



INSTALLATION, OPERATION & MAINTENANCE MANUAL

HAZ SERIES TOP DISCHARGE Electric Submersible Pumps

CAST IRON
Three Phase
230V & 460V

HAZ37
HAZ55

HAZ55CH
HAZ75

Read this manual carefully before installing, operating or servicing these pump models. Observe all safety information. Failure to comply with instructions may result in personal injury and/or property damage. Please retain these instructions.

TABLE OF CONTENTS

CAUTION STATEMENT	4
INTRODUCTION.....	5
HSAFETY.....	5
INSPECTION	6
PRE-INSTALLATION INSPECTION	6
OIL FILL QUANTITY/TYPE	6
PUMP INSTALLATION.....	6
POSITIONING THE PUMP.....	7
PUMP ROTATION.....	8
PUMP OPERATION.....	9
TYPICAL MANUAL DEWATERING INSTALLATION.....	9
MANUAL OPERATION.....	9
STOPPING	9
TYPICAL AUTOMATIC DEWATERING INSTALLATION.....	9
STOPPING	10
INTENDED METHODS OF CONNECTION	11
THREE PHASE WIRING INSTRUCTION	11
TROUBLE SHOOTING	13
PUMP WILL NOT RUN.....	13
PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY	13
SERVICING YOUR SUBMERSIBLE PUMP	13
MAINTAINING YOUR PUMP	14
CHANGING SEAL OIL	14
CHANGING SEALS*	15
EXPLODED VIEW OF HAZ37, 55, 55CH, 75.....	16
HAZ SERIES PARTS LIST	17
THREE PHASE WIRING DIAGRAMS	19
230V (5 LEAD).....	19
MODELS HAZ37, 55, 55CH, 75.....	19
460V (5 LEAD).....	20
MODELS HAZ37, 55, 55CH, 75.....	20
WARRANTY AND LIMITATION OF LIABILITY	21
START-UP REPORT FORM.....	22
NOTES:.....	25



CAUTION STATEMENT

To retain permissibility of this equipment the following conditions shall be satisfied:

1. General Safety. Frequent inspection shall be made. All electrical parts, including the portable cable and wiring, shall be kept in a safe condition. Special efforts shall be made to maintain cable routing paths free from mud rock and other debris that could eventually cause cable damage. Cables should be closely examined on a regular basis and damaged cables or protective hose conduits shall be replaced and the cause of the damage identified and corrected before the equipment is placed back into service. There shall be no openings into the casings of the electrical parts. A permissible distribution box shall be used for connection to the power circuit unless connection is made in fresh intake air. To maintain the overload protection of direct-current machines, the underground conductor of the portable cable shall be connected to the proper terminal. The machine frame shall be effectively grounded. The power wires shall not be used for grounding except in conjunction with diode(s) or equivalent. The operating voltage should match the voltage rating of the motor(s).

2. Servicing. Explosion-proof enclosures shall be restored to the state of original safety with respect to all flame arresting paths, lead entrances, etc. following disassembly for repair or rebuilding, whether by the owner or an independent shop.

3. Fastenings. All bolts, nuts, screws and other means of fastening, and also threaded covers, shall be in place, properly tightened and secured.

4. Renewals and Repairs. Inspections, repairs or renewals of electrical parts shall not be made unless the portable cable is disconnected from the circuit furnishing power, and the cable shall not be connected again until all parts are properly reassembled. Special care shall be taken in making renewals or repairs. Leave no parts off. Use replacement parts exactly like those furnished by the manufacturer. When any lead entrance is disturbed, the original leads or exact duplicates thereof shall be used and stuffing boxes shall be repacked in the approved manner. When machine cables are replaced or otherwise disturbed from their normal position, they shall be routed in the same manner as they were when the machine was shipped from the manufacturer. In addition, any clamps, conduit or guards, that were in place to prevent cable damage shall be replaced.

