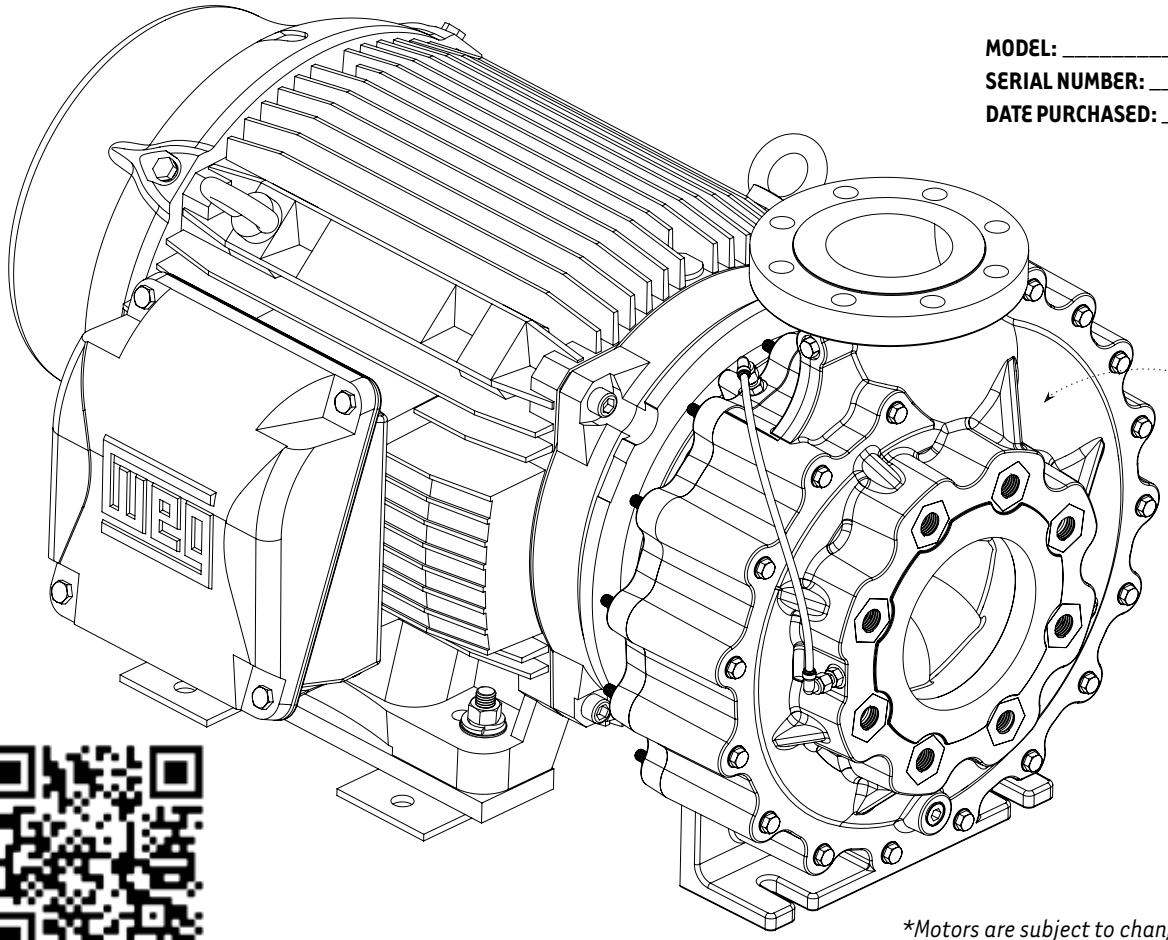
GENESYS® 6X4-11

INSTALLATION AND SERVICE MANUAL

FILL IN FOR FUTURE REFERENCE:

MODEL: _____
SERIAL NUMBER: _____
DATE PURCHASED: _____



**Motors are subject to change due to Availability or specification requirements.*

TO REGISTER YOUR PUMP SCAN THIS QR CODE OR VISIT MDMINC.COM/PUMP-REGISTRATION

TYPE: END-SUCTION CENTRIFUGAL
MOTOR: NEMA 254/6JM-364/5JM
HORSEPOWER: 20 TO 75
INLET: 6" FLANGED
DISCHARGE: 4" FLANGED
MATERIAL: VINYL ESTER AND POLYESTER THERMOSET GLASS FILLED THERMOPLASTIC

