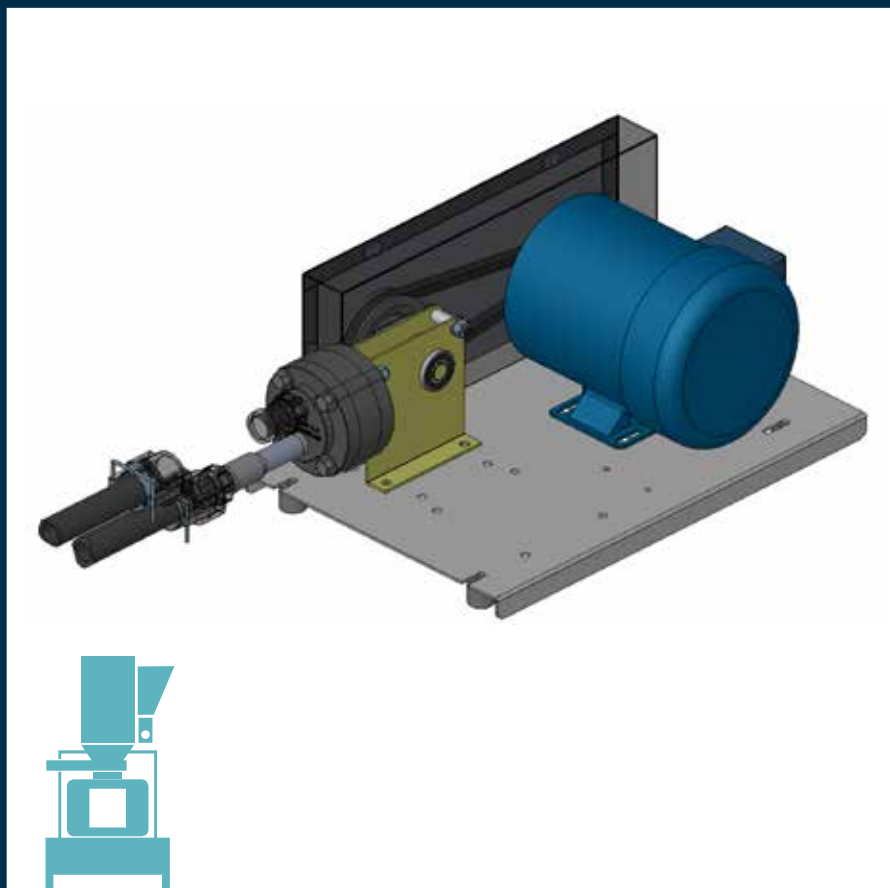




## D3 PUMP SERVICE #04161797



This manual contains technical information regarding Bayer SeedGrowth™ Equipment. Please read and understand these instructions completely before proceeding to install and operate the equipment. Bayer reserves the right to change specifications, models, components, or materials at any time without notice. For additional equipment information contact us at 1.800.634.6738. Please have this manual available when contacting Bayer.

This manual uses signal words and symbols to help avoid personal injury. Danger, Warning, and Caution are signal words used to identify the level of hazard.



**Danger** alerts that an extreme hazard will cause serious injury or death if operators or installers do not follow the recommended precautions.



**Warning** alerts that a hazard may cause serious injury or death if operators or installers do not follow the recommended precautions.



**Caution** alerts that a hazard may cause minor or moderate injury if operators or installers do not follow the recommended precautions.



**Tip:** calls attention to special information.



**Note:** emphasizes general information worthy of attention.



**Example:** gives a problem or exercise that illustrates a method or principle.

Always use caution and common sense when working with any chemical. Read the product label and SDS carefully and follow their instructions exactly as described.

Optimal operating conditions for this piece of equipment requires an ambient temperature 32° F to +104° F (0° C to +40° C), relative humidity less than 90% (minimum condensation). Make necessary provisions to protect this piece of equipment against excessive dust, particles containing iron, moisture and against corrosive and explosive gases.

Our technical information is based on extensive testing and is, to the best of our current knowledge, true and accurate but given without warranty as the conditions of use and storage are beyond our control. Variables, such as humidity, temperature, change in seed size or variety and viscosity of chemical products can all affect the accuracy of the chemical application and seed coverage. To ensure the desired

application rate and optimum seed coverage, check the calibration periodically throughout the day, and make adjustments as needed.



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# EXPOSURE CONTROL

Always use caution and common sense when working with chemicals. Read the product label and SDS carefully and follow their instructions exactly as described. The following Personal Protective Equipment (PPE) recommendations and best practices help promote safe use in seed treatment.



## Wear protective clothing

Wear disposable or reusable coveralls with long sleeves.



## Hand protection required

Wear chemical-resistant gloves.



## Wear rubber boots

Wear chemical resistant rubber boots.



## Labels

Label recommendations and directions for handling must be followed, including treatment procedure (use of sticker) as well as the safety requirements.



## Treatment products

Keep products in a locked room that has been approved for crop protection products.



## Wear a mask

Wear respiratory protection.



## Eye protection required

Wear protective eyewear.



## Calibration

Seed treatment equipment must be checked and calibrated regularly to ensure accurate and safe application.



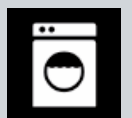
## Clean seed

Use well cleaned seed to avoid creation of polluted dust that will contaminate the treating facility, workers, farmers and the environment during sowing.



## Cleaning

Use a vacuum to clean machines and coveralls. Never use compressed air.



## Laundry

Wash soiled reusable clothing separately. Workers must take a shower after each shift.



## Empty containers

Non-returnable empty containers must be triple rinsed before they can be disposed. For others the recommendation of the producer must be followed.



## Spillage

Spillage must be avoided; it must be thoroughly cleaned up to avoid contaminating the environment and waterways.



## Maintenance

Keep machinery clean between treating sessions.

