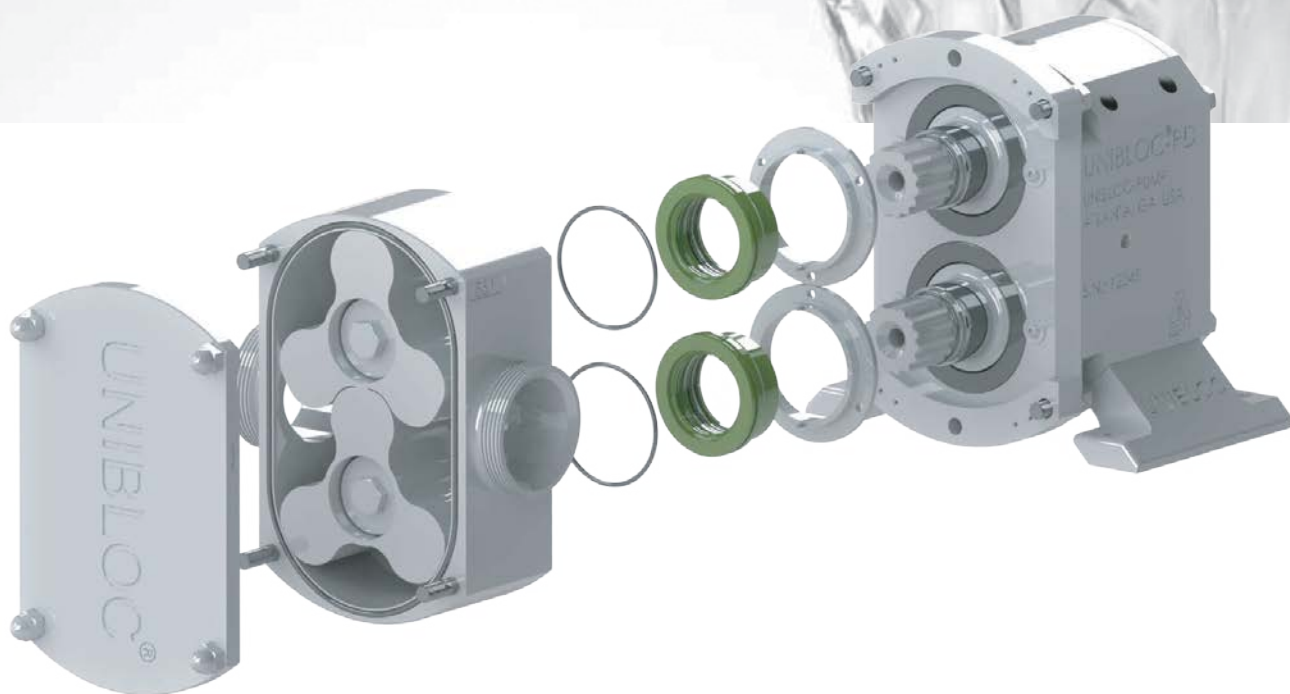




Operation & Service Manual

Original Version

Tanker Pump Models: 501-576

REVISION: 09/2026



Unibloc Hygienic Technologies, LLC

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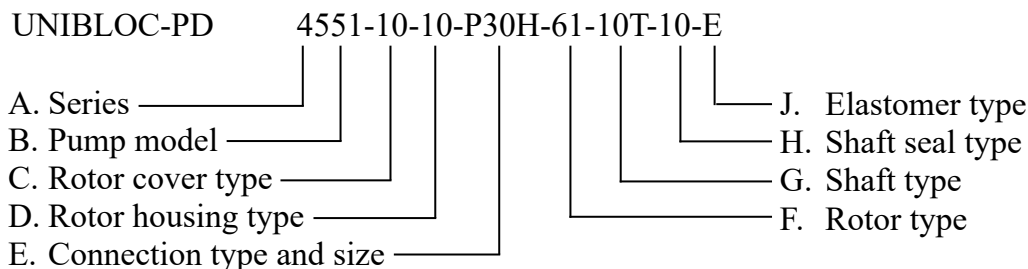
Revision Date: 09/2026
Manual No.: PD501-576

Contents

Pump Identification	4
1.0 General	6
1.1 Declaration of Conformity.....	6
1.2 General Description.....	7
1.2.1 Limitation	7
1.2.2 Noise Emission	7
1.2.3 Marking - CE	7
1.2.4 Marking - Standard.....	7
2.0 Safety.....	8
2.1 General	8
2.2 Safety Instructions	8
2.2 Handling and Storage.....	10
2.3 Before Start-Up	11
2.4 Pump Head	11
2.5 Direction of Flow.....	11
2.5 Port Positioning	11
2.6 Alignment and Mounting Suggestions	12
2.7 Clean the System Before Start-Up	12
3.0 Shaft Seal Service	13
3.1 Double O-Lip™ Seal.....	13
3.1.1 Double O-Lip™ Seal Removal	13
3.1.2 Double O-Lip™ Seal Installation	13
3.2 Single Mechanical™ Seal	14
3.2.1 Single Mechanical™ Seal Removal.....	14
3.2.2 Single Mechanical™ Seal Installation ref. Figure 3.2.....	14
3.3 Seal Installation- Final Steps	15
4.0 Gearbox Maintenance and Service	16
4.1 Gearbox Disassembly	16
4.2 Gearbox Assembly	17
4.2.1 Assembling the Gearbox.....	17
4.2.2 Assembling the Gearbox- Final Steps.....	17
4.3 Lubricants and Gearbox Volumes.....	17
4.4 Torque Requirements and Limits	18
5.0 Rotor Clearances.....	19
6.0 Relief Valve Cover Settings and Maintenance	20
6.1 Setting the Relief Valve Cover	21
6.1.1 Setting Relief Valve Cover: P/N 3237.....	21
6.1.2 Setting Relief Valve Cover: P/N 3239B	21
6.2 Relief Valve Cover Maintenance.....	22
6.2.1 Servicing Relief Valve Cover: P/N 3237	22
6.2.1 Servicing Relief Valve Cover: P/N 3239B	22
7.0 Troubleshooting	25
8.0 Pump Dimensions	27
9.0 Parts Lists	33

Pump Identification

Each pump has a unique serial number machined into the gearbox and stamped on the rotor housing. The type of pump is further described by the series number machined into the gearbox, i.e. 5000, 4000 or 3000. A pump may be described by a part number, as shown below, that indicates its features.



A. Series:

5000 - all stainless
4000 - stainless rotor housing, aluminum gearbox
3000 - stainless rotor housing, steel gearbox

B. Pump Model:

501 - UNIBLOC 501 (2 ½" connections)
551 - UNIBLOC 551 (3.0" connections)
576 - UNIBLOC 576 (3" or 4" connections)

C. Rotor Cover Type:

10 - standard cover
15 - standard housing with cooling/heating jacket
20 - vented cover

D. Rotor Housing Type:

10 - standard sanitary housing
15 - standard cover with cooling/heating jacket

E. Connection Type & Size:

B - Bolt-On (Flex Port™)
P - Clamp
L - ACME thread
K - NPT male
D - DIN threads
AF - 150# ANSI flange
DF - DIN flange
25 - 2.5 inch
30 - 3.0 inch
40 - 4.0 inch
H - horizontal port configuration
V - vertical port configuration

F. Rotor Type:

61 - Class D, 316 stainless steel
62 - Class E, 316 stainless steel
66 - Class D, 316 stainless steel, Tri-Lobe
67 - Class E, 316 stainless steel, Tri-Lobe
81 - Class D, nongalling stainless steel
82 - Class E, nongalling stainless steel
86 - Class D, nongalling stainless steel, Tri-Lobe
87 - Class E, nongalling stainless steel, Tri-Lobe
X - Customized

G. Shaft Type:

- 10 - standard 316L stainless steel shaft for metallic rotor
- 11 - standard 316L stainless steel shaft with hardened seal area for metallic rotor
- 12 - standard 316L stainless steel shaft with wear sleeve for metallic rotor
- 20 - standard 316L stainless steel drive shaft for metallic rotor and for Charlynn hydraulic motor
- 21 - standard 316L stainless steel drive shaft with hardened seal area for metallic rotor and for Charlynn hydraulic motor
- 22 - standard 316L stainless steel drive shaft with sleeve for metallic rotor and for Charlynn hydraulic motor
- 30 - standard 316L stainless steel drive shaft for metallic rotor and for Danfoss hydraulic motor
- 31 - standard 316L stainless steel drive shaft with hardened seal area for metallic rotor and for Danfoss hydraulic motor
- 32 - standard 316L stainless steel drive shaft with sleeve for metallic rotor and for Danfoss hydraulic motor
- T - top mounted drive shaft
- B - bottom mounted drive shaft

H. Shaft Seal Type:

- 10 - single mechanical carbon vs stainless steel
- 11a - single mechanical carbon vs tungsten carbide
- 11b - single mechanical carbon vs silicone carbide
- 12a - single mechanical silicone carbide vs tungsten carbide
- 12b - single mechanical silicone carbide vs silicone carbide
- 12c - single mechanical tungsten carbide vs tungsten carbide
- 60 - single O-ring
- 61 - double O-ring seal
- 70 - double O-LIP™ Seal
- 73 - triple O-LIP™ Seal

J. Elastomer Type:

- E - EPDM
- K - Kalrez
- N - Buna N
- S - Silicone
- T - Teflon encapsulated viton
- V - Viton

1.0 General

1.1 Declaration of Conformity



EU Declaration of Conformity

We hereby declare that the following machinery is intended for installation into a machine or to be assembled with other machines into a machine. It must not be put into service until the machinery into which it is incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC

Manufacturer

Unibloc Hygienic Technologies US LLC
1650 Airport Rd
Kennesaw, Ga
30144

Manufacturer

Unibloc Hygienic Technologies Germany GmbH
Stromberger Strasse 197
D-59269 Beckum
Germany

Model name:

UNIBLOC-PD
UNIBLOC-GP

Model design:

PD200-677
GP200-450

Serial Number:

Applied harmonized standards:

EN ISO 12100:2010 - Safety of machinery
EN ISO 13857:2019 - Safety Distances
EC 2023/2006 - GMP For Materials in Contact with Food
EC 1935/2004 - Materials and Articles in contact with Food
EU NO 10/2011 - Plastic Articles in contact with Food

A technical construction file for this machinery is retained at the above address.

Signed,

A handwritten signature in blue ink, appearing to read 'R. Grantham-Hill'.

Rob Grantham-Hill
Associate Director of Global Engineering
July 2026

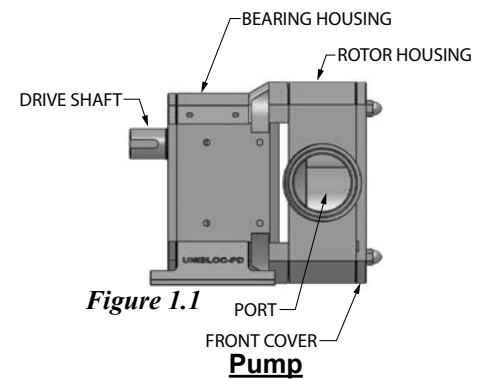
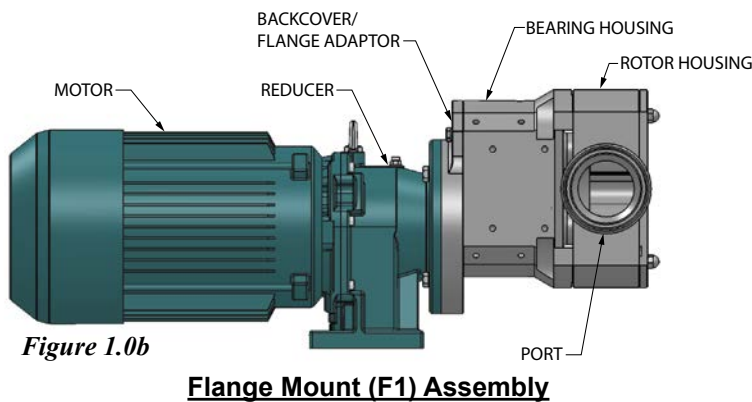
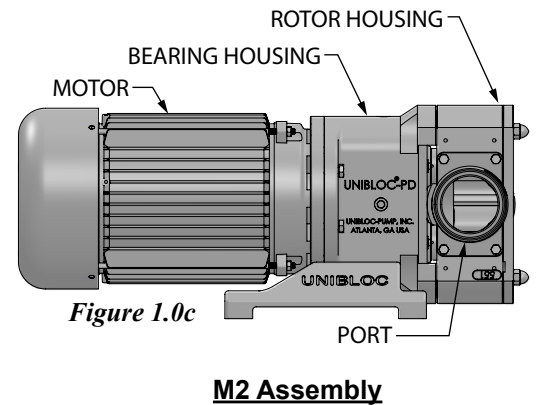
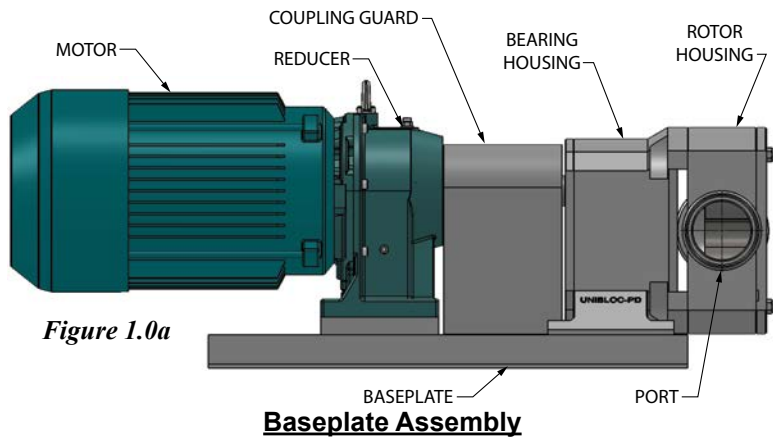


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1.2 General Description

UNIBLOC-PD is a positive displacement rotary lobe pump. It may be supplied with a drive unit (figure 1.0a-1.0c) or without a drive unit (figure 1.1). When supplied with a drive unit it is called UNIBLOC-PD ASSEMBLY. Figure 1.0 indicates various parts of an assembly. UNIBLOC-PD can be supplied in 3 different series; 5000 series with stainless steel bearing housing, 4000 with aluminum bearing housing, and 3000 series with steel bearing housing. Each model can be mounted with the inlet and outlet ports in horizontal or vertical orientation. Port orientation should be specified when ordering.



1.2.1 Limitation

The pump should be used for the duty for which it has been specified. The operating pressure, speed and temperature limits have been selected at the time of order and **MUST BE ADHERED TO**. These details are stated on the original order documentation. If not available, documentation may be obtained from your supplier by referencing the pump serial number and/or invoice number.

1.2.2 Noise Emission

Under certain operating conditions, pumps and/or drives and/or the systems within which they are installed can produce sound pressure levels that exceed 80dB. In such cases ear protection should be used.

1.2.3 Marking - CE

Figure 1.3 shows the tag that is attached on the pump bearing housing. If the tag were to be lost for any reason you can find the pumps serial number machined on the side of the bearing housing. See figure 1.4. Always state the pump model and/or serial number when asking for assistance.

1.2.4 Marking - Standard

Standard marking is machined on the side of pumps bearing housing. See figure 1.4 for details. Pump size is machined on rotor housing next to the ports.

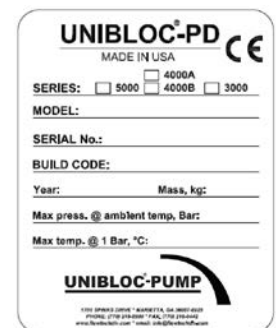


Figure 1.3

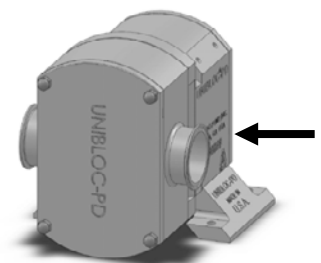


Figure 1.4

2.0 Safety

2.1 General

This information must be read carefully before installation, operation or servicing. The safety instruction must always be available for the pump operator. The following symbols are used.



WARNING: Indicates instructions that can affect personal safety if not followed.



WARNING: Indicates electrical voltage instructions that can affect personal safety if not followed.

ATTENTION

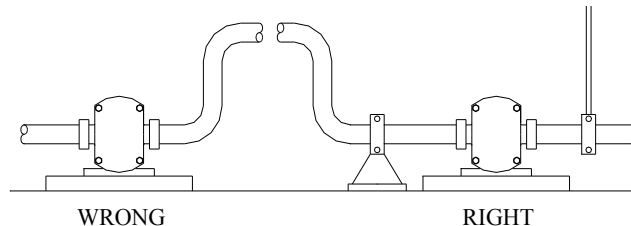
ATTENTION: Indicates instructions to be considered for safe operation and to protect the pump and pump unit.

2.2 Safety Instructions



BEFORE ANY MAINTENANCE TAKES PLACE: TURN OFF POWER SUPPLY TO THE MOTOR.

Incorrect installation, operation or maintenance of the equipment can cause serious personal injury and/or damage to the equipment and will invalidate the warranty. Make sure the pipes are well supported as the pump is not meant to serve this purpose. Keep in mind that pipes filled with liquid are very heavy. See figure 2.2.1 for recommended pipe layout.



Pump or pump assembly must be electrically connected by authorized personnel, follow the motor instructions supplied in case of assembly.



Never operate the pump if the front cover and/or suction/discharge pipe-work are not in place. Make sure they are properly installed, see figure 2.2.1. Likewise, never operate the pump if other protection such as coupling and shaft guards are missing or incorrectly installed.



Never stick your appendages or other foreign objects inside the rotor housing, connections to the rotor housing, or in the back cover if there is any possibility that the pump shafts may rotate.



Do not exceed the pump's maximum operating pressure, speed or temperature. Do not modify the operating parameters/system for which the unit was originally supplied for without first consulting your local supplier.



Pump installation and operation must always comply with prevailing health and safety regulations.



Always make sure the alignment with the drive unit is within proper tolerances. Misalignment between the pump, drive and coupling will result in premature wear, increased operating temperature and noisier environment.

See figure 2.2.2 for vertical misalignment: Place shims under pump or drive; 0.25mm (0.01inch) max deviation.

See figure 2.2.3 for horizontal misalignment: Move pump or drive horizontally; 0.25mm (0.01inch) max deviation.