HARDWARE: 316 STAINLESS STEEL
SEAL OPTIONS: IMPENATRA® III NON-METALLIC MECHANICAL SEAL, 316SS REVERSE MOUNT MECHANICAL SEAL
ACCESSORIES: FIBERGLASS REDUCING OFFSET INLET STRAINER BASKET, VARIABLE FREQUENCY DRIVE

Read completely before you install or operate your new pump. Do not allow the motor to become submerged. Never run dry. Never exceed an internal case pressure of: 100 PSI.

© MDM INCORPORATED

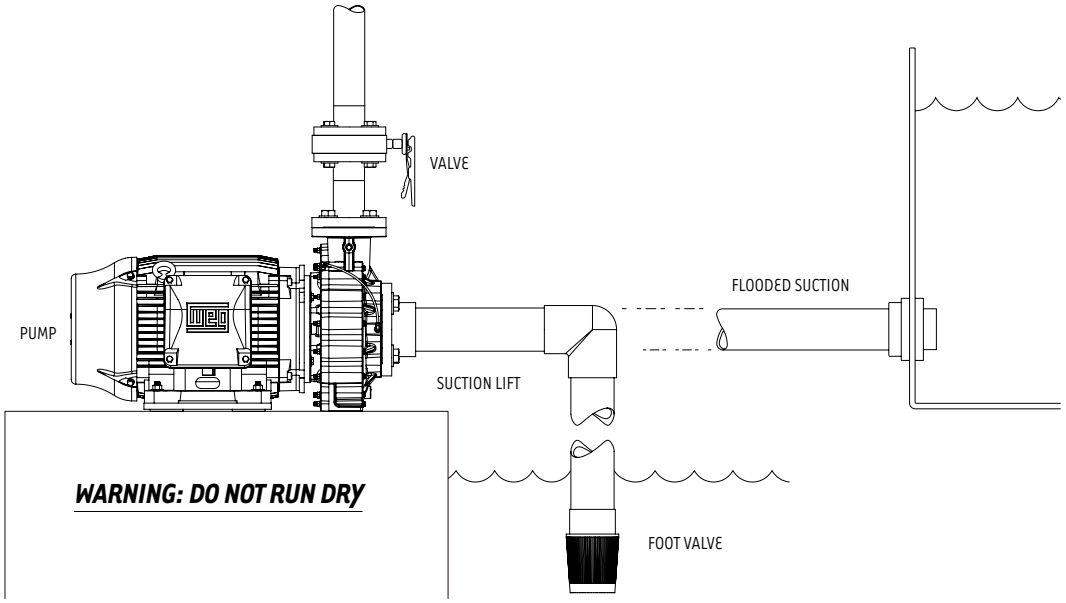
GENESYS® 6X4-11

We congratulate you on your choice of the Genesys® 6x4-11 Centrifugal Pump. It has been carefully designed using the advantages of the latest technology and carefully constructed to give you unprecedented dependability. To ensure proper performance, we urge you to carefully follow the instructions in this manual. If you have any questions, please call your supplier for assistance or visit us at www.mdminc.com/support.

INSTALLATION GUIDELINES

PLEASE READ CAREFULLY. WHEN PROPERLY INSTALLED, THIS GENESYS® PUMP WILL PROVIDE DEPENDABLE, TROUBLE-FREE SERVICE..

1. Locate the pump as near the fluid source as possible. A flooded suction is preferred. Pump should be sized prior to arrival
2. Mount the Pump Motor Unit (PMU), foot, any required shims and wet-end to a secure, immobile foundation. Please reference "GENESYS® 6x4-11 ANCHOR INSTALLATION" on the page 3 for anchor details.
3. The pipe fittings should be self-supported and in neutral alignment with each port (i.e. Fittings must not be forced into alignment which may cause premature piping failure or damage to the pump volute). Use of expansion joint couplings is recommended.
4. Never restrict the intake. Minimize use of elbows and valves wherever possible. Always use pipe of adequate diameter. This will reduce friction losses and maximize output.



