230	1	STEEL
B3	PLUG, PIPE (1/4" NPT)		5NSH-230	3	STEEL
	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)		3NSH-230	1	STEEL
B5	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)		3NST-230	1	STEEL
B6	SCREWS (7/16"-14 X 1-1/8"), BRACKET		12WA2A2	8	STEEL
B7	GASKET, BRACKET		900-950	1	INTERFACE TS-9003
B8	BRACKET		100-130	1	CARBON STEEL
C1	CASE, 2.5" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0550-3001-130	N/A	1	CARBON STEEL
	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	N/A	0690-3001-130	1	CARBON STEEL
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	PLUG-025NSH-230	2	STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE) ROTOR, ASSEMBLY (C CLEARANCE)	0550-4000-110	0690-4000-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (C CLEARANCE)	0550-4002-110 0550-4003-110	0690-4002-110 0690-4003-110	1	CAST IRON/STEEL CAST IRON/STEEL
D1		0550-4003-110	0690-4003-110	1	CAST IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0550-4004-130	0690-4004-130	1	STEEL
	ROTOR, ASSEMBLY (F CLEARANCE)	0550-4005-130	0690-4005-130	1	STEEL
F1		0550-5000-110	0690-5000-110	1	CAST IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	0550-5010-110	0690-5010-110	1	CAST IRON/BRONZE
E2	BUSHING, IDLER	0550-5800-300	0690-5800-300	1	CARBON GRAPHITE
		0550-5800-320	0690-5800-320	1	BRONZE
F1	HEAD, ASSEMBLY KIT	0550-6010-130	0690-6010-130	1	CARBON STEEL/STEEL
F2	PIN, IDLER PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	0550-6200-231	0690-6200-231 3NSH-230	1	HARDENED STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH LOBRICATED BUSHING)		3NSH-230 3NST-230	1	STEEL STEEL
F4	CAPSCREW (7/16"-14 X 1-1/8"), HEAD		12WA2A2	7	STEEL
F5	GASKET, HEAD		900-950	1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)		000-230	1	STEEL
	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G14)	0550-70	001-130	1	CARBON STEEL
G1	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G14)	0550-70	002-130	1	CARBON STEEL
	VALVE, ASSEMBLY-160 PSI (INCLUDES G2 THRU G14)		003-130	1	CARBON STEEL
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)		004-130	1	CARBON STEEL
G2			100-130	1	
G3	VALVE, COVER (NOT SHOWN) VALVE, GASKET BONNET	0550-7	101-250 910-951	2	STAINLESS STEEL KLINGERSIL® C-4401
G4	VALVE, GASKET BONNET		200-130	1	CARBON STEEL
G5	VALVE, GASKET CAP	0240-75		1	KLINGERSIL® C-4401
G6	VALVE, CAP		300-110	1	CAST IRON
G7	VALVE, ADJUSTMENT SCREW	0240-7	700-230	1	STEEL
G8	VALVE, LOCK NUT		710-230	1	STEEL
G9	VALVE, SPRING GUIDE		500-230	1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 160 & 200 PSI VALVES)		602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES) VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)		600-250 601-250	1	STAINLESS STEEL STAINLESS STEEL
G12	VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)		601-250 400-110	1	CAST IRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE		50WA2A2	8	STEEL
G14	GASKET, VALVE		900-950	2	INTERFACE TS-9003
	GLAND, PACKING		200-110	1	CAST IRON
ι μ1	GLAND, FACKING		201-110		CAST IRON
H1	GLAND, PACKING (TYPE 9)	0240-82			
H2	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND	N04C4383	375WA2A2	2	STEEL
	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND	N04C4383 S01C438E	B50CL0A1	2	STAINLESS STEEL
H2 H3	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND TYPE 1, COMPONENT SEAL	N04C4383 S01C4388 0240-80	B50CL0A1 000-900	2	STAINLESS STEEL BUNA-N
H2	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL	N04C4383 S01C4388 0240-80 0240-80	B50CL0A1 000-900 000-910	2 1 1	STAINLESS STEEL BUNA-N VITON
H2 H3 H4	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL TYPE 9, COMPONENT SEAL	N04C4383 S01C438E 0240-80 0240-80 0240-80 0240-80	B50CL0A1 000-900 000-910 001-920	2 1 1 1 1	STAINLESS STEEL BUNA-N VITON PTFE
H2 H3	GLAND, PACKING (TYPE 9) NUT (7/16"-14), PACKING GLAND CAPSCREW (7/16"-14), PACKING GLAND TYPE 1, COMPONENT SEAL TYPE 1, COMPONENT SEAL	N04C4383 S01C4386 0240-80 0240-80 0240-80 0240-80 0240-80	B50CL0A1 000-900 000-910	2 1 1	STAINLESS STEEL BUNA-N VITON

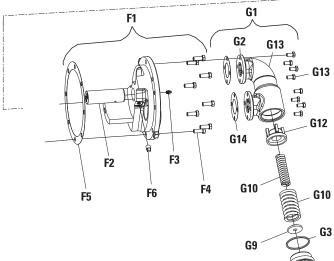
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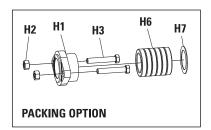
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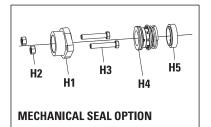
G1-82











