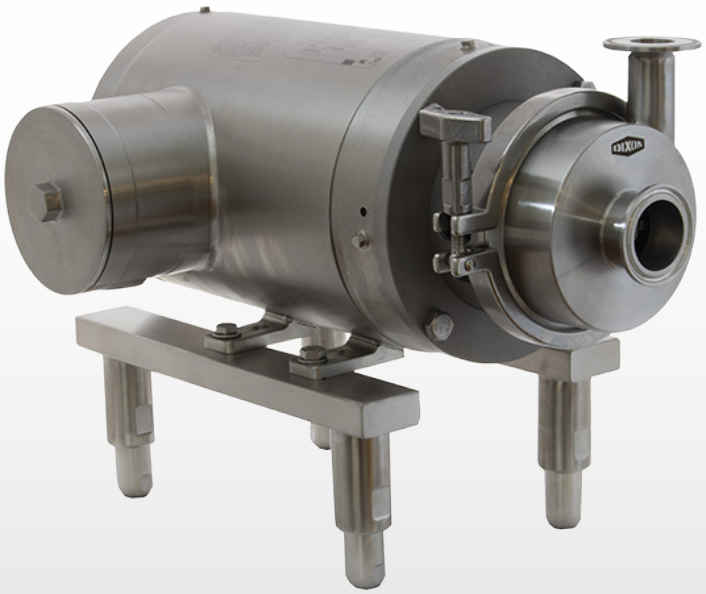
The Right Connection®

MB100-Series Centrifugal Pump

dixonvalve.com

Customer Service
800.789.1718



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Safety

The following signs may be used in this manual. To avoid serious injury and/or possible damage to equipment, pay attention to these messages. Hazards or unsafe practices could result in severe personal injury or death.

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. May also be used to alert against an unsafe operating or maintenance practice.

Use only replacement parts and devices recommended by the manufacturer to maintain the integrity of the equipment. Make sure the parts are properly matched to the series, model, serial number, and revision level of the equipment.

Safety labels are placed on equipment where appropriate. Do not remove any labeling from any piece of equipment. Replace any label that is missing.

DO NOT modify any Dixon® product. Non-factory modifications could create hazardous conditions and void all warranties. DO NOT attempt to use a Dixon product in any application that exceeds the product rating.

General Guidelines

- The owner must comply with these operating instructions and the authorized use of this piece of equipment. Should problems arise that cannot be solved using these operating instructions, please contact Dixon Sanitary. We will be happy to provide further assistance.
- If any modification work is performed on the product by the owner, Dixon shall no longer be considered the manufacturer of the device. In such cases, all components must be subjected to a new certification process for any applicable certifications that the equipment holds. Unless agreed to in writing by Dixon, liability, warranties, and guarantees shall immediately be deemed null and void as soon as you:
  - Perform modifications/conversion work on the product.
  - Use the product for unauthorized purposes.
  - Remove or disable safety elements.
  - Process products whose material, form, and size do not correspond exactly to the description provided.
  - Make alterations to the original state of the device.
- The operating instructions are regarded as part of the valve.
- The operating instructions shall be valid for the entirety of the device's lifespan.
- The operating and maintenance personnel must always be able to access the operating instructions.
- The safety instructions provided in the operating instructions must be observed.
- The operating instructions must be maintained and updated as necessary.
- The operating instructions must be passed on to any subsequent owners or operators of the device.

Safety

Owner Must Ensure...

- The product is used only as authorized.
- The product is used only when it is in fault-free, fully functional condition and the safety equipment is regularly checked to ensure that it is fully functional.
- The product is operated, maintained, and repaired only by personnel with the appropriate qualifications and authorization.
- Checks are made before the product is put into operation to ensure that only the authorized person is in the work area and no one is in danger of being injured if the product is in operation.
- The product is checked for visual damage prior to commissioning to ensure that it is operated only when free of faults.
- Any defects are reported immediately to the appropriate supervisor.
- All safety and warning notices attached to the equipment are legible, and none are removed.
- The operating instructions are always kept close to the product operation site, in a legible and complete state.
- Personnel are regularly instructed on all occupational safety and environmental protection issues and are familiar with and observe the operating instructions, especially the safety instructions contained herein.
- Personnel are trained and supervised to ensure that they follow safety measures, including the obligatory use of personal protective equipment.
- The product is only connected to pipelines that are depressurized at the time of connection.
- There is no tensile or compressive stress acting on the product connections.
- There is no residual risk at any point where pressure could occur. Pressure can cause sudden failure in or damage to the lines and connections.
- Warning notices in the documentation for supplier modules are observed and integrated into the risk assessments in the workplace.

Care of Stainless Steel

The stainless steel components in Dixon Sanitary equipment are machined, welded, and assembled by skilled craftsmen using manufacturing methods that preserve the corrosion-resistant quality of the stainless steel. Retention of corrosion-resistant qualities under processing conditions requires regular attention to the precautions listed below. Examples of corrosion that can result from improper care are included below.

- Regularly check all electrical devices connected to the equipment for stray currents caused by improper grounding, damaged insulation, or other defects. Corrosion: Pitting often occurs when stray currents encounter moist stainless steel.
- Never leave rubber mats, fittings, wrenches, or other tools in contact with stainless steel. Corrosion: pitting or galvanic action. Objects retard complete drying, preventing air from reforming the protective oxide film. Galvanic corrosion occurs when two dissimilar metals touch when wet.
- Immediately rinse equipment after use with warm water until the rinse water is clear. Clean the equipment (COP or CIP) as soon as possible after rinsing. Corrosion: discoloration, deposits, and pitting. Product deposits often cause pitting beneath the particles.
- Use only recommended cleaning compounds. Purchase chemicals from reputable and responsible chemical manufacturers familiar with stainless steel processing equipment. Ensure they continuously check the effects of their products on stainless steel.
- Use cleaning chemicals exactly as specified by the manufacturer. Do not use excessive concentrations, temperatures, or exposure times. Corrosion: pitting, discoloration, or stress cracks. Permanent damage often occurs from excessive chemical concentrations, temperatures, or exposure times.
- For manual cleaning, use only soft non-metallic brushes, sponges, or pads. Brush with the grain on polished surfaces to avoid scratching the surface. Corrosion: pitting, scratches. Metal brushes or sponges will scratch the surface and promote corrosion over a period of time. Metal particles allowed to remain on a stainless steel surface will cause pitting.
- Use chemical bactericides exactly as prescribed by the chemical manufacturer in concurrence with the local health authority. Use the lowest permissible concentration, temperature, and exposure time possible. Flush immediately after bacterial treatment. In no case should the solution be in contact with stainless steel for more than 20 minutes. Corrosion: Protective film destroyed. Chlorine and other halogen bactericides can destroy the protective film. A few degrees' increase in temperature greatly increases chemical activity and accelerates corrosion.
- Regularly inspect the joints in pipelines. Be sure all connections are tight fitting without binding. Corrosion: crevice corrosion. Small crevices caused by improperly seated gaskets will promote crevice corrosion. Stainless steel under stress will develop stress cracking, especially in the presence of bactericides containing chlorine.
- Regularly inspect equipment for surface corrosion (i.e. pitting deposits, stress cracks, etc.). If deposit or color corrosion is detected, remove it immediately using mild scouring powder and detergents. Rinse thoroughly and allow to air dry. Review production and cleaning procedures to determine the cause. Note: If corrosion is not removed, the protective film cannot be restored, and corrosion will continue at an accelerated rate.