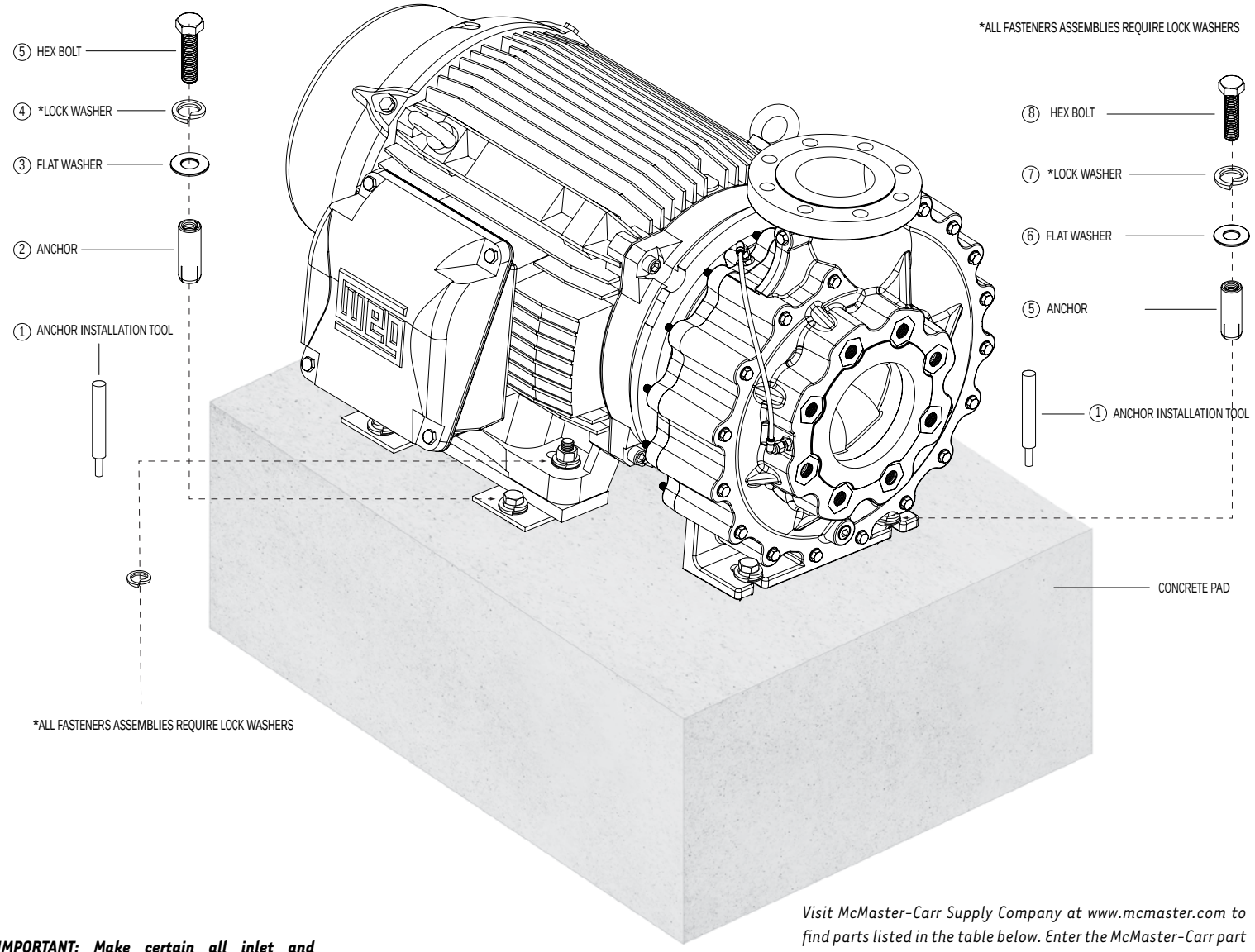
WARNING: ALWAYS SHUT OFF ELECTRICAL POWER BEFORE INSTALLATION AND / OR SERVICING THIS PUMP.
ELECTRICAL CONNECTIONS SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY. DISCONNECT ELECTRICAL POWER FROM THE MOTOR USING A PROCEDURE IN COMPLIANCE WITH OSHA 1910.147 (CONTROL OF HAZARDOUS ENERGY).REFER TO MOTOR MANUFACTURER'S CONNECTION DIAGRAM LOCATED ON THE MOTOR NAMEPLATE TO RECONNECT MOTOR WIRING. A PHASE ROTATION METER IS RECOMMENDED TO VERIFY CORRECT ROTATION DIRECTION PRIOR TO STARTUP.
IMPORTANT: DO NOT RUN PUMP DRY! THIS WILL DAMAGE THE SEAL