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G7

G4

G8 G5

G6

CAST IRON

EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-82	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0820-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0820-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0820-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0820-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0820-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0820-1300-230	1	STEEL
A7	BEARING	0820-1400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER	0820-1301-230	1	STEEL
A9	SEMI-ROUND RINGS	0820-1310-230	2	STEEL
A10	HOUSING, BEARING	0820-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U375500WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0820-2000-110	1	CAST IRON/CARBON GRAPHITE
ы	DNACKET, ASSEMBLI (INCLODES BZ TIINO BO)	0820-2010-110	1	CAST IRON/BRONZE
B2	BUSHING, BRACKET	0820-2800-300	1	CARBON GRAPHITE
DZ	BUSHING, BRACKET	0820-2800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	3	STEEL
_	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
B5	FITTING, GREASE (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
B6	SCREWS (7/16"-14 X 1-1/4"), BRACKET	S01C438A25WA2A8	8	STEEL
B7	GASKET, BRACKET	0550-2900-950	1	INTERFACE TS-9003
B8	BRACKET	0820-2100-110	1	CAST IRON
C1	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0820-3001-110	1	CAST IRON
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	2	STEEL
62	ROTOR, ASSEMBLY (A/B CLEARANCE)		1	
		0820-4000-121		
D1	ROTOR, ASSEMBLY (C CLEARANCE)	0820-4002-121	1	DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0820-4003-121	1	DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (E CLEARANCE)	0820-4004-121	1	DUCTILE IRON/STEEL
E1	GEAR, IDLER ASSEMBLY	0820-5000-110	1	CAST IRON/CARBON GRAPHITE
		0820-5010-110	1	CAST IRON/BRONZE
E2	BUSHING, IDLER	0820-5800-300	1	CARBON GRAPHITE
	,	0820-5800-320	1	BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F6)	0820-6010-110	1	CAST IRON/STEEL
F2	PIN, IDLER	0820-6200-231	1	HARDENED STEEL
F3	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
13	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
F4	CAPSCREW (7/16"-14 X 1-1/4"), HEAD	S01C438A25WA2A8	8	STEEL
F5	GASKET, HEAD	0550-2900-950	1	INTERFACE TS-9003
F6	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	1	STEEL
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0550-7000-230	1	STEEL
	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7001-110	1	CAST IRON
G1	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7002-110	1	CASTIRON
	VALVE, ASSEMBLY-160 PSI (INCLUDES G2 THRU G10, G12 THRU G14)	0550-7003-110	1	CAST IRON
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)	0550-7004-110	1	CASTIRON
	VALVE, BODY	0550-7100-110	1	CAST IRON
G2	VALVE, DODT	0550-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0240-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	0240-7200-110	1	CAST IRON
G5	VALVE, BONNET VALVE, GASKET CAP	0240-7200-110	1	KLINGERSIL® C-4401
G6	VALVE, GASKET CAP	0240-7300-110	1	CAST IRON
	VALVE, CAP VALVE, ADJUSTMENT SCREW		1	
G7		0240-7700-230		STEEL
G8		0240-7710-230	1	STEEL
G9	VALVE, SPRING GUIDE	0240-7500-230	1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 160 & 200 PSI VALVES)	0240-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES)	0240-7600-250	1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)	0240-7601-250	1	STAINLESS STEEL
G12	VALVE, POPPET	0240-7400-110	1	CASTIRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750WA2A2	8	STEEL
G14	GASKET, VALVE	0550-7900-950	2	INTERFACE TS-9003
H1	GLAND, PACKING (TYPE 1)	0820-8200-150	1	STAINLESS STEEL
	GLAND, PACKING (TYPE 9)	0820-8201-150	1	STAINLESS STEEL
H2	NUT (7/16"-14), PACKING GLAND	N04C438375AA9A1	2	STAINLESS STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND	S01C438B50CL0A1	2	STAINLESS STEEL
	TYPE 1, COMPONENT SEAL	0820-8000-910	1	VITON
H4	TYPE 9, COMPONENT SEAL	0820-8001-920	1	PTFE/Ni-RESIST
H5	COLLAR, MECHANICAL SEAL ASSEMBLY	0820-8050-250	1	STAINLESS STEEL
H6	PACKING (7 RINGS)	0820-8100-925	1	PTFE - GRAPHITE
		0020 0100 020		

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EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-82	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0820-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0820-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0820-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0820-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0820-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0820-1300-230	1	STEEL
A7	BEARING	0820-1400-230	1	STEEL
A8	COLLAR, INNER BEARING SPACER	0820-1301-230	1	STEEL
A9	SEMI-ROUND RINGS	0820-1310-230	2	STEEL
A10	HOUSING, BEARING	0820-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U375500WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A12			2	NYLON
	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400		
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0820-2000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2		0820-2800-300	1	CARBON GRAPHITE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	3	STAINLESS STEEL
B6	SCREWS (7/16"-14 X 1-1/4"), BRACKET	S01C438A25AE2A1	8	STAINLESS STEEL
B5	PLUG, PIPE (1/8" NPT)	PLUG-013NSH-250	1	STAINLESS STEEL
B7	GASKET, BRACKET	0550-2900-950	1	INTERFACE TS-9003
B8	BRACKET	0820-2100-150	1	STAINLESS STEEL
C1	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0820-3001-150	1	STAINLESS STEEL
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	2	STAINLESS STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	0820-4000-176	1	NITRONIC 60/STAINLESS STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	0820-4002-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	0820-4003-176	1	NITRONIC 60/STAINLESS STEEL
E1	GEAR, IDLER ASSEMBLY	0820-5000-176	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	0820-5801-300	1	CARBON GRAPHITE
F1	HEAD, ASSEMBLY KIT (INCLUDES F2, F4, F5)	0820-6010-150	1	STAINLESS STEEL
F2	PIN, IDLER	0820-6200-254	1	STAINLESS STEEL/HARDENED
FZ F4	,		8	STAINLESS STEEL HANDENED
	CAPSCREW (7/16"-14 X 1-1/4"), HEAD	S01C438A25AE2A1		
F5	GASKET, HEAD	0550-2900-950	1	INTERFACE TS-9003
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0550-7000-250	1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7001-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7002-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G10, G12 THRU G14)	0550-7003-150	1	STAINLESS STEEL
G2	VALVE, BODY	0550-7100-150	1	STAINLESS STEEL
02	VALVE, COVER (NOT SHOWN)	0550-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	0240-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	0240-7200-150	1	STAINLESS STEEL
G5	VALVE, GASKET CAP	0240-7920-951	1	KLINGERSIL [®] C-4401
G6	VALVE, CAP	0240-7300-150	1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW	0240-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	0240-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	0240-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 PSI VALVES)	0240-7602-250	1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES)	0240-7600-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 90 PSI VALVES)	0240-7601-250	1	STAINLESS STEEL
G12	VALVE, POPPET	0240-7400-150	1	STAINLESS STEEL
G12	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750AE2A1	8	STAINLESS STEEL
G14	GASKET, VALVE	0550-7900-950	2	INTERFACE TS-9003
014				
H1	GLAND, PACKING (TYPE 1)	0820-8200-150	1	STAINLESS STEEL
	GLAND, PACKING (TYPE 9)	0820-8201-150	1	STAINLESS STEEL
H2	NUT (7/16"-14), PACKING GLAND	N04C438375AA9A1	2	STAINLESS STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND	S01C438B50CL0A1	2	STAINLESS STEEL
H4	TYPE 9, COMPONENT SEAL	0820-8001-920	1	PTFE/Ni-RESIST
H6	PACKING (7 RINGS)	0820-8100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING	0820-8150-250	1	STAINLESS STEEL
H7	WASHER, PACKING RETAINING	0820-8150-250	1	STAINLESS STEEL