See figure 2.2.4 for angular misalignment: Rotate pump or drive; 1° max deviation

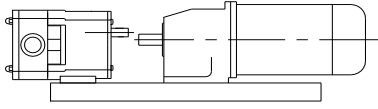


Figure 2.2.2

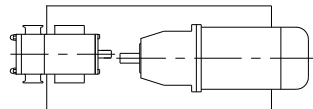


Figure 2.2.3

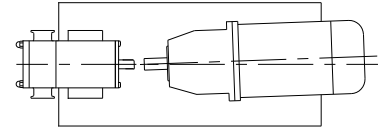


Figure 2.2.4



Avoid any direct contact with hot surfaces of the pump or drive unit. If the surface temperature of the system exceeds 68°C, the system must be marked with a warning sign for “hot surface”.



ALWAYS DISCONNECT THE POWER SUPPLY when performing any kind of maintenance. Make sure the power can not be switched by locking it. Allow the pump and associated parts to cool down to a safe handling temperature.



Never operate the pump with either the suction side or the pressure side blocked.



Never operate the pump without the front cover installed properly



Always make sure any safety/relief valves are depressurized or relieved before dismantling.



Always ensure correct rotation of pump with flow direction before start.

ATTENTION

Installation of safety equipment to prevent pump from exceeding maximum allowable pressure is recommended. If an integrated safety relief valve is installed, do not allow extended periods of recirculation through the valve. **UNIBLOC-PUMP** can either integrate a safety valve with the front cover, or supply one as a separate unit. Please contact your supplier.

ATTENTION

Installation of a non-return device is recommended to prevent reverse flow in the pump when it is being turned off. **UNIBLOC-PUMP** can supply a check valve as non-returning device. Please contact your supplier.

ATTENTION

Check the pump and motor assembly for adequate oil prior startup.

ATTENTION

Make sure the pump and pipe systems are clean and free from debris or any foreign material before start up.

ATTENTION

Do not install the pump into a system where it may run dry (i.e. without a supply of pumped media) unless it is assembled with a flushed shaft seal that is properly installed with a fully operational flushing system.

ATTENTION

Installation of pressure gauges/sensors in conjunction with the pump's suction and discharge connections is recommended to be able to monitor the pumps pressure.

ATTENTION

When cleaning manually or by CIP, SIP methods, the operator must ensure that a suitable procedure is used in accordance with the systems requirements.

ATTENTION

If operating with a pulley, proper support must be selected to prevent excessive bearing wear and bending of the shaft. See figure 2.2.5.
Additional safety guards are a must.

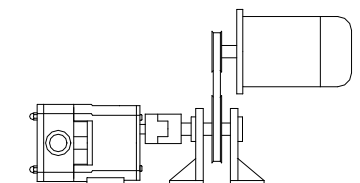
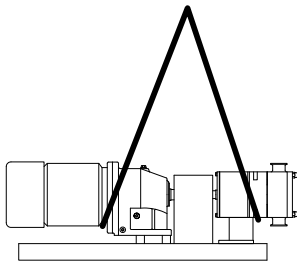


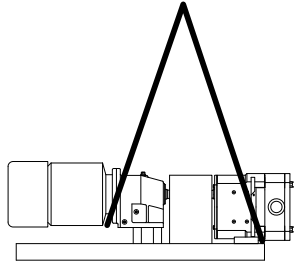
Figure 2.2.5

2.2 Handling and Storage

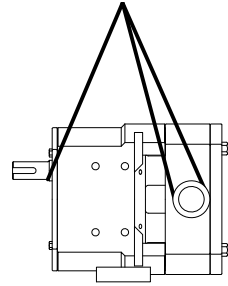
Caution must be taken when lifting the pump or pump unit. For all parts over 20kg we recommend the use of a lifting device or lifting arrangement when unpacking or moving. Check the weight guide in section 5.0 for details. See figure 2.3 and 2.4 for lifting guidance.



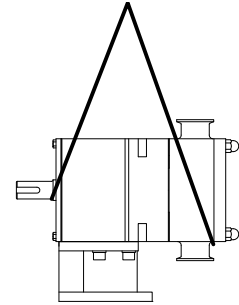
Vertical Port Mounting
Figure 2.3



Horizontal Port Mounting



Horizontal Port Mounting
Figure 2.4



Vertical Port Mounting

When you receive your product please follow these steps.

- Check packaging for any damage in transit
- Check the packing slip against received goods
- If an assembly, make sure the manual for the drive unit is included
- Visually inspect the product for any signs of damage
- Report any damage immediately to the carrier

If installation of the pump is delayed, store and protect the unit properly by:

- Not removing plastic port protectors.
- Selecting a clean, dry storage location free from vibration. In a moist or dusty atmosphere, further protect the pump/assembly with suitable cover.
- Rotating the pump or pump assembly by hand every week, to prevent bearing damage.

2.3 Before Start-Up



QUICK CHECK LIST

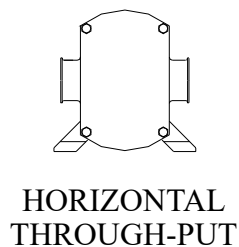
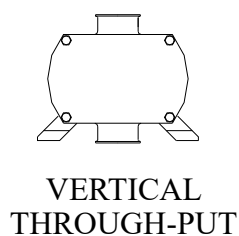
- A. Are pump and motor alignment within proper tolerances?
- B. Do motor and pump gearboxes have adequate amounts of oil?
- C. Has the piping to the pump been installed correctly?
- D. Has the system and all pipes been flushed and cleaned of all debris including weld slag and particles resulting from polishing and grinding?

2.4 Pump Head

Remove the front cover and make sure that no particles are trapped inside the rotor housing. Check that the rotor bolts have been securely tightened, if design provides such an option. If possible, make sure pump turns freely. Put back cover, making sure o-ring remains in place, and securely tighten the four front cover nuts.

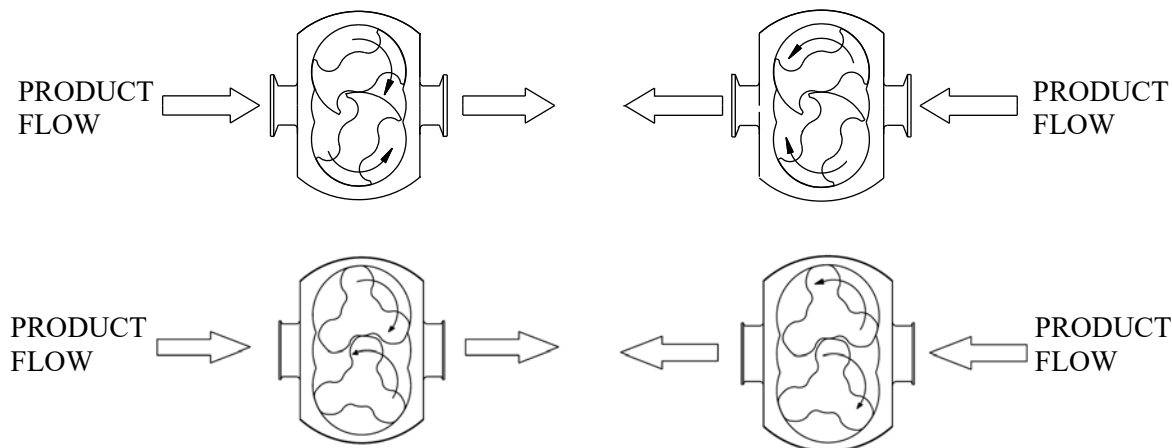
2.5 Port Positioning

UNIBLOC-PD is designed to accommodate both vertical and horizontal product through-puts.



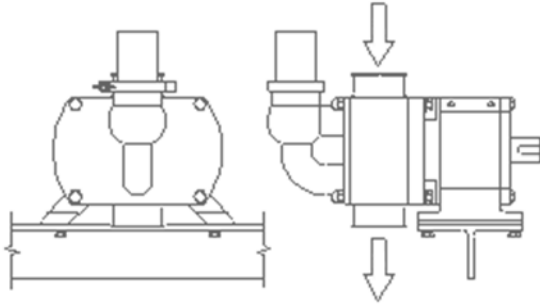
2.6 Direction of Flow

The pump is designed to operate in both directions without modifications. Make sure that the proper direction of rotation applies.

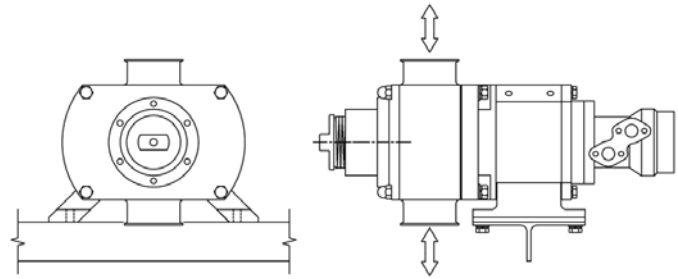


2.6 Alignment and Mounting Suggestions

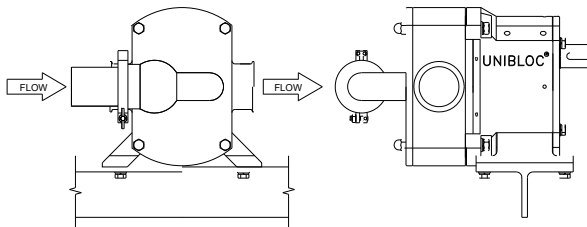
If a PTO pump shaft style is used, it is imperative that the pump and motor are properly aligned before operating. Misalignment can lead to excessive wear and can cause the coupling to rupture. It can also create abnormal stresses on bearings and gears.



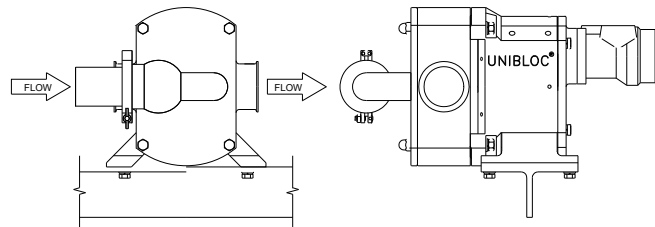
PTO PUMP WITH VERTICAL PORTS



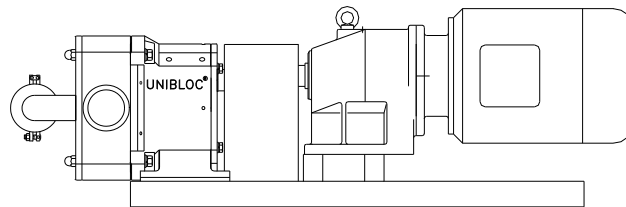
HYDRAULIC DRIVE PUMP WITH ALTERNATE RELIEF VALVE COVER



PTO PUMP WITH HORIZONTAL PORTS



HYDRAULIC DRIVE PUMP WITH HORIZONTAL PORTS



STATIONARY UNIT ON BASEPLATE

2.7 Clean the System Before Start-Up

Clean system of all debris before start-up. Any remaining particles larger than 0.002 in. (0.05 mm) can damage the pump if they enter it. A filtering device installed before the pump inlet is highly recommended to insure safe and proper operation. Since such a device will restrict the flow in to the pump, it is necessary to verify that the net positive suction head (NPSH) available is not reduced below that required by the pump.

3.0 Shaft Seal Service

To aid in the removal and installation of the shaft seals, plastic mounting sleeves that are the same diameter as the shafts at the seal area are available. The mounting sleeves also protect the seals from the shaft splines. Contact an authorized service center, or Uni-bloc-Pump, to obtain these tools.

Before proceeding with the following steps, **DISENGAGE POWER TO THE HYDRAULIC OR PTO DRIVE**. If the pump is connected to piping, depressurize the system and close valves on both the suction and discharge sides to isolate the pump from the rest of the system. Disconnect the piping from the pump.

Remove the front cover nuts (16) and the front cover (2). Place a non-metal object between the rotors (3a,3b) to keep them from turning. Unscrew the rotor bolts (14a,14b) and then slide the rotors off the shafts. If the rotors will not slide off they can be removed simultaneously with the rotor housing (1). Unless they are being replaced, **DO NOT USE PLIERS OR CHANNEL LOCKS TO REMOVE THE ROTORS**. They will be damaged. See the following sections for further instructions to remove the rotor housing.

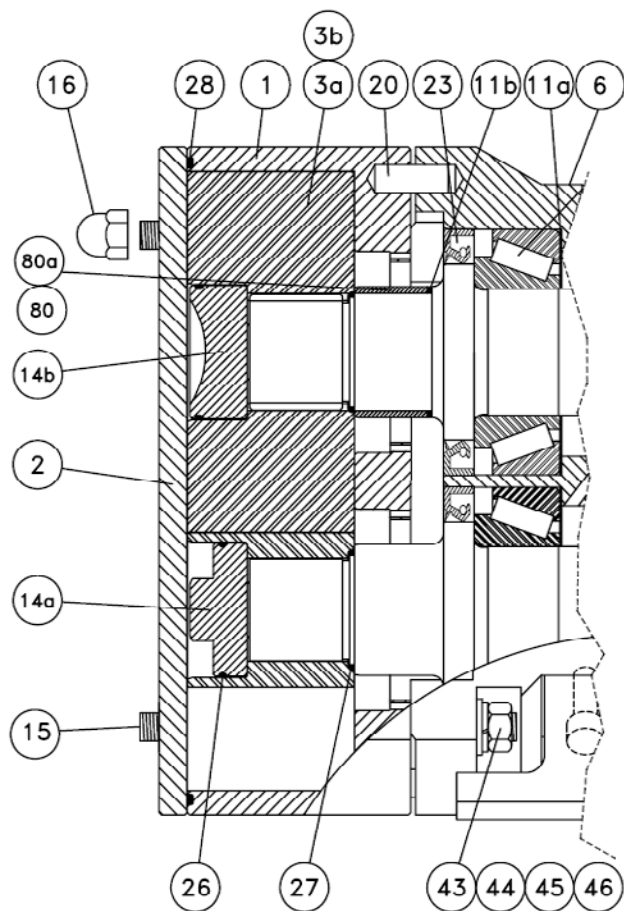


Figure 3.0

3.1 Double O-Lip™ Seal

This type of seal is most frequently used with liquids that are very difficult to seal because of high viscosity. The seal comes as a single cartridge that is easily serviced. The maximum shaft rotational speed for this seal is 1.5 m/s (4.8 ft/s), or 500 rpm, and the maximum service pressure should not exceed 10 bar (150 psig). The seal does not require external lubrication and can be run dry for short periods. This seal comes as standard on UNIBLOC 501, 551, 576.

3.1.1 Double O-Lip™ Seal Removal

If the rotors were removed, the rotor housing does not need to be taken off. The seal cartridges (61) can be removed by placing screwdrivers between the rotor housing and gearbox and pushing them out. Be aware that the wear sleeve (80) can slide off with O-lip seal when removing the seal cartridge (61).

3.1.2 Double O-Lip™ Seal Installation

Check the shaft sleeves for wear. If grooves are noticeable, they may have to be replaced. Place new o-rings (49) into the groove of the seal cartridges. Clean the rotor housing seal bores. Apply product compatible lubricant to the bores and the shafts. Slide the assembly sleeves on the splined shaft ends. These must be used to prevent damage to the O-lip seal. Push the seal cartridges (61) in, lip side last, so that they are flush with the back of the rotor housing. See section 3.3 for completing the installation.

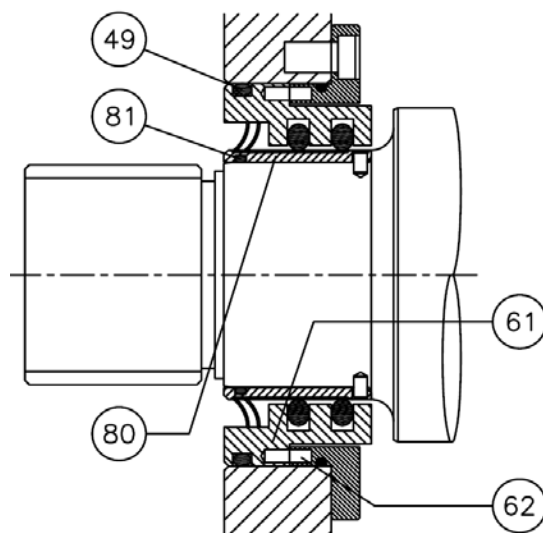


Figure 3.1

3.2 Single Mechanical™ Seal

This seal comes with different seal face combinations. (See drawing G812C for details.) Maximum shaft rotational speed for this seal is 2.4 m/s (7.8 ft/s) or 800 rpm and the maximum service pressure should not exceed 15 bar (220 psig). Maximum and minimum temperature limits are +160°C (320°F) and -15°C (5°F).

3.2.1 Single Mechanical™ Seal Removal

Remove shaft o-ring (item 27, Fig. 3.1) located behind the shaft splines. Use two long flat head screwdrivers 180° apart to pry the shaft sleeve/rotary seal holder (item 2, Fig. 3.2). Use razor blade or sharp flat head screwdriver to remove rotary seal face (item 3A, Fig. 3.2) from sleeve/rotary seal holder. Use two long flat head screwdrivers 180° apart to remove stationary seal holder (item 5, Fig. 3.2) along with stationary seal face (item 3B, Fig.3.2).

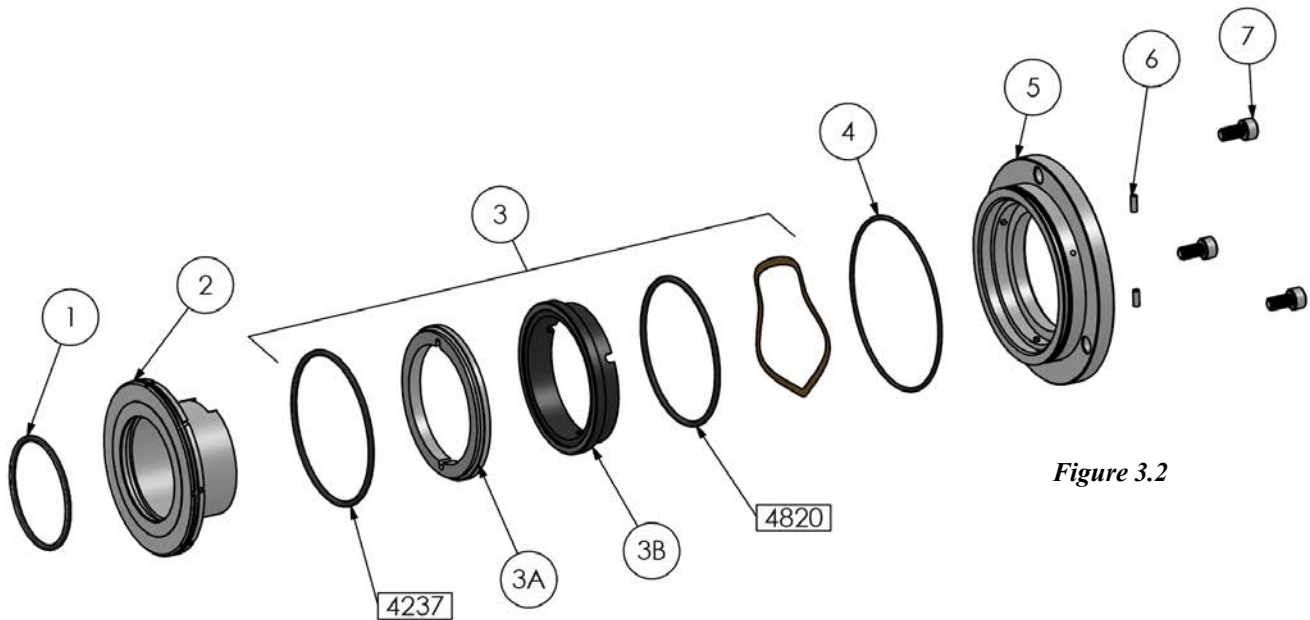


Figure 3.2

3.2.2 Single Mechanical™ Seal Installation ref. Figure 3.2

The shaft and rotor housing bores should be cleaned before installing the seal components. Before installing components, note the location of the pin holes on the single mechanical seal retainer ring (5). Small ink markings can be made on the surface of the rotor housing to show pin hole locations. Take the stationary portion of the seal face kit (3) and lubricate o-ring already installed. Note location of pin slots on stationary portion of seal face and on stationary seal holder. Ink markings can be made on surface of rotor housing to show location of pins and similar markings can be made on seal face to show location of pin slots. Align pin slots and pins and evenly hand press stationary seal face until fully seated. Stationary seal face portion will be fully seated once a spring compression can be felt.