ELECTRICAL CONNECTIONS

1. Electrical connections should be made by qualified personnel.
2. Check that the supply voltage matches the motor's nameplate voltage.
3. Verify motor rotation with a phase rotation tester. Do not run pump dry.

© MDM INCORPORATED

GENESYS® 6X4-11 ANCHOR INSTALLATION



IMPORTANT: Make certain all inlet and discharge piping are independently supported to a post base, strut, and pipe clamp system.

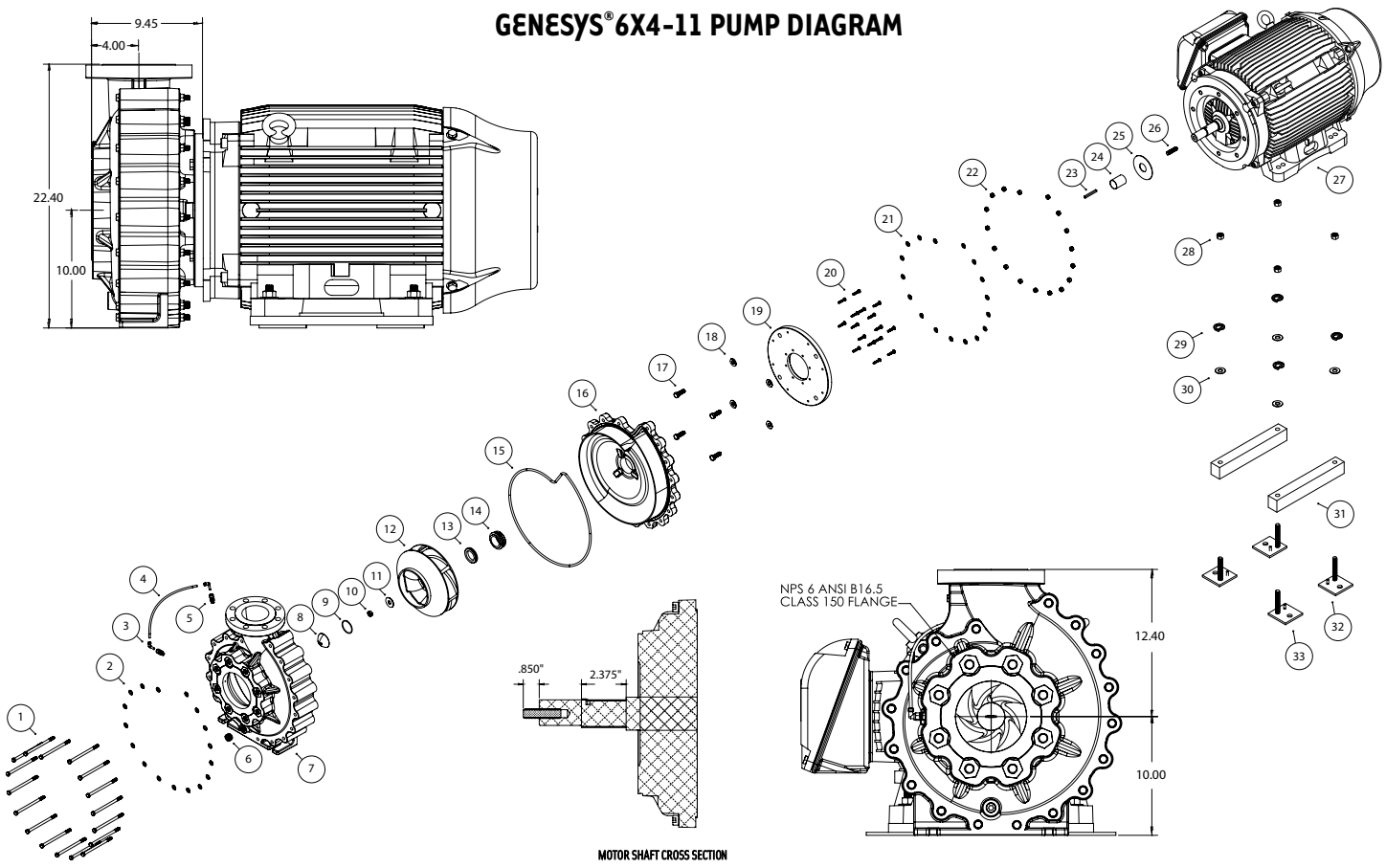
Visit McMaster-Carr Supply Company at www.mcmaster.com to find parts listed in the table below. Enter the McMaster-Carr part number in their search engine to be directed to part page.