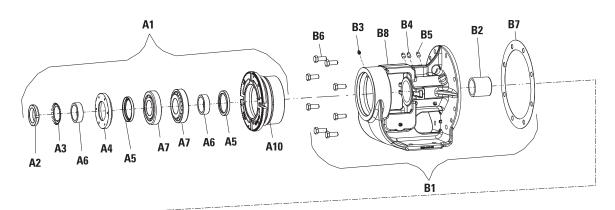
CARBON STEEL

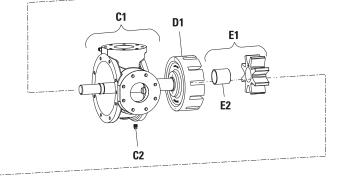
EXPLODED VIEW & PARTS LISTING

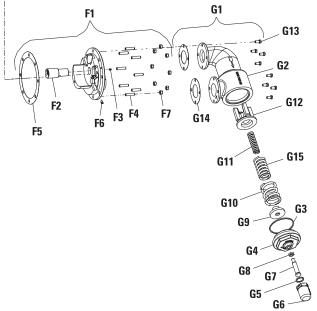
ltem	Description	G1-82	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	0820-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	0820-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	0820-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	0820-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	0820-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	0820-1300-230	1	STEEL
A7 A8	BEARING COLLAR, INNER BEARING SPACER	0820-1400-230 0820-1301-230	1	STEEL STEEL
A0 A9	SEMI-ROUND RINGS	0820-1310-230	2	STEEL
A10	HOUSING, BEARING	0820-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 1/2"), BEARING HOUSING (NOT SHOWN)	S57U375500WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
D1		0820-2000-130	1	CARBON STEEL/CARBON GRAPHITE
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	0820-2010-130	1	CARBON STEEL/BRONZE
B2	BUSHING, BRACKET	0820-2800-300	1	CARBON GRAPHITE
DZ	BUSHING, BRACKET	0820-2800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	3	STEEL
B5	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
-	FITTING, GREASE (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
B6	SCREWS (7/16"-14 X 1-1/4"), BRACKET	S01C438A25WA2A8	8	STEEL
B7	GASKET, BRACKET	0550-2900-950	1	INTERFACE TS-9003
B8		0820-2100-130	1	CARBON STEEL
C1	CASE, 3" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	0820-3001-130	1	CARBON STEEL
C2	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	2	
	ROTOR, ASSEMBLY (A/B CLEARANCE)	0820-4000-121	1	DUCTILE IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	0820-4002-121	1	DUCTILE IRON/STEEL DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE) ROTOR, ASSEMBLY (E CLEARANCE)	0820-4003-121 0820-4004-121	1	DUCTILE IRON/STEEL
	NOTON, ASSEMBLT (E CLEANANCE)	0820-5000-110	1	CAST IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	0820-5010-110	1	CAST IRON/CARBON GRAPHITE
		0820-5800-300	1	CARBON GRAPHITE
E2	BUSHING, IDLER	0820-5800-320	1	BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F6)	0820-6010-130	1	CARBON STEEL/STEEL
F2	PIN, IDLER	0820-6200-231	1	HARDENED STEEL
	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
F4	CAPSCREW (7/16"-14 X 1-1/4"), HEAD	S01C438A25WA2A8	8	STEEL
F5	GASKET, HEAD	0550-2900-950	1	INTERFACE TS-9003
F6	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	1	STEEL
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	0550-7000-230	1	STAINLESS STEEL
	VALVE, ASSEMBLY-60 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7001-130	1	CARBON STEEL
G1	VALVE, ASSEMBLY-90 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	0550-7002-130	1	CARBON STEEL
	VALVE, ASSEMBLY-160 PSI (INCLUDES G2 THRU G10, G12 THRU G14)	0550-7003-130	1	CARBON STEEL
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G14)	0550-7004-130	1	CARBON STEEL
G2		0550-7100-130	1	CARBON STEEL
00	VALVE, COVER (NOT SHOWN)	0550-7101-250	2	STAINLESS STEEL
G3 G4	VALVE, GASKET BONNET VALVE, BONNET	0240-7910-951	1	KLINGERSIL® C-4401 CARBON STEEL
G5	VALVE, GASKET CAP	0240-7200-130	1	
G6	VALVE, GASKET CAP	0240-7920-951 0240-7300-110	1	KLINGERSIL® C-4401 CAST IRON
G7	VALVE, CAP VALVE, ADJUSTMENT SCREW	0240-7700-230	1	STEEL
G8	VALVE, LOCK NUT	0240-7710-230	1	STEEL
G9	VALVE, SPRING GUIDE	0240-7500-230	1	STEEL
G10	VALVE, SPRING LARGE (USED WITH 160 & 200 PSI VALVES)	0240-7602-250	1	STAINLESS STEEL
	VALVE, SPRING SMALL (USED WITH 60 PSI VALVES)	0240-7600-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 90 & 200 PSI VALVES)	0240-7601-250	1	STAINLESS STEEL
G12	VALVE, POPPET	0240-7400-110	1	CAST IRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750WA2A2	8	STEEL
G14	GASKET, VALVE	0550-7900-950	2	INTERFACE TS-9003
H1	GLAND, PACKING (TYPE 1)	0820-8200-150	1	STAINLESS STEEL
111	GLAND, PACKING (TYPE 9)	0820-8201-150	1	STAINLESS STEEL
H2	NUT (7/16"-14), PACKING GLAND	N04C438375AA9A1	2	STAINLESS STEEL
H3	CAPSCREW (7/16"-14), PACKING GLAND	S01C438B50CL0A1	2	STAINLESS STEEL
H4	TYPE 1, COMPONENT SEAL	0820-8000-910	1	VITON
	TYPE 9, COMPONENT SEAL	0820-8001-920	1	PTFE/Ni-RESIST
H5	COLLAR, MECHANICAL SEAL ASSEMBLY	0820-8050-250	1	STAINLESS STEEL
H6	PACKING (7 RINGS)	0820-8100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING	0820-8150-250	1	STAINLESS STEEL

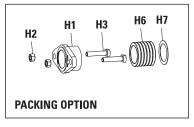
Envirogear EXPLODED VIEW & PARTS LISTING