# MAINTENANCE



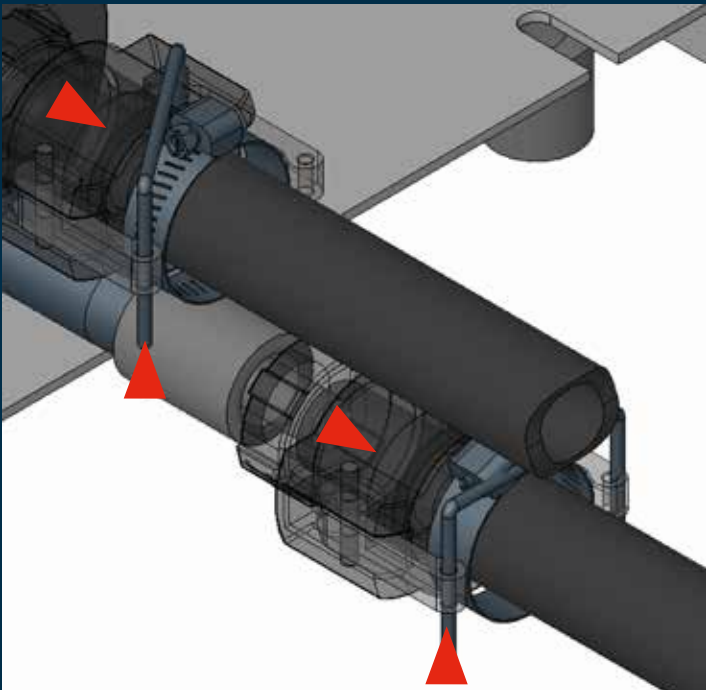
**Warning! Disconnect from power source first!**

## PSD with D3 Pump

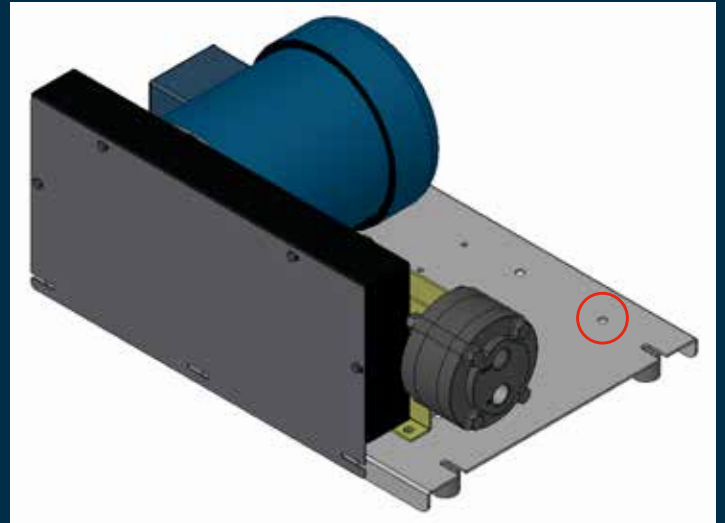
**Step 1:** Close the Main Supply Ball Valve (turn valve handle **DOWN**) underneath the PSD Tank.



**Step 2:** Remove the retaining U-clips from both the top and bottom hoses connected to the D3 Pump. Release the clips, unscrew and remove both couplers (chemical **IN** and **OUT**) from the Pump.



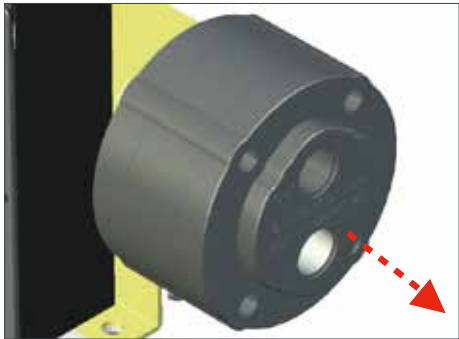
**Step 3:** Use a 7/16" wrench to remove the four (4) 1/4-20" bolts holding the Pump Mount Plate to the Pump Shelf. Reach under the Pump Shelf and use a wrench to hold the nut. Remove the pump and base assembly from the pump shelf. Set the Pump Assembly on a workbench in order to have full access to the D3 Pump. Always use a drip / spill pan under the pump when doing repairs.



### Required assembly tools

- 7/16" wrench (2)
- Drip / Spill pan
- Slot Screwdriver

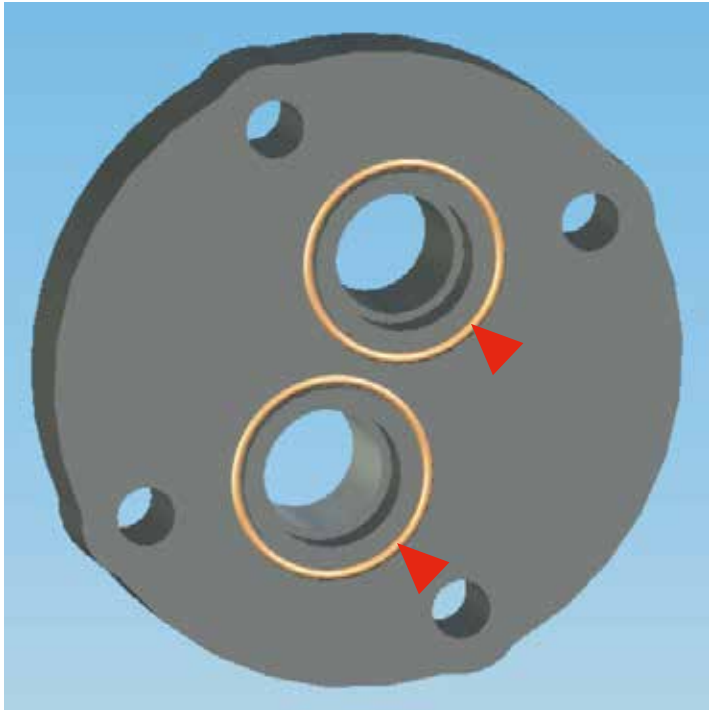
**Step 4:** Remove the four (4) 3/4-16 bolts, washers, nuts and the Manifold.



**Step 5:** Inspect the Manifold for wear around the inlet (IN) and outlet (OUT) ports. If wear is excessive, replace the Manifold Plate.