Consult Motor Name Plate for Frame Size Specification

NO.	DESCRIPTION	QTY.	NEMA 254/6JM-364/5JM
	MOTOR MOUNTING HARDWARE		**MCMASTER-CARR PART NUMBERS**
1	ANCHOR INSTALLATION TOOL	1	97095A180
2	ANCHOR	4	97077A180
3	FLAT WASHER	4	90107A033
4	LOCK WASHER	4	92147A031
5	HEX BOLT	4	93190A712
	PUMP MOUNTING HARDWARE		**MCMASTER-CARR PART NUMBERS**
5	ANCHOR	2	97095A180
6	FLAT WASHER	2	90107A033
7	LOCK WASHER	2	92147A031
8	HEX BOLT	2	92186A720

© MDM INCORPORATED

GENESYS® 6X4-11 PUMP DIAGRAM



MOTOR SHAFT CROSS SECTION

REFERENCE NUMBER	PART NAME	QTY.
1	BOLT, CASE FRONT	17
2	WASHER, CASE FRONT	17
3	ELBOW	2
4	1/4" TUBE	1
5	FITTING	2
6	DRAIN PLUG	1
7	VOLUTE	1
8	NOSE CAP	1
9	O-RING, NOSE CAP	1
10	NUT, IMPELLER	1
11	WASHER, IMPELLER	1
12	IMPELLER	1
13	SEAL SEAT	1
14	SEAL HEAD	1
15	O-RING, CASE	1
16	BRACKET	1
17	BOLT, MOTOR	4
18	WASHER, MOTOR	4
19	MOTOR ADAPTER PLATE	1
20	SCREW, MOTOR ADAPTER PLATE	16
21	WASHERS, CASE REAR	17
22	NUT, CASE REAR	17
23	STUD, IMPELLER	1
24	HEAT SHRINK	1
25	SLINGER	1
26	KEY, MOTOR SHAFT	1
27	MOTOR	1
28	NUT, MOTOR	4
29	LOCK WASHER, MOTOR MOUNT	4
30	WASHER, MOTOR MOUNT	4
31	RISER BLOCK	2
32	THREADED ROD ASSEMBLY, LEFT	2
33	THREADED ROD ASSEMBLY, RIGHT	2