Take the rotary portion of the seal face kit (3A) and lubricate the o-ring already installed. Note location of pin slots on rotary portion to pins on shaft sleeve/rotary seal holder (2). O-ring from the rotary portion can be removed and installed on the sleeve/rotary seal holder prior to rotary portion seal face installation. Hand press rotary portion of seal face into the shaft sleeve/rotary seal holder until fully seated. Lubricate the sleeve o-ring (1) located in the inner diameter of the sleeve. Note the location of the pin slots of sleeve and the pins on shaft (6). Hand press rotary seal holder/sleeve assembly evenly until seated and spring tension can be felt. Spring tension will be set by installation of rotor onto shaft.

3.3 Seal Installation- Final Steps

See section 4.4 for torque limits. If not part of the shaft seal assembly, slide the plastic mounting sleeves over the splined ends of the shafts. Slide on the rotor housing (1) tap it with a rubber mallet to seat it properly on the dowel pins (20). Make sure the alignment mark on the rotor housing lines up with the one on the gearbox (6). The rotor housing must make firm contact with the gearbox. Fasten the hex nuts (43) with the split washer (44) on the stud ends and tighten in a cross pattern. Remove the plastic sleeves from the shaft ends. Slide the rotor shaft o-rings (27) over the splined shaft ends and on the step, if applicable. One rotor and one shaft have been marked with the same symbol. Slide the rotors over the corresponding shafts and push them making sure the o-rings seat properly. The rotors must make contact with the shafts. Place o-rings (26) on the rotor bolts (14a,14b). Lubricate them and the rotor bores. Place a nonmetal object between the rotors to keep them from turning. Thread the rotor bolts into the shaft ends. Turn the drive shaft to make sure the rotors turn freely. Measure the clearances between the rotor housing and the rotors. Compare these values with those listed in section 6.0. If the measured clearances at positions 1, 7, 8, and 10 are smaller than those listed, the rotors must be ground and polished to achieve the correct values. If the measured clearances at positions 9 and 11 (see Section 5.0) are not within the tolerances listed the shafts must be adjusted by removing the rotor housing and changing the ear shims.

Place the front cover (2) and the o-ring (28) on the studs. Tighten the front cover nuts (16). Check the oil level in the gearbox as described in section 4.3. The pump is now ready to be installed in the system. Refer to section 1.0 before starting the pump.

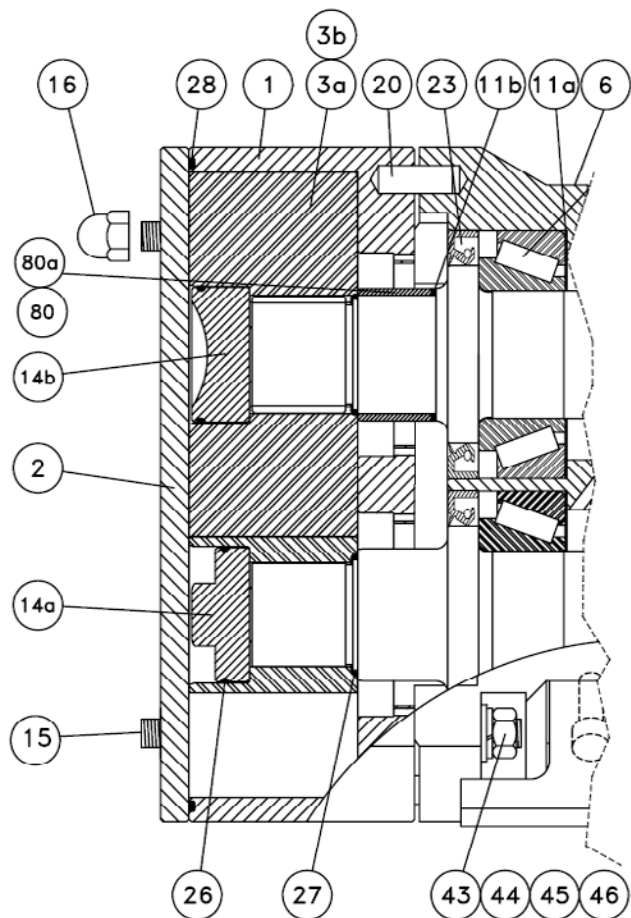
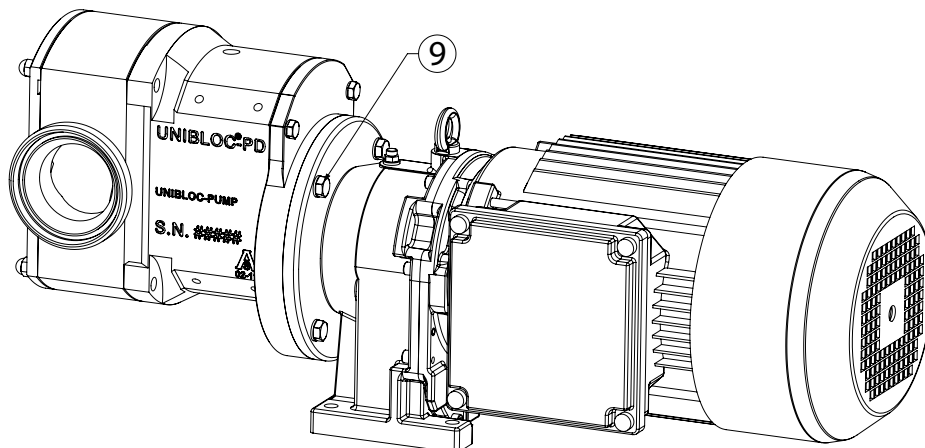


Figure 3.3

4.0 Gearbox Maintenance and Service

The UNIBLOC gearbox is supplied with nitrile seals, drain plugs and an optional vent. The oil level should be checked at regular intervals and the seals should be changed once per year or after 2000 hours of service, whichever occurs first. When applications exceed constant service temperatures of 180°C (356°F) high temperature lubricant and seals must be used. For such cases, contact Unibloc-Pump or an authorized service center for an adequate service schedule. Before proceeding with the following steps, **DISENGAGE POWER TO THE HYDRAULIC OR PTO MOTOR.** If the pump is connected to piping, depressurize the system and close valves on both the suction and discharge sides to isolate the pump from the rest of the system. Disconnect the piping and remove the pump from the system. If the pump is flange mounted to the motor, the pump must be unmounted before servicing. Unmount the pump from the motor by removing the four bolts (9) from the motor flange.



Removal of the wet end of the pump (i.e. the cover, rotors, rotor housing, and shaft seals) must be completed first before disassembly of the pump gearbox. The method of removing these parts is dependent upon the type of shaft seals the pump has and is outlined in section 3.

4.1 Gearbox Disassembly

Remove the front cover, rotors, housing and shaft seals as described in section 2. Drain oil from the gearbox by removing the drain plug, if available, or by removing the cover (7), PTO drive shown in figure 4.1. Open the tab on the tab washers (12) and remove them and the slotted nuts (13). With a rubber mallet, strike the ends of the shafts where the tab washers were located to loosen the gears (8) and remove them. Be sure not to damage the threads on the shafts. The keys (21) will now be exposed and can be removed with a flat tipped screwdriver. Continue striking the shafts with the rubber mallet to push the shafts and the oil seals (23), which will get damaged and will have to be replaced, out of the gearbox. Each shaft will have one bearing (10) located next to a shoulder. To remove them, if necessary, do so with a hydraulic press or tap with a punch or sleeve on the edge closest to the shoulder. Use caution to prevent damage to the shaft shoulder. Tap the bearing cups (10), in a circular pattern to remove them from the gearbox.

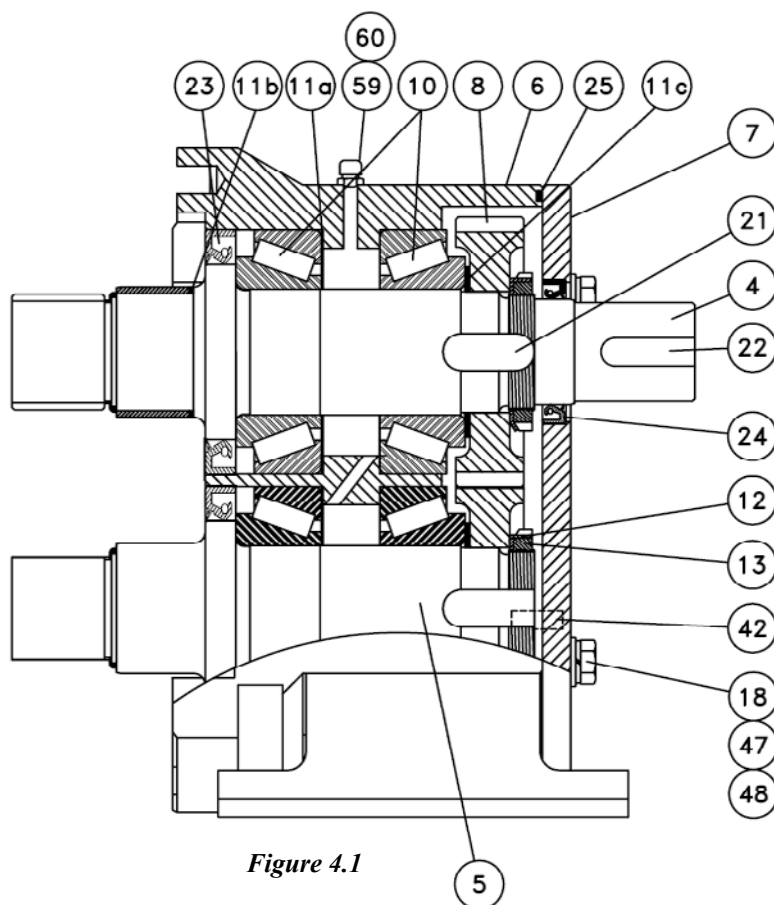


Figure 4.1

4.2 Gearbox Assembly

The following steps for assembly assume that the pump has been completely disassembled. Make sure all parts are clean and free of debris before proceeding. New oil seals are required to complete the assembly of the gearbox.

4.2.1 Assembling the Gearbox

Oil the front and rear bearing (10) cones and tap them into the gearbox so that the tapered edge can be seen when looking into the gearbox. If the bearings have been removed from the shafts, they must be pressed on with a hydraulic press before the shafts are installed into the gearbox. Oil the shafts at the bearing seat location and slide the bearings on so that the text on the bearing shoulder will make contact with the shaft shoulder. Use extreme caution to not damage the bearing components or the splined shaft end when using the hydraulic press. Place a nonmetal object between the splined shaft end and the hydraulic press to prevent damage to the shaft. Insert both shafts and stand

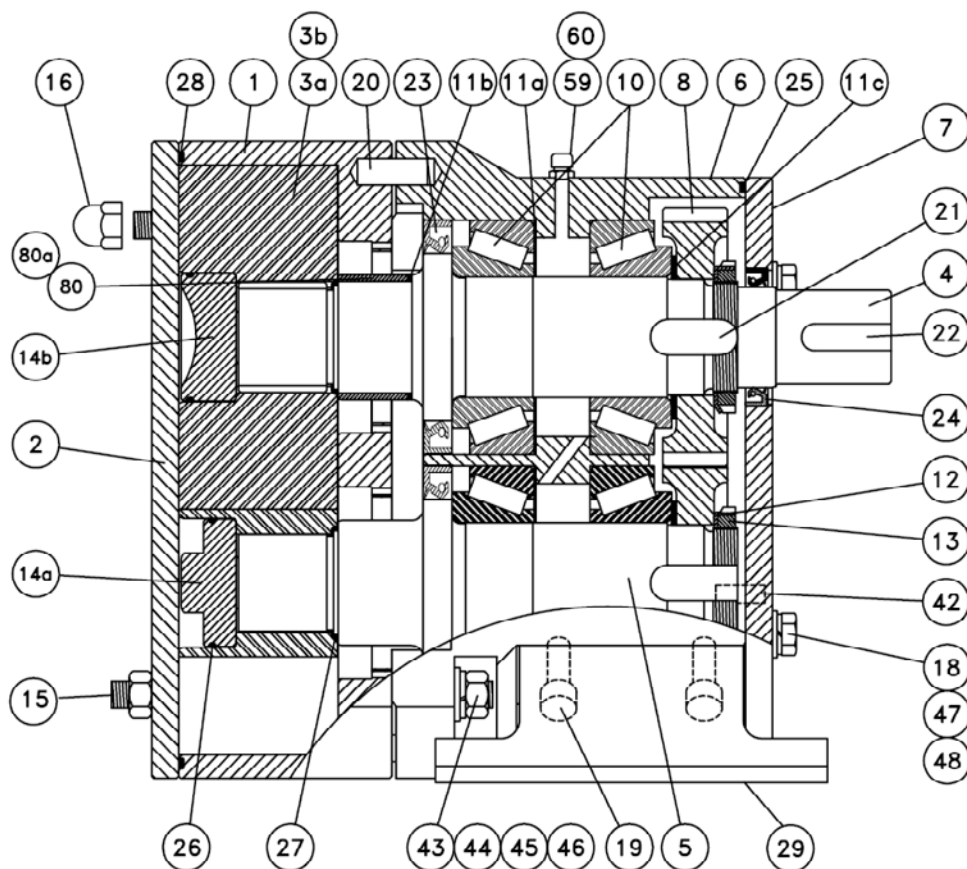


Figure 4.2

the pump on the splined ends. Slide the rear bearings on, tap the keys (21) into place, and then slide on the gears (8), shoulder side towards the bearings. Make sure the timing marks are aligned. Tap on the gears to seat the bearings properly. Slide on the tab washers (12) and thread on the slotted nuts (13). Slide on the rotors (3a,3b) and place a nonmetal object between the rotors to keep the shafts from turning. Tighten the nuts so that the shaft rotating torques shown in section 4.4 are achieved. The torque can be measured by inserting the rotor bolts (14a,14b) in the splined shaft ends with the rotors on. Do not set the tabs on the tab washers. Remove the rotor bolts and rotors. Push the rotor housing (1) onto the dowels (20) in the gearbox and tap gently with a rubber mallet to seat it properly. Insert the housing studs (15) and secure them with the split washers (44) and hex nuts (43). Slide the rotors (3a,3b) on to the corresponding shaft. One rotor and one shaft will be marked with identical symbols. Secure the rotors with the rotor bolts (14a,14b). Measure the clearances between the rotors and the housing. If the measured values at positions 8-11 do not correspond with those listed in section 5, then the ear shims must be changed. Remove the rotor bolts, rotors, studs, and then the housing. Remove the ear shim plates from from of bearing housing and insert an appropriate shim, and then repeat the steps described in this section. If the clearances fall within the ranges specified, then proceed to section 4.2.2.

4.2.2 Assembling the Gearbox- Final Steps

Lock the nuts in place by bending the tab washer into the slots in the nut. Install the front oil seals (23) by first lubricating with oil all contact areas on the shafts and gearbox. The text on the seals should face out. Push the seals on with a sleeve flush with the gearbox. Stand the pump on the splined ends and fill the gearbox cavity with approved oil listed in section 4.3. Place the oil seal (24) in the gearbox cover, text side out. Place the o-ring (25) into the groove on the rear side of the gearbox. Slide the cover onto the drive shaft taking care not to damage the oil seal lips. Secure the cover with the bolts (18). Tap key (22) into place. Install the shaft seals and rotor housing as described in section 3.

4.3 Lubricants and Gearbox Volumes

UNIBLOC pumps come supplied with a synthetic oil, MOBIL 1 15W-50, applicable for service temperatures in the range of -23°C (-10°F) to 221°C (430°F). The following is a list of other synthetic lubricants that may be used. The oil capacity is 0.65 liter (20.3 oz.).

When checking the oil level in gearboxes that are not permanently lubricated, the pump must first be stopped. Remove the oil

MANUFACTURER	LUBRICANT NAME	TEMP. RANGE °C (°F)
Mobil	SHC 627	-23...121 (-10...250)
	SHC 634	121...152 (250...305)
Exxon	Spartan EP 100	-23...121 (-10...250)
	Spartan EP 150	121...152 (250...305)
Shell	Spirax S 75W90	-23...152 (-10...305)
Sentinel	S140	-26...288 (-15...550)
Royal Purple	150	-26...165 (-15...330)

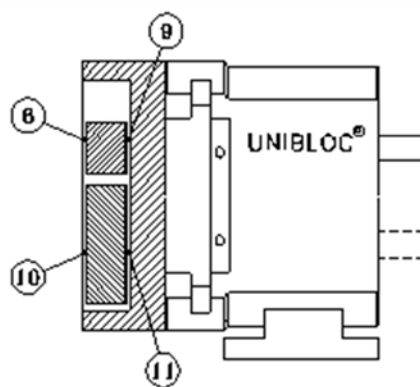
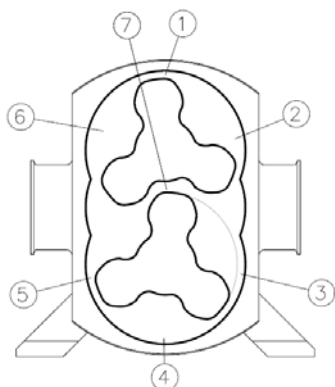
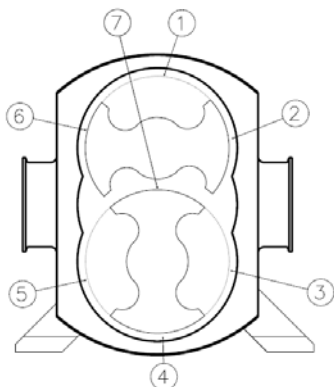
level check plug. If oil does not come out of this hole, it must be added through the vent hole until it starts to do so. Reattach the vent and oil plug and resume operation.