5. Cable Requirements. A flame resistant portable cable bearing a MSHA assigned identification number, adequately protected by an automatic circuit-interrupting device shall be used. Special care shall be taken in handling the cable to guard against mechanical injury and wear. Splices in portable cables shall be made in a workmanlike manner, mechanically strong, and well insulated. One temporary splice may be made in any trailing cable. Such trailing cable may only be used for the next 24-hour period. No temporary splice shall be made in a trailing cable within 25 feet of the machine, except cable reel equipment. Connections and wiring to the outby end of the cable shall be in accordance with recognized standards of safety.

DO NOT CHANGE WITHOUT APPROVAL OF MSHA



INTRODUCTION

This Installation, Operation, and Maintenance manual provides important information on safety and the proper inspection, disassembly, reassembly and testing of the BJM Pumps® HAZ Series submersible pump. This manual also contains information to optimize performance and longevity of your **BJM Pumps®** submersible pump.

The submersible HAZ Series pumps are designed to pump water. The HAZ Series are designed to meet the MSHA requirements for mining pumps. It is not designed to pump volatile or flammable liquids.

Note: Consult chemical resistance chart for compatibility between pump materials and liquid before operating pump.

If you have any questions regarding the inspection, disassembly, assembly or testing please contact your **BJM Pumps®** distributor, or Industrial Flow Solutions Operating, LLC.

Industrial Flow Solutions
104 John W Murphy Drive
New Haven, CT 06513 USA

Fax: 860-399-7784
Phone: 860-399-5937

Information, including pump data sheets and performance curves, is also available on our web site: www.flowsolutions.com

For assistance with your electric power source, please contact a certified electrician.

Please pay attention to the following alert notifications. They are used to notify operators and maintenance personnel to pay special attention to procedures, to avoid causing damage to the equipment, and to avoid situations that could be dangerous to personnel.

NOTE: Instructions to aid in installation, operation, and maintenance or which clarify a procedure.

⚠ DANGER Immediate hazards that WILL result in severe personal injury or death. These instructions describe the procedure required and the injury which will result from failure to follow the procedure.

⚠ WARNING Hazards or unsafe practices that COULD result in severe personal injury or death. These instructions describe the procedure required, and the injury which could result from failure to follow the procedure.

⚠ CAUTION Hazards or unsafe practices which COULD result in personal injury or product or property damage. These instructions describe the procedure required and the possible damage which could result from failure to follow the procedure.

SAFETY

Pump installations are seldom identical. Each installation and application can vary due to many different factors. It is the owner/service mechanics responsibility to repair, service, and test to ensure that the pump integrity is not compromised according to this manual.

⚠ WARNING Risk of electric shock – this pump has not been investigated for use in swimming pool areas.

⚠ DANGER Do not pump flammable or volatile liquids. Death or serious injury will result.

⚠ WARNING Before attempting to open or service the pump:

- 1) Familiarize yourself with this manual.
- 2) Unplug or disconnect the pump power cable to ensure that the pump will remain inoperative.
- 3) Allow the pump to cool if overheated.

⚠ WARNING Do not operate the pump with a worn or damaged electric power cable. Death or serious injury could occur.

⚠ WARNING Never attempt to alter the length or repair any power cable with a splice. The pump motor and pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

⚠ WARNING After the pump has been installed, make sure that the pump and all piping are secure before operation.

⚠ WARNING Do not lift the pump by the power cable piping or discharge hose. Attach proper lifting equipment to the lifting handle (or lifting rings) fitted to the pump. Do not suspend the pump by the power cable.

⚠ WARNING Obtain the services of a qualified electrician to troubleshoot, test and/or service the electrical components of this pump.

⚠ CAUTION Pumps and related equipment must be installed and operated according to all national, local and industry standards.



INSPECTION

Review all safety information before servicing pump.

The following are recommended installation practices/procedures for the pump. If there are questions in regards to your specific application, contact your local **BJM Pumps®** distributor or Industrial Flow Solutions Operating, LLC.