QTY.	TOOLS / MATERIALS	USAGE
1	ROLL OF PAPER TOWELS	WIPE OFF EXCESS GREASE / HANDS
1	TUBE OF MOLYKOTE® 111 / SILICONE GREASE	LUBRICATE / SEALS PARTS
1	BOTTLE/ STICK LOCTITE	HELPS BOLTS REMAIN TIGHT
1	HEAT GUN	SHRINK TUBING SLEEVE
1	BOX OF LINT FREE TISSUE	WIPE OFF SEAL FACES
1	BOTTLE OF RUBBING ALCOHOL	CLEAN SEAL FACES / SURFACES
1	TUBE OF ANTI-SEIZE GREASE / LUBRICANT	1. APPLY TO SHAFT END 2. APPLY TO ALL BOLT THREADS
1	BOX KNIFE	CUT HEAT SHRINKING TUBE
1	ARBOR PRESS	1. PRESS SEAL HEAD INTO BRACKET 2. PRESS SEAT INTO IMPELLER
1	**HAMMER / MALLET	**IF ARBOR PRESS IS NOT AVAILABLE
1	CALIPERS	1. MEASURE THREADED ROD 2. MEASURE HEAT SHRINK TUBING SLEEVE
1	PLIERS / CHANNEL LOCKS	HOLD SHAFT STILL
1	CHAMFERING TOOL	1. CHAMFER IMPELLER BORE EDGE 2. CHAMFER BRACKET BORE EDGE
1	SEAL HEAD PRESS TOOL (INCLUDED WITH PUMP)	PRESS SEAL HEAD INTO BRACKET (SEE SEAL REPL. GUIDE)
1	1/4" ALLEN WRENCH *(*BASED ON MOTOR SIZE)*	INSTALL THREADED ROD INTO MOTOR SHAFT
1	3/8" ALLEN WRENCH	INSTALL DRAIN PLUG
1	3/4" WRENCH *(*BASED ON MOTOR SIZE)*	INSTALL BRACKET BOLTS
1	TORQUE WRENCH	TO INSTALL IMPELLER NUT (CANNOT EXCEED 40 IN. LBS.)
1	3/4" DEEP SOCKET	TIGHTEN IMPELLER NUT @ 40 IN. LBS.
1	5/8" DEEP SOCKET	TIGHTEN IMPELLER CAP
2	1/2" WRENCH	TIGHTEN VOLUTE BOLTS
2	15/16" WRENCH	TIGHTEN FLANGE NUTS / BOLTS

© MDM INCORPORATED

6X4-11 PUMP END ASSEMBLY

MOTOR

1. De-grease motor shaft and C-face.
2. If installing a new motor, test motor to verify correct functionality prior to pump installation.
3. Assemble pump onto vertically oriented motor for ease of assembly.
4. Use Loctite Orange on the ½"-13 x 2" threaded stud when threading into the motor shaft end, this will secure the threaded stud in place during impeller installation. See motor shaft cross-section on P.4.
5. Thread the stud into the motor shaft end leaving .850" past the end of the motor shaft.
6. Apply heat shrink tubing to the exposed portion of the motor shaft. Reference motor shaft drawing: "Motor Shaft Cross Section" on P.4.
7. Apply anti-seize to the motor C-face and remaining exposed motor shaft.
8. Install slinger by referencing the cut-away diagram on page 4.

BRACKET

1. De-burr/chamfer edges around the seal bore.
2. Apply light coating of Molykote® 111 grease to the seal bore leading edge and seal casing bore o-ring.
3. Install seal head, wipe away any excess grease squeeze out, clean seal face with alcohol.
4. Attach bracket with motor adaptor plate to the motor.

IMPELLER

1. Ensure that the seal seat bore is chamfered, lightly grease impeller and seal seat o-ring, install seal seat ensuring the seat is bottomed and sitting level.
2. Wipe away any excess grease, clean seal face with alcohol.
3. Align keyway on the motor shaft key, slide impeller down to make contact with the seal head. There should be some spring movement before the impeller bottoms on the motor shaft shoulder.
4. Install impeller washer and impeller nut, use thread locker where the impeller nut locates.

IMPELLER NOSE CAP

1. Test fit the impeller nose cap onto the motor shaft threaded stud, make sure the impeller nose cap makes firm contact with the flat on the impeller. A small mirror is helpful on this step.
2. If impeller nose cap makes firm contact with the impeller flat, remove the impeller nose cap, apply grease to the o-ring gland, install o-ring. Apply a light film of grease to the impeller flat, install the impeller nose cap and tighten with a wide, flat bladed screwdriver. Wipe away any excess grease.

VOLUTE

1. Install the large o-ring into the bracket gland, place volute on top of the bracket.
2. Using 3/8"-16 x 6" bolts (17), washers (34) and nuts (17), secure the volute and bracket together. Use anti-seize on the bolt threads. Tighten until volute and bracket ears make contact.
3. Install the two seal flush fittings and stem elbows in appropriate ports, install tubing between the fittings and cautiously tighten till grip is felt on the elbow stem. Plug the remaining port.