**Step 6:** Inspect the O-rings on the backside of the Manifold Plate. Replace if they are worn or damaged.

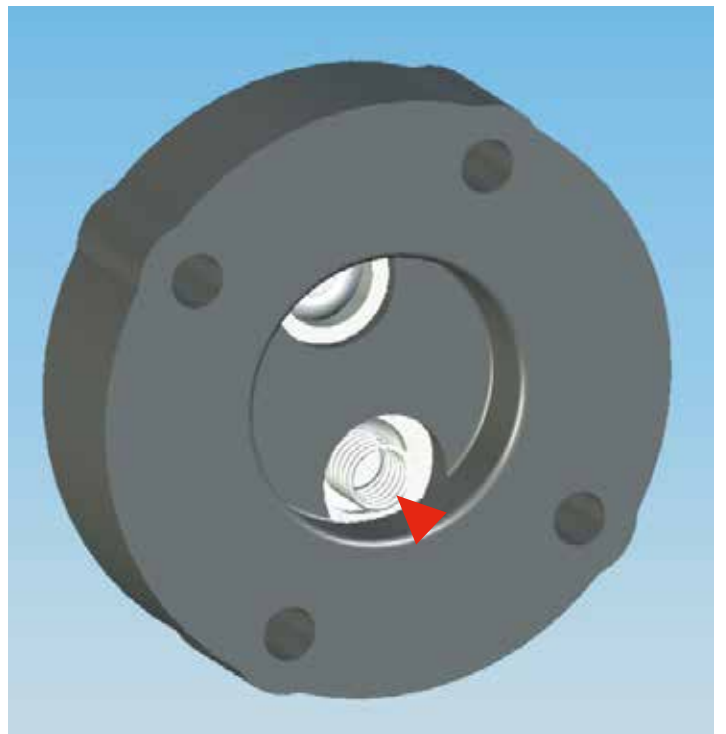
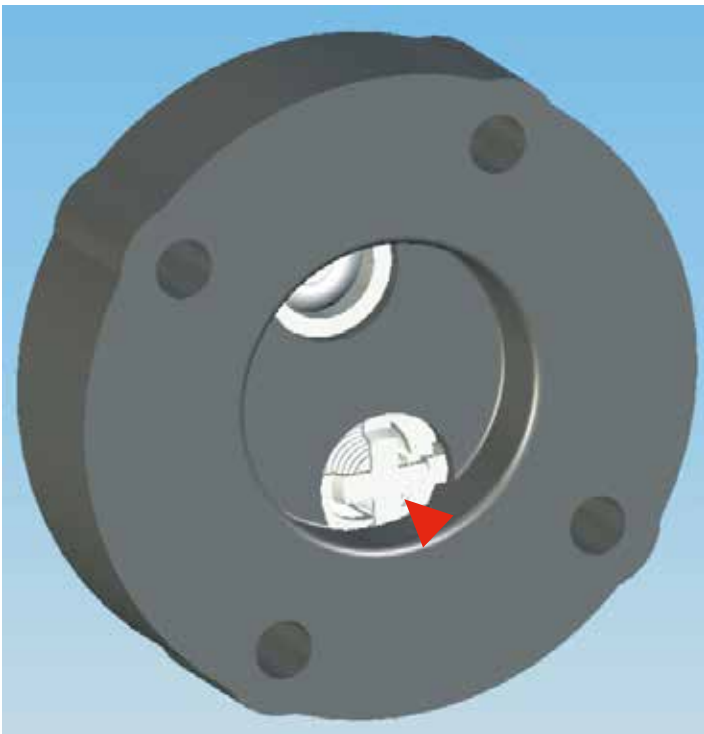


**Step 7:** The inlet and outlet valve assemblies are identical, but face in opposite directions. Remove and inspect each valve according to the following procedures.