Technical Specifications

Materials of Construction Technical Data
- Product contact components: AISI 316L
- Non-product contact components: AISI 304

Sealing Materials Technical Data
- Product contact components: FKM, EPDM, PTFE

Product Temperature Technical Data
- Maximum operating temperature: **212°F (100°C)**
- Minimum operating temperature: **32°F (0°C)**

Surface Finish Technical Data
- Product contact components: Ra ≤ 32
- Optional finishes: 15 Ra, 20 Ra, 25 Ra
- Non-product contact components: Ra ≤ 63

Connections
- Clamp (standard)
- Others available upon request

Viscosity
- 0-500 cPs

Seal Types
- Single mechanical seal

Cleaning Method
- CIP – Clean-in-Place

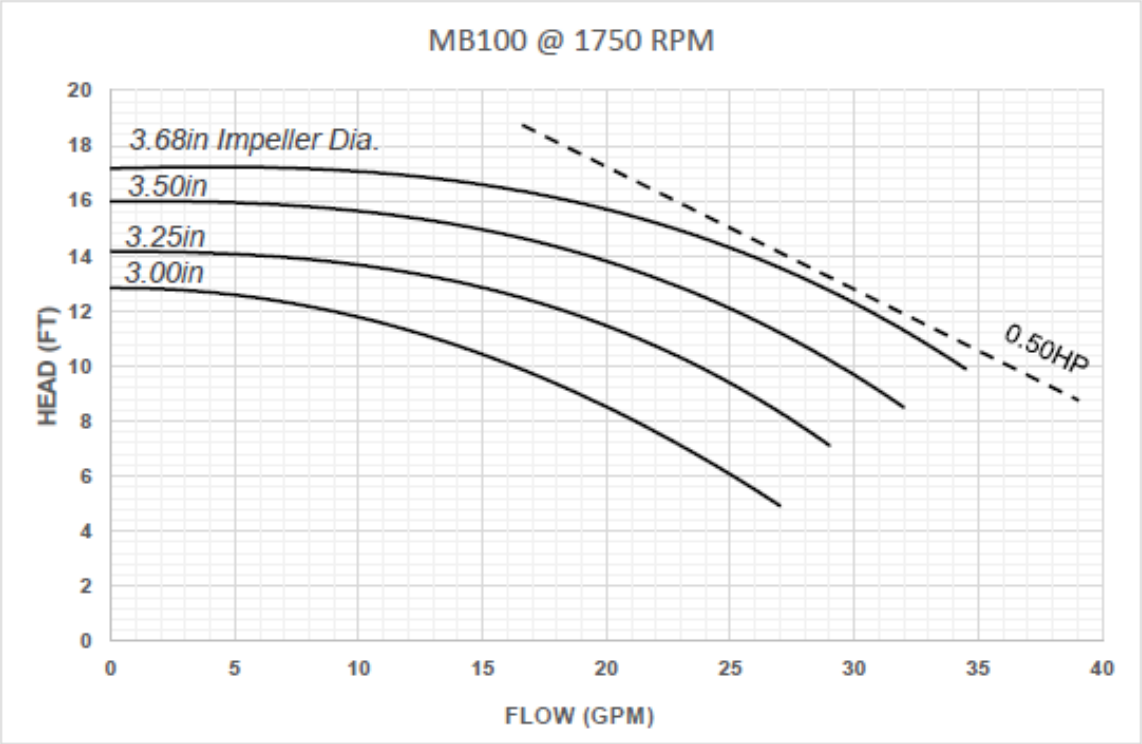
Performance Characteristics
- Nominal capacity: up to **75 GPM**
- Nominal speed: up to 3500 RPM - 60 Hz

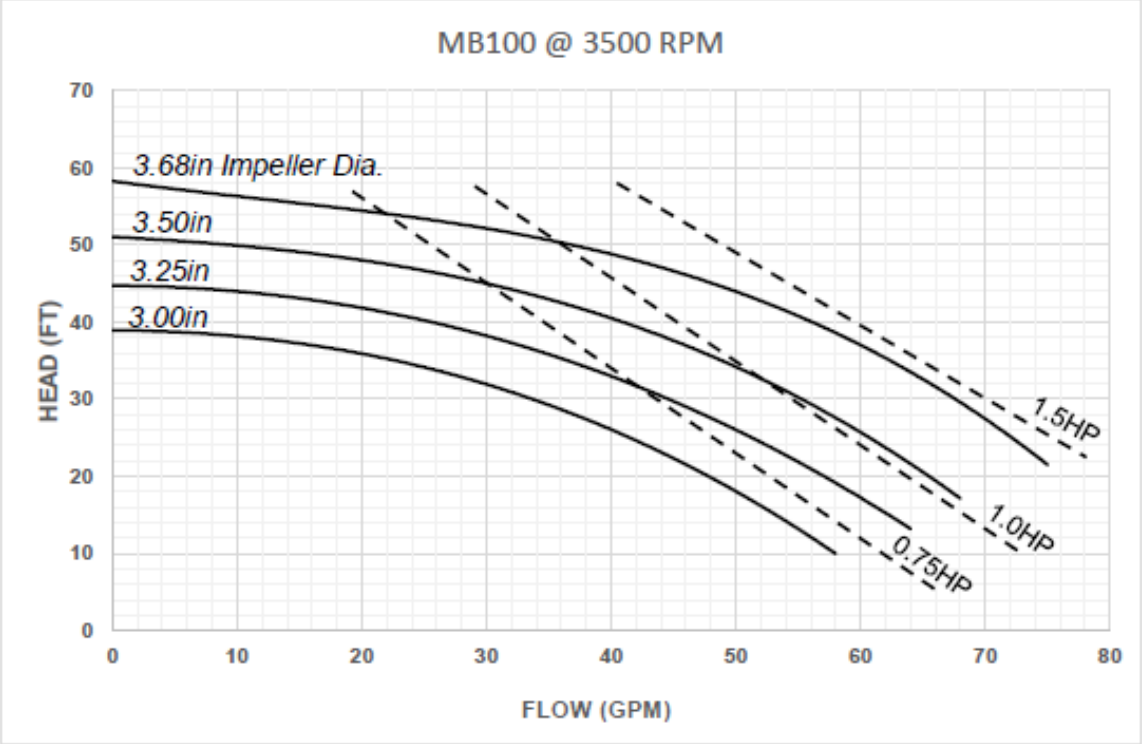
Motors and Mounting
- Motor frame size: NEMA 56C C-Face
- Speeds: 1750 & 3450 RPM
- Enclosure: TENV or TEFC, stainless steel or epoxy white washdown

Pump Connection Size
- Inlet: 1-1/2"
- Outlet: 1"

Performance Curves

Based on H2O @ **70°F**
Frequency: 60 HZ
RPM: 1750 & 3500
Size: 1.5 x 1 x 3.68





Installation and Start Up

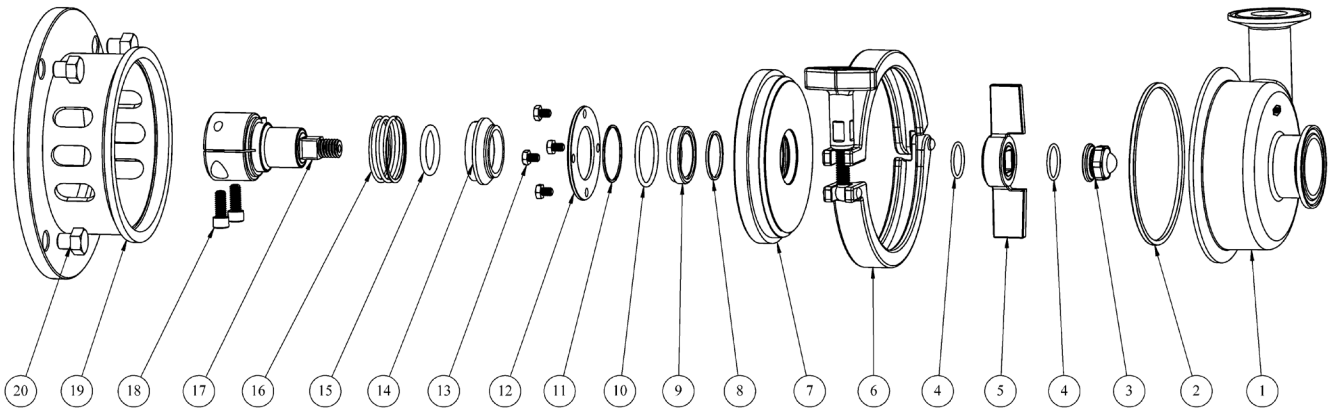
The following should be performed upon receiving the product and prior to installation and use of the product. It is important that all the following processes and procedures are carefully followed and adhered to. Dixon® is not responsible for any damage that occurs during the unpacking or installation process.