4.4 Torque Requirements and Limits

ITEM (FIGURE 4.2)	TORQUE N-M (ft-lbs.)
ROTOR HOUSING STUDS (15)	40 (30)
ROTOR BOLTS (14)	140 (103)
FRONT COVER NUTS (16)	50 (37)
GEARBOX COVER BOLTS (18)	40 (30)
ROTATING SHAFT (4)	10 (7.5)
SLOTTED GEAR NUT (13)	224 (165)

5.0 Rotor Clearances

The following tables list the clearances between the rotor housing and the rotors. The rotors are stamped with the rotor class letter underneath the rotor bolt on the spline ends of the rotor.



CLEARANCES FOR <u>CLASS D</u> STAINLESS STEEL ROTORS, x0,01 mm				
UNIBLOC MODEL	POSITION			
	1-6	7	8 & 10	9 & 11
501	20 min (7.9 min)	18 min (7.1 min)	21-24 (8.3-9.4)	12-14 (4.7-5.5)
551	20 min (7.9 min)	18 min (7.1 min)	21-24 (8.3-9.4)	12-14 (4.7-5.5)
576	20 min (7.9 min)	18 min (7.1 min)	21-24 (8.3-9.4)	12-14 (4.7-5.5)

CLEARANCES FOR <u>CLASS E</u> STAINLESS STEEL ROTORS, x0,01 mm				
UNIBLOC MODEL	POSITION			
	1-6	7	8 & 10	9 & 11
501	25 min (9.8 min)	20 min (7.9 min)	22-26 (8.7-10.2)	15-20 (5.9-7.9)
551	25 min (9.8 min)	20 min (7.9 min)	22-26 (8.7-10.2)	15-20 (5.9-7.9)
576	25 min (9.8 min)	20 min (7.9 min)	22-26 (8.7-10.2)	15-20 (5.9-7.9)

6.0 Relief Valve Cover Settings and Maintenance

UNIBLOC pumps may be supplied with one of the relief valve covers, shown in figure 6.0, that will minimize or eliminate problems associated with over pressurizing the pump. Relief valve covers are useful when external relief systems are not practical. No. 3237 functions only in one direction and must be oriented such that the high pressure, or discharge, side of the pump is always at the inlet of the relief valve. No. 3239B functions in both directions. The pressure is set in conjunction with a pressure gauge installed on the discharge side of the pump. By compressing or decompressing the spring inside the valve, the pressure at which the valve will open can be adjusted. This must be done while the pump is operating at the desired flow rate. Extreme caution should be used to prevent damage to the pump or other equipment that is pressure sensitive. If the pump is used to handle hot liquids, do not touch the pump or the valve without protection.

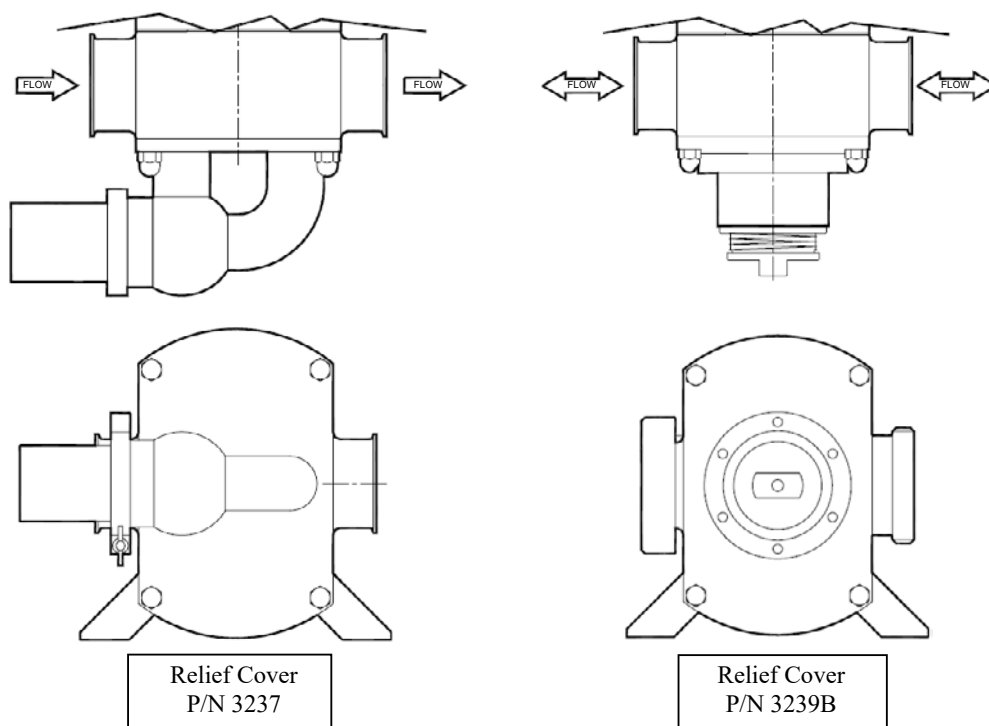
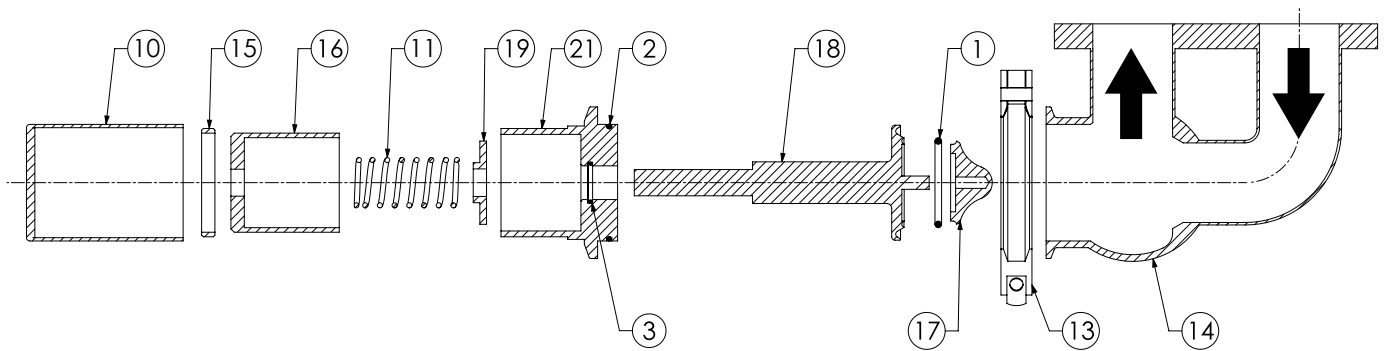


Figure 6.0

6.1 Setting the Relief Valve Cover

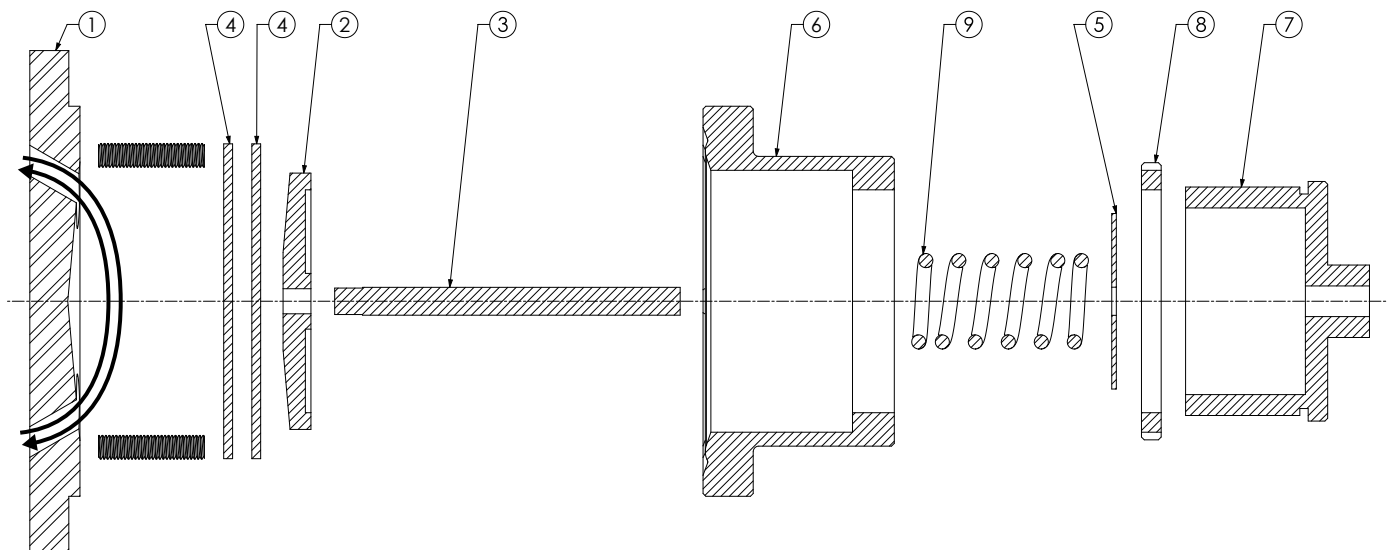
6.1.1 Setting Relief Valve Cover: P/N 3237

Unscrew the housing (10) to reveal the adjusting mechanism. Release the lock ring (15) and turn it and the adjusting sleeve/spring adjuster (16) clockwise until they bottom out. Turn the sleeve/adjuster counterclockwise until the pressure gauge begins to drop. Lock this position with the lock ring (15). Keep in mind that this pressure must be approximately 0.3-0.7 bar (5-10 psig) lower than the desired relief pressure, since the pump will continue to build pressure even though the valve may be open. Return the housing (10) and tighten.



6.1.2 Setting Relief Valve Cover: P/N 3239B

Release the lock ring (8) and turn it and the adjusting sleeve/spring adjuster (7) clockwise until they bottom out. Turn the sleeve/adjuster counterclockwise until the pressure gauge begins to drop. Lock this position with the lock ring (8). Keep in mind that this pressure must be approximately 0.3-0.7 bar (5-10 psig) lower than the desired relief pressure, since the pump will continue to build pressure even though the valve may be open.

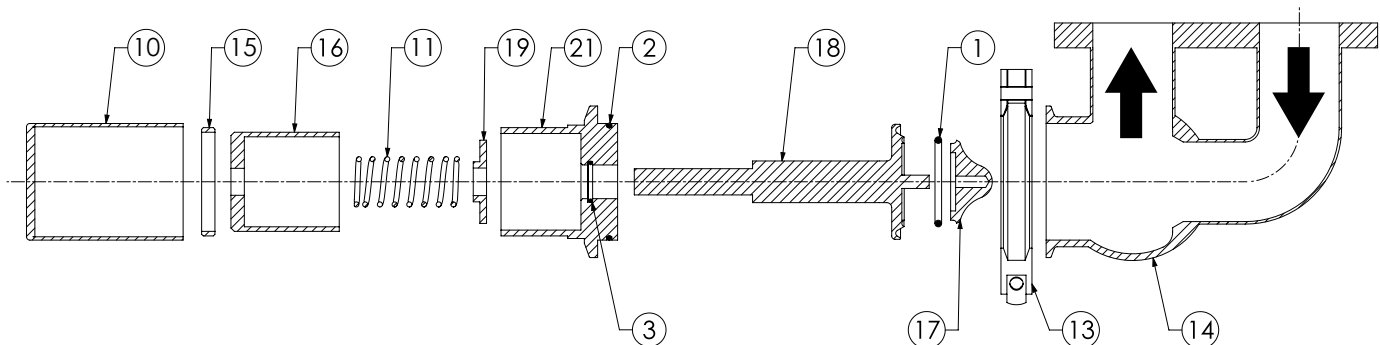


6.2 Relief Valve Cover Maintenance

To service the valve seals the pump must not be operating, the system must be depressurized, and the pump isolated from the remainder of the system.

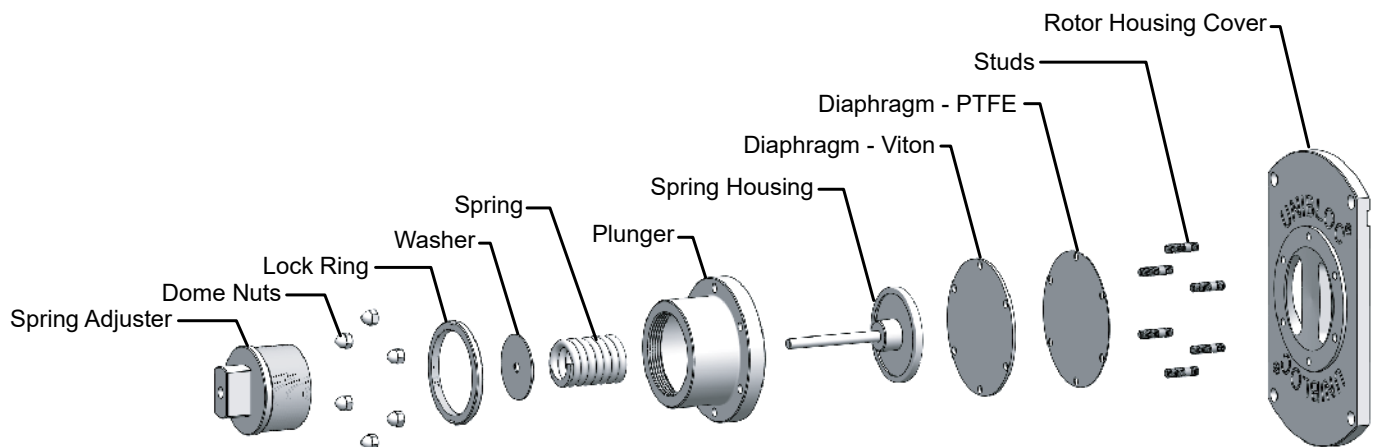
6.2.1 Servicing Relief Valve Cover: P/N 3237

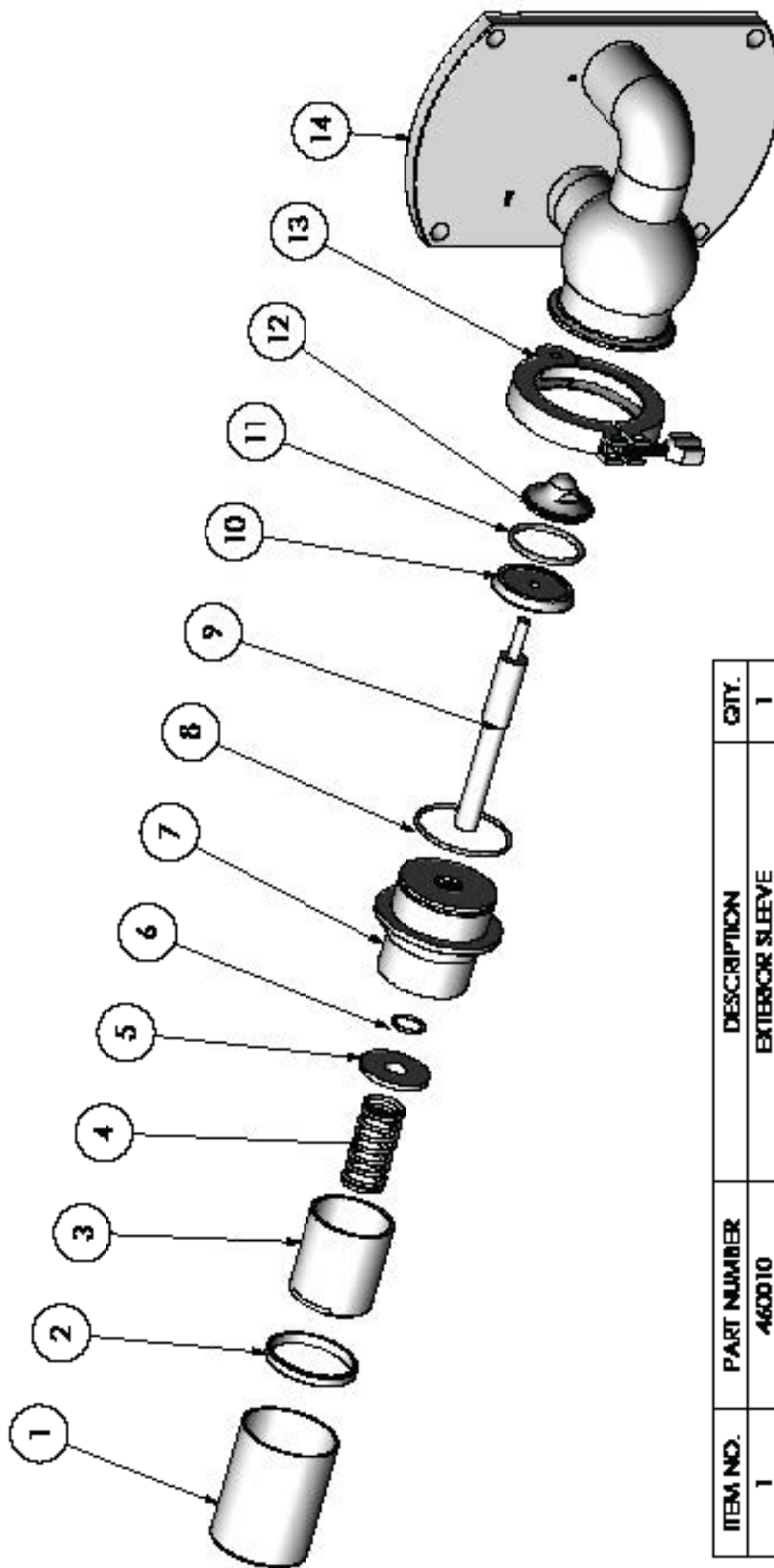
Remove the housing (10) and mark the location of the lock ring (15). Unscrew the adjusting sleeve (16) and remove it. Remove the clamp (13) and separate the valve body and the top containing the spring. Slide the piston, (18) and (17), out and place its stem in a padded vise. Unscrew the tip (17). O-rings (1), (2), and (3) may now be replaced. Screw on the tip (17), roll o-ring (1) into the groove and tighten. Lubricate o-ring (3) and slide in the piston. Place the top with the piston in the valve body (14) and secure with the clamp (13). Turn the lock ring (15) so that it returns to the mark and thread on the adjusting sleeve (16) tight against it. Replace the housing (10) and tighten. The pump may now be returned to service.