PRE-INSTALLATION INSPECTION

- 1) Check the pump for damage that may have occurred during shipment.
- 2) Inspect the pump for any cracks, dents, damaged threads, etc.
- 3) Check power cable (and seal minder cable, if installed) for any cuts or damage.
- 4) Check for, and tighten any hardware that appears loose.
- 5) Carefully read all tags, decals and markings on the pump.
- 6) **Important:** Always verify that the pump nameplate, amps, voltage, phase, and HP ratings match your control panel and power supply.

Warranty does not cover damage caused by connecting pumps and controls to an incorrect power source (voltage/phase supply). Record the model numbers and serial numbers from the pumps and control panel on the front of this instruction manual for future reference. Give it to the owner or affix it to the control panel when finished with the installation.

If anything appears to be abnormal, contact your **BJM Pumps®** distributor or Industrial Flow Solutions Operating, LLC. If damaged, the pump may need to be repaired before use. Do not install or use the pump until appropriate action has been taken.

Lubrication:

No additional lubrication is necessary. The shaft seal and bearings are fully lubricated from the factory. Seal oil should be checked once per year. See table below.

	OIL FILL QUANTITY/TYPE		Qty. oil in seal chamber
	U.S. fl. oz.	C.C.	Type of oil
Models			
HAZ37, 55, 55CH, 75	49	1450	Shell FM 32 – Food grade – NSF rated or equal

PUMP INSTALLATION

HAZ Series pumps have been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.



⚠ WARNING

Risk of electric shock. HAZ Series pump models do not come with electric plug connectors. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

Lifting:

Attach a rope or lifting chain (not included) to the handle (or lifting rings) on the top of the pump.

⚠ CAUTION

Do not lift the pump by the power cable or discharge hose/piping. Proper lifting equipment (rope/chain) must be used.

POSITIONING THE PUMP

BJM Pumps®, HAZ Series pumps are designed to operate fully or partially submerged. Do not run pump dry. Refer to data sheet for minimum submersion depth for your particular model. Data sheets can be obtained online at www.flowsolutions.com or by

calling Industrial Flow Solutions at 860-399-5937. As a general rule, HAZ Series top discharge pumps can pump down to a level above the suction screen. Pumping lower than screen will permit air to enter the pump and cavitate, lose prime or become air bound.

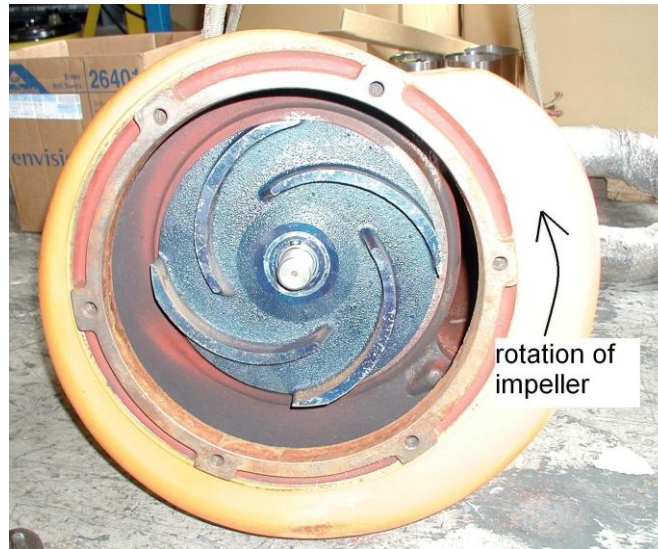
⚠ CAUTION

- Do not run pump dry.
- Pump liquid should not exceed a maximum temperature of 104°F.
- Never place the pump on loose or soft ground. The pump may sink, preventing water from reaching the impeller. Place on a solid surface or suspend the pump with a lifting rope/chain. The HAZ Series pumps are provided with a suction strainer to prevent large solids from clogging the impeller. Any spherical solids which pass through the strainer should pass through the pump.
- For maximum pumping capacity, use the proper size non-collapsible hose or rigid piping. A check valve may be installed after the discharge to prevent back flow when the pump is shut off.