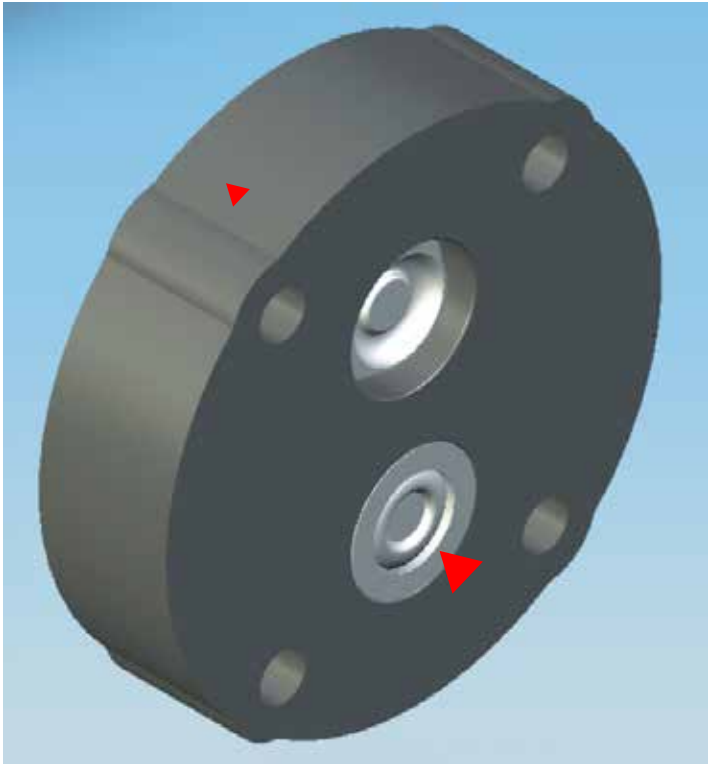


**Step 8:** Remove and check the Spring Retainers and replace them if they are worn or damaged.

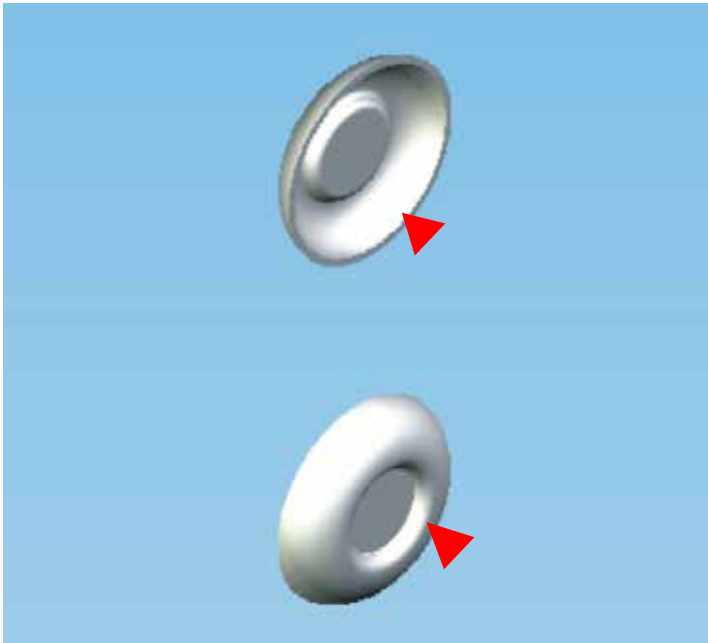
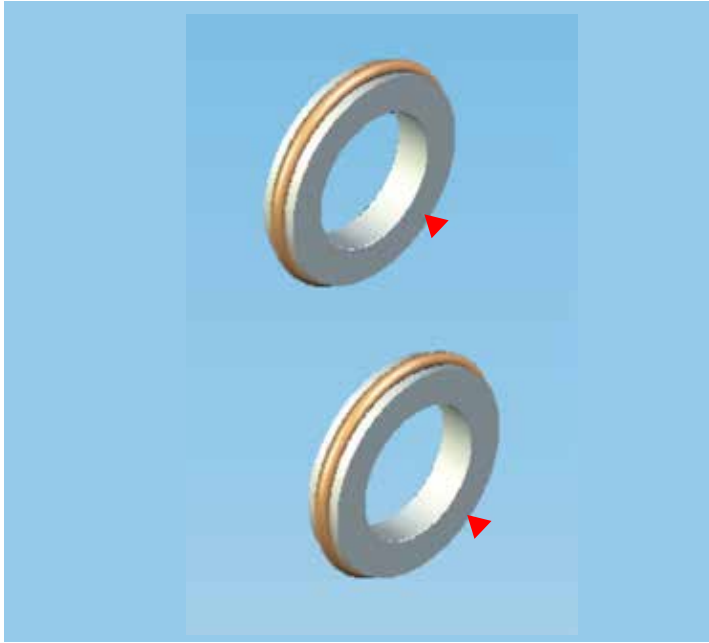
**Step 9:** Remove and check the Valve Springs. If they are shorter than a new spring, replace them. Do not stretch the old springs to make it fit!



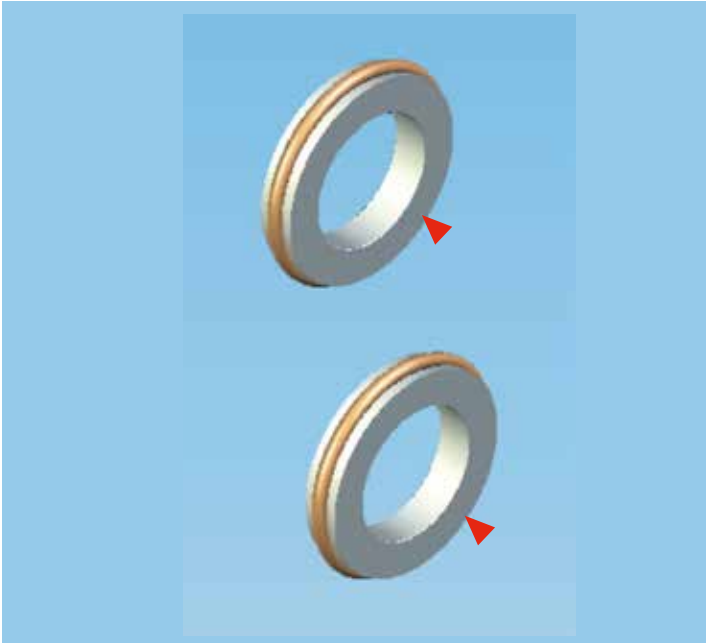
**Step 10:** Remove and check the valves. Replace if worn.



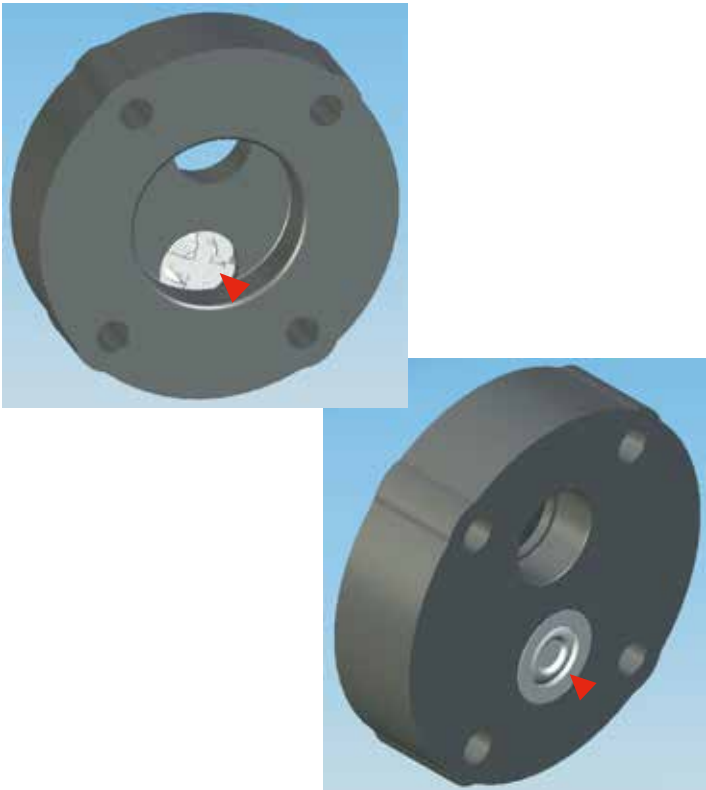
**Step 11:** Remove and check the Valve Seats. When removing, do not damage the metal ridge around the O-ring groove. Always replace the O-rings. Clean the Valve Ports on the Valve Plate and lubricate them with lubricating gel or petroleum jelly.



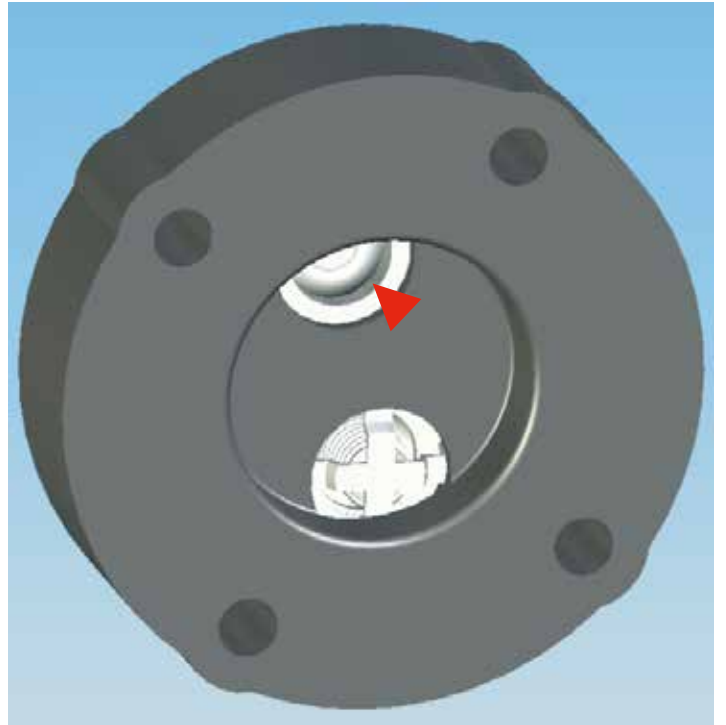
**Step 12:** Install new O-rings on the Valve Seats.