6.2.1 Servicing Relief Valve Cover: P/N 3239B

Mark the location of the **lock ring** on the **spring adjuster**. Unscrew the **spring adjuster** and remove it. Remove the **spring**. Look for the **washer** either inside the **spring adjuster** or on top of the **spring** for replacement. Unscrew the **dome nuts** on the **spring housing** and separate the **spring housing** from the **rotor housing cover**. The **plunger** will now be removable as one unit. It is now possible to remove the **diaphragms** from the **studs**. Once old diaphragms have been removed, place new diaphragms (**PTFE diaphragm** first, followed by **Viton diaphragm**) onto the **studs**. Next, slide the **spring housing** back on the **studs**, hold the **plunger** on the diaphragms so it stays inside the **spring housing**. Fasten the **spring housing** to the **rotor housing cover** with the **dome nuts**. Place the **spring** over the **plunger** stem. Make sure you have the **diaphragm washer** placed either on top of the **spring** or inside the **spring adjuster**. Turn the **lock ring** back to correct settings on the **spring adjuster**. Thread the **spring adjuster** back into the **spring housing** and tighten. The pump may now be returned to service.





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	460010	EXTERIOR SLEEVE	1
2	3237-8	LOCK RING	1
3	3237-7	TENSION ADJUSTING SLEEVE	1
4	3237-9	SPRING	1
5	3237-5	SPRING SEAT	1
6	4213	O-RING	1
7	3237-6	SPRING HOUSING	1
8	4882	O-RING	1
9	3237-3	STEM	1
10	460000	STEM DISK	1
11	4800	O-RING	1
12	3237-2	STEM CAP	1
13	540067	CLAMP	1
14	3237-11	ROTOR HOUSING COVER	1



DATE	BY	CHKD	DATE	REV. NO.
4/27/01	JH	JH	4/27/01	0
REV. NO.	DATE	BY	DATE	BY
4600493	4/27/01	JH	4/27/01	JH
4600493	4/27/01	JH	4/27/01	JH

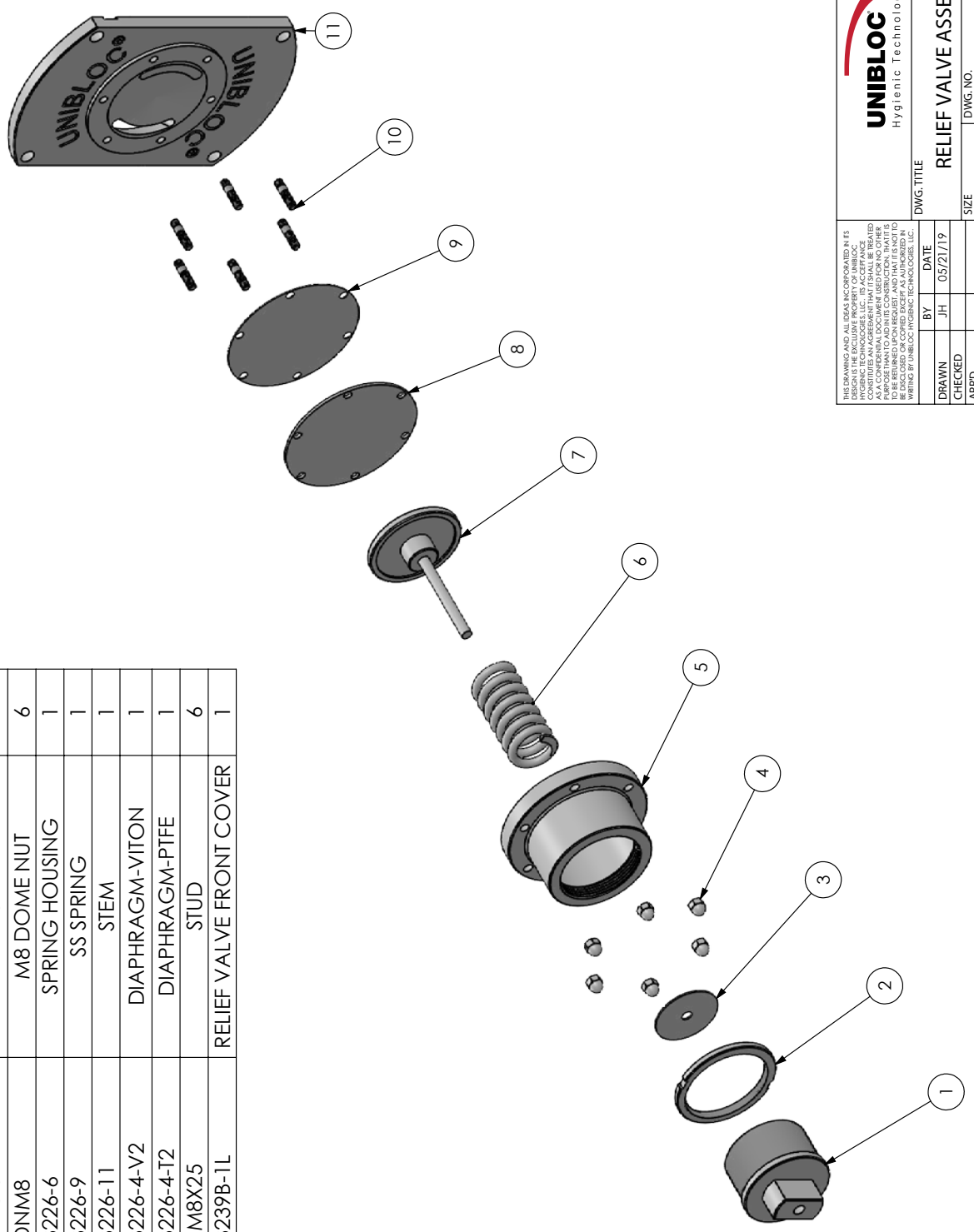
#46 STYLE PRESSURE RELIEF VALVE

PD501-576

APR. 27, 2001

SHEET 1 OF 3

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	3226-7	SPRING ADJUSTER	1
2	3226-8	LOCK RING	1
3	3226-5	WASHER	1
4	DNM8	M8 DOME NUT	6
5	3226-6	SPRING HOUSING	1
6	3226-9	SS SPRING	1
7	3226-11	STEM	1
8	3226-4-V2	DIAPHRAGM-VITON	1
9	3226-4-T2	DIAPHRAGM-PTFE	1
10	SM8X25	STUD	6
11	3239B-1L	RELIEF VALVE FRONT COVER	1



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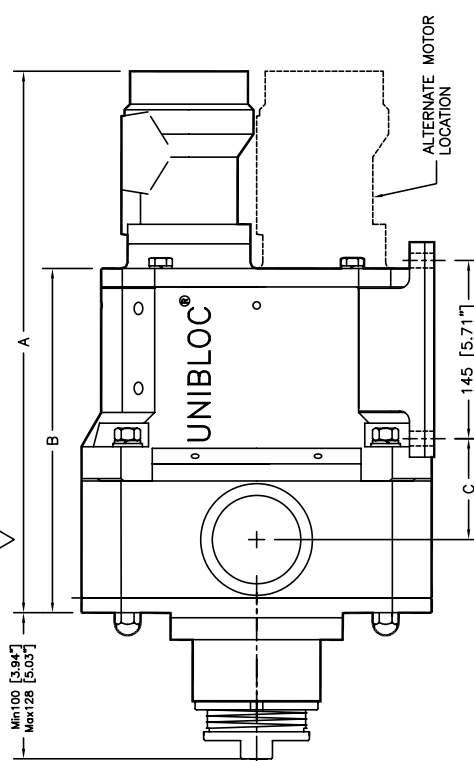
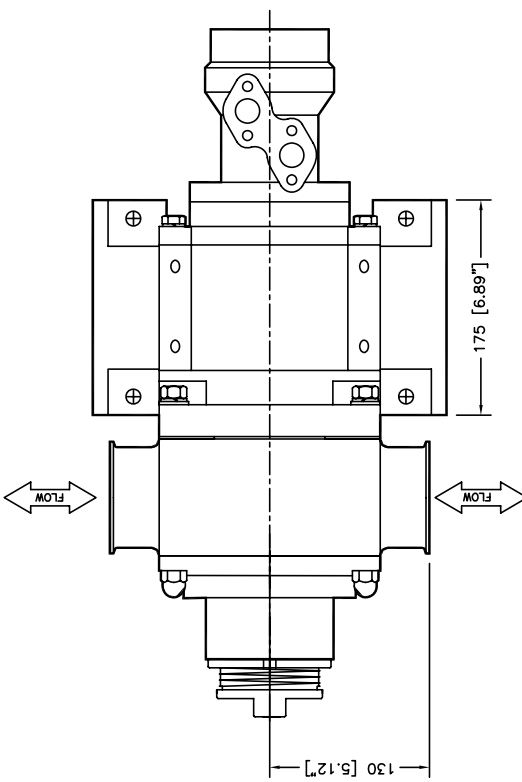
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RELIEF VALVE ASSEMBLY			
DRAWN	BY	DATE	REV. NO.
CHECKED	JH	05/21/19	
APPD			
SCALE			
SIZE		DWG. NO.	REV. NO.
PD501		3239B2	1
RELEASE DATE		MAR. 15, 2021	SHEET 1 OF 2

7.0 Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
A. No flow, but pump turns. Pump does not prime.	1. Motor turning in wrong direction 2. Air pocket in pipe or pump. 3. NPSHA too low. 4. Pump runs too slow. 5. Viscosity too high. 6. Obstruction in discharge piping, valve closed.	1. Reverse motor. 2. Fill pipe and pump with liquid. Check pipe fittings for leaks. 3. Increase suction pipe diameter or shorten suction pipe length. Decrease pump speed. Raise feed tank or supply liquid level. 4. Increase speed. Check hydraulic pressure and filter. 5. Lower viscosity if possible. 6. Remove obstruction, open valve.
B. Capacity too low, but pump turns.	1. NPSHA too low. 2. Pump runs too slow. 3. Increased slip in pump. 4. Discharge pressure higher than expected. 4. Front cover not tight.	1. See A-3 2. Increase speed. Check hydraulic pressure and filter. 3. Check rotor clearances; replace worn parts if necessary. 4. Check discharge piping for closed valves or obstructions. Increase pump speed BUT DO NOT EXCEED PRESSURE LIMITS OF PUMP. Increase discharge pipe size. Increase pump size. 4. Tighten cover nuts to torques specified in section 3.4.
C. Pump is noisy, cavitating.	1. Collapsed suction hose. 2. Liquid temperature too high. 3. Speed too high. 4. Viscosity higher than expected. 5. NPSHA too low. 6. Suction side valve closed.	1. Use reinforced hose or rigid piping. 2. Reduce speed, increase NPSHA. 3. Decrease speed. 4. Decrease speed, increase pump size. 5. See A-3. 6. Open valve, check suction side piping for obstructions.

PROBLEM	POSSIBLE CAUSE	SOLUTION
D. Rotors gall, pump seizes	1. Liquid temperature too high. 2. Rotor clearances incorrect. 3. Loose rotor bolts/housing studs. 4. Bearings worn. 5. Gears worn. 6. Foreign particles in pump. 7. Particles in product too large. 8. Discharge pressure too high.	1. Lower temperature or increase rotor clearances. 2. Adjust to factory recommended clearances. 3. Tighten or replace if necessary. 4. Replace bearings. 5. Replace gears. 6. Install suction side filter. 7. Increase rotor clearances. Use plastic rotors. Increase pump size. 8. See B-4.
E. Pump is noisy.	1. Cavitation. 2. Liquid contains air. 3. Discharge pressure too high.	1. See C. 2. Check pump shaft seals for leaks. Check suction side pipe fittings for leaks. Increase NPSHA. 3. Check suction and discharge piping for closed valves or obstructions. Increase pump size.
F. Motor overheating	1. Motor size too small. 2. Discharge pressure too high. 3. Viscosity higher than expected. 4. Motor & pump misalignment.	1. Increase motor size. 2. Lower pump speed. Lower pressure. Check suction and discharge piping for closed valves or obstructions. 3. Decrease pump speed. Increase pipe size or shorten discharge pipe length. 4. Correct alignment.
G. Shaft seals leak.	1. Worn parts. 2. Seals have been operated without product in pump. 3. Seal incompatible with liquid.	1. Replace seals and/or o-rings. 2. Operate pump only when liquids can come in contact with seals. Replace worn seal parts. 3. Contact factory for proper seal selection, operation, and replace if necessary.

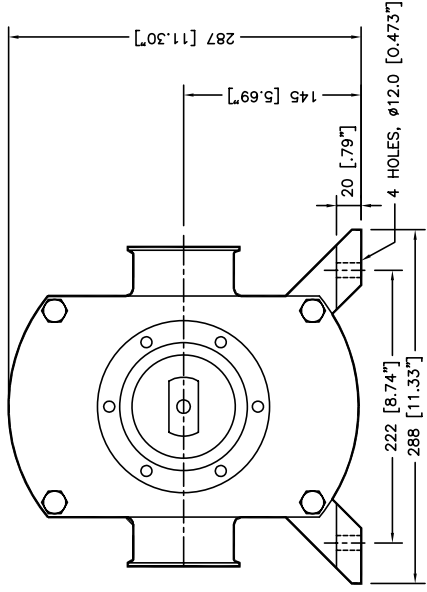
8.0 Pump Dimensions



HYDRAULIC MOTOR	DIMENSION A			
	UNIBLOC 501 (2.5")	UNIBLOC 551 (3-4")	UNIBLOC 576 (3-4")	
CHARLYNN 2000 (6.2)	463mm (18.2")	479mm (18.9")	498mm (19.6")	
CHARLYNN 2000 (8.0)	470mm (18.5")	486mm (19.1")	505mm (19.9")	
DANFOSS OMR50	420mm (16.5")	436mm (17.2")	455mm (17.9")	
DANFOSS OMR80	425mm (16.7")	441mm (17.4")	460mm (18.1")	
DANFOSS OMR100	429mm (16.9")	445mm (17.5")	464mm (18.3")	

*CONNECTIONS AVAILABLE: SANITARY TRI-CLAMP, NPTM, ACME, CAM LOCK, DIN

	B		C	
	UNIBLOC 501 (2.5")	UNIBLOC 551 (3-4")	UNIBLOC 576 (3-4")	
UNIBLOC 501 (2.5")	264mm (10.4")	74mm (2.91")		
UNIBLOC 551 (3-4")	280mm (11.03")	82mm (3.23")		
UNIBLOC 576 (3-4")	299mm (11.8")	92mm (3.62")		



3239B	ROTOR HOUSING RELIEF VALVE COVER
PART NO.	DESCRIPTION
	ASSOCIATED PARTS
DWG. TITLE	UNIBLOC Hygienic Technologies
DRAWN	PO
CHECKED	PO
APPROD	PO
SCALE	0.4:1
SIZE	501,551,576
DWG. NO.	D146B
RELEASE DATE	MAR 19, 2008
SHEET	1 OF 1

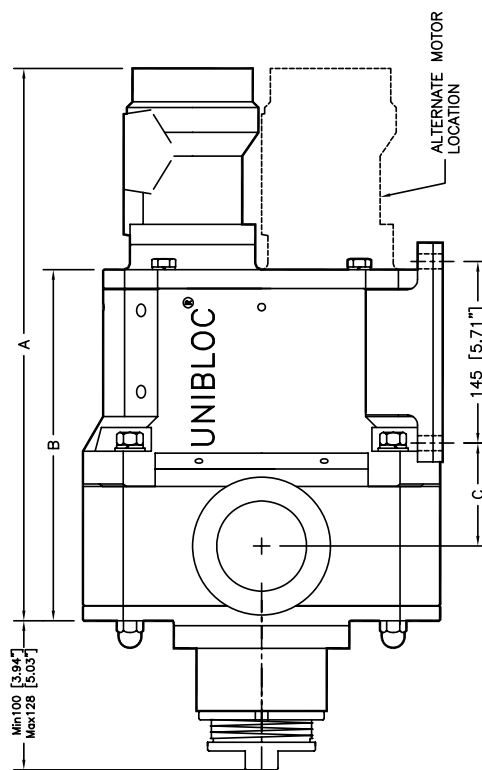
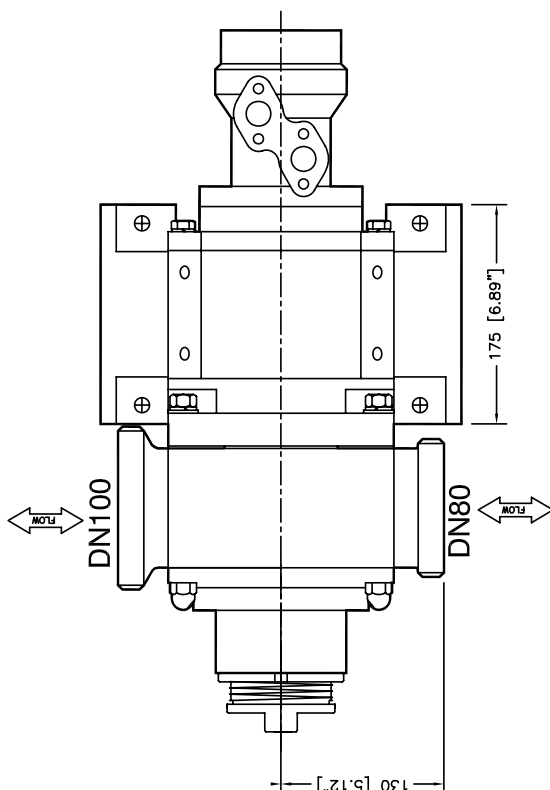
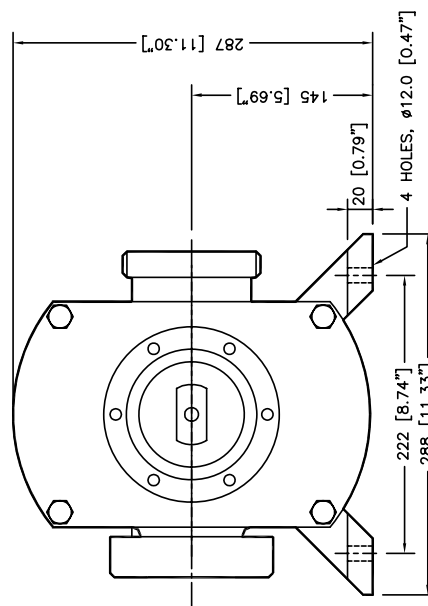
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FINISH (UNLESS NOTED ON DWG.)	PO	03/19/08
WEIGHT	CHECKED	PO
	APPROD	PO
	SCALE	0.4:1
	ALL DIMENSIONS IN MM	