PUMP ROTATION

Two ways to check the correct pump rotation:

1. By looking at the impeller; the rotation of the impeller should be counter clockwise as shown in the picture below.



2. By looking from the top of the pump. Since the impeller cannot be seen, the best way to check the rotation is to check the kick back motion of the pump when the pump just starts. The kick back motion of the pump should be counter clockwise as shown in the picture below.



PUMP OPERATION

⚠ WARNING

This pump is designed to handle dirty water that contains some solids. It is not designed to pump volatile or flammable liquids. Do not attempt to pump any liquids which may damage the pump or endanger personnel as a result of pump failure.

⚠ DANGER

Do not operate this pump where explosive vapors or flammable material exist. Death or Serious injury will result.

TYPICAL MANUAL DEWATERING INSTALLATION

NOTE: Maximum recommended starts should not exceed 10 times per hour.

MANUAL OPERATION

All HAZ models are provided with a 50' (10m) power cord. NEVER splice the power cable due to safety and warranty considerations. Always keep the control connection end of cable dry.

Note: 230V & 460V three phase units do not have a plug and have are to be wired into a MSHA approved control box/panel.

⚠ WARNING

Do not alter the length or repair any power cable with a splice. The pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

For manual operation: 230 & 460 volt: Connect directly to an MSHA approved control box. Check the direction of the rotation. Tilt the pump and start it. It should twist in the opposite direction of the arrow (on pump). It is recommended that a Ground Fault Interrupter (GFI) type circuit (or equivalent) be used.