Unpacking

Carefully unpack all the components of the pump, unless already fully assembled when received, and inspect each part for any damage that may have occurred during shipment. Report any damage to the carrier immediately. The ports on the pump are protected with a plastic cover. If any covers are missing or damaged, inspect the ports on the pump thoroughly for any damage. The pump is shipped with all necessary certificates and manuals. Please add this paperwork to the plant maintenance files for future use and reference. Additional information for the pump can be found at dixonvalve.com

The product consists of the following components:

Part Type	Part Number	Item Number	Material	Description	Qty
casing	MB100-PC-C	1	316L	MB100 casing	1
casing seal	MB100-PCOR-V	2	FKM	MB100 casing seal - FKM	1
impeller nut	MB100-IN	3	316L	MB100 impeller nut	1
impeller O-ring	MB100-NOR-V	4	FKM	MB100 impeller O-ring - FKM	2
impeller	MB100-IMP-36680	5	CF3M	MB100 impeller 3.680" diameter	1
casing clamp	13MHHM400	6	CF8	MB100 casing clamp	1
backplate	MB100-BKPL	7	316L	MB100 backplate	1
stationary seal gasket - inner	MB100-SSIG	8	PTFE	MB100 inner stationary seal gasket	1
stationary seal	MB100-SS-SC	9	sintered silicon carbide	MB100 stationary seal - sintered SiC	1
stationary seal O-ring	MB100-SSOR-V	10	FKM	MB100 stationary seal O-ring	1
stationary seal gasket - outter	MB100-SSOG	11	PTFE	MB100 outer stationary seal gasket	1
backplate seal ring	MB100-SSP	12	304	MB100 backplate seal ring	1
seal plate screw	MB100-SPS	13	18-8	MB100 seal plate screw	4
rotary seal	MB100-RS-C	14	carbon	MB100 rotary seal	1
rotary seal O-ring	MB100-RSOR-V	15	FKM	MB100 rotary seal O-ring	1
seal spring	MB100-SPR	16	304	MB100 seal spring	1
stub shaft	MB100-SHFT	17	316L	MB100 stub shaft 56C	1
stub shaft bolt	MB100-SBOLT	18	18-8	MB100 stub shaft bolt	1
adapter	MB100-ADP	19	304	MB100 adapter	1
adapter bolt	P71B-114B-56AB	20	18-8	adapter bolt	4



Tools Needed

The following tools will be required for any maintenance of the product:

Item 1: Jax® Purgel Klear food grade grease
Item 2: 5/16" box wrench
Item 3: gasket pick tool
Item 4: 3/16" allen wrench
Item 5: 13/16" socket & ratchet
Item 6: liquid thread locker
Item 7: adjustable wrench

Welding

- For equipment delivered with weld end connections, any rubber or plastic components MUST be removed from the equipment prior to welding. (See disassembly instructions for proper removal of such components.)
- Follow all necessary safety precautions, check lists, and standard procedures prior to performing any welding on the equipment.
- Weld the equipment into the process line, being sure to follow and comply with appropriate industry welding procedures and standards. For equipment used in food, beverage, or dairy applications that carries 3A certification, see 3A standard 00-01-2018 section E1.1.1 for proper procedure and requirements.
- Reassemble the equipment per the assembly section of this manual.
- Check the equipment for proper operation and perform leak test if necessary.

Installation and Start Up

Function Testing

- Check visually to ensure that the equipment is not leaking.
- Any defective seal that could have been damaged during disassembly or assembly must be replaced.
- Check all equipment components for any signs of damage and replace damaged components.
- Ensure that all screw fittings are tight if applicable.
- Confirm all pipes and fittings connected to the equipment permitted for use are in the intended pressure range.
- Confirm all electrical installations are protected and in accordance with appropriate safety standards if applicable.
- Check that the maximum pressure indicated on the equipment or in the specifications section of this manual has been complied with.

Location

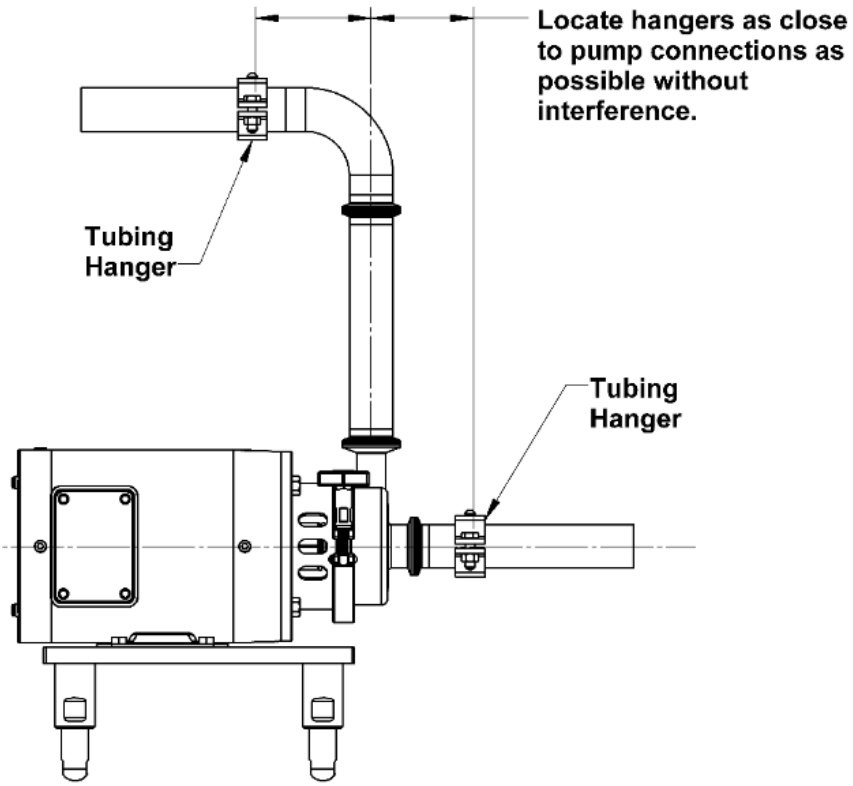
- Pump will perform at its best when located as close as possible to the liquid supply.
- Supply piping should be short and straight to ensure the pump has an adequate supply of liquid at all times.
- The pump should be located in an area where it is easy to inspect and do preventative maintenance or repair.

Piping: General Guidelines

⚠WARNING Improper piping can lead to problems with pump performance resulting in increased maintenance costs.

- Ensure that piping is independently supported at both the suction and discharge ports of the pump (see figure 1).
- Piping must be properly aligned to prevent any strain on the pump casing.
- Try to have as few bends as possible in all piping.