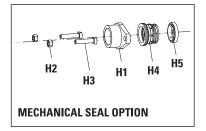
G1-133











LM0026, REV. A

CAST IRON

EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-133	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL BUNA-N
A5 A6	LIP SEAL, BEARING HOUSING COLLAR, OUTER BEARING SPACER	1330-1900-900 1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING	1330-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	S57U375750WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2000-110	1	CAST IRON/CARBON GRAPHITE
		1330-2010-110	1	CAST IRON/BRONZE
B2	BUSHING, BRACKET	1330-2800-300 1330-2800-320	1	CARBON GRAPHITE BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	4	STEEL
	PLUG, PIPE (1/4" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-025NSH-230	1	STEEL
B5	FITTING, GREASE PIN (1/4" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-025NST-230	1	STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50WA2A4	8	STEEL
B7	GASKET, BRACKET	1330-6900-950	1	INTERFACE TS-9003
B8	BRACKET	1330-2100-110	1	CAST IRON
C1	CASE, 4" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	1330-3001-110	1	CASTIRON
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-230	2	STEEL
	ROTOR, ASSEMBLY (A/B CLEARANCE)	1330-4000-121	1	DUCTILE IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	1330-4002-121	1	DUCTILE IRON/STEEL
	ROTOR, ASSEMBLY (D CLEARANCE)	1330-4003-121	1	DUCTILE IRON/STEEL
E1	GEAR, IDLER ASSEMBLY	1330-5000-121 1330-5010-121	1	DUCTILE IRON/CARBON GRAPHITE DUCTILE IRON/BRONZE
		1330-5800-300	1	CARBON GRAPHITE
E2	BUSHING, IDLER	1330-5800-320	1	BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F7)	1330-6010-110	1	CAST IRON/STEEL
F2	PIN, IDLER	1330-6200-231	1	HARDENED STEEL
F3	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50WA2A2	8	STEEL
F5	GASKET, HEAD	1330-6900-950	1	INTERFACE TS-9003
F6 F7	PLUG, PIPE (1/4" NPT) NUT, HEAD, (5/8"-11)	PLUG-025NSH-230 N04C625562WA2A2	1 8	STEEL STEEL
F7	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-230	1	STEEL
	VALVE, COVER ASSEMBLE (INCLUDES G2, CI3 AND CI4)	1330-7001-110	1	CAST IRON
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-110	1	CAST IRON
	VALVE, ASSEMBLY-130 PSI (INCLUDES G2 THRU G9, G11 THRU G15)	1330-7003-110	1	CAST IRON
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G15)	1330-7004-110	1	CAST IRON
G2	VALVE, BODY	1330-7100-110	1	CAST IRON
_	VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	1330-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	1330-7200-110	1	
G5 G6	VALVE, GASKET CAP VALVE, CAP	1330-7920-951 1330-7300-110	1	KLINGERSIL® C-4401 CAST IRON
G0 G7	VALVE, CAP VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 200 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50, 130, 200 PSI VALVES)	1330-7600-250	1	STAINLESS STEEL
G12	VALVE, POPPET	1330-7400-110	1	CAST IRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750WA2A2	8	STEEL
G14	GASKET, VALVE	1330-7900-950	2	INTERFACE TS-9003
G15	VALVE, SPRING MEDIUM (USED WITH 80, 130, 200 PSI VALVES)	1330-7601-250	1	STAINLESS STEEL
H1	GLAND, PACKING (TYPE 1)	1330-8200-150	1	STAINLESS STEEL
H2	GLAND, PACKING (TYPE 9) NUT (5/8"-11), PACKING GLAND	1330-8201-150 N04C625562CL0A1	1	STAINLESS STEEL STAINLESS STEEL
H3	CAPSCREW (5/8'-11), PACKING GLAND	B01C625C00CL0A1	2	STAINLESS STEEL STAINLESS STEEL
	TYPE 1, COMPONENT SEAL	1330-8000-910	1	VITON
H4	TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/Ni-RESIST
H5	COLLAR, MECHANICAL SEAL ASSEMBLY	1330-8050-250	1	STAINLESS STEEL
H6	PACKING (7 RINGS)	1330-8100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING	1330-8150-250	1	STAINLESS STEEL

EnviroGear

EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-133	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	1330-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING	1330-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	S57U375750WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2	BUSHING, BRACKET	1330-2800-300	1	CARBON GRAPHITE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	4	STAINLESS STEEL
B5	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	1	STAINLESS STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50AE2A1	8	STAINLESS STEEL
B7	GASKET, BRACKET	1330-6900-950	1	INTERFACE TS-9003
B8	BRACKET	1330-2100-150	1	STAINLESS STEEL
C1	CASE, 4" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	1330-3001-150	1	STAINLESS STEEL
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-250	2	STAINLESS STEEL
	ROTOR, ASSEMBLY (A CLEARANCE)	1330-4000-176	1	NITRONIC 60/STAINLESS STEEL
D1	ROTOR, ASSEMBLY (B CLEARANCE)	1330-4001-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (C CLEARANCE)	1330-4002-176	1	NITRONIC 60/STAINLESS STEEL
E1	GEAR, IDLER ASSEMBLY	1330-5000-176	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	1330-5801-300	1	CARBON GRAPHITE
F1	HEAD, ASSEMBLY KIT (F2, F4, F5, F7)	1330-6010-150	1	STAINLESS STEEL
F2	PIN, IDLER	1330-6200-254	1	STAINLESS STEEL/KOLSTERISED
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50AE2A1	8	STAINLESS STEEL
F5	GASKET, HEAD	1330-6900-950	1	INTERFACE TS-9003
F7	NUT, HEAD, (5/8"-11)	N04C625562AE2A1	8	STAINLESS STEEL
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-250	1	STAINLESS STEEL
	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	1330-7001-150	1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-130 PSI (INCLUDES G2 THRU G9, G11 THRU G15)	1330-7003-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G15)	1330-7004-150	1	STAINLESS STEEL
G2	VALVE, BODY	1330-7100-150	1	STAINLESS STEEL
02	VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	1330-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	1330-7200-150	1	STAINLESS STEEL
G5	VALVE, GASKET CAP	1330-7920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP	1330-7300-150	1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50, 130, 150 PSI VALVES)	1330-7600-250	1	STAINLESS STEEL
G12	VALVE, POPPET	1330-7400-150	1	STAINLESS STEEL
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750AE2A1	8	STAINLESS STEEL
G14	GASKET, VALVE	1330-7900-950	2	INTERFACE TS-9003
G15	VALVE SPRING MEDIUM (USED WITH 80, 130, 150 PSI VALVES)	1330-7601-250	1	STAINLESS STEEL
H1	GLAND, PACKING (TYPE 1)	1330-8200-150	1	STAINLESS STEEL
	GLAND, PACKING (TYPE 9)	1330-8201-150	1	STAINLESS STEEL
H2	NUT (5/8"-11), PACKING GLAND	N04C625562CL0A1	2	STAINLESS STEEL
H3	CAPSCREW (5/8"-11), PACKING GLAND	B01C625C00CL0A1	2	STAINLESS STEEL
H4	TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/ Ni-RESIST
H6	PACKING (7 RINGS)	1330-8100-925	1	PTFE - GRAPHITE
H7	WASHER, PACKING RETAINING	1330-8150-250	1	STAINLESS STEEL