**Step 13:** Insert the Spring retainer into the Valve Plate, then insert the Spring, Valve and the Valve Seat with O-ring. Use a small block of wood or nylon to insert the Valve seat flush with the surface of the Valve Plate.

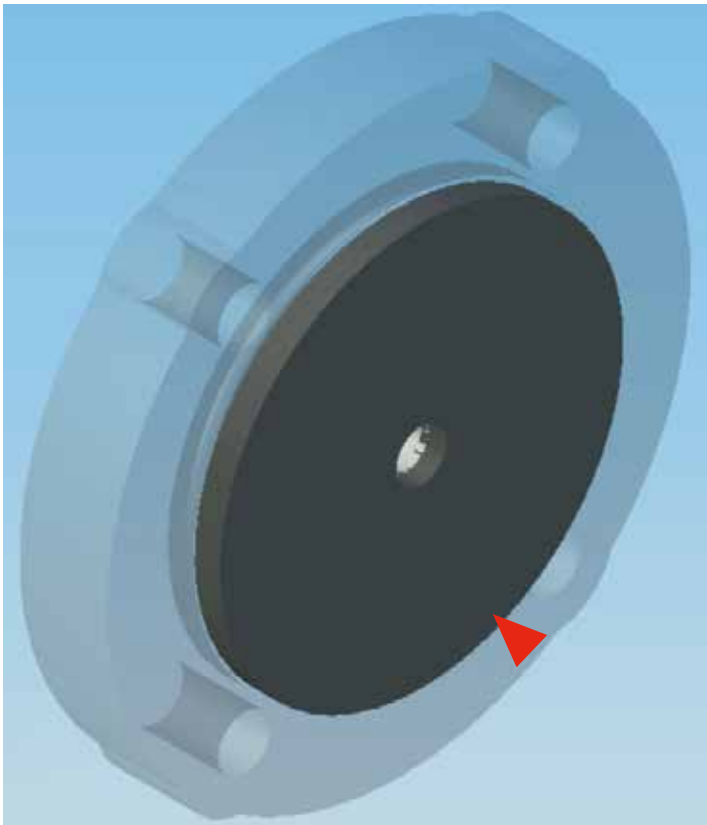
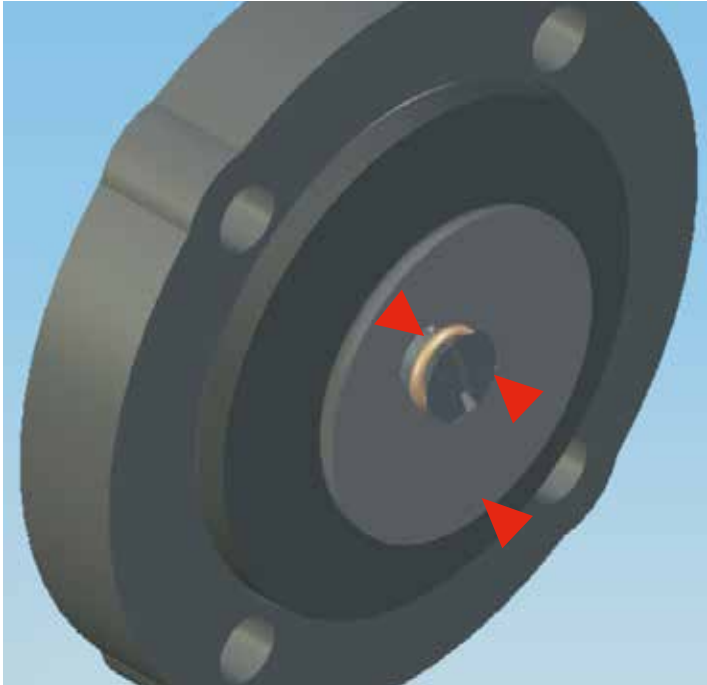


**Step 14:** Insert the Valve Seat with O-ring into the Valve Plate. Next, insert the Valve, Spring and Spring Retainer into the Valve Plate.