REGISTERED DESIGN: PATENTS PENDING
UNIBLOC 551 SHOWN

HYDRAULIC MOTOR	A			
	UNIBLOC 501 (DN65)	UNIBLOC 551 (DN100/80)	UNIBLOC 576 (DN100)	UNIBLOC 576 (DN100)
CHARLYNN 2000 (6.2)	463mm (18.2")	479mm (18.9")	498mm (19.6")	498mm (19.6")
CHARLYNN 2000 (8.0)	470mm (18.5")	486mm (19.1")	505mm (19.9")	505mm (19.9")
DANFOSS OMR50	420mm (16.5")	436mm (17.2")	455mm (17.9")	455mm (17.9")
DANFOSS OMR80	425mm (16.7")	441mm (17.4")	460mm (18.1")	460mm (18.1")
DANFOSS OMR100	429mm (16.9")	445mm (17.5")	464mm (18.3")	464mm (18.3")

*CONNECTIONS AVAILABLE: SANITARY TRI-CLAMP, NPTM, ACME, CAM LOCK, DIN

	B	C
UNIBLOC 501	264mm (10.4")	74mm (2.91")
UNIBLOC 551	280mm (11.03")	82mm (3.23")
UNIBLOC 576	299mm (11.8")	92mm (3.62")



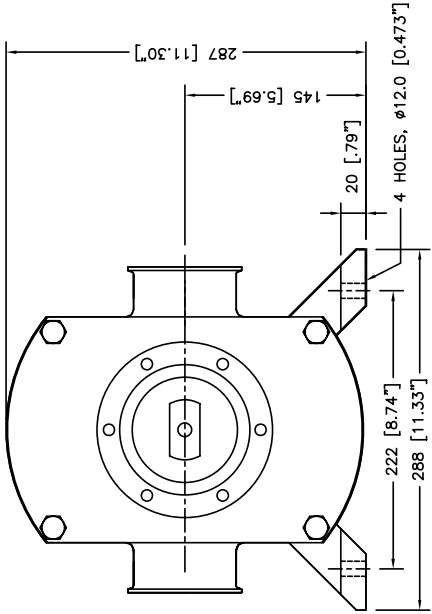
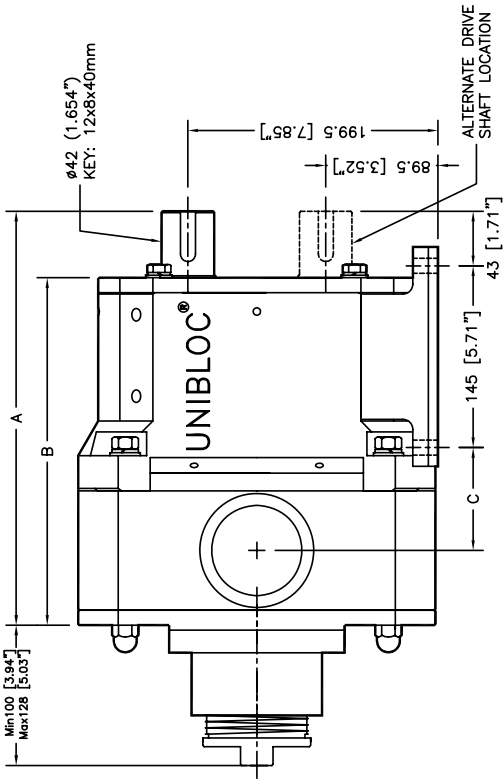
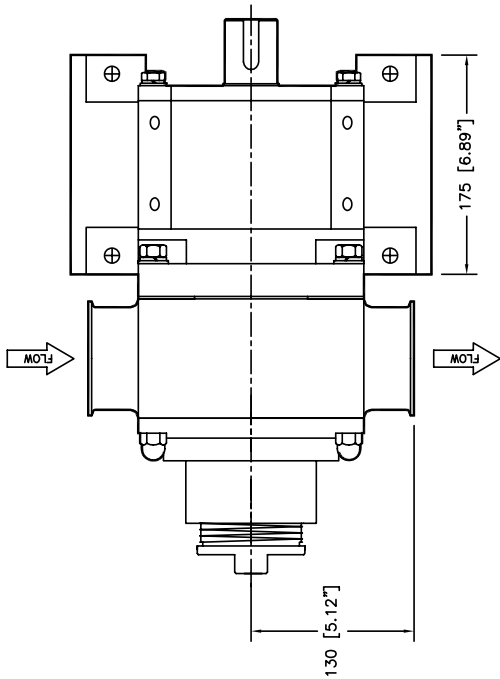
3239B	ROTOR HOUSING RELIEF VALVE COVER
PART NO.	DESCRIPTION
ASSOCIATED PARTS	
DWG. TITLE	HYDRAULIC MOTOR ASSEMBLY
SIZE	DWG. NO.
501,551,576	D146BDIN
RELEASE DATE	SHEET
MAR 19, 2008	1 OF 1

MATERIAL	BY	DATE
FINISH (UNLESS NOTED ON DWG.)	PO	03/19/08
WEIGHT	CHECKED	
SCALE	APP'D	0.4:1
ALL DIMENSIONS IN MM	SCALE	

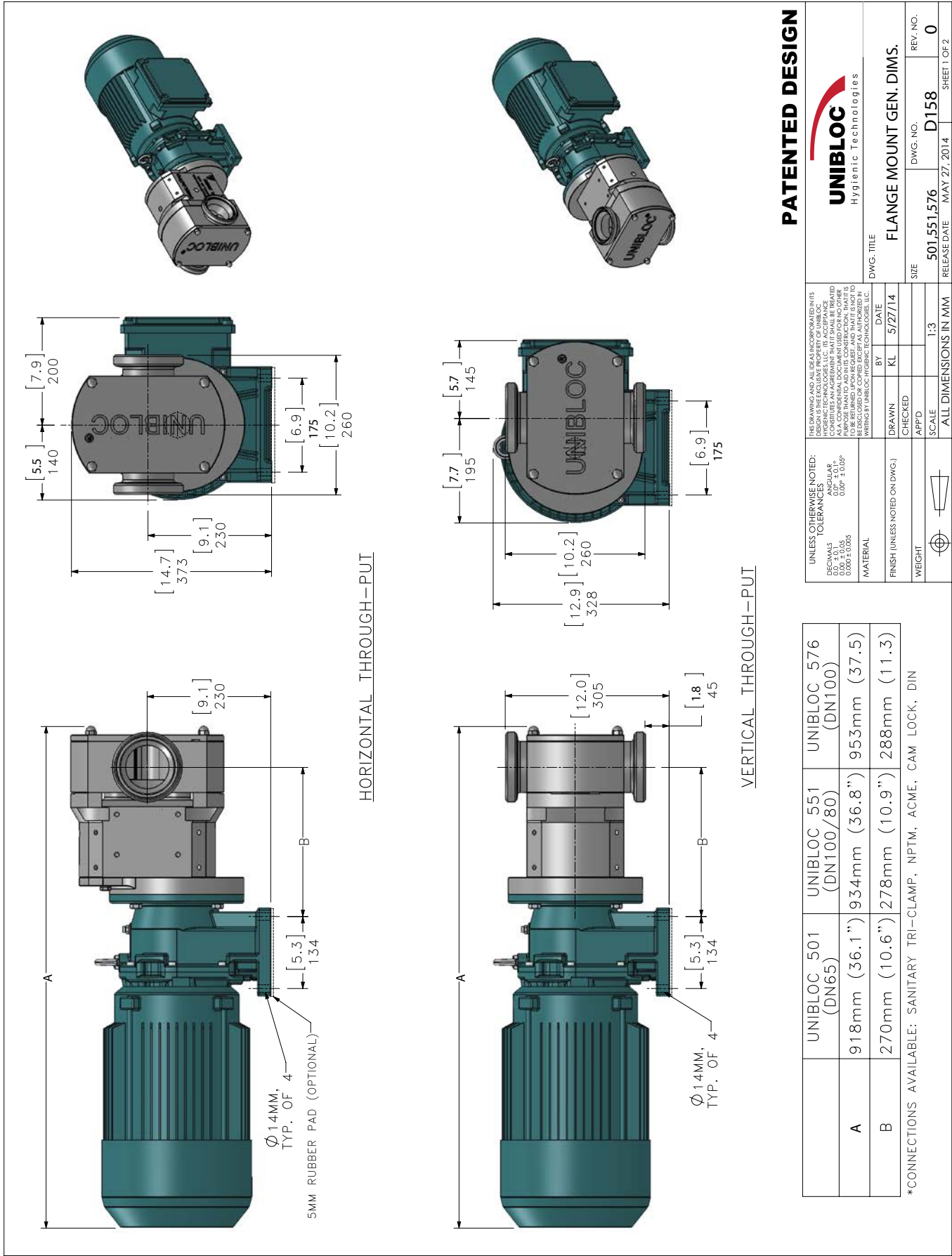
REGISTERED DESIGN: PATENTS PENDING
UNIBLOC 551 SHOWN

	UNIBLOC 501 (DN65)	UNIBLOC 551 (DN100/80)	UNIBLOC 576 (DN100)
A	314mm (12.4")	330mm (13.00")	349mm (13.7")
B	261mm (10.3")	277mm (10.91")	296mm (11.7")
C	74mm (2.91")	82mm (3.23")	92mm (3.62")

*CONNECTIONS AVAILABLE: SANITARY TRI-CLAMP, NPTM, ACME, CAM LOCK, DIN



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MATERIAL		BY		DATE		DWG. TITLE	
FINISH (UNLESS NOTED ON DWG.)		DRAWN		PO		PTO TRUCK PUMP GEN. DIMS.	
WEIGHT		CHECKED		APP'D		SIZE	
RELIEF VALVE COVER		SCALE		0.4:1		501,551,576	
DESCRIPTION		PART NO.		D148B		DWG. NO.	
ASSOCIATED PARTS		RELEASE DATE		APRIL 15, 2008		SHEET 1 OF 1	



PATENTED DESIGN

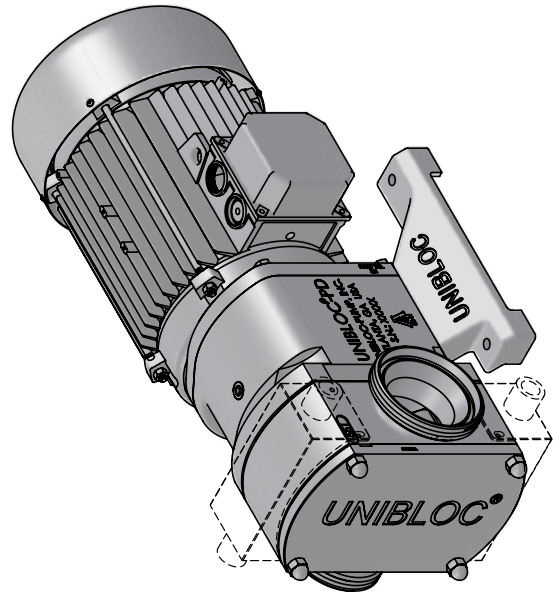
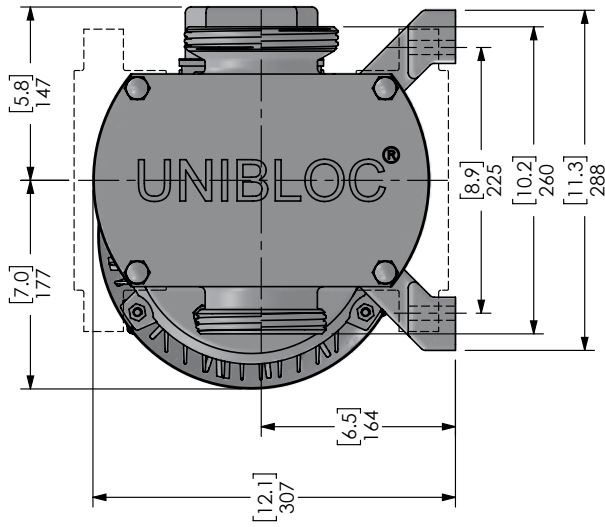
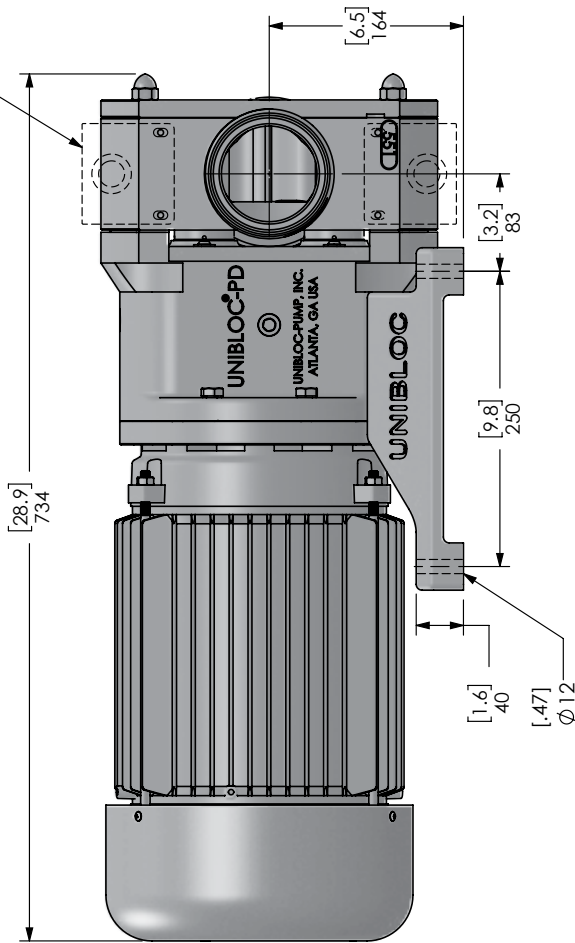
UNIBLOC
Hydra-Technologies

DWG. TITLE	
FLANGE MOUNT GEN. DIMS.	

SIZE	DWG. NO.	REV. NO.
501,551,576	D158	0

RELEASE DATE MAY 27, 2014

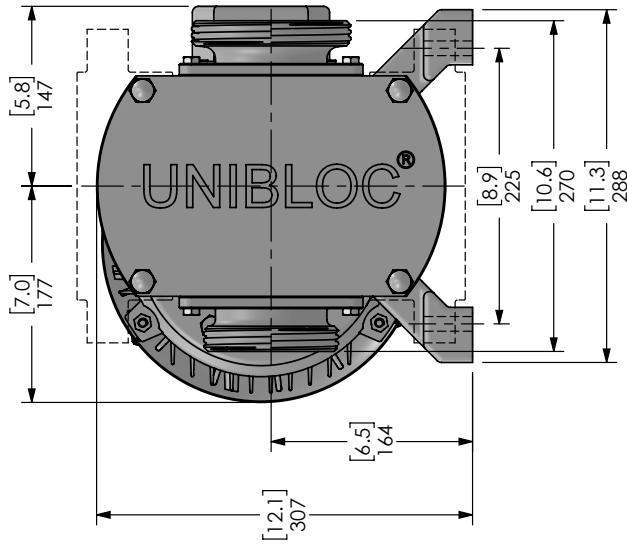
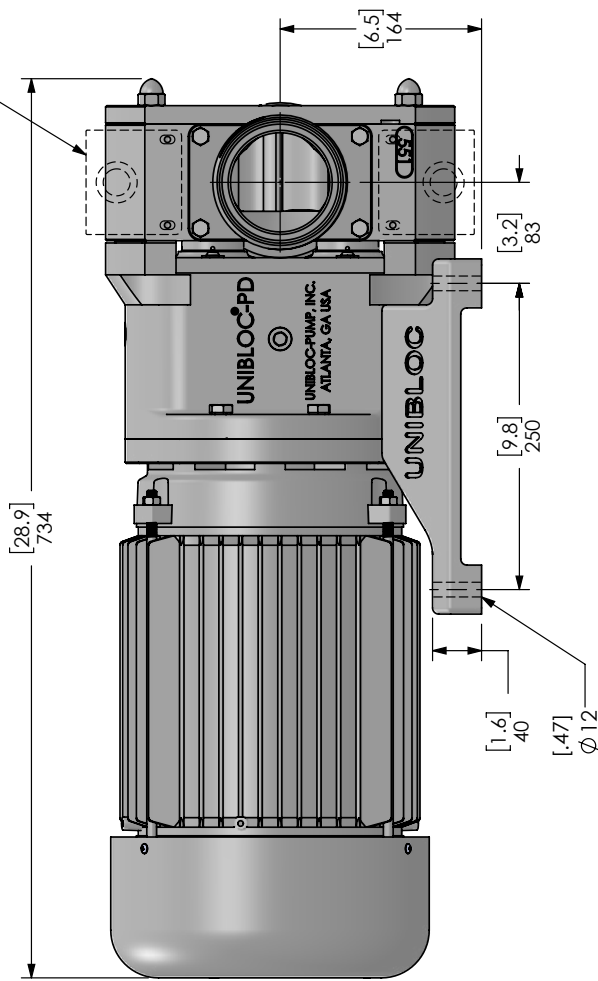
OPTIONAL HEATING JACKETS



PATENTED DESIGN

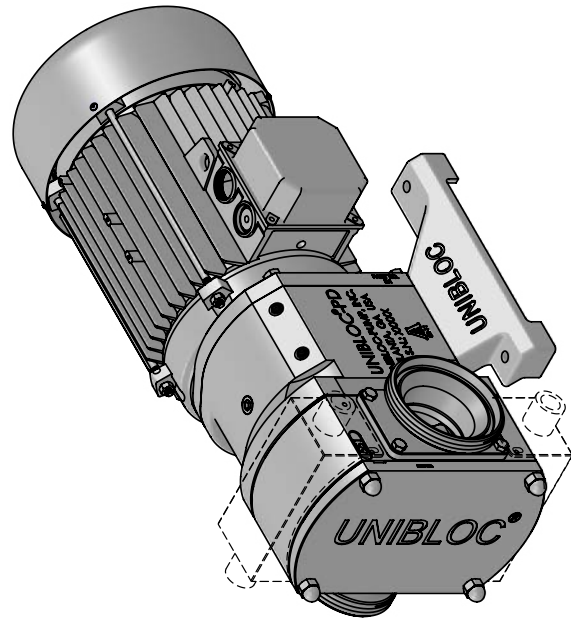
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DWG. TITLE				PD551M2			
BY		DATE		DWG. NO.		REV. NO.	
DRAWN		KL		03/07/19			
CHECKED							
APP'D				SIZE		551	
SCALE				RELEASE DATE		MAR. 7, 2019	
ALL DIMENSIONS IN MM, [IN]				SHEET 1 OF 2			

OPTIONAL HEATING JACKETS



FLEX PORT OPTIONS:

