US-FIP®
The American
Flexible Impeller Pump

Model 30080-B300
Pump Instruction & Operation Manual

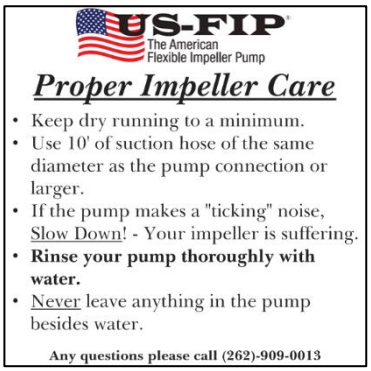
McFinn TECHNOLOGIES

8920 58th Place, Suite 100, Kenosha, WI 53144
(262)-909-0013

FLUID CONTACT MATERIALS

304 Stainless Steel, EPDM, Carbon Graphite

OPERATING INSTRUCTIONS



Use ONLY food grade silicone lubricants

Installation – Your US-FIP Pump may be mounted in any position. The rotation of Your US-FIP Pump shaft determines the inlet and outlet ports (refer to the dimensional drawing).

Drive – Your US-FIP Pump is suitable for belt-drive or direct drive via a flexible coupling. Belt Drive: Care should be taken not to over tighten the belt, as this will reduce bearing life.
Direct Drive: Flexible couplings should be installed so that the pump shaft and drive shaft do not touch. Also, always mount and align the pump shaft with the drive shaft before tightening the coupling setscrews.
If a pulley or coupling half must be pressed onto the pump shaft, remove the front cover and impeller and support the shaft from the impeller end. Do not hammer pulleys or coupling halves onto the shaft; this may damage bearings or seals.

Speeds – Your US-FIP Pump operates best from 50-1750 RPM. For longer pump life, operate at the lowest possible speed. Low speeds are also required for viscous liquids (consult the factory for speed and horsepower recommendations).

Self-Priming – Your US-FIP Pump is capable of priming at low or high speed. For vertical dry lifts of 10 feet, a minimum of 800 RPM is required. The pump will lift up to 22 feet when wet. The suction lines must be air tight for self-priming operations.

Running Dry – This pump relies on the pumped fluid for impeller and seal lubrication. Do not run dry for more than 30 seconds. Running the pump without liquid will damage the impeller.

Use ONLY food grade silicone lubricants

Compatibility – Neutralize all corrosive cleaning solutions after each use or at the end of each day to prolong pump life.

Pressure – Consult the performance curves for pressure capabilities and maximum recommendations.

Temperatures – The operating temperature range of this pump is 45°-180° F (7°-82° C).

Cleaning – All parts have been expertly manufactured and polished—handle all parts with care. Leave nothing in the pump other than water.

NOTE: The US-FIP is not designed for clean-in-place operations and must be disassembled for proper cleaning.

Impeller Torque – The torque required to initiate rotation of a new impeller in a dry pump body is:

Forward: 20 pounds force – feet
Reverse: 25 pounds force – feet

These values may vary slightly due to manufacturing tolerances.

Spare Parts – To avoid costly downtime, keep a spare US-FIP impeller, seal kit and o-rings on hand.

SERVICE INSTRUCTIONS

Inspection
Remove only the front housing clamp and front cover to expose the impeller within the body. Remove only the rear housing clamp and body with the impeller contained therein for inspection/replacement of the seal.

Disassembly

1. Remove the front housing clamp (1) and front cover (2) with o-ring (3). Remove the o-ring from front cover and inspect for wear/damage.
2. Remove the rear housing clamp (1) and slide the pump housing (5), with impeller (4), off of the shaft (14). Remove the impeller from the body and inspect for wear/damage

3. Remove back plate (6) with o-ring (3) by rotating counter-clockwise to disengage the retaining studs.

> **CAUTION: The seal spring will push the back plate forward when free of the retaining studs.**

Remove the o-ring from the back plate and inspect for wear/damage. Remove the seal seat (7b).

4. Remove the seal face (7c) with o-ring (7d). Remove the o-ring from the seal face. Remove the wave spring (8) and inspect. Remove the spring collar from the shaft being careful not to mar or damage the shaft finish.
5. From the pump end of the bearing housing (12), remove the front bearing seal (10), and retaining ring (11). Carefully withdraw the shaft and bearing assembly through the front of the bearing housing. (An arbor press or hydraulic press may be applied to the drive end of the shaft to accomplish this. Be sure to protect the bearing/shaft assembly from dropping.) Remove the rear bearing seal (16). Should the rear bearing (15) remain in the housing; it may be tapped or pressed out from the back.
6. Remove bearings (13, 15) from the shaft with an arbor press or hydraulic press (bearing pullers may also be used). While supporting the inner race of the bearing, apply steady pressure to the shaft until each bearing slides free. Do not hammer either end of the shaft, as this will damage the shaft.