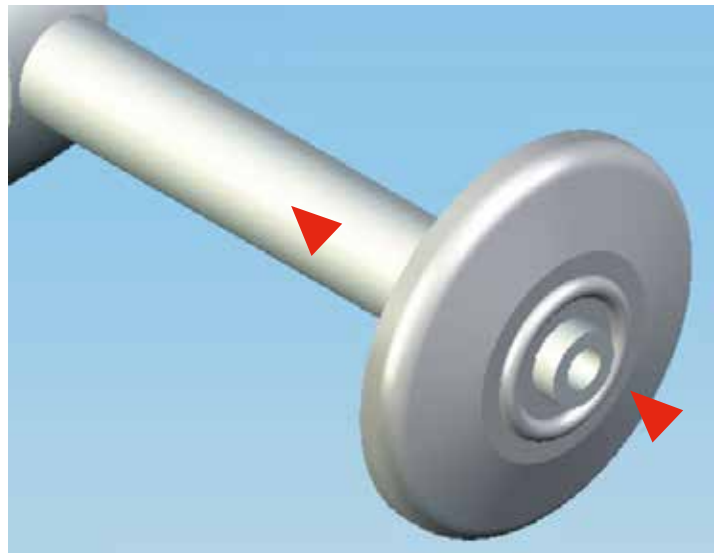




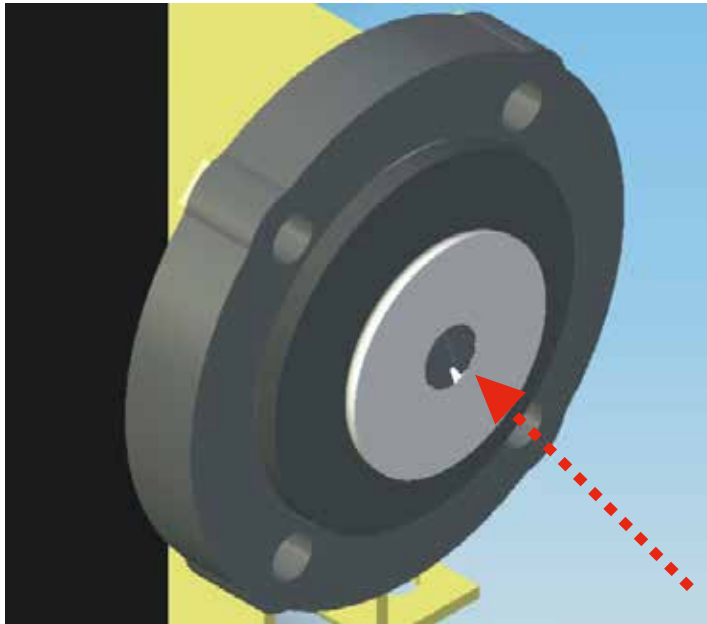
**Step 15:** Remove the Screw, O-ring and Follower from the center of the Diaphragm. Remove the Diaphragm from the Diaphragm Plate and inspect it carefully. A ruptured or torn diaphragm generally indicates a pumping problem. Replacing the diaphragm is absolutely necessary if a ruptured, torn or severely worn diaphragm is found. Remove the Diaphragm Plate only if it needs to be replaced due to excessive wear or damage!



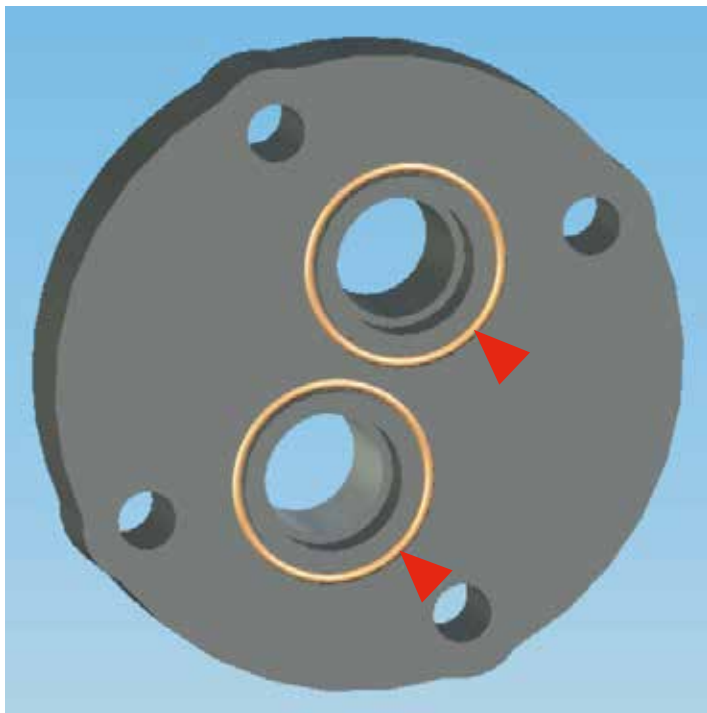
**Step 16:** Inspect the Plunger on the Plunger Shaft for wear.



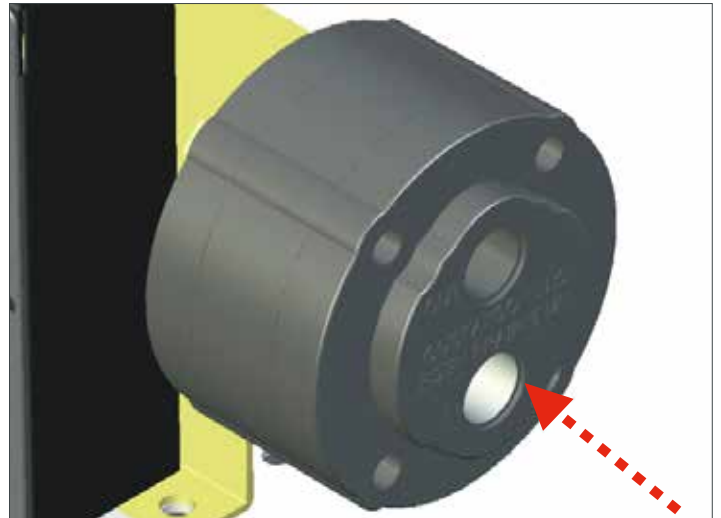
**Step 17:** Install the Plunger on the Plunger Shaft. Install the Diaphragm on the Diaphragm Plate. Clean the Screw and apply a medium strength thread locker to the screw. Install the Screw, O-ring and Follower to the center of the Diaphragm and tighten securely.



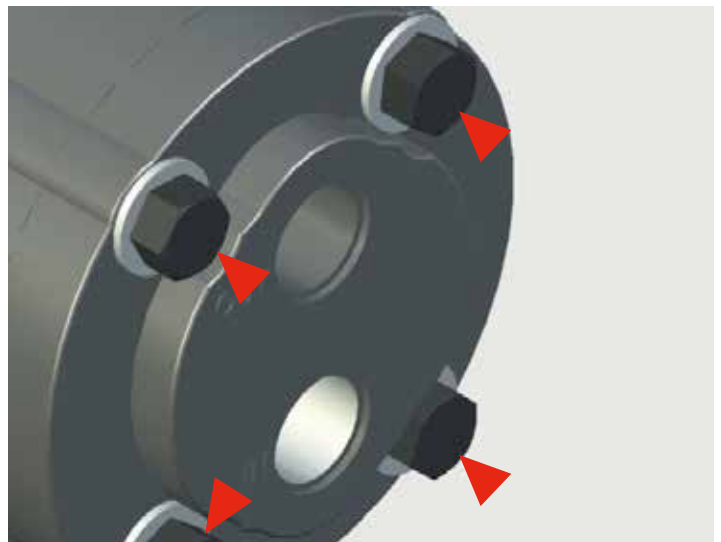
**Step 18:** Install the O-rings on the back side of the Manifold Plate. Use petroleum jelly or lubricating gel to hold in place.