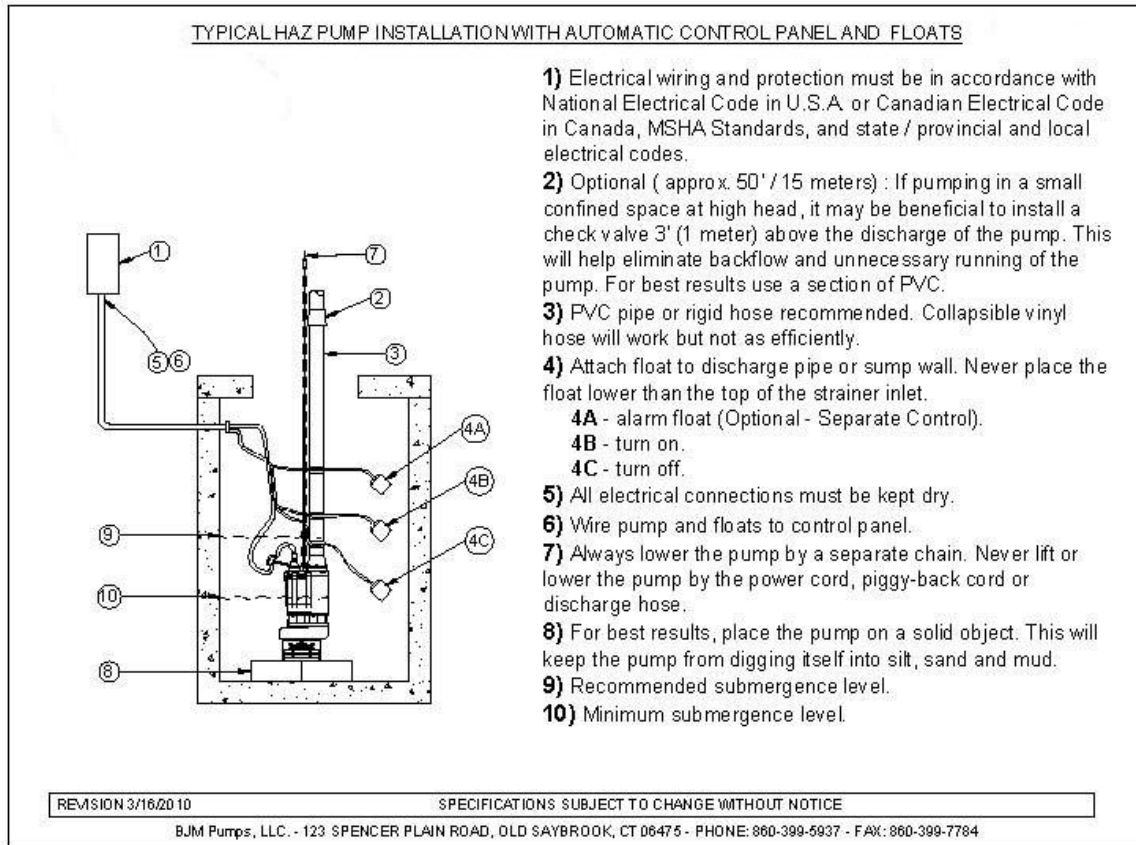
STOPPING

To stop the pump (manual and automatic model), turn off the breaker or the power disconnect.

TYPICAL AUTOMATIC DEWATERING INSTALLATION

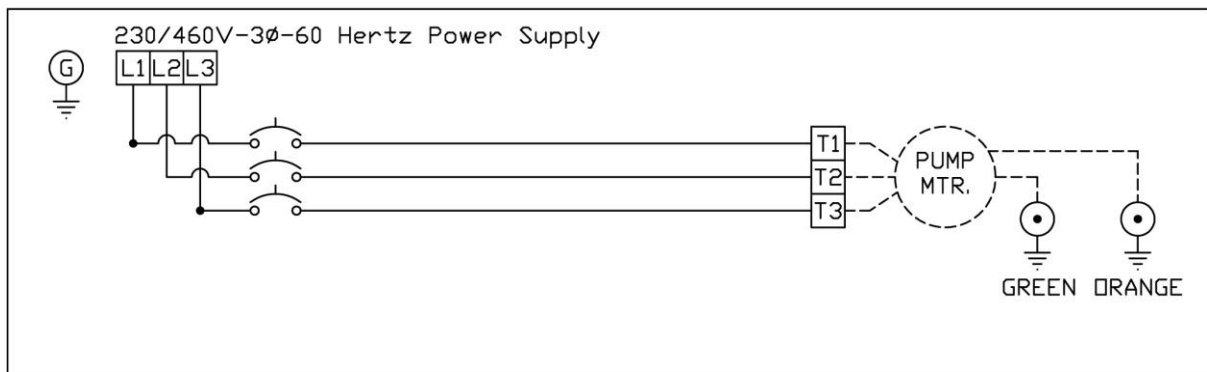
NOTE: Maximum recommended starts should not exceed 10 times per hour.

The HAZ Series are three phase pumps and need a separate control box with float(s) for automatic operation.



STOPPING

To stop the pump (manual and automatic mode), turn off the breaker or the power disconnect.



INTENDED METHODS OF CONNECTION

⚠ CAUTION Use with approved MSHA motor control that matches motor input in full load amperes. “UTILISER UN DÉMARREUR APPROUVÉ CONVÉNANT AU COURANT À PLEINE CHARGE DU MOTEUR.”

BJM Pumps® submersible pumps have been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.