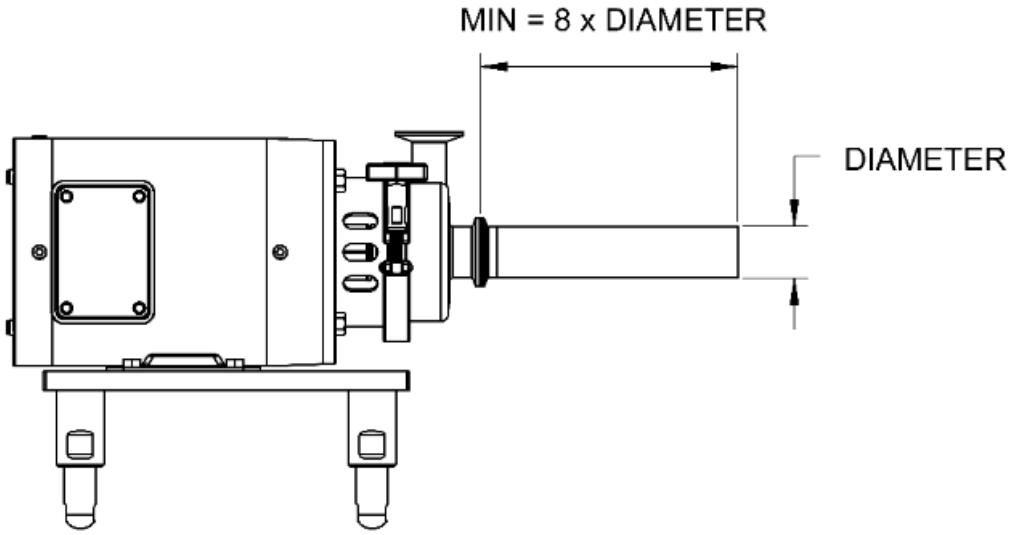
Fig. 1



Piping: Suction Guidelines

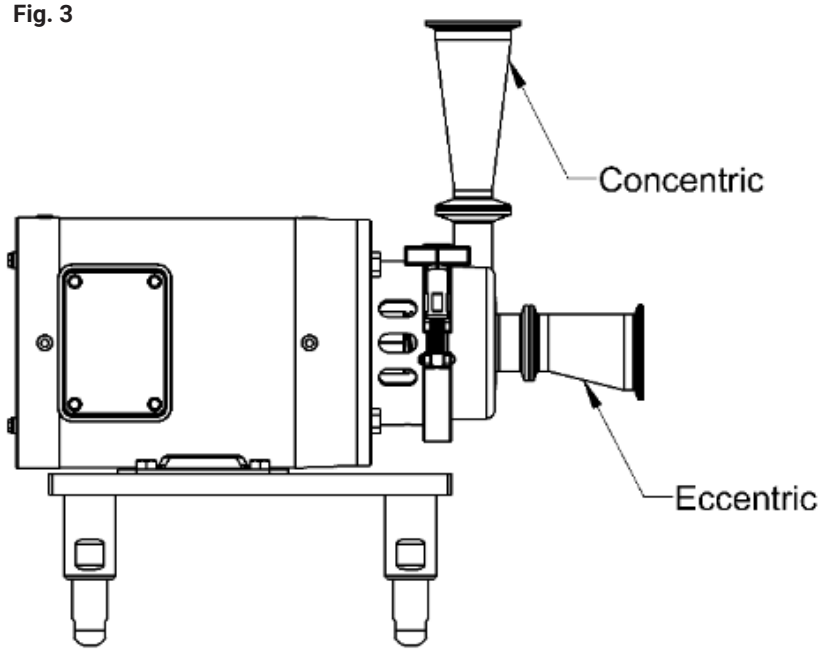
- Make sure line sizes used are equal to or larger than suction side (supply side) port connections on the pump.
- It is optimal to have the suction side piping as straight and short as possible. Any restrictions will affect the NPSHa.
- Maintain a straight length of pipe at a maximum of 8 diameters long at the pump inlet. (see figure 2)

Fig. 2



- To prevent air leaks, ensure all joints in suction line are sealed.
- Use an eccentric reducer with straight side up to prevent air pockets from forming which will result in a decrease in pump efficiency (see figure 3).
- To prevent a high point in the suction line from forming an air pocket which results in performance loss, horizontal suction lines must have a gradual rise to the pump.

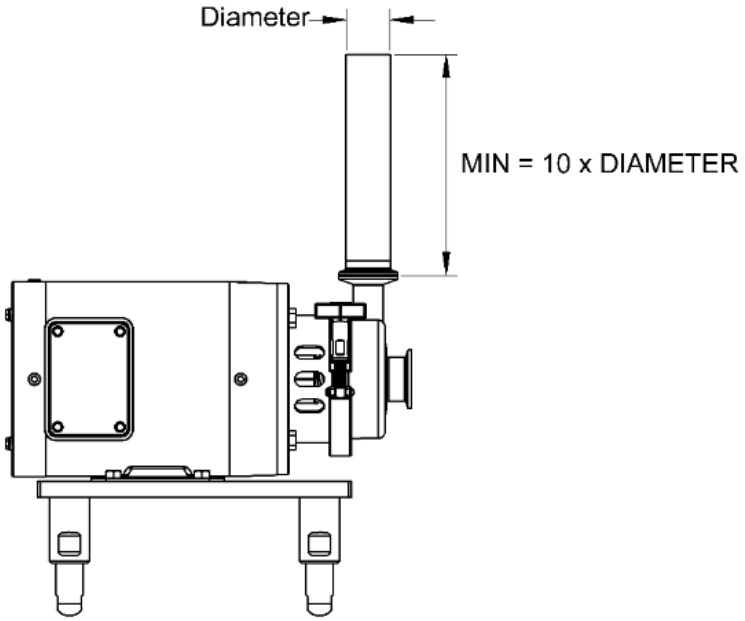
Fig. 3



Piping: Discharge Guidelines

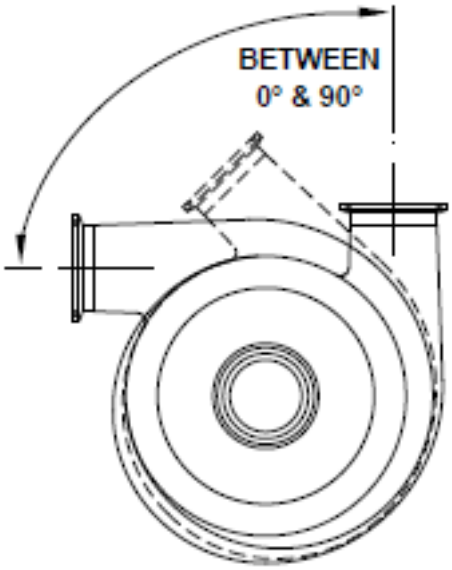
- Discharge side should be short and direct. Use a minimal number of restrictions (see figure 4).
- Discharge port should be oriented between 0° and 90° (see figure 5).
- While increasing the discharge line size is recommended, please note:
  - Using too large of a line size may lead to motor overload and cavitation.
  - Using a smaller than recommened line size will increase the pump head but lower the flow.

Fig. 4



- Types of reducers to use:
  - If vertical discharge - concentric
  - If horizontal discharge - eccentric with straight side down

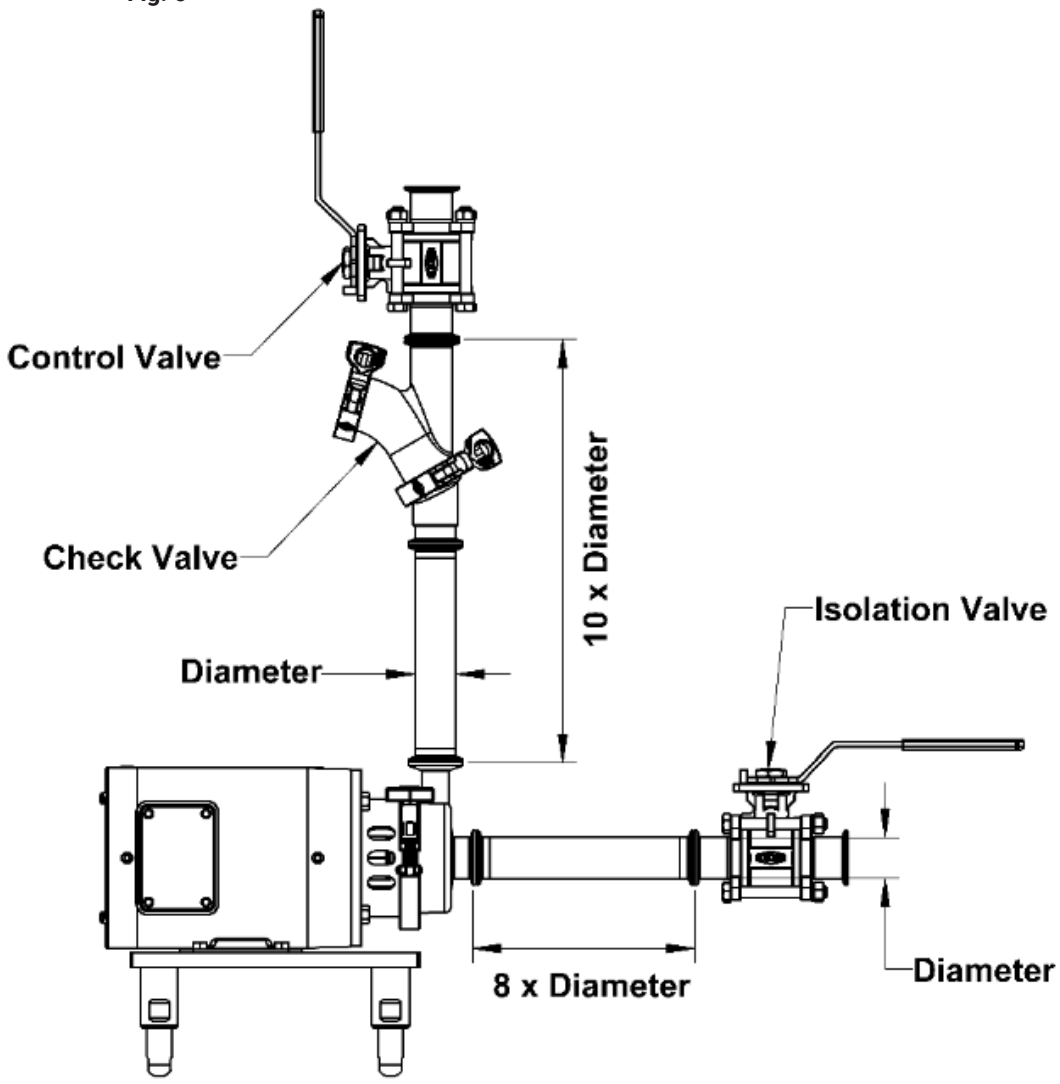
Fig. 5



Piping: Valve Isolation

- An isolation valve should be installed at both the suction and discharge sides of the pump. This will allow you to remove the pump for preventative maintenance or repair without the need to drain your system.
- If the pump is not in the flooded suction condition, install a system check valve to ensure that the pump casing is flooded for priming.
- In order to provide pump flow rate control, a VFD or control valve should be used to prevent the pump from overloading. If using a control valve, ensure that the valve is located on the discharge side of the pump (see figure 6).