Assembly

Bearing Frame Assembly:

1. With steady pressure (as with an arbor or hydraulic press), press sealed rear bearing (15) onto the drive end of the shaft (14); press sealed bearing (13) onto the pump end of the shaft. Insert the assembly into the front of the bearing housing (12).

2. Secure the bearing/shaft assy. with the retaining ring (11).

3. Place the front (10) and rear (16) bearing seals in the bearing frame.

(NOTE: Pre-assembled bearing frames are also available and include Items 10-17)

Mechanical Seal:

1. The seal seat (7b) has a lapped surface on one side and a rubber surface on the opposite side. Carefully insert the seal seat into the back plate with the lapped surface facing out, away from the back plate. (Rubber-side down)

2. Slide the stainless steel seal collar (9) **TO THE BASE** (bottom) of the shaft being careful not to mar or damage the shaft finish. Tighten both set screws with a 3/32 Allen wrench. Place the wave spring (8) over the seal collar. Fit a new o-ring into the ID of the stainless steel seal face (7c). Place the stainless steel seal face onto the shaft and ALIGN **THE SLOTS WITH THE SET SCREWS**. The wave spring (8) will compress into the seal face (7c).

DO NOT LUBRICATE SEAL!

Pump Head

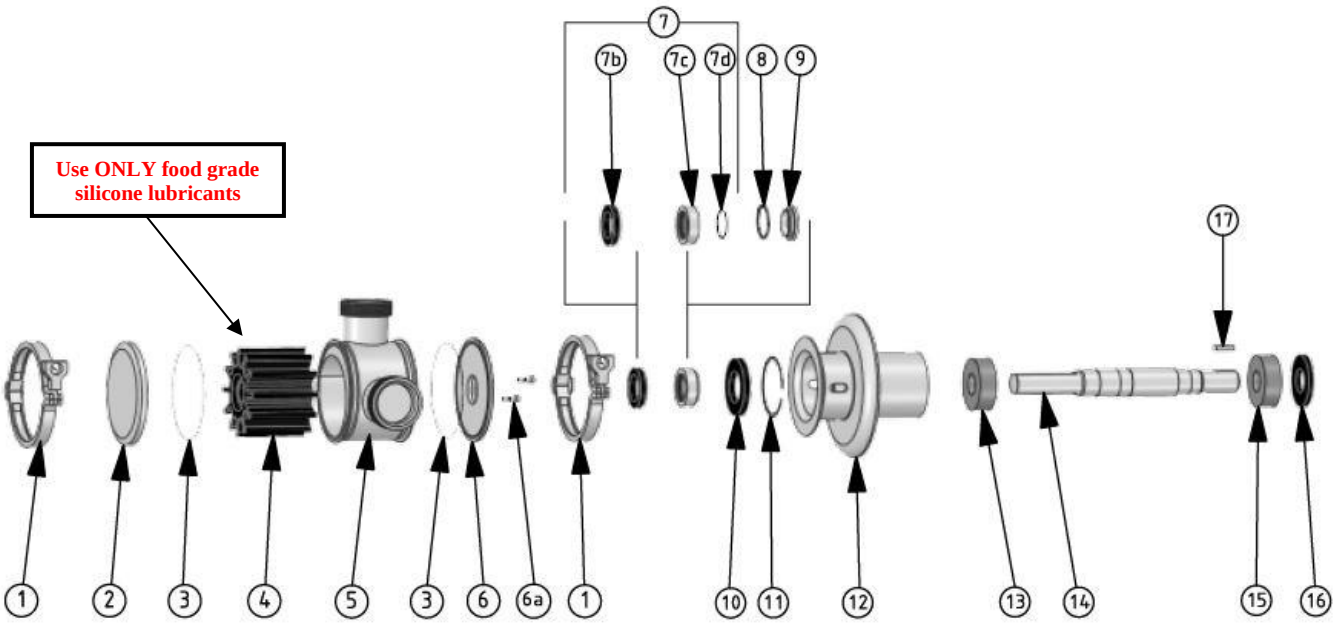
1. Place a new o-ring (3) into the groove on the back plate; align the retaining studs with the slots in the bearing frame, push and rotate clockwise into place.