THREE PHASE WIRING INSTRUCTION

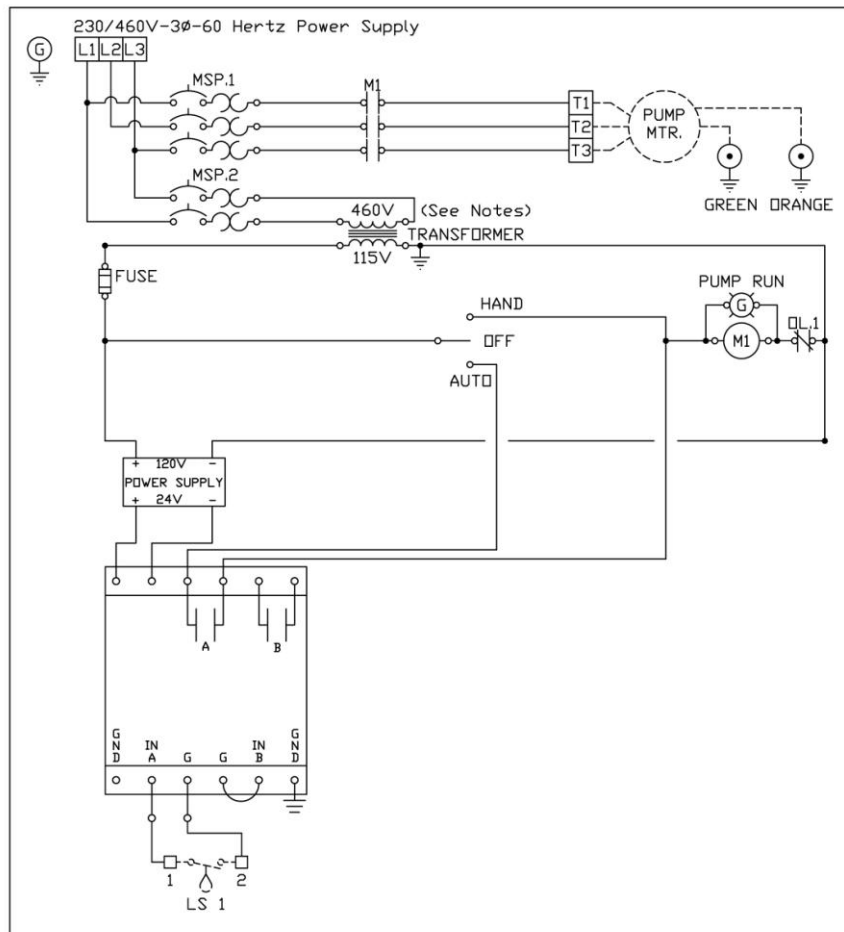
⚠ WARNING **FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING.**

⚠ WARNING **“Risk of electrical shock”** Do not remove power supply cord and strain relief or connect conduit directly to the pump.

⚠ WARNING Installation and checking of electrical circuits and hardware should be performed by a qualified licensed electrician. See the attached drawing HAZASSY1 for further electrical connection information.

To operate a manual three phase pump, a BJM Pumps® MSHA approved control panel is required.

For automatic three phase pumps a BJM Pumps® MSHA approved control is required. Typical three phase automatic wiring diagram shown below.



Typical 3 phase Auto Control 1

Before installing a pump, make sure both of the ground leads and the power leads have been connected properly per MSHA requirements. Once the power connections have been confirmed, then check the pump rotation. Momentarily energize the pump, observing the directions of kick back due to starting torque. Rotation is correct if kick back is in the opposite direction of the arrow on the pump casing. If rotation is not correct, switching of any two power leads other than ground will provide the proper rotation.

Three phase pumps have integral motor overload protection. It is recommended that all three phase pumps using a motor starting device also incorporate motor overload protection. Pumps **must** be installed in accordance with the MSHA and the National Electrical Code requirements as well as all applicable local codes and ordinances. The HAZ Series pumps are designed for hazardous mine applications only and are not to be installed in locations classified as hazardous in accordance with National Electrical Code, ANSI/NFPA 70.

Connect pump to control box/panel that is MSHA approved for the application. The provision for supply connection shall reduce the risk of water entry during temporary, limited submersion.

TROUBLE SHOOTING



Disconnect the power source to the pump BEFORE attempting any type of trouble shooting, service or repair.