TEST PUMP

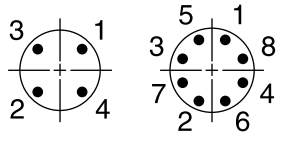
- Confirm all plumbing / piping to pump-flange connections are torqued down according to Figure 1.
- Recommended Bolt Torque is shown in Figure 1. Threads should be clean and well lubricated. Actual field conditions may require variations in these recommendations.

  Caution: Unnecessary over-torquing will damage the flange.
- Flood water, some tightening of the seal flush fittings may be necessary.
- If a VFD is utilized, make certain to use the jog function when testing rotation.

Figure 1

FLANGE SIZE (IN.)	RECOMMENDED TORQUE (FT. LBS.)
2-4	25
6	40

Torque Sequence

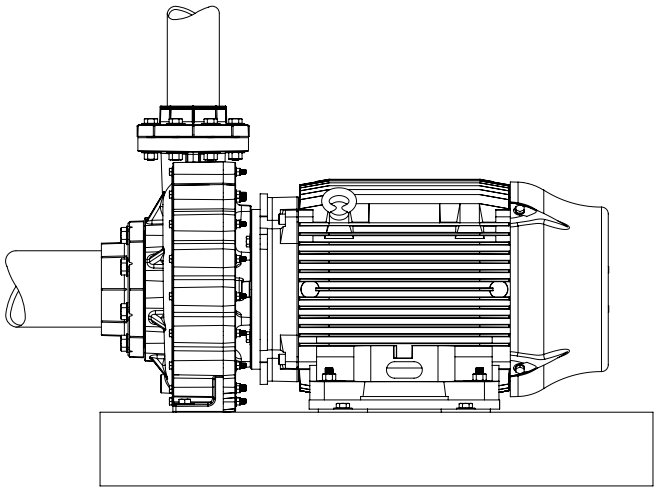


DISASSEMBLY

Disassembly is the reverse of assembly.

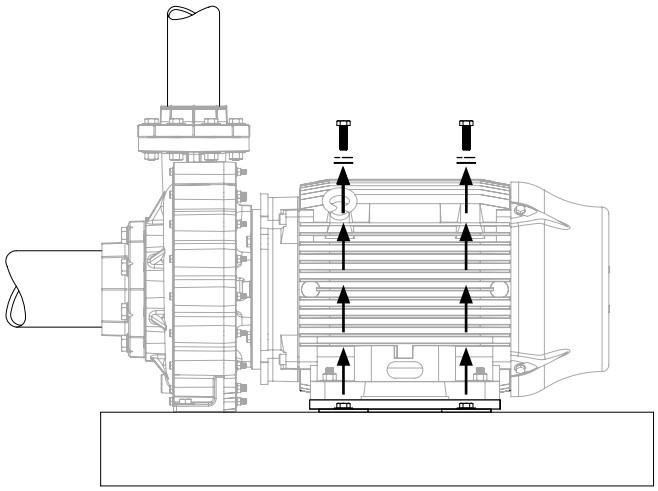
© MDM INCORPORATED

B73LEAN BACK END PULLOUT

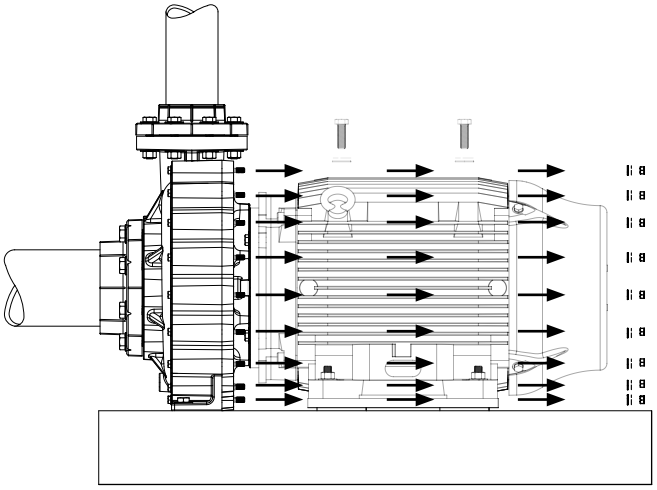


1. Disconnect electrical power from the motor using a lockout/tagout procedure in compliance with OSHA 1910.147 (Control of Hazardous Energy).