2. Lubricate a new impeller (4) and rotate into the pump housing (5) until the impeller is about ½ way into the housing. With the impeller still sticking out of the top of this housing. Align the bottom of the pump housing with the back plate and secure with a housing clamp. Continue to rotate the impeller into the housing until seated.

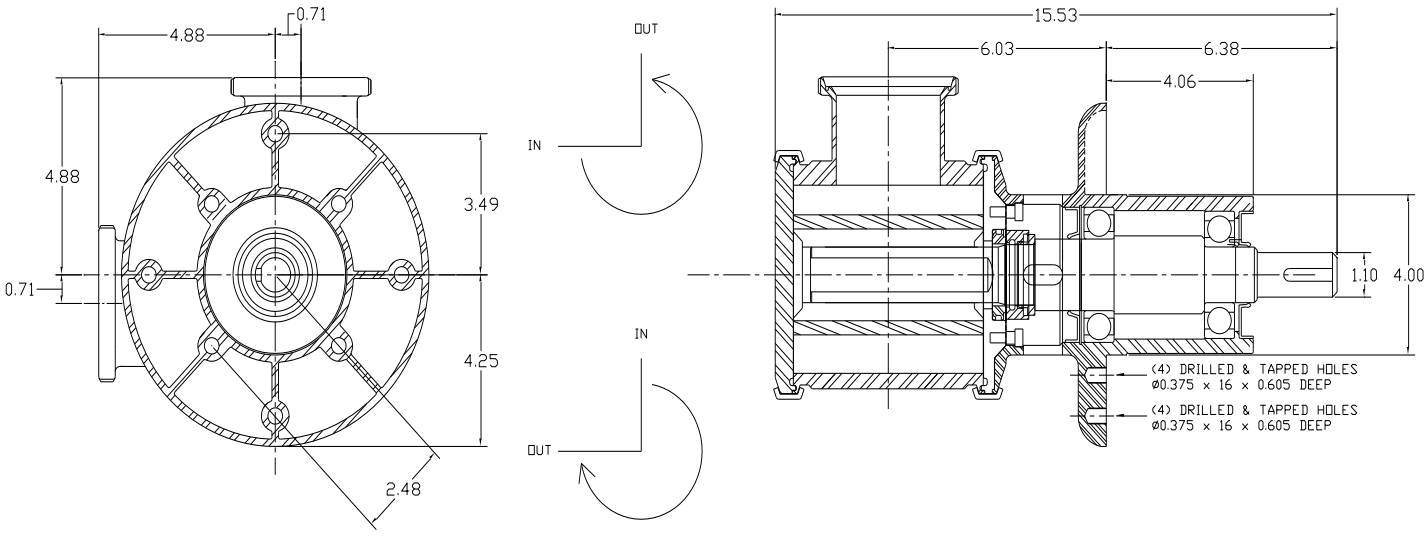
   Clockwise Rotation – Rotate the impeller into the pump housing with blades bending counterclockwise.

   Counterclockwise Rotation - Rotate the impeller into the pump housing with blades bending clockwise.

3. Place a new o-ring (3) into the groove on the front cover (2). Place the front cover onto the pump housing and secure with a housing clamp (1).



Parts List					
(See exploded view)					
1	US21909-0000	Housing clamp	9	US22644-3101	Locked Rotating Seal Collar
2	US22007-0000	Front Cover	10	US92701-0880	Front Lip Seal (2)
3	US92000-1213-EPM	Housing O-ring (2)	11	US92701-4391	Retaining Ring
4	US8713-0005E	3" EPDM Impeller	12	US22064-0100	Bearing Housing
5	080-001-304	Pump Housing	13	US92601-0461	Front Bearing
6	US21937-0000	Back Plate	14	080-006-304	Shaft
6a	US21937-1000	Back Plate Shoulder Screw (2)	15	US92601-0451	Rear Bearing
7b	US22644-1001	Carbon Seal Seat	16	US92701-0881	Rear Lip Seal
7c	US22644-2101	Driven SS Seal Face	17	US91402-0270	Shaft Key
7d	US22644-3200-EPM	Seal Face O-Ring		US22644-6001	Driven Mechanical Seal Kit (7,8,9)
8	US22644-3300	Wave Spring		080-099-ASY	Bearing Frame Assy. (10-17)



Dimensions in Inches

8920 58th Place, Suite 100, Kenosha, WI 53144
(262)-909-0013

LeRoy Finnigan
(262)-818-1381
leroyf@mcfinntech.com

John McGinn
(262)-909-7267
johnm@mcfinntech.com

Please visit us at:

www.americanwinepump.com
www.americanbeerpumps.com
www.lowshearpumps.com