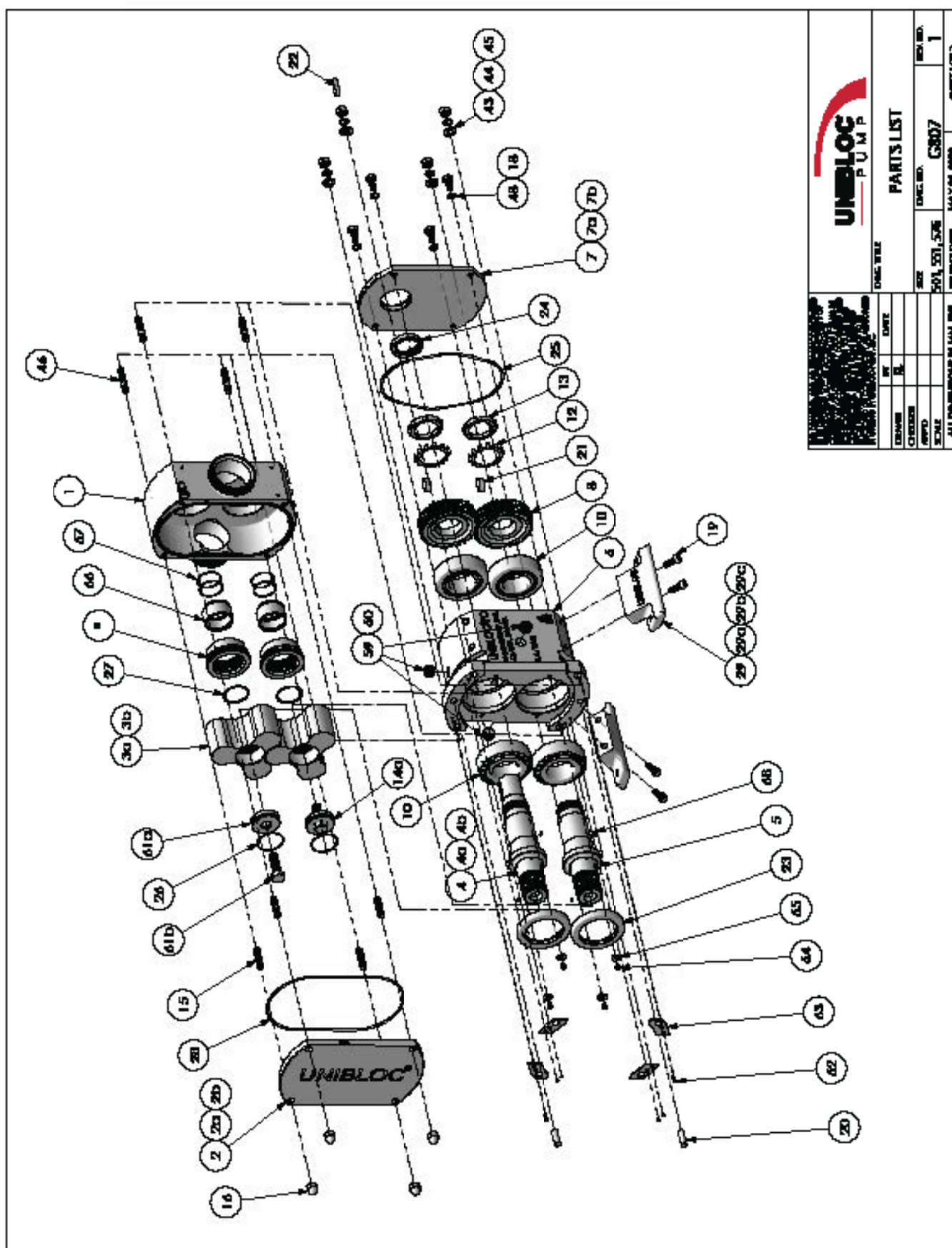
- DN80
- DN100
- SMS 101



PATENTED DESIGN

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BY		DATE		DWG. TITLE			
DRAWN	KL	08/14/19		PD551M2: FLEX PORTS			
CHECKED				SIZE			
APPD				551		DWG. NO.	
SCALE				D551M2-FP		0	
ALL DIMENSIONS IN MM. [IN]		RELEASE DATE		AUG. 14, 2019		SHEET 1 OF 2	

9.0 Parts Lists



PUMP SIZES 501, 551, 576			
PART NO.	DETAILED DESCRIPTION	NO.	PCS.
DPM3x8	M3x8	68	4
4228A	Shaft wear sleeve o-ring	67	4
4939B	Shaft wear sleeve	66	2
WFM6	Fender washer	65	4
BHM6x8	M6x8 (socket)	64	4
3673	Button head screw	63	4
FHM3x6	M3x6 (socket)	62	8
HBNPT-0.5"	1/2" NPT (socket)	60	1
RVO..5	1/2" NPT	59	1
4534-2	M10	48	4
HBM12x45	M12x45 (hex)	47b	2
HBM12x40	M12x40 (hex)	47a	2
WM10	M10	47	4
SM12x45	M12x45	46	4
4535-2	M12	45	6
WM12	M12	44	4
4431-2	M12	43	4(8)
4605	M8x22	42	2
3814	RTP30 Drop-In Foot	29c	2
3815	SIP125 Drop-In Foot	29b	2
3818	Drum Drop-In Foot	29a	2
3817	Standard Foot	29	2
4230	22x3mm	28	1
4233	1.799"x0.103" #133	27	2
4232	2.112"x0.103" #138	26	2
4239-N	7.9984"x0.139" #266	25	1
4130	45x62x10mm	24	1
4135	75x105x13mm	23	2
4716	12x8x40mm	22	1
4717	16x10x18mm (sq. key)	21	2
4615	M12x34	20	2
SBM10x30	M10x30 (socket)	19	4
HBM10x30	M10x30 (socket)	18	4
DNM12	M12	16	4
SM12x30	M12x30	15	4
3381		14b	2
3380		14a	2
HBM16x50		61b	2
3382		61a	2
4432		13	2
4515		12	2
3671		11a	2
3765		10	4
3617		8	2
3584	Cover For Danfoss Drive	7b	
3583	Cover For Charllynn Drive	7a	
3585	Cover For PTO Drive	7	1
3532		6	1
3239B	Relief cover, 2 way	2b	1
3237	Relief cover, 1 way	2a	1
3236	Plain cover	2	1

PUMP SIZE 501			
PART NO.	DETAILED DESCRIPTION	NO.	PCS.
3702B-1L	For Wear Sleeve	5	1
3699B-1L	PTO Drive (Wear Sleeve)	4	1
3700B-1L	Charllynn Drive (Wear Sleeve)	4a	1
3701B-1L	Danfoss Drive (Wear Sleeve)	4b	1
3332	Class E Bi-Lobe Rotor	3a	2
8412	Class E Tri-Lobe Rotor	3b	2
3164-1	2.5" Tri-Clamp Conn. ***	1	1

PUMP SIZE 551			
PART NO.	DETAILED DESCRIPTION	NO.	PCS.
3698B-1L	For Wear Sleeve	5	1
3695B-1L	PTO Drive (Wear Sleeve)	4	1
3696B-1L	Charllynn Drive (Wear Sleeve)	4a	1
3697B-1L	Danfoss Drive (Wear Sleeve)	4b	1
3335	Class E Bi-Lobe Rotor	3a	2
8442	Class E Tri-Lobe Rotor	3b	2
3168-1	3.0" Tri-Clamp Conn. ***	1	1

PUMP SIZE 576			
PART NO.	DETAILED DESCRIPTION	NO.	PCS.
3706B-1L	For Wear Sleeve	5	1
3703B-1L	PTO Drive (Wear Sleeve)	4	1
3704B-1L	Charllynn Drive (Wear Sleeve)	4a	1
3705B-1L	Danfoss Drive (Wear Sleeve)	4b	1
3338	Class E Bi-Lobe Rotor	3a	2
8472	Class E Tri-Lobe Rotor	3b	2
3178-1	3" or 4" Tri-Clamp Conn. ***	1	1

*** Connections Also Available In:

- ACME
- DIN 100
- DIN 80
- RJT
- SMS
- NPTM
- CAMLOC

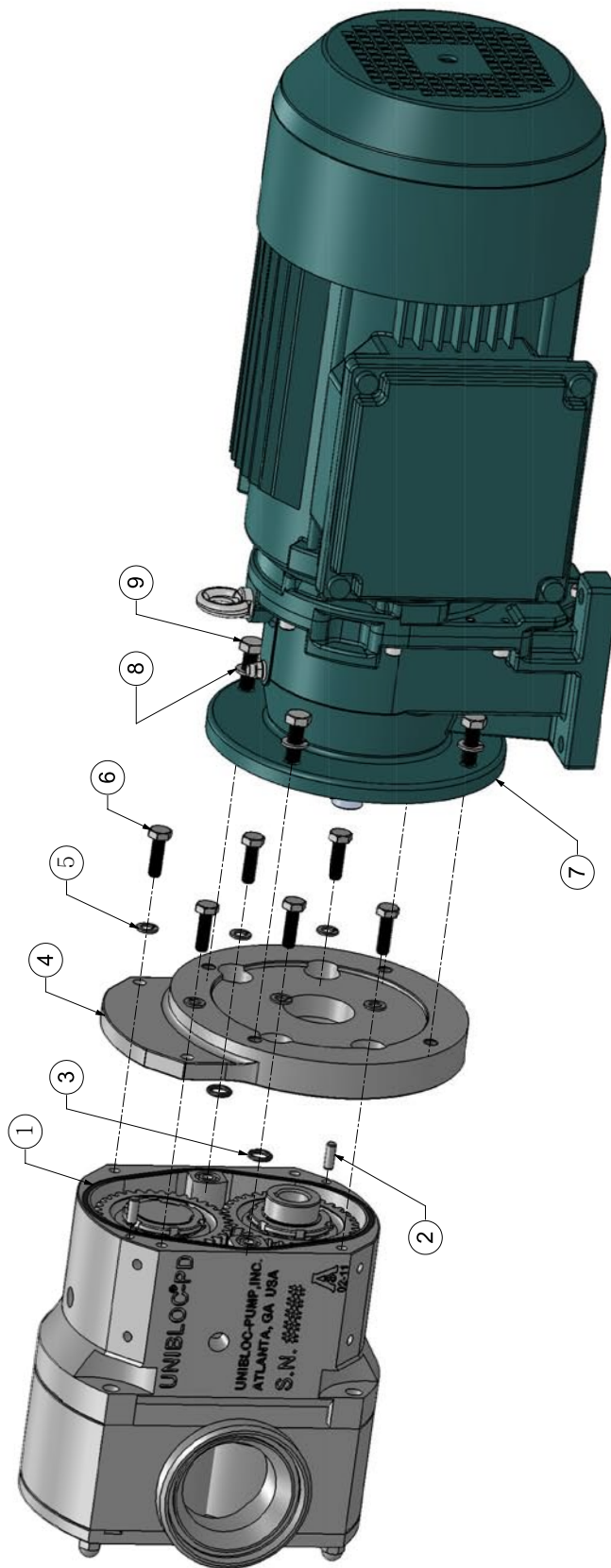
* See DWG. G812B For Shaft Seal Parts



UNIBLOC
Hygienic Technologies

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DWG. TITLE		PARTS LIST	
BY	DATE	DWG. NO.	REV. NO.
DRAWN	KL	G807	1
CHECKED			
APPD			
SCALE		SIZE	
		501, 551, 576	
ALL DIMENSIONS IN MM. [IN]		RELEASE DATE	SHEET 2 OF 2
		MAY 26, 2020	

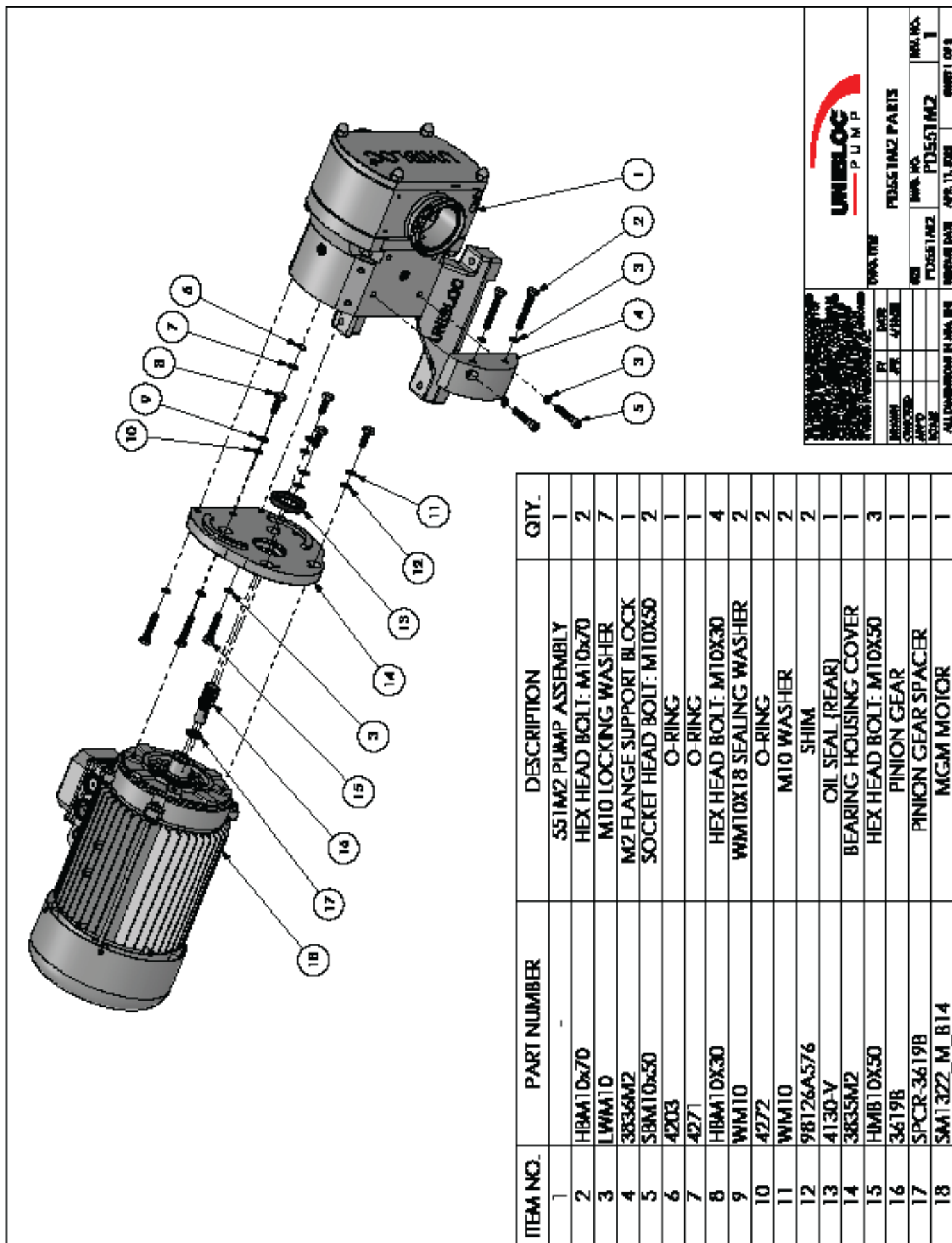


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	4239-N	O-RING	1
2	N/A	M8x20 DOWEL PIN	2
3	4837	O-RING	2
4	3585C	BEARING HOUSING COVER	1
5	N/A	M10 LOCK WASHER	6
6	N/A	M10x35 BOLT	6
7	N/A	GEARMOTOR	1
8	N/A	M12 LOCK WASHER	4
9	N/A	M12x35 BOLT	4

PATENTED DESIGN

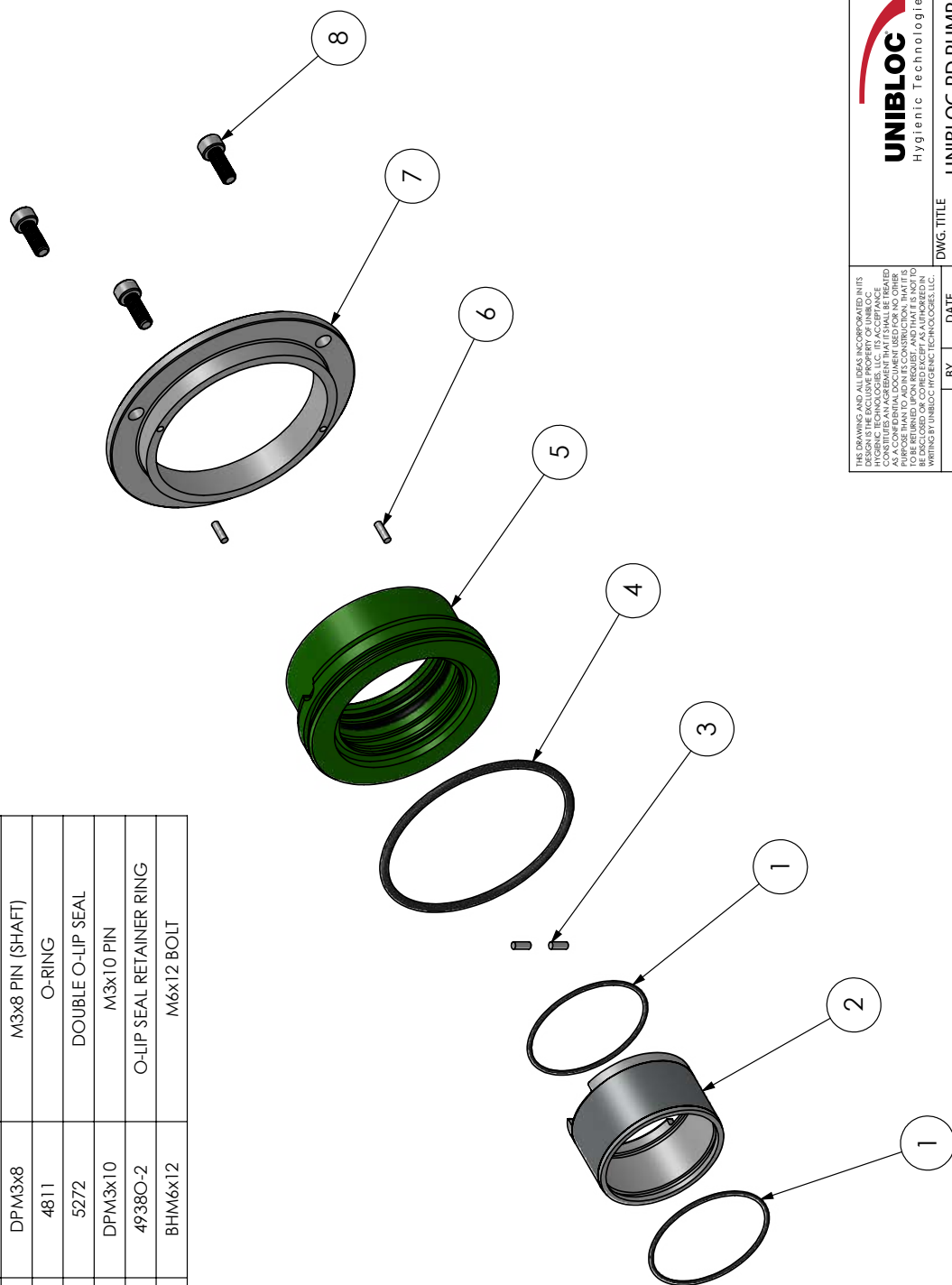


UNLESS OTHERWISE NOTED: DECIMALS 0.00 ± 0.005 0.01 ± 0.01 0.05 ± 0.005 0.00 ± 0.005 TOLERANCES ANGULAR 0.00° ± 0.1° 0.00° ± 0.05° 0.00° ± 0.005° MATERIAL FINISH (UNLESS NOTED ON DWG.) WEIGHT SCALE 1:5 ALL DIMENSIONS IN MM		THE DRAWING AND ALL RIGHTS INCORPORATED IN ITS DESIGN ARE THE EXCLUSIVE PROPERTY OF UNIBLOC. UNIBLOC TECHNOLOGIES, LLC. ITS ACCEPTANCE OF THIS DRAWING DOES NOT CONSTITUTE AN ENDORSEMENT OR A CONFIDENTIAL DOCUMENT USED FOR NO OTHER PURPOSE THAN THE ONE SPECIFIED HEREIN. IT IS TO BE RETURNED UPON REQUEST AND IT IS NOT TO BE DISCLOSED OR COPIED EXCEPT AS AUTHORIZED IN WRITING BY UNIBLOC TECHNOLOGIES, LLC.	BY DATE 08/30/13	DWG. NO. 501.551.576	REV. NO. 1
UNLESS OTHERWISE NOTED: DECIMALS 0.00 ± 0.005 0.01 ± 0.01 0.05 ± 0.005 0.00 ± 0.005 TOLERANCES ANGULAR 0.00° ± 0.1° 0.00° ± 0.05° 0.00° ± 0.005° MATERIAL FINISH (UNLESS NOTED ON DWG.) WEIGHT SCALE 1:5 ALL DIMENSIONS IN MM		DWG. TITLE FLANGE MOUNT ASSEMBLY	RELEASE DATE AUG. 30, 2013	SIZE 501.551.576	SHEET 1 OF 3