PUMP WILL NOT RUN

1. Check power supply (fuses, breaker). Reset power.
2. Blocked impeller. Remove strainer, check and clean.
3. Defective cable or incorrect wiring.
4. Strainer clogged. Check and clean as necessary.
5. Float switch tangled/obstructed. Clean and free float switch from obstruction.
6. Float switch defective. Replace float switch.
7. Pump overheated or temperature of liquid exceeds pump operating temperature.

Warning: Pump will restart automatically when motor over-heat protection switch cools; Power must be disconnected prior to all servicing!

PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY

1. Discharge line clogged, restricted or hose kinked. Check discharge hose/pipe.
2. Worn impeller and/or suction cover. Inspect and replace as necessary.
3. Pump overloaded due to liquid pumped being too thick.
4. Pumping air. Check liquid level and position of pump.
5. Excessive voltage drops due to long cables.
6. Three phase only; pump running backwards, check rotation.

SERVICING YOUR SUBMERSIBLE PUMP

Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.

To service or repair your pump, please contact your local **BJM Pumps®** distributor. Service should only be performed by a qualified electrician.

MAINTAINING YOUR PUMP

- Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.
- Pump should be inspected at regular intervals.
- More frequent inspections are required if the pump is used in a harsh environment.
- Preventative maintenance should be performed to reduce the chance of premature failure.
- Worn impellers and lip seals should be replaced.
- Cut or cracked power cords must be replaced. **(Never operate a pump with a cut, cracked or damaged power cord.)**
- Seal oil should be checked once per year.
- Maintenance should always be done when taking a pump out of service before storage.
 - 1) Clean pump of dirt and other build up.
 - 2) Check condition of oil around the shaft seals.
 - 3) Check hydraulic parts: check for wear.
 - 4) Inspect power cable. Make sure that it is free of nicks or cuts.
 - 5)

CHANGING SEAL OIL

Changing the seal oil in the HAZ Series pumps is very easy.