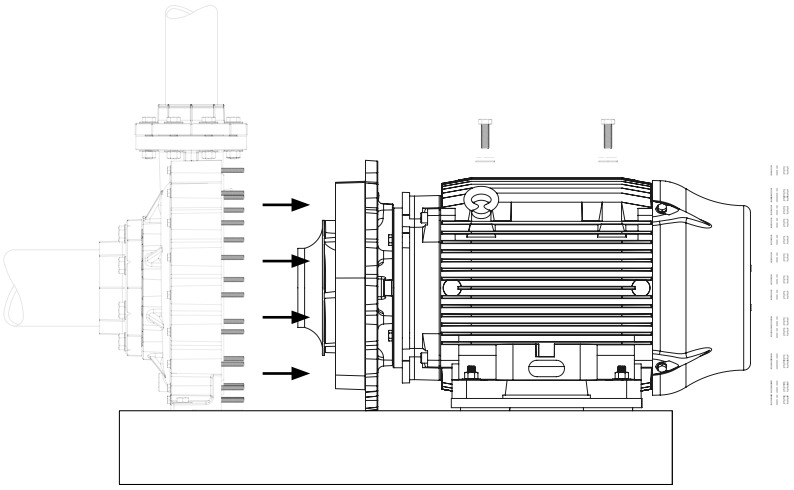




2. Remove the (4) motor mount anchor bolts, lock-washers, washers and nuts.



3. Remove the (17) rear-facing pump case nuts, lock washers and washers.



4. Pull motor backwards until impeller clears the stationary volute.

*Tip: Tilt motor on rear end to access pump internals for repairs and maintenance.

WARNING: EYE PROTECTION IS STRONGLY RECOMMENDED

Maintenance
Periodic seal replacement will be required as this is a consumable part.

Storage
The pump must be drained if stored below freezing temperatures.

**The pump must be drained before servicing or if stored below freezing temperatures. Periodic replacement of seals may be required due to normal carbon wear.*

TROUBLESHOOTING AID

Motor Will Not Rotate
1. Check for proper electrical connections to motor.
2. Check main power box for tripped circuit breaker.

Motor Hums Or Will Not Rotate
1. Check for proper electrical connections to motor and proper wire size according to local electrical codes.
2. Check for foreign material inside pump.
3. Remove volute and check for impeller rotation without excessive resistance and/or noise.
4. Remove pump and check shaft rotation for excessive bearing noise.
5. Check start switch and/or capacitor.

Pump Operates With Little Or No Flow
1. Check to ensure that pump is primed.
2. Check for leaking seal.
3. Improper line voltage to motor or incorrect rotation.
4. Check for clogged inlet port and/or impeller.
5. Defective check or foot valve.
6. Check inlet lines for leakage, either fluid or air.
7. Check for correct impeller rotation direction.

Pump Loses Prime
1. Defective check or foot valve.
2. Inlet line air leakage.
3. Seal leaking.
4. Fluid supply low.

Motor Or Pump Overheats
1. Verify the supply voltage and frequency meet the motor's requirements.
2. Verify the motor is wired according to the wiring diagram on the motor name plate.
3. Binding motor shaft or pump parts.
4. Inadequate ventilation.
5. Fluid being pumped should not exceed 194°F (90°C) for extended periods of time.

MDM INCORPORATED
3345 N. Cascade Ave • Colorado Springs, CO • 80907
Phone (719) 634-8202 • Fax (866) 425-1346
www.mdminc.com • sales@mdminc.com

Loctite® is a registered trademark of Henkel Corporation.
Molykote® 111 is a registered trademark of Dow Corning Corporation.
Impenatra® is a registered trademark of MDM Incorporated.
Genesys® is a registered trademark of MDM Incorporated.
Genesys 6x4-11 Installation Manual.Indd Updated 11/24/26