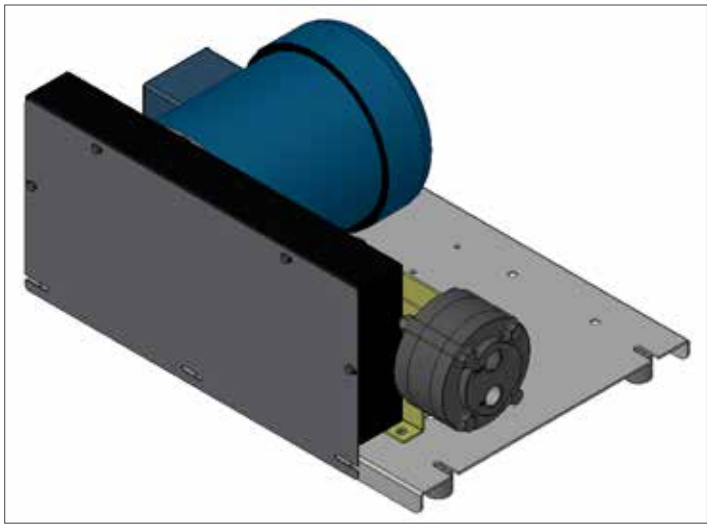
**Step 19:** Install the Manifold Plate on top the Valve Plate. Be sure the Valve is visible through the inlet port on the Manifold Plate.



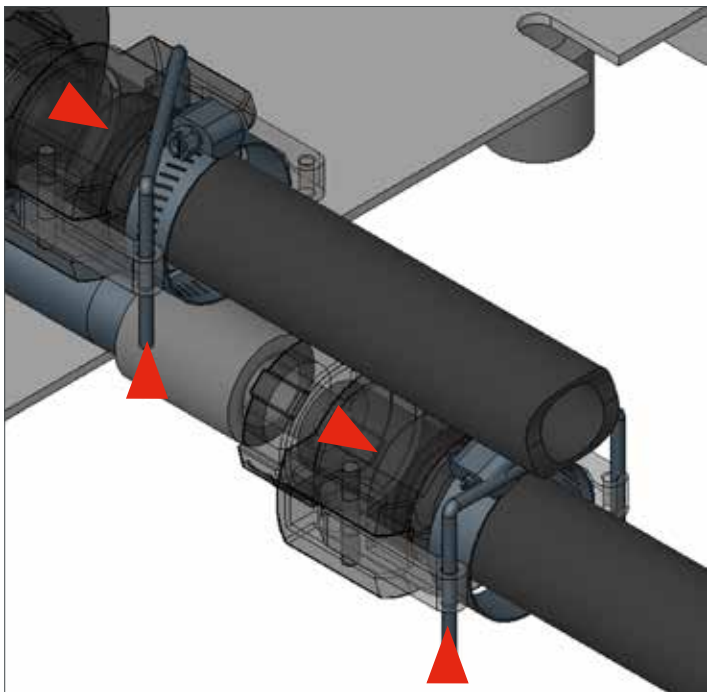
**Step 20:** Insert all of the bolts with washers and nuts around the edge of the manifold and alternately tighten opposite bolts until all of them are secure.



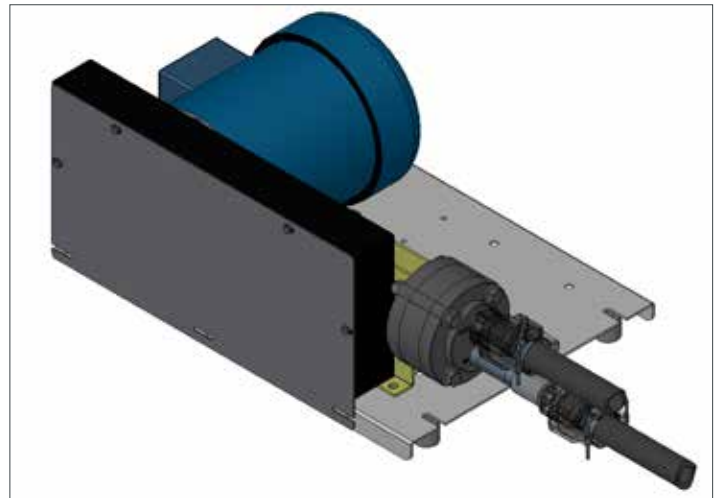
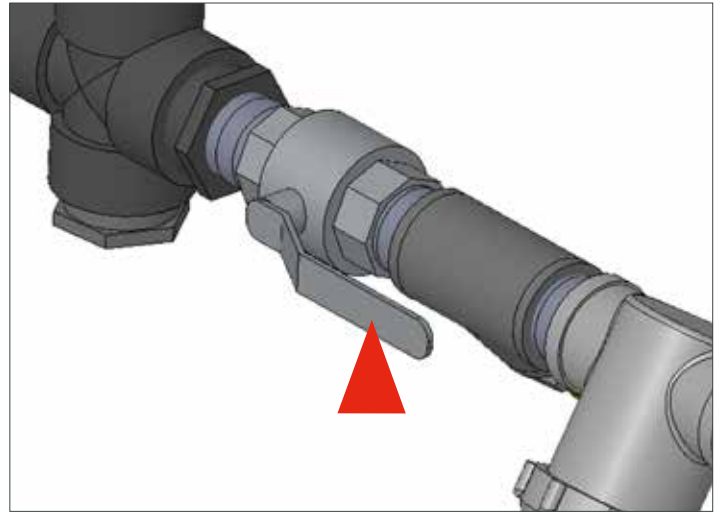
**Step 21:** Replace the pump and base assembly on the pump shelf. Replace the four (4) 1/4-20" bolts holding the Pump Mount Plate to the Pump Shelf. Reach under the Pump Shelf and use a wrench to hold the nut. Use a 7/16" wrench to tighten in place.



**Step 22:** Replace both couplers (chemical **IN** and **OUT**) on the Pump and clamp the release the clips. Replace the retaining U-clips on both the top and bottom hoses connected to the D3 Pump.



**Step 23:** Open the Main Supply Ball Valve (turn valve handle **DOWN**) underneath the PSD Tank and connect to power source when ready to use.