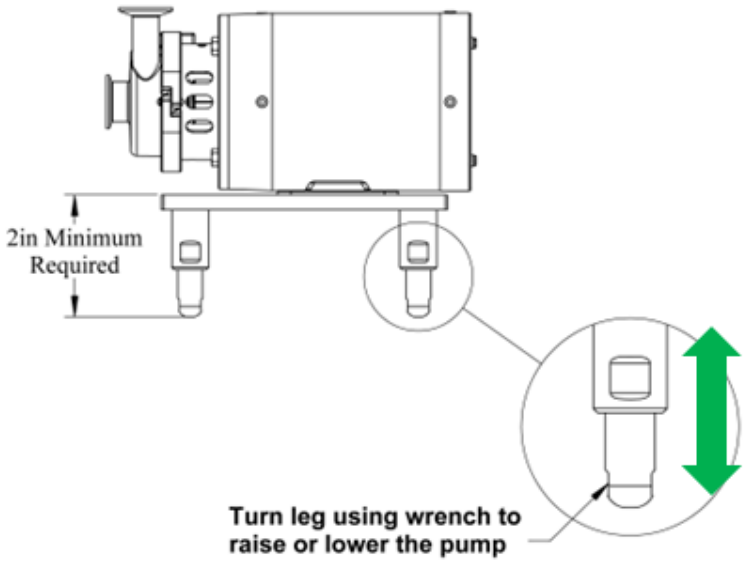
Fig. 6



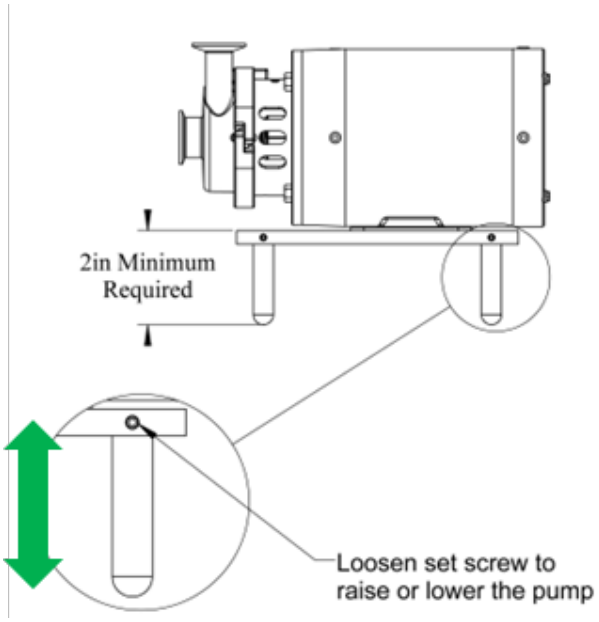
Mounting: Leg Kits Installation and Leveling

The pump can be easily leveled by installing a leg kit to the motor of the pump assembly. Depending on the style of leg kit, the legs can be individually adjusted by either loosening the set screw and adjusting the leg bar or by rotating the bottom of the leg to raise or lower the leg. **PLEASE NOTE**: any leg kit used must have a height of sufficient length to provide a minimum clearance of 2" (50 mm) on pumps having a horizontal base area of 1ft^2 (0.095m^2) or less and not designed to be fixed on the floor. **ANY** legs made of hollow stock should be sealed.

Example 1 Style



Example 2 Style



Electrical

⚠WARNING All power must be off and locked out during the installation process.
Only registered electricians should perform the electrical installation.

- Follow motor manufacturer's installation procedures.
- Verify motor nameplate data is compatible with existing electrical supply.
- Verify pump rotation. An arrow sticker is supplied with every pump to show the correct pump rotation. If the arrow sticker is missing, contact Dixon Sanitary for a replacement.
- Correct rotation is counterclockwise when facing pump inlet connection (see figure 7).

The pump contains moving parts. DO NOT place hands into any of the casing ports during operation. DO NOT place hands or fingers in or around the pump shaft at any time during operation. DO NOT service the pump unless electrical power is off and locked out according to your plant lock-out procedure.

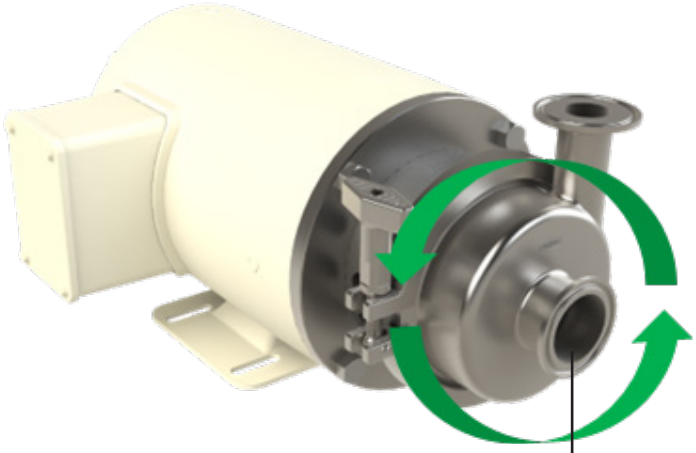


Fig. 7

Cleaning - Before Start Up

IMPORTANT: Before operating the equipment during formal production, please follow the guidelines listed below to ensure that your equipment is clean and ready for service.

- Ensure that the equipment is installed in a proper orientation to allow the equipment to be cleaned and drained properly. Reference the installation and start up section of the manual for orientation guidelines.
- Flush the equipment with an appropriate cleaning agent to remove any residue that may be on the equipment from shipping. **IMPORTANT**: DO NOT use cleaning agents that will attack stainless steel or the elastomers that were supplied with the pump. If you are unsure what elastomer is used in the pump, reference the part number key in this manual to make the determination.
- Follow any MSDS instructions for proper use or handling of cleaning agents.
- Flush the equipment to remove any soiling from the product contact components. Depending on the process, there may be varying amounts of soiling. Cleaning times and cleaning agent concentrations will vary depending on the product being processed. It is the responsibility of the operator to determine and adjust these cleaning specifications as necessary.
- The equipment should not be allowed to sit with product present in it for extended periods of time. Equipment should be cleaned immediately after processing is complete.

General Maintenance

To ensure proper operation of your Dixon® equipment, proper maintenance must be performed at regular intervals. To prevent damage, check all fitting connections and screw connections for any loosening of the connections during equipment operation. Maintain adequate spare parts stock for all replacement components on the piece of equipment. Please refer to the repair kits section of the manual for complete component part numbers and kit part numbers.

Servicing Intervals

Recommended intervals for one shift operation would be 3 months. However, only the user/owner can determine the appropriate service intervals as the length between service intervals is dependent on the following parameters:

- Duration of use per day - hours of operation
- Type of product
- Product temperature
- Product viscosity
- Cleaning agent
- Type of cleaning (CIP/SIP/COP)

Lubrication

Please use the chart below for proper grease types for varying component materials. DO NOT use mineral or animal-product-based greases. Check all visible seals for any signs of damage and replace as necessary. For sliding surfaces, use Jax PurGel Klear food grade grease. If a different grease is used other than what is specified in this manual, there is a risk of damaging the seals. Lubrication is only required when the equipment is being reassembled after servicing.