DOUBLE O-LIP SEAL
P.N. 5272

ITEM NO.	PCS. PER SEAL	PART NO.	DESCRIPTION
1	2	4228A	O-RING
2	1	4939B	WEAR SLEEVE
3	2	DPM3x8	M3x8 PIN (SHAFT)
4	1	4811	O-RING
5	1	5272	DOUBLE O-LIP SEAL
6	2	DPM3x10	M3x10 PIN
7	1	4938O-2	O-LIP SEAL RETAINER RING
8	3	BHM6x12	M6x12 BOLT

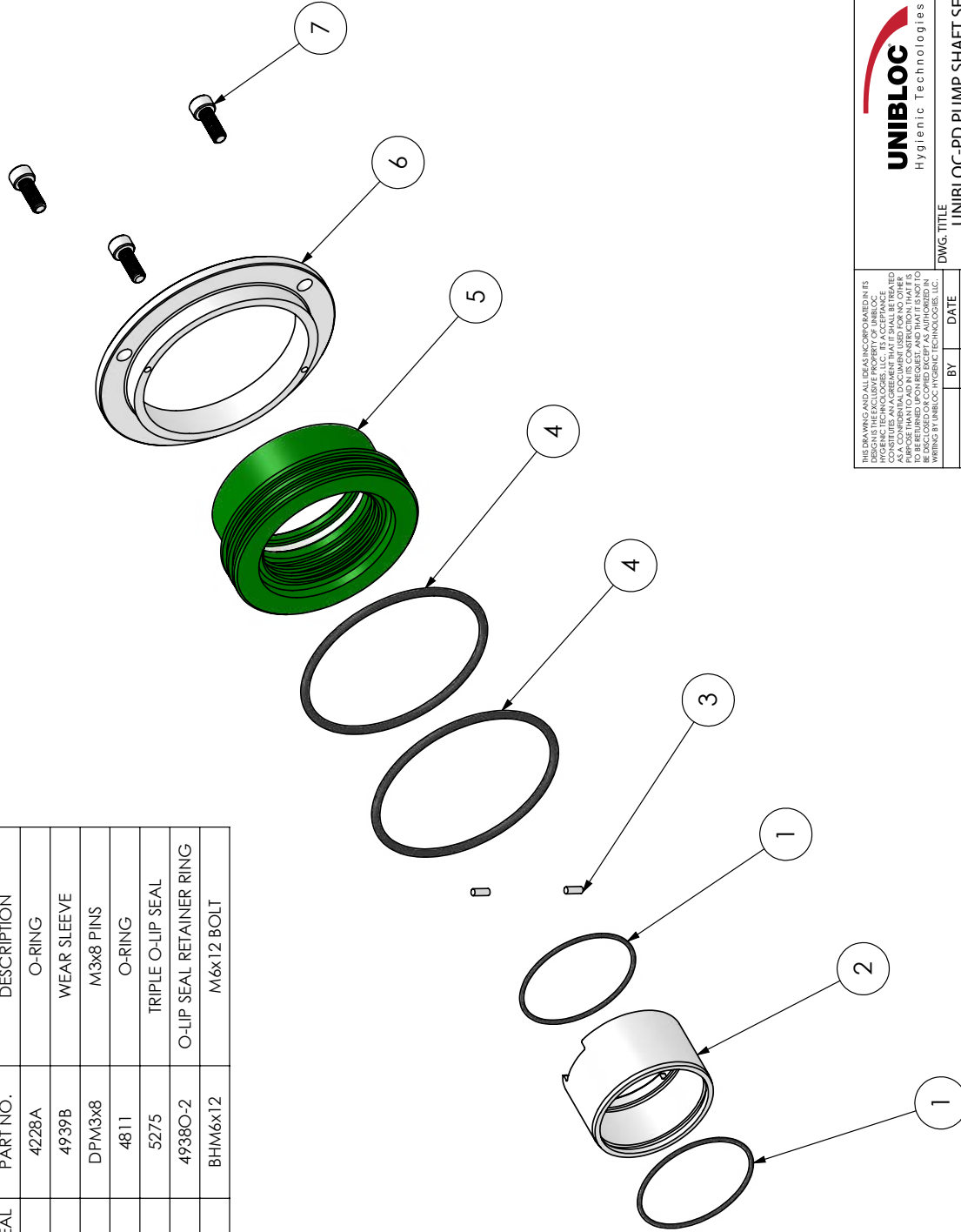


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UNIBLOC Hygienic Technologies		UNIBLOC-PD PUMP SHAFT SEAL PARTS LIST	
DWG. TITLE	BY	DATE	REV. NO.
	JPZ	06/29/15	
	CHECKED		
	APPD		
SIZE	DWG. NO.		
501,551,576	G812B-1		2
RELEASE DATE	APRIL 5, 2004		SHEET 1 OF 2

TRIPLE O-LIP SEAL
P.N. 5275

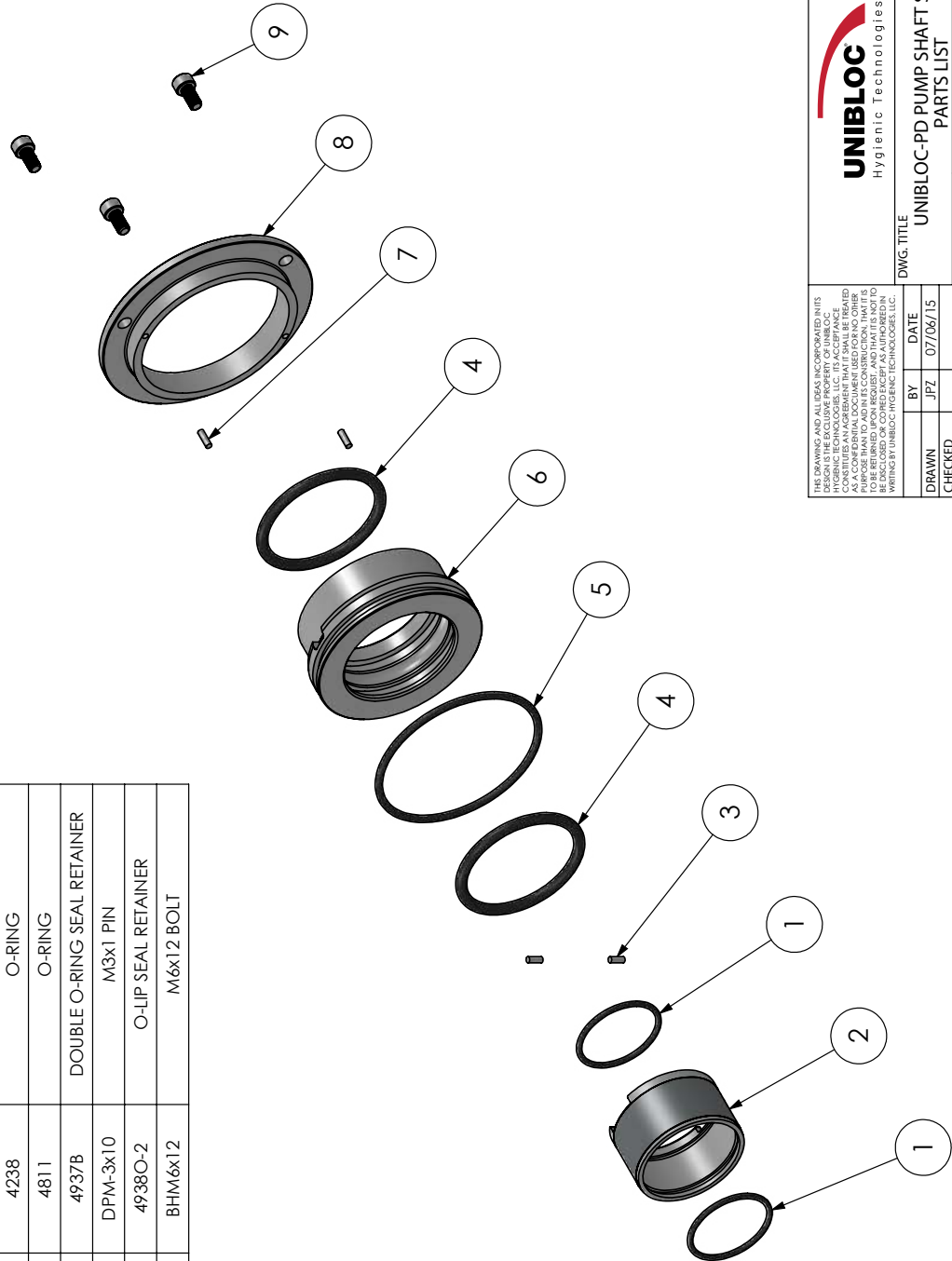
ITEM NO.	PCS. PER SEAL	PART NO.	DESCRIPTION
1	2	4228A	O-RING
2	1	4939B	WEAR SLEEVE
3	2	DPM3x8	M3x8 PINS
4	2	4811	O-RING
5	1	5275	TRIPLE O-LIP SEAL
6	1	4938O-2	O-LIP SEAL RETAINER RING
7	3	BHM6x12	M6x12 BOLT



UNIBLOC Hygienic Technologies		DWG. TITLE		UNIBLOC-PD PUMP SHAFT SEAL	
		PARTS LIST		REV. NO.	
BY	DATE	SIZE	DWG. NO.	REV. NO.	
DRAWN	JPZ	07/06/15		2	
CHECKED					
APPD					
SCALE					
ALL DIMENSIONS IN MM. [IN]		RELEASE DATE		APRIL 5, 2004	
				SHEET 1 OF 2	

DOUBLE O-RING SEAL
OPTIONAL: SINGLE O-RING SEAL

ITEM NO.	PCS. PER SEAL	PART NO.	DESCRIPTION
1	2	4228A	O-RING
2	1	4939B	WEAR SLEEVE
3	2	DPM3x8	M3x8 PIN
4	2	4238	O-RING
5	1	4811	O-RING
6	1	4937B	DOUBLE O-RING SEAL RETAINER
7	2	DPM-3x10	M3x1 PIN
8	1	4938O-2	O-LIP SEAL RETAINER
9	3	BHM6x12	M6x12 BOLT



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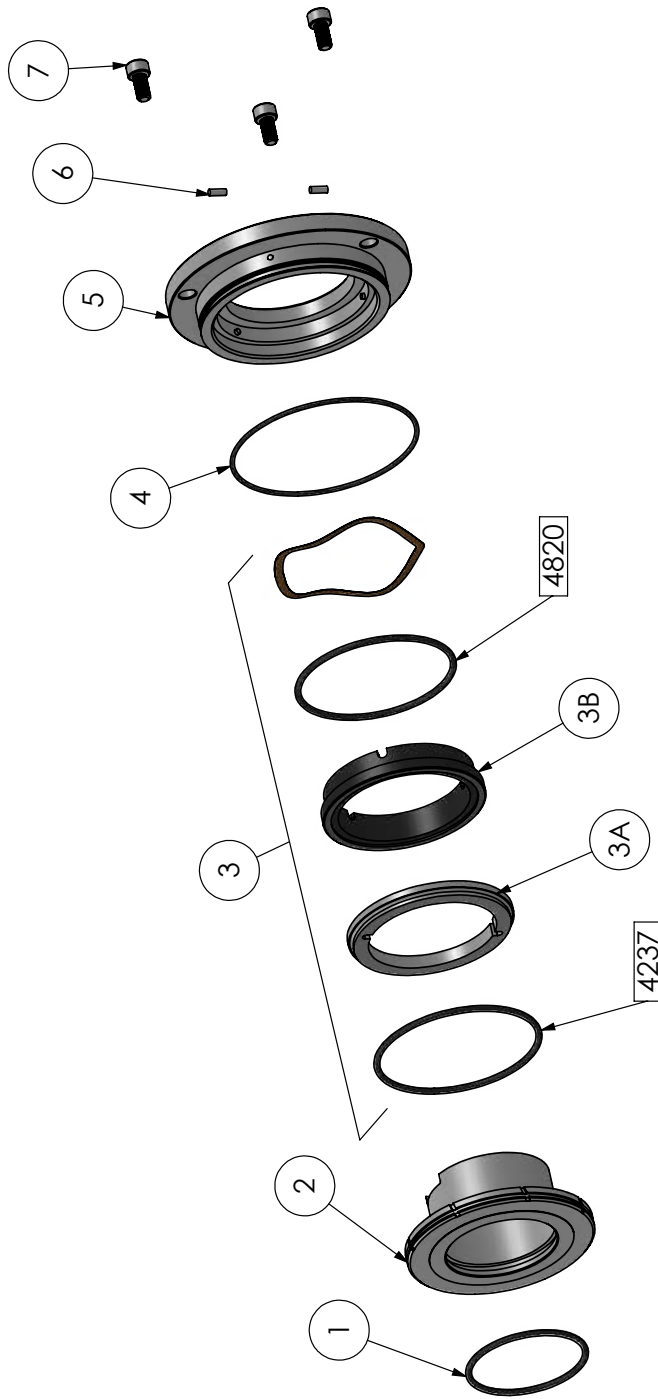
BY		DATE	DWG. TITLE	
DRAWN	JFZ	07/06/15	UNIBLOC-PD PUMP SHAFT SEAL	
CHECKED			PARTS LIST	
APPD			SIZE	REV. NO.
SCALE			501,551,576	G812B-3
ALL DIMENSIONS IN MM. (IN)			RELEASE DATE	SHEET 1 OF 2
			APRIL 5, 2004	2



SINGLE MECHANICAL SEAL			
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	4225	O-RING	1
2	4939E	SINGLE MECHANICAL SHAFT SLEEVE	1
3	REFERENCE TABLE 2	SINGLE MECHANICAL SHAFT SLEEVE FACE KIT	1
4	4234	O-RING	1
5	4938A-2	SINGLE MECHANICAL RETAINER RING	1
6	DPM3x8	M3x8 PIN (SHAFT)	2
7	SBM6x12	M6x12 SOCKET BOLT	3

TABLE 2

KIT NO.	ITEM NO.	DESCRIPTION
51 65-KIT	3A	ROTATING SEAL FACE: STAINLESS
	3B	STATIONARY SEAL FACE: CARBON
51 66-KIT	3A	ROTATING SEAL FACE: TUNGSTEN CARBIDE
	3B	STATIONARY SEAL FACE: SILICON CARBIDE
51 67-KIT	3A	ROTATING SEAL FACE: SILICON CARBIDE
	3B	STATIONARY SEAL FACE: SILICON CARBIDE
51 68-KIT	3A	ROTATING SEAL FACE: TUNGSTEN CARBIDE
	3B	STATIONARY SEAL FACE: TUNGSTEN CARBIDE



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DWG. TITLE		FRONT LOAD SINGLE MECH. SEAL PARTS	
DRAWN	BY	DATE	
CHECKED	JPR	4/19/22	
APPD			
SCALE			
ALL DIMENSIONS IN MM. (IN)		SIZE	PD501
		DWG. NO.	G812C
		REV. NO.	0
		RELEASE DATE	APRIL 19, 2022
		SHEET 1 OF 2	

Notes:

Pump Size: _____

Pump SN: _____

[illegible]

Notes:

Pump Size: _____

Pump SN: _____

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

WARRANTY

Unibloc Hygienic Technologies, LLC ("Unibloc") warrants that its product will be free from defects in material and workmanship which results in noncompliance with the Specifications for such product. This warranty shall begin upon delivery and continue for a period of one (1) year from such date. If during this period the product does not comply with its specifications as a result of defects in material or workmanship, contact Unibloc to arrange return of the faulty product, shipping prepaid and fully insured, to an authorized Unibloc service facility. If upon inspection of the item in question, defects in workmanship or materials are revealed, Unibloc's sole obligation under this warranty shall be to supply a repair or replacement for any defective part of a product, and to return such product to the customer by shipping it EX WORKS (as defined in Incoterms 2020) the service facility. Unibloc shall not be required to supply any labor for repairs or replacement of parts. This warranty is void if the product has not been used as recommended or instructed, has been altered or used with unauthorized accessories, has been subject to misuse, abuse or accident, or has been damaged due to causes not related to poor workmanship or defective materials. All parts or components not manufactured by Unibloc are warranted only to the extent of the warranty of the respective manufacturers.

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Unibloc Hygienic Technologies US, LLC

1650 Airport Rd, Ste 110 • Kennesaw, GA 30144 • USA

Tel 770-218-8900 • E-Mail info@unibloctech.com



unibloctech.com