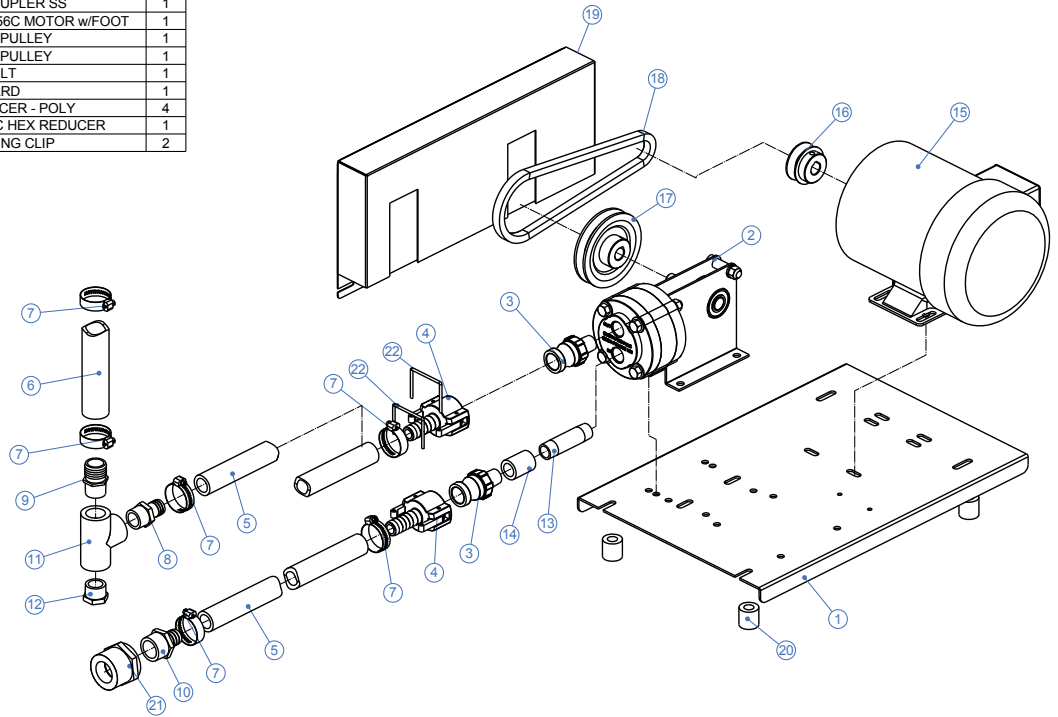


# SYSTEM DIAGRAM

## 04161797 D3 PUMP ASSEMBLY FOR PSD TANK

ITEM NO.	PART NUMBER	MATERIAL NUMBER	TITLE	QTY.
1	23400000	04110637	D-3 PUMP BASE	1
2	23800000	04161185	D3 PUMP ASS'Y	1
3	28130900	04129818	3/4"-MALE X 1/2"NPT POLY COUPLNG (050F)	2
4	28130800	04129796	3/4"-FEMALE X 3/4"-BARB COUPLNG (075C)	2
5	20003800	4059127	3/4" ID BLACK-HORIZON HOSE	4 FT
6	20003900	04059097	1"ID HIGH PRESS. 'BLACK HORIZON' HOSE	2 FT
7	20520000	04041759	#16 SS HOSE CLAMP	6
8	28131200	04129087	3/4" NPT X 3/4" HOSE BARB - POLY	1
9	28130600	04129079	3/4" NPT X 1" HOSE BARB - POLY	1
10	28130700	04052408	1" NPT X 3/4" HOSE BARB - POLY	1
11	23006600	04068061	3/4" NPT PVC TEE	1
12	23006000	4052335	3/4"NPT HEX-HEAD PIPE PLUG- PLASTIC	1
13	20670100	04067049	1/2"NPT x 3" SS NIPPLE	1
14	24700000	04065437	1/2" NPT PIPE COUPLER SS	1
15	20291200	04152569	LEESON 1/3HP; 3PH/60HZ 56C MOTOR w/FOOT	1
16	20220100	04069262	2" X 5/8" BORE PULLEY	1
17	20010000	04069408	4" X 5/8" BORE PULLEY	1
18	23470200	04035309	DRIVE BELT	1
19	23410000	04115310	BELT GUARD	1
20	P001257	79053401	1" X 1/2" X 1"L SPACER - POLY	4
21	23844300	04064880	1-1/2 NPT to 1" NPT PVC HEX REDUCER	1
22	20002400	04100429	SMALL RETAINING CLIP	2

INCLUDED BUT NOT SHOWN:  
 (1) 20009000 - BYPASS/RECIRC KIT FOR PSD



### EXPLANATORY NOTES

Dry Weight  
**61.6 LBS [28 KG]**

Service Required (motor)  
**230V, 1/3Hp, 3ph,  
 60Hz, 1.3FLA**

Capacity:  
**up to 98g.p.h.\*\***

\* Pump output rate depends upon viscosity of product.  
 \*\*Can lift product up to 75 feet vertically.

## Suggested Spare Parts

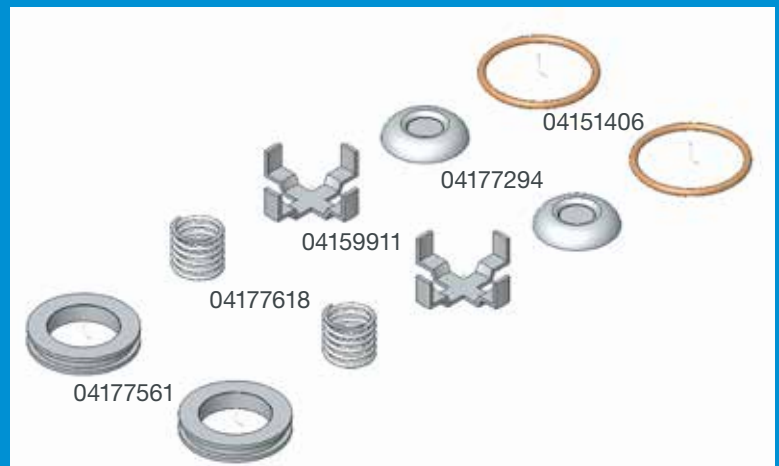
### 04134919 DIAPHRAGM REPAIR KIT: D3 PUMP

- 04116503 DIAPHRAGM, VITON (1)
- 04151392 O-RING:DASH#026(1.239 X 1.379):VITON (2)
- 04151384 O-RING:DASH#010(0.239 X 0.379):VITON (1)



### 04178401 D3 PUMP: VALVE REPAIR KIT

- 04177561 D3 PUMP: VALVE SEAT (2)
- 04177618 D3 PUMP: VALVE SPRING (2)
- 04159911 D3 PUMP: SPRING RETAINER (2)
- 04177294 D3 PUMP: VALVE (2)
- 04151406 O-RING: VITON: 1.00" ID X .070" (2)





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