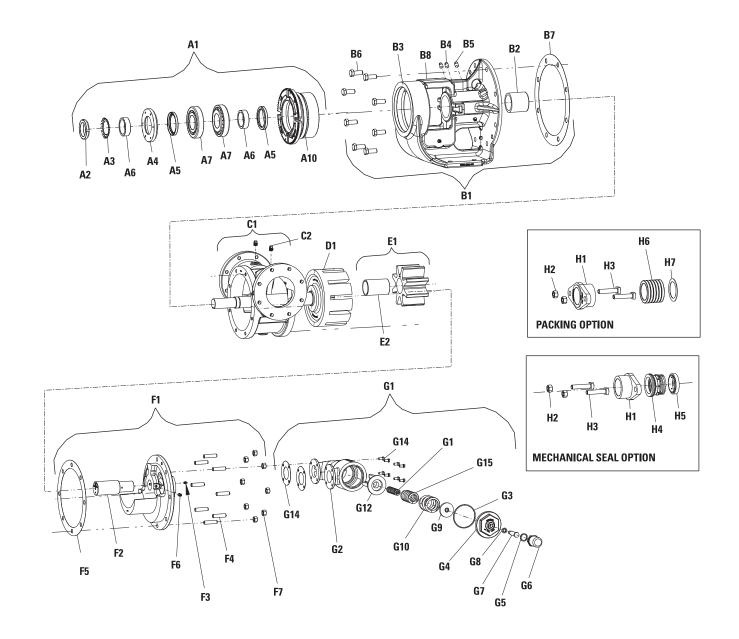
CARBON STEEL

EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-133	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	1330-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING	1330-1100-110	1	CAST IRON
A11	SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	S57U375750WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2000-130	1	CARBON STEEL/CARBON GRAPHITE
		1330-2010-130	1	CARBON STEEL/BRONZE
B2	BUSHING, BRACKET	1330-2800-300	1	CARBON GRAPHITE
		1330-2800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4		PLUG-025NSH-230	4	STEEL
B5	PLUG, PIPE (1/4" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-025NSH-230	1	STEEL
	FITTING, GREASE PIN (1/4" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-025NST-230	1	STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50WA2A4	8	
B7	GASKET, BRACKET	1330-6900-950	1	INTERFACE TS-9003
B8		1330-2100-130	1	CARBON STEEL CARBON STEEL
C1	CASE, 4" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	1330-3001-130	1	
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-230	2	
D1	ROTOR, ASSEMBLY (A/B CLEARANCE)	1330-4000-121	1	
D1	ROTOR, ASSEMBLY (C CLEARANCE) ROTOR, ASSEMBLY (D CLEARANCE)	1330-4002-121	1	DUCTILE IRON/STEEL DUCTILE IRON/STEEL
	RUTUR, ASSEMBLY (D'GLEARANGE)	1330-4003-121	1	DUCTILE IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	1330-5000-121	1	
		1330-5010-121	1	DUCTILE IRON/BRONZE CARBON GRAPHITE
E2	BUSHING, IDLER	1330-5800-300		BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F7)	1330-5800-320 1330-6010-130	1	CARBON STEEL/STEEL
F1	PIN, IDLER			HARDENED STEEL
ΓZ	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	1330-6200-231 PLUG-013NSH-230	1	STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH LOBRICATED BOSHING)	GRSF-013NST-230	1	STEEL
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50WA2A2	8	STEEL
F5	GASKET, HEAD	1330-6900-950	1	INTERFACE TS-9003
F6	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	1	STEEL
F7	NUT, HEAD, (5/8"-11)	N04C625562WA2A2	8	STEEL
17	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-230	1	STEEL
	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	1330-7001-130	1	CARBON STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-130	1	CARBON STEEL
0.	VALVE, ASSEMBLY-130 PSI (INCLUDES G2 THRU G9, G11 THRU G15)	1330-7003-130	1	CARBON STEEL
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G15)	1330-7004-130	1	CARBON STEEL
_	VALVE, ASSEMBLI-2001 SI (INCLODES 02 TIMO 013)	1330-7100-130	1	CARBON STEEL
G2	VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	1330-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	1330-7200-130	1	CARBON STEEL
G5	VALVE, GASKET CAP	1330-7920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP	1330-7300-110	1	CAST IRON
G7	VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 200 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50, 130, 200 PSI VALVES)	1330-7600-250	1	STAINLESS STEEL
G12	VALVE, POPPET	1330-7400-110	1	CAST IRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750WA2A2	8	STEEL
G14	GASKET, VALVE	1330-7900-950	2	INTERFACE TS-9003
G15	VALVE, SPRING MEDIUM (USED WITH 80, 130, 200 PSI VALVES)	1330-7601-250	1	STAINLESS STEEL
114	GLAND, PACKING (TYPE 1)	1330-8200-150	1	STAINLESS STEEL
H1	GLAND, PACKING (TYPE 9)	1330-8201-150	1	STAINLESS STEEL
H2	NUT (5/8"-11), PACKING GLAND	N04C625562CL0A1	2	STAINLESS STEEL
H3	CAPSCREW (5/8"-11), PACKING GLAND	B01C625C00CL0A1	2	STAINLESS STEEL
	TYPE 1, COMPONENT SEAL	1330-8000-910	1	VITON
H4	TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/Ni-RESIST
H5	COLLAR, MECHANICAL SEAL ASSEMBLY	1330-8050-250	1	STAINLESS STEEL
H6	PACKING (7 RINGS)	1330-8100-925	1	PTFE - GRAPHITE
	WASHER, PACKING RETAINING	1330-8150-250	1	STAINLESS STEEL