Seal Material	Grease Type
EPDM	Jax PurGel Klear
FKM	Jax PurGel Klear
PTFE	Do Not Grease

General Maintenance

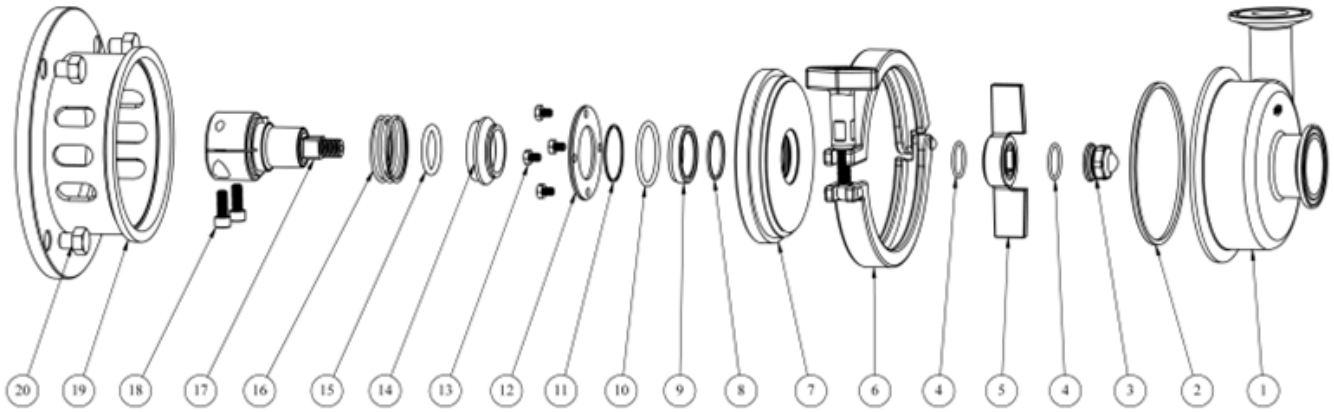
Inspection

Inspection of the components listed below should be done during regular servicing intervals. Before removing the equipment from the process line, please take care to do the following:

- Clean the process line completely to remove any product that may be harmful if contacting a person.
- Drain the process line completely that connects to the equipment being serviced.
- Close any isolation valves on either side of the equipment being sevriced.
- Once the equipment has been removed from the line, cap the lines that were connected to the piece of equipment being serviced to prevent any foreign material from entering the line.

Components to be inspected: (refer to BOM for part numbers and description)

- Items 1-4
- Items 7-15



Any components that show signs of severe wear or damage should be replaced during the scheduled maintenance time for the equipment. Please refer to the assembly and disassembly section of this manual for proper instructions on removing and replacing any worn or damaged components. Replacement components and repair kits can be found in the BOM or repair kits section of this manual.

Manual Cleaning (COP)

1. Refer to the disassembly section of the manual and follow instructions to remove all product contact components.
2. Inspect the product contact components of the equipment for any signs of possible damage. Replace components as necessary. (see the equipment BOM in this manual for replacement component part numbers.)
3. Clean all surfaces of the product contact components by manually brushing in a bath of cleaning solution (acid detergents or simple alkaline soda type detergents).
4. After cleaning, rinse all components thoroughly with water.
5. Refer to the assembly section of the manual and follow instructions to properly reassemble the equipment.

Cleaning in Place (CIP)

1. Regularly flush the pump with a suitable medium to preserve seals and integrity of the product contact surfaces, such as when there is a product changeover or downtime. These intervals shall be determined by the end user.
2. I**MPORTANT**: Only use cleaning agents which will not harm the seals and stainless steel.
3. Follow any MSDS instructions for proper use or handling of cleaning agents.
4. The necessary cleaning times, temperatures, and cleaning agents will depend on the degree of contamination and must be adapted accordingly.
5. Cleaning flow velocities of 5-6 ft/s should be maintained for proper cleaning of the equipment.
6. After cleaning, rinse the equipment thoroughly with water.

Assembly and Disassembly

To ensure quality operation of your Dixon® equipment, the equipment must be disassembled and assembled properly to prevent equipment damage during operation. Please follow the instructions contained in this manual carefully and be sure to follow any safety warnings contained herein. If any questions should arise during the assembly or disassembly process that are not addressed in this manual, please feel free to contact Dixon Sanitary at 800.789.1718.

Assembly

1. Place the pump shaft (**item 17**) onto the motor shaft and slide down until it bottoms out completely.
2. Thread the two stub shaft bolts (**item 18**) into the stub shaft (**item 17**). Tighten the shaft bolts using a 3/16" Allen wrench to 19 ft-lbs.
3. Place adapter (**item 19**) on the motor and ensure that the drain hole is facing down. Thread the four hex bolts (**item 20**) through the adapter holes and into the motor. Tighten down the hex bolts using an adjustable wrench.
4. Apply food grade Jax PurGel Klear grease to the rotary seal O-ring (**item 14**) and slide the O-ring onto the stub shaft (**item 17**).
5. Slide the seal spring (**item 16**) onto the stub shaft (**item 17**).
6. Place the rotary seal spring (**item 14**) onto the seal spring (**item 16**). Rotate the rotary seal until the notch in the seal aligns with the seal driver pin on the stub shaft (**item 17**).
7. Press the inner stationary seal gasket (**item 8**) into the recessed groove of the stationary seal (**item 9**).
8. Press the outer stationary seal gasket (**item 11**) onto the outer diameter of the stationary seal (**item 9**).
9. Apply Jax PurGel Klear grease to the stationary seal O-ring (**item 10**) and press firmly into the O-ring groove in the backplate (**item 7**).
10. Carefully press the stationary seal and gasket assembly into the backplate (**item 7**) making sure that the outer stationary seal gasket (larger diameter) is facing up.
11. Place the backplate seal ring (**item 12**) on top of the stationary seal assembly and align the holes in the backplate seal ring (**item 12**) with the tapped holes in the backplate (**item 7**).
12. Thread the four seal plate screws (**item 13**) through the backplate seal ring (**item 12**) into the backplate (**item 7**). Tighten the seal plate screws using a 5/16" box wrench in a star pattern.
13. Apply food grade Jax PurGel Klear grease to the impeller O-ring (**item 4**) and place the O-ring in the O-ring groove of the pump stub shaft (**item 17**)
14. Place the backplate seal assembly over the stub shaft and press down making sure that the rotary seal (**item 14**) engages properly with the driver pin in the stub shaft.
15. While holding the backplate assembly down against the seal spring force, place the impeller (**item 5**) onto the stub shaft (**item 17**).
16. While still holding the backplate in place, place the second impeller nut O-ring (**item 4**) into the O-ring groove in the top of the impeller (**item 5**) and thread the impeller nut (**item 3**) onto the stub shaft (**item 17**).
17. Using a 13/16" socket and adjustable wrench, hold the impeller vane with the adjustable wrench and tighten the impeller nut to 120 in-lbs.
18. Apply food grade Jax PurGel Klear grease to the casing seal O-ring and fit the seal into the seal groove on the backplate.
19. Press the pump casing (**item 1**) firmly onto the pump assembly.
20. Place the casing clamp (**item 6**) between the pump casing and adapter (**item 19**). Tighten the clamp wing nut to 25 in-lbs.

Disassembly

1. Loosen the casing clamp wing nut and remove the casing clamp (**item 6**).
2. Remove the casing (**item 1**) from the pump assembly.
3. Remove the casing seal O-ring (**item 2**) from the backplate.
4. Using an adjustable wrench, hold the impeller vane while using the 13/16" socket wrench to loosen and remove the impeller nut (**item 3**) from the stub shaft (**item 17**).
5. Remove the top impeller O-ring (**item 4**) from the impeller (**item 5**).
6. Remove the impeller (**item 3**) from the stub shaft (**item 17**).
7. Remove the backplate assembly from the pump adapter.
8. Using the 5/16" box wrench, remove the four seal plate scews (**item 13**) from the seal ring (**item 12**).
9. Grab and pull on the stationary seal (**item 9**) to remove the seal and seal gaskets from the backplate (**item 7**).
10. Remove the stationary seal O-ring (**item 10**) from the backplate (**item 7**).
11. Remove the rotary seal (**item 14**) and the seal spring (**item 16**) from the stub shaft (**item 17**).
12. Remove the rotary seal O-ring (**item 15**) from the stub shaft (**item 17**).
13. Loosen and remove the four adapter bolts (**item 20**) from the adapter (**item 19**) using an adjustable wrench.
14. Using a 3/16" Allen wrench, loosen and remove the two stub shaft bolts (**item 18**) from the stub shaft (**item 17**).
15. Remove the stub shaft (**item 17**) from the motor.