Envirogear EXPLODED VIEW & PARTS LISTING

G1-222



LM0027, REV. A

CAST IRON

EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-222	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	1330-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	1330-1100-110	1	CAST IRON STEEL
A11 A12	SET SCREW (3/8 - 10 X 3/4), BEARING HOUSING (NOT SHOWN) SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U375750WA6L7 S57U313313WA6L7	2	STEEL
A12 A13	INSERT. BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
AIS	INSENT, BEANING HOUSING (NUT SHOWN)	1330-2000-110	1	CAST IRON/CARBON GRAPHITE
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2010-110	1	CAST IRON/BRONZE
		1330-2800-300	1	CARBON GRAPHITE
B2	BUSHING, BRACKET	1330-2800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	4	STEEL
04	PLUG, PIPE (1/4" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-025NSH-230	1	STEEL
B5	FITTING, GREASE PIN (1/4" NPT) (USED WITH LOBRICATED BOSTING)	GRSF-025NST-230	1	STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50WA2A4	8	STEEL
B7	GASKET, BRACKET	1330-6900-950	1	INTERFACE TS-9003
B8	BRACKET	1330-2100-110	1	CAST IRON
D0 C1	CASE, 6" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	2220-3001-110	1	CAST IRON
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-230	2	STEEL
<u>5</u> 2	ROTOR, ASSEMBLY (A/B CLEARANCE)	2220-4000-121	1	DUCTILE IRON/STEEL
D1	ROTOR, ASSEMBLY (A/B CLEARANCE)	2220-4000-121	1	DUCTILE IRON/STEEL
וט	ROTOR, ASSEMBLY (D CLEARANCE)	2220-4002-121	1	DUCTILE IRON/STEEL
	NOTON, ASSEMBLI (D CLEANANCE)	2220-4003-121	1	DUCTILE IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	2220-5000-121	1	DUCTILE IRON/CARBON GRAPHITE
		2220-5800-300	1	CARBON GRAPHITE
E2	BUSHING, IDLER	2220-5800-300	1	BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F7)	2220-5800-320		
			1	CAST IRON/STEEL
F2	PIN, IDLER PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	2220-6200-231 PLUG-013NSH-230	1	HARDENED STEEL STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH LOBRICATED BOSHING)	GRSF-013NST-230	1	STEEL
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50WA2A2	8	STEEL
F5	GASKET, HEAD	1330-6900-950	0 1	INTERFACE TS-9003
F6	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	1	STEEL
F7	NUT, HEAD, (5/8"-11)	N04C625562WA2A2	8	STEEL
17	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-230	1	STEEL
	VALVE, COVER ASSEMBLI (INCLODES G2, 013 AND 014) VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	1330-7001-110	1	CAST IRON
G1	VALVE, ASSEMBLY-30 FSI (INCLUDES G2 THILD G3, G11 THILD G14) VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-110	1	CASTINON
01	VALVE, ASSEMBLIGGT ST (INCLUDES G2 THRU G3, G12 THRU G15)	1330-7003-110	1	CASTINON
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THILD G3, GT1 THILD G15)	1330-7004-110	1	CASTINON
	VALVE, ASSEMBLY-200 PSI (INCLODES G2 THRO G15)	1330-7004-110	1	CAST IRON
G2	VALVE, BODY VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
63	VALVE, COVER (NOT SHOWN) VALVE, GASKET BONNET			KLINGERSIL® C-4401
G3 G4	VALVE, GASKET BONNET VALVE, BONNET	1330-7910-951 1330-7200-110	1	CAST IRON
G4 G5	VALVE, GONNET VALVE, GASKET CAP	1330-7200-110	1	KLINGERSIL® C-4401
G6 G6	VALVE, GASKET CAP	1330-7920-951	1	CAST IRON
G7	VALVE, CAP VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, ADJOSTMENT SCREW VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, LOCK NOT VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL STAINLESS STEEL
G10	VALVE, SPRING GOIDE VALVE, SPRING LARGE (USED WITH 200 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
	VALVE, SPRING LARGE (USED WITH 200 PSI VALVES) VALVE, SPRING SMALL (USED WITH 50, 130, 200 PSI VALVES)	1330-7602-250		
G11 G12	VALVE, SPRING SMALL (USED WITH 50, 130, 200 PST VALVES) VALVE, POPPET		1	STAINLESS STEEL CAST IRON
G12 G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	1330-7400-110 S01C375750WA2A2	8	STEEL
		1330-7900-950		
G14			2	INTERFACE TS-9003
G15	VALVE, SPRING MEDIUM (USED WITH 80, 130, 200 PSI VALVES)	1330-7601-250 1330-8200-150	1	STAINLESS STEEL
H1	GLAND, PACKING (TYPE 1)			STAINLESS STEEL
110	GLAND, PACKING (TYPE 9)	1330-8201-150	1	STAINLESS STEEL
H2	NUT (5/8"-11), PACKING GLAND	N04C625562CL0A1	2	STAINLESS STEEL
H3	CAPSCREW (5/8"-11), PACKING GLAND	B01C625C00CL0A1	2	STAINLESS STEEL
H4	TYPE 1, COMPONENT SEAL	1330-8000-910	1	
	TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/Ni-RESIST
	COLLAR, MECHANICAL SEAL ASSEMBLY	1330-8050-250	1	STAINLESS STEEL
H5 H6	PACKING (7 RINGS)	1330-8100-925	1	PTFE - GRAPHITE

EnviroGear

EXPLODED VIEW & PARTS LISTING

STAINLESS STEEL

ltem	Description	G1-222	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	1330-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING	1330-1100-110	1	CASTIRON
A11	SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	S57U375750WA6L7	2	STEEL
A12	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN)	S57U313313WA6L7	2	STEEL
A13	INSERT, BEARING HOUSING (NOT SHOWN)	0020-1790-400	2	NYLON
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2000-150	1	STAINLESS STEEL/CARBON GRAPHITE
B2	BUSHING, BRACKET	1330-2800-300	1	CARBON GRAPHITE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	4	STAINLESS STEEL
B5	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-250	1	STAINLESS STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50AE2A1	8	STAINLESS STEEL
B7	GASKET, BRACKET	1330-6900-950	1	INTERFACE TS-9003
B8	BRACKET	1330-2100-150	1	STAINLESS STEEL
C1	CASE, 6" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	2220-3001-150	1	STAINLESS STEEL STAINLESS STEEL
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-250	2	STAINLESS STEEL STAINLESS STEEL
- 62				NITRONIC 60/STAINLESS STEEL
D1	ROTOR, ASSEMBLY (A CLEARANCE)	2220-4000-176	1	
D1	ROTOR, ASSEMBLY (B CLEARANCE)	2220-4001-176	1	NITRONIC 60/STAINLESS STEEL
	ROTOR, ASSEMBLY (C CLEARANCE)	2220-4002-176	1	NITRONIC 60/STAINLESS STEEL
E1	GEAR, IDLER ASSEMBLY	2220-5000-176	1	NITRONIC 60/CARBON GRAPHITE
E2	BUSHING, IDLER	2220-5801-300	1	CARBON GRAPHITE
F1	HEAD, ASSEMBLY KIT (F2, F4, F5, F7)	2220-6010-150	1	STAINLESS STEEL
F2	PIN, IDLER	2220-6200-254	1	STAINLESS STEEL/HARDENED
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50AE2A1	8	STAINLESS STEEL
F5	GASKET, HEAD	1330-6900-950	1	INTERFACE TS-9003
F7	NUT, HEAD, (5/8"-11)	N04C625562AE2A1	8	STAINLESS STEEL
-	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-250	1	STAINLESS STEEL
-	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	1330-7001-150	1	STAINLESS STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-150	1	STAINLESS STEEL
_	VALVE, ASSEMBLY-130 PSI (INCLUDES G2 THRU G9, G11 THRU G15)	1330-7003-150	1	STAINLESS STEEL
	VALVE, ASSEMBLY-150 PSI (INCLUDES G2 THRU G15)	1330-7004-150	1	STAINLESS STEEL
G2 -	VALVE, BODY	1330-7100-150	1	STAINLESS STEEL
02	VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	1330-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	1330-7200-150	1	STAINLESS STEEL
G5	VALVE, GASKET CAP	1330-7920-951	1	KLINGERSIL [®] C-4401
G6	VALVE, CAP	1330-7300-150	1	STAINLESS STEEL
G7	VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 150 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50, 130, 150 PSI VALVES)	1330-7600-250	1	STAINLESS STEEL
G12	VALVE, POPPET	1330-7400-150	1	STAINLESS STEEL
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750AE2A1	8	STAINLESS STEEL
G14	GASKET, VALVE	1330-7900-950	2	INTERFACE TS-9003
G15	VALVE SPRING MEDIUM (USED WITH 80, 130, 150 PSI VALVES)	1330-7601-250	1	STAINLESS STEEL
H1 -	GLAND, PACKING (TYPE 1)	1330-8200-150	1	STAINLESS STEEL
	GLAND, PACKING (TYPE 9)	1330-8201-150	1	STAINLESS STEEL
H2	NUT (5/8"-11), PACKING GLAND	N04C625562CL0A1	2	STAINLESS STEEL
		B01C625C00CL0A1	2	STAINLESS STEEL
H3	CAPSCREW (5/8"-11), PACKING GLAND			
H3 H4	CAPSCREW (5/8"-11), PACKING GLAND TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/ Ni-RESIST
			1	PTFE/ Ni-RESIST PTFE - GRAPHITE