Repair Kits

To ensure quality operation of your Dixon® equipment, proper maintenance must be performed at regular intervals. To prevent damage and improper operation, use only genuine replacement parts and kits offered by Dixon to maintain the integrity of the equipment. Make sure the parts are properly matched to the series, model, and serial number and revision level of the equipment. Please see the list of kits below offered for this piece of equipment.

Complete Rebuild Seal Repair Kits

Pump Model	Soft Seal Material	Rotary Seal Material	Stationary Seal Material	Kit Part #	Kit Includes (Item #)	Repair Kit BOM		
						Item #	Part #	Qty
MB100	FKM	Carbon	Silicon Carbide	MB100-SK1-V	2, 4, 8, 9, 10, 11, 14, 15	2	MB100-PCOR-V	1
						4	MB100-NOR-V	1
						8	MB100-SSIG	1
						9	MB100-SS-SC	1
						10	MB100-SSOR-V	1
						11	MB100-SSOG	1
						14	MB100-RS-C	1
						15	MB100-RSOR-V	1

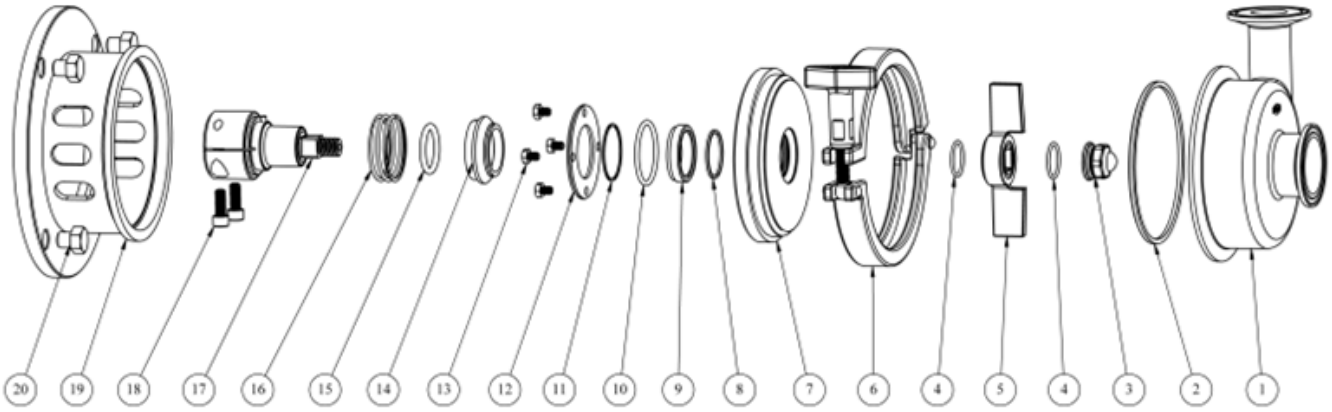
Pump Model	Soft Seal Material	Rotary Seal Material	Stationary Seal Material	Kit Part #	Kit Includes (Item #)	Repair Kit BOM		
						Item #	Part #	Qty
MB100	EPDM	Carbon	Silicon Carbide	MB100-SK1-E	2, 4, 8, 9, 10, 11, 14, 15	2	MB100-PCOR-E	1
						4	MB100-NOR-E	1
						8	MB100-SSIG	1
						9	MB100-SS-SC	1
						10	MB100-SSOR-E	1
						11	MB100-SSOG	1
						14	MB100-RS-C	1
						15	MB100-RSOR-E	1

Soft Seal Repair Kits

Pump Model	Soft Seal Material	Kit Part #	Kit Includes (Item #)	Repair Kit BOM		
				Item #	Part #	Qty
MB100	FKM	MB100-SK2-V	2, 4, 10, 15	2	MB100-PCOR-V	1
				4	MB100-NOR-V	1
				10	MB100-SSOR-V	1
				15	MB100-RSOR-V	1

Pump Model	Soft Seal Material	Kit Part #	Kit Includes (Item #)	Repair Kit BOM		
				Item #	Part #	Qty
MB100	EPDM	MB100-SK2-E	2, 4, 10, 15	2	MB100-PCOR-E	1
				4	MB100-NOR-E	1
				10	MB100-SSOR-E	1
				15	MB100-RSOR-E	1