CARBON STEEL

EXPLODED VIEW & PARTS LISTING

ltem	Description	G1-222	Qty.	Material
A1	HOUSING, BEARING ASSEMBLY (INCLUDES A2 THRU A13)	1330-1000-110	1	CAST IRON
A2	LOCKNUT, SHAFT	1330-1710-230	1	STEEL
A3	LOCKWASHER, SHAFT	1330-1720-230	1	STEEL
A4	ENDCAP, BEARING HOUSING	1330-1200-230	1	STEEL
A5	LIP SEAL, BEARING HOUSING	1330-1900-900	2	BUNA-N
A6	COLLAR, OUTER BEARING SPACER	1330-1300-230	2	STEEL
A7	BEARING	1330-1400-230	2	STEEL
A10	HOUSING, BEARING	1330-1100-110	1	CASTIRON
A11	SET SCREW (3/8"-16 X 3/4"), BEARING HOUSING (NOT SHOWN)	S57U375750WA6L7	2	STEEL
A12 A13	SET SCREW (5/16"-18 X 5/16"), END CAP (NOT SHOWN) INSERT, BEARING HOUSING (NOT SHOWN)	S57U313313WA6L7	2	STEEL NYLON
AIS	INSERT, BEARING HOUSING (NUT SHOWN)	0020-1790-400	2	
B1	BRACKET, ASSEMBLY (INCLUDES B2 THRU B8)	1330-2000-130 1330-2010-130	1	CARBON STEEL/CARBON GRAPHITE CARBON STEEL/BRONZE
		1330-2800-300	1	CARBON GRAPHITE
B2	BUSHING, BRACKET	1330-2800-320	1	BRONZE
B3	FITTING, GREASE (1/8" NPT)	GRSF-013NST-230	1	STEEL
B4	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	4	STEEL
04	PLUG, PIPE (1/4" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-025NSH-230	1	STEEL
B5	FITTING, GREASE PIN (1/4" NPT) (USED WITH LODINCATED BOSINING)	GRSF-025NST-230	1	STEEL
B6	SCREWS (5/8"-11 X 1-1/2"), BRACKET	S01C625A50WA2A4	8	STEEL
B7	GASKET, BRACKET	1330-6900-950	0	INTERFACE TS-9003
B8	BRACKET	1330-2100-130	1	CARBON STEEL
C1	CASE, 6" ANSI KIT (INCLUDES B6, B7, C2, F4, F5)	2220-3001-130	1	CARBON STEEL
C2	PLUG, PIPE (3/8" NPT)	PLUG-038NSH-230	2	STEEL
02	ROTOR, ASSEMBLY (A/B CLEARANCE)	2220-4000-121	1	DUCTILE IRON/STEEL
D1	ROTOR, ASSEMBLY (C CLEARANCE)	2220-4000-121	1	DUCTILE IRON/STEEL
UI	ROTOR, ASSEMBLY (D CLEARANCE)	2220-4003-121	1	DUCTILE IRON/STEEL
		2220-5000-121	1	DUCTILE IRON/CARBON GRAPHITE
E1	GEAR, IDLER ASSEMBLY	2220-5010-121	1	DUCTILE IRON/BRONZE
		2220-5800-300	1	CARBON GRAPHITE
E2	BUSHING, IDLER	2220-5800-320	1	BRONZE
F1	HEAD, ASSEMBLY KIT (F2 THRU F7)	2220-5000-520	1	CARBON STEEL/STEEL
F2	PIN, IDLER	2220-6200-231	1	HARDENED STEEL
12	PLUG, PIPE (1/8" NPT) (USED WITH LUBRICATED BUSHING)	PLUG-013NSH-230	1	STEEL
F3	FITTING, GREASE PIN (1/8" NPT) (USED WITH NON-LUBRICATED BUSHING)	GRSF-013NST-230	1	STEEL
F4	STUD, HEAD, (5/8"-11 X 2-1/2")	T09C625B50WA2A2	8	STEEL
F5	GASKET, HEAD	1330-6900-950	1	INTERFACE TS-9003
F6	PLUG, PIPE (1/4" NPT)	PLUG-025NSH-230	1	STEEL
F7	NUT, HEAD, (5/8"-11)	N04C625562WA2A2	8	STEEL
	VALVE, COVER ASSEMBLY (INCLUDES G2, G13 AND G14)	1330-7000-230	1	STEEL
	VALVE, ASSEMBLY-50 PSI (INCLUDES G2 THRU G9, G11 THRU G14)	1330-7001-130	1	CARBON STEEL
G1	VALVE, ASSEMBLY-80 PSI (INCLUDES G2 THRU G9, G12 THRU G15)	1330-7002-130	1	CARBON STEEL
0.	VALVE, ASSEMBLY-130 PSI (INCLUDES G2 THRU G9, G11 THRU G15)	1330-7003-130	1	CARBON STEEL
	VALVE, ASSEMBLY-200 PSI (INCLUDES G2 THRU G15)	1330-7004-130	1	CARBON STEEL
	VALVE, BODY	1330-7100-130	1	CARBON STEEL
G2	VALVE, COVER (NOT SHOWN)	1330-7101-250	2	STAINLESS STEEL
G3	VALVE, GASKET BONNET	1330-7910-951	1	KLINGERSIL® C-4401
G4	VALVE, BONNET	1330-7200-130	1	CARBON STEEL
G5	VALVE, GASKET CAP	1330-7920-951	1	KLINGERSIL® C-4401
G6	VALVE, CAP	1330-7300-110	1	CAST IRON
G7	VALVE, ADJUSTMENT SCREW	1330-7700-255	1	STAINLESS STEEL
G8	VALVE, LOCK NUT	1330-7710-255	1	STAINLESS STEEL
G9	VALVE, SPRING GUIDE	1330-7500-250	1	STAINLESS STEEL
G10	VALVE, SPRING LARGE (USED WITH 200 PSI VALVES)	1330-7602-250	1	STAINLESS STEEL
G11	VALVE, SPRING SMALL (USED WITH 50, 130, 200 PSI VALVES)	1330-7600-250	1	STAINLESS STEEL
G12	VALVE, POPPET	1330-7400-110	1	CAST IRON
G13	CAPSCREW (3/8"-16 X 3/4"), VALVE	S01C375750WA2A2	8	STEEL
G14	GASKET, VALVE	1330-7900-950	2	INTERFACE TS-9003
G15	VALVE, SPRING MEDIUM (USED WITH 80, 130, 200 PSI VALVES)	1330-7601-250	1	STAINLESS STEEL
	GLAND, PACKING (TYPE 1)	1330-8200-150	1	STAINLESS STEEL
H1	GLAND, PACKING (TYPE 9)	1330-8201-150	1	STAINLESS STEEL
H2	NUT (5/8"-11), PACKING GLAND	N04C625562CL0A1	2	STAINLESS STEEL
H3	CAPSCREW (5/8"-11), PACKING GLAND	B01C625C00CL0A1	2	STAINLESS STEEL
	TYPE 1, COMPONENT SEAL	1330-8000-910	1	VITON
H4	TYPE 9, COMPONENT SEAL	1330-8001-920	1	PTFE/Ni-RESIST
				STAINLESS STEEL
H5	COLLAB MECHANICAL SEAL ASSEMBLY	1.3.3()-8()5()-75()		
H5 H6	COLLAR, MECHANICAL SEAL ASSEMBLY PACKING (7 RINGS)	1330-8050-250 1330-8100-925	1	PTFE - GRAPHITE