Bill of Materials

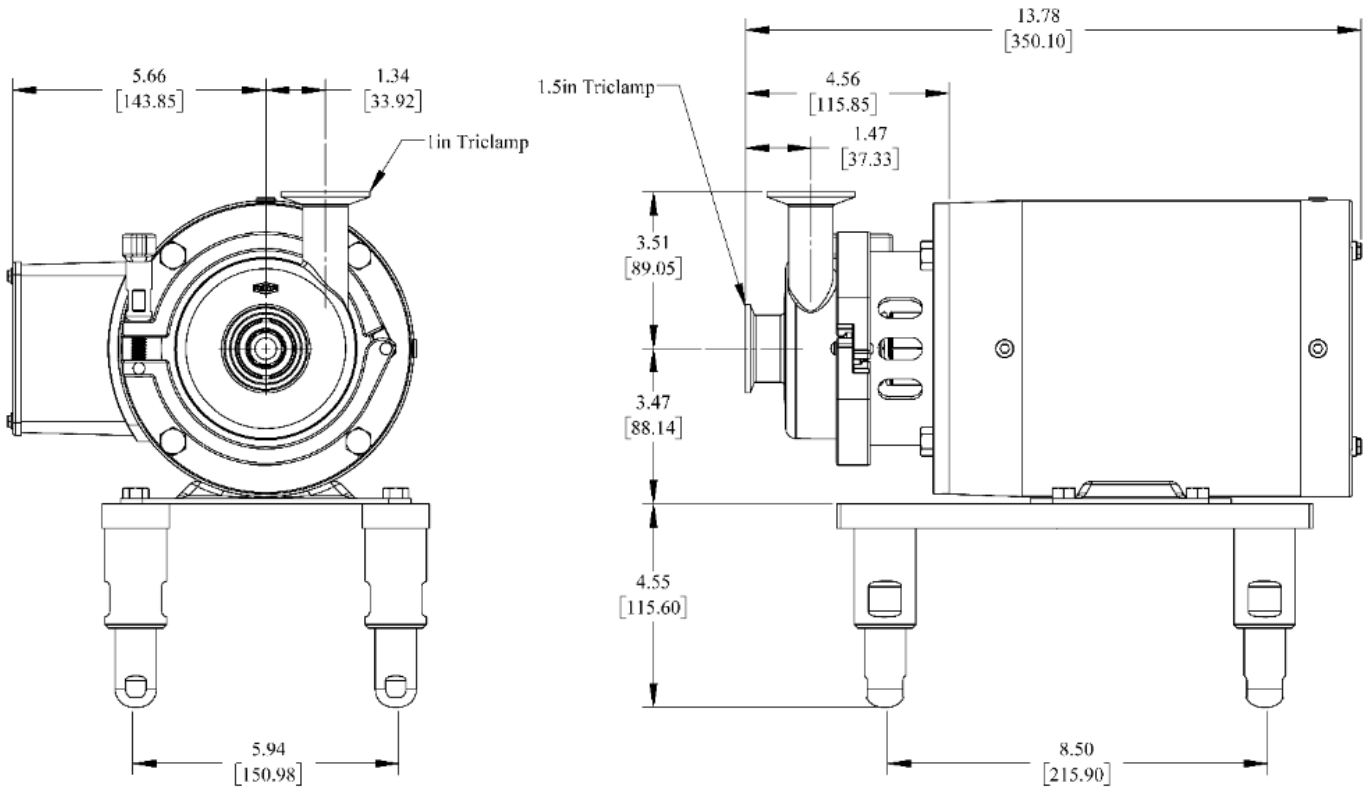


Part Type	Part #	Item #	Material	Description	Qty
Casing	MB100-PC-C	1	316L	MB100 casing	1
Casing seal *	MB100-PCOR-V	2	FKM	MB100 casing seal	1
Impeller nut	MB100-IN	3	316L	MB100 impeller nut	1
Impeller O-ring *	MB100-NOR-V	4	FKM	MB100 impeller O-ring	2
Impeller	MB100-IMP-3680	5	CF3M	MB100 impeller 3.680" diameter	1
Casing clamp	13MHHM400	6	CF8	MB100 casing clamp	1
Backplate	MB100-BKPL	7	316L	MB100 backplate	1
Stationary seal gasket - inner	MB100-SSIG	8	PTFE	MB100 inner stationary seal gasket	1
Stationary seal	MB100-SS-SC	9	sintered silicon carbide	MB100 stationary seal - sintered SiC	1
Stationary seal O-ring *	MB100-SSOR-V	10	FKM	MB100 stationary seal O-ring	1
Stationary seal gasket - outer	MB100-SSOG	11	PTFE	MB100 outer stationary seal gasket	1
Backplate seal ring	MB100-SSP	12	304	MB100 backplate seal ring	1
Seal plate screw	MB100-SPS	13	18-8	MB100 seal plate screw	4
Rotary seal	MB100-RS-C	14	carbon	MB100 rotary seal	1
Rotary seal O-ring *	MB100-RSOR-V	15	FKM	MB100 rotary seal O-ring	1
Seal spring	MB100-SPR	16	304	MB100 seal spring	1
Stub shaft	MB100-SHFT	17	316L	MB100 stub shaft 56C	1
Stub shaft bolt	MB100-SBOLT	18	18-8	MB100 stub shaft bolt	1
Adapter	MB100-ADP	19	304	MB100 adapter	1
Adapter bolt	P71B-114B-56AB	20	18-8	Adapter bolt	4

* Optional available materials (see table below for component part numbers)

Part Type	Part #	Item #	Material	Description	Qty
Casing seal *	MB100-PCOR-E	2	EPDM	MB100 casing seal	1
Impeller O-ring *	MB100-NOR-E	4	EPDM	MB100 impeller O-ring	2
Stationary seal O-ring *	MB100-SSOR-E	10	EPDM	MB100 stationary seal O-ring	1
Rotary seal O-ring *	MB100-RSOR-E	15	EPDM	MB100 rotary seal O-ring	1

Dimensions


5.66
[143.85]
1.34
[33.92]
1in Triclamp
5.94
[150.98]
13.78
[350.10]
1.5in Triclamp
4.56
[115.85]
1.47
[37.33]
3.51
[89.05]
3.47
[88.14]
4.55
[115.60]
8.50
[215.90]

Part Number Key

Dixon MB100-Series Centrifugal Pump Part Number Key Example: MB15A01C1EA1A01		Pump Series	Port Size	Finish	Impeller Size	Connections	Seal Type	Elastomer	Frame Size	Motor Type	Electrical	Power & Speed
		MB	15	A	01	C	1	E	A	1	A	01
Pump Series	**Code**											
MB100	MB											
Port Size	**Code**											
1-1/2" inlet x 1" outlet	15											
Surface Finish	**Code**											
32 Ra (I.D. Mech. Polish)	A											
25 Ra (I.D. Mech. Polish)	B											
20 Ra (I.D. Mech. Polish)	C											
Impeller Size	**Code**											
3.68"	01											
3.5"	02											
3.25"	03											
3"	04											
Connections	**Code**											
Triclamp	C											
Buttweld	B											
Female I-Line	F											
Male I-Line	M											
Threaded Bevel	T											
Plain Bevel	P											
Q-Line	Q											
Seal Type	**Code**											
Single Mechanical SC vs Carbon	1											
Elastomer Material	**Code**											
EPDM	E											
FKM	V											
Motor Frame Size	**Code**											
NEMA 56C	A											
Motor Type	**Code**											
Baldor SS Washdown	1											
Sterling SS Washdown	2											
Baldor White Epoxy Painted Washdown	3											
Sterling White Epoxy Painted Washdown	4											
Electrical	**Code**											
1PH/60Hz 115/230V	A											
3PH/60Hz 208-230/460V	B											
3PH/50Hz 190/380V	C											
3PH/50Hz 380/460V	D											
3PH/50Hz 220/380/440V	E											
3PH/50Hz 220/380/415V	F											
Power & Speed	**Code**											
0.75HP @ 3500 RPM	01											
1.0HP @ 3500 RPM	02											
1.5HP @ 3500 RPM	03											
0.5HP @ 1750 RPM	04											

Troubleshooting

Problem	Possible Cause	Suggested Action
Excessive vibration/pump is noisy	Pump not level.	Inspect installation of pump and correct level.
	Non-supported piping.	Verify piping support follows recommendations in installation portion of this manual.
	Not enough or no material reaching pump.	Inspect pump to verify there is no blockage. Inspect suction line and shorten or enlarge.
	Insufficient NPSH (Net Positive Suction Head) available.	Adjust system to provide correct NPSHa.
	Impeller and/or shaft worn.	Replace worn parts.
	Shaft loose or bent.	Readjust shaft settings, tighten shaft screws if loose. If bent, replace shaft and inspect impeller hub for uneven wear, replace impeller if worn.
	Impeller out of balance.	Inspect shaft if loose or bent. If impeller damaged, replace.
	Foreign material in pump.	Remove any foreign material and replace any worn or damaged parts.
	Excessive air in material.	Make any adjustments in system to ensure excess air is removed before material reaches the pump.
	Motor bearings worn.	Replace any worn ports or replace motor if needed.
Rapid Seal Wear	Improper installation of mechanical seal.	Adjust mechanical seal installation. Replace any worn or damaged parts.
	Dry running.	Material must be in contact with seal at all times. Catastrophic failure will occur.
	Abrasive product.	Contact Dixon Sanitary: 800.789.1718.
	Shaft loose or bent.	Readjust shaft settings, tighten shaft screws if loose. If bent, replace shaft and inspect impeller hub for uneven wear, replace if impeller is worn.
	Water hammer.	Correct system to prevent any quick starts and stops.
	Improper seal for application.	Contact Dixon Sanitary: 800.789.1718.
Pump Leaks	Inlet/Outlet	Inspect for missing union gaskets, loose connections or damaged ports. Replace worn gaskets and tighten loose connections. Replace or repair any damaged ports.
	Casing clamp is loose.	Tighten clamp.
	Casing gasket damaged or worn.	Replace gaskets.
	Seal not installed correctly.	Reassemble seal properly. Replace any worn or damaged parts.
	Carbon seal worn or damaged.	Replace any worn or damaged parts.

Limited Warranty

DIXON VALVE AND COUPLING COMPANY, LLC (herein called "Dixon") warrants the products described herein and manufactured by Dixon to be free from defects in material and workmanship for a period of one (1) year from date of shipment by Dixon under normal use and service. Its sole obligation under this warranty being limited to repairing or replacing, as hereinafter provided, at its option any product found to Dixon's satisfaction to be defective upon examination by it, provided that such product shall be returned for inspection to Dixon's factory within three (3) months after discovery of the defect. The repair or replacement of defective products will be made without charge for parts or labor. This warranty shall not apply to: (a) parts or products not manufactured by Dixon, the warranty of such items being limited to the actual warranty extended to Dixon by its supplier; (b) any product that has been subject to abuse, negligence, accident, or misapplication; (c) any product altered or repaired by others than Dixon; and (d) to normal maintenance services and the replacement of service items (such as washers, gaskets, and lubricants) made in connection with such services. To the extent permitted by law, this limited warranty shall extend only to the buyer and any other person reasonably expected to use or consume the goods who is injured in person by any breach of the warranty. No action may be brought against Dixon for an alleged breach of warranty unless such action is instituted within one (1) year from the date the cause of action accrues. This limited warranty shall be construed and enforced to the fullest extent allowable by applicable law.

Other than the obligation of Dixon set forth herein, Dixon disclaims all warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose, and any other obligation or liability. The foregoing constitutes Dixon's sole obligation with respect to damages, whether direct, incidental or consequential, resulting from the use or performance of the product.

Some products and sizes may be discontinued when stock is depleted or may require a minimum quantity for ordering.

The Right Connection®

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