ENV-12000-E-03

Gear TROUBLESHOOTING

Pump runs, but little product flows.

- Pump speed is too slow.
- Suction piping strainer is too small or obstructed.
- Suction pipe or port is not immersed deep enough within the liquid.
- Piping is improperly installed, permitting air pockets to form in the pump.
- Increased clearances or wear in the pump can cause the pump to deliver an insufficient supply of liquid.
- Air leaks in the suction line.
- Suction losses are too great. The suction lift is too great or the suction line is too small or too long. This can be detected by installing a vacuum gauge directly at the pump suction. The maximum vacuum at the pump suction should never exceed 381 mm-Hg (15 in-Hg). Vaporization caused by higher vacuums will generally result in a reduction of capacity.
- Improper orientation of the head.

Pump runs but no product flows.

- Leaks in suction line or port passage. These can be detected by submerging the pressure line from the discharge side of the pump.
- Direction of shaft rotation is incorrect.
- Relief valve setting is too low. Liquid is discharging through the by-pass port.
- The net-positive suction head available (NPSHa) is lower than required for the vapor pressure of the liquid pumped. Recalculate the NPSHa and redesign piping, if necessary.
- Improper orientation of the head.

Pump operation is erratic or inconsistent.

- Inconsistent suction conditions.
- Leaking suction lines.
- Pump cavitation due to air or vapor in liquid.

Pump is excessively noisy.

- The shaft is worn or bent, causing pump vibration.
- There is an air leak on suction line.
- Cavitation in the pump is occurring.
- The coupling is too close to the pump.
- The coupling is misaligned.

Pump is leaking.

• Retighten all fasteners.

NOTE: Packed gear pumps are designed to leak slightly to prevent excessive heat build-up. An expected leak rate for packed gear pumps is a few drops per minute; more than this may indicate a problem.

CAUTION: When pumping hazardous liquids, a mechanically sealed gear pump is suggested to minimize any potential source of leakage that could result in a hazardous condition.

Pump is drawing too much power.

- The pressure is too high.
- Drive shaft and pump are misaligned.
- Pump shaft is bent.
- Pumped liquid has a higher viscosity than originally accounted for.
- Suction or discharge lines are obstructed or restricted.
- Insufficient horsepower.
- Insufficient end clearance, therefore pump is binding.

NOTES	Enviro Gear

Enviro Gear	NOTES

Each and every product manufactured by EnviroGear[®] Pumps is built to meet the highest standards of quality. Every pump is functionally tested to insure integrity of operation.

EnviroGear Pumps warrants that pumps, accessories and parts manufactured or supplied by it to be free from defects in material and workmanship for a period of five (5) years from date of installation or six (6) years from date of manufacture, whichever comes first. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of EnviroGear Pumps equipment is beyond our control, we cannot guarantee the suitability of any pump or part for a particular application and EnviroGear shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Responsibility is limited solely to replacement or repair of defective EnviroGear products.

All decisions as to the cause of failure are the sole determination of EnviroGear Pumps.

Prior approval must be obtained from EnviroGear for return of any items for warranty consideration and must be accompanied by the appropriate MSDS for the product(s) involved. A Return Goods Tag, obtained from an authorized EnviroGear distributor, must be included with the items which must be shipped freight prepaid.

The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied (whether written or oral) including all implied warranties of merchantability and fitness for any particular purpose. No distributor or other person is authorized to assume any liability or obligation for EnviroGear Pump Company other than expressly provided herein.

PLEASE PRINT OR TYPE AND FAX TO ENVIROGEAR

Item #	Serial #		
Company Where Purchased			
YOUR INFORMATION			
Company Name			
Industry			
Name		Title	
Street Address			
<u></u>	State	Postal Code	
City	State	Postal Code	Country
Telephone Fax	Email		Web Address
Number of pumps in facility?	Number of E	nviroGear pumps?	?
Types of pumps in facility (check all that apply): 🗌 Diaphrag	m 🗌 Centrif	ugal 🗌 Gear	Submersible Lobe
Other			
Media being pumped?			
How did you hear of Wilden Pump? Trade Journal	Trade Sho	w 🗌 Interr	net/Email Distributor
Other			

ONCE COMPLETE, FAX TO (909) 783-3440



Where Innovation Flows

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