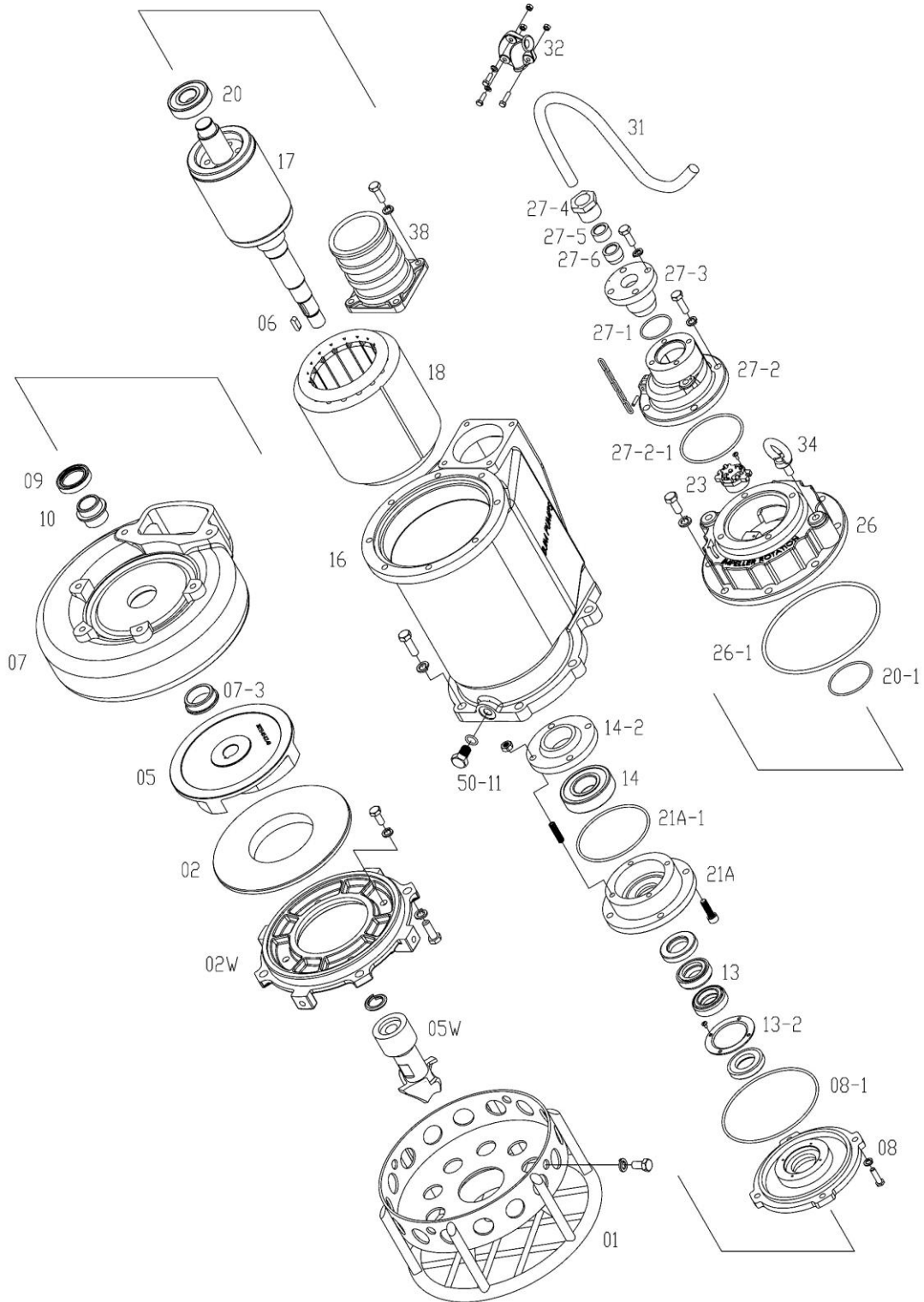
- 1) Make sure that the pump cable is disconnected from the power source.
- 2) Lay the pump down on its side.
- 3) Remove the screws that hold the bottom plate in place.
- 4) Remove bottom plate.
- 5) Remove screws holding the suction cover.
- 6) Remove the suction cover.
- 7) Remove the impeller.
- 8) Remove the inspection screw for the oil chamber (pos#50-08). Pour out a small sample of the oil. If it is milky white, or contains water, then the oil and possible, the mechanical seal, should be changed. If an oil change is needed:
- 9) Remove the screws that hold the oil chamber cover in place & remove the oil.
- 10) Replace the mechanical seal if necessary.
- 11) Replace the oil.
- 12) Assemble the pump.

CHANGING SEALS*

- 1) Make sure that the pump cable is disconnected from the power source.
- 2) Lay the pump down on its side.
- 3) Remove the oil inspection bolt (pos#50-11) from the oil seal chamber.
- 4) Drain out all the inside the oil seal chamber.
- 5) Remove the bolts holding the stand.
- 6) Remove the stand.
- 7) Remove the bolts holding the suction cover.
- 8) Remove the suction cover.
- 9) Remove the agitator.
- 10) Remove the impeller, impeller key and shims.
- 11) Remove the bolts holding the pump housing.
- 12) Remove the pump housing.
- 13) Remove the shaft sleeve. Note the shaft sleeve direction.
- 14) Remove the bolts holding the oil cover.
- 15) Remove the oil cover.
- 16) Remove the screws holding the seal retainer.
- 17) Remove the seal retainer.
- 18) Remove the mechanical seal.
- 19) Replace the mechanical seal, lip seal and o-rings.
- 20) Assemble the pump.
- 21) Fill with recommended new oil.
- 22) Replace the oil inspection bolt o-ring.
- 23) Secure the oil inspection bolt.

*Note: If there is excessive liquid found in the oil or mechanical seal damaged, please contact **BJM Pumps®** authorized service centers.

EXPLODED VIEW OF HAZ37, 55, 55CH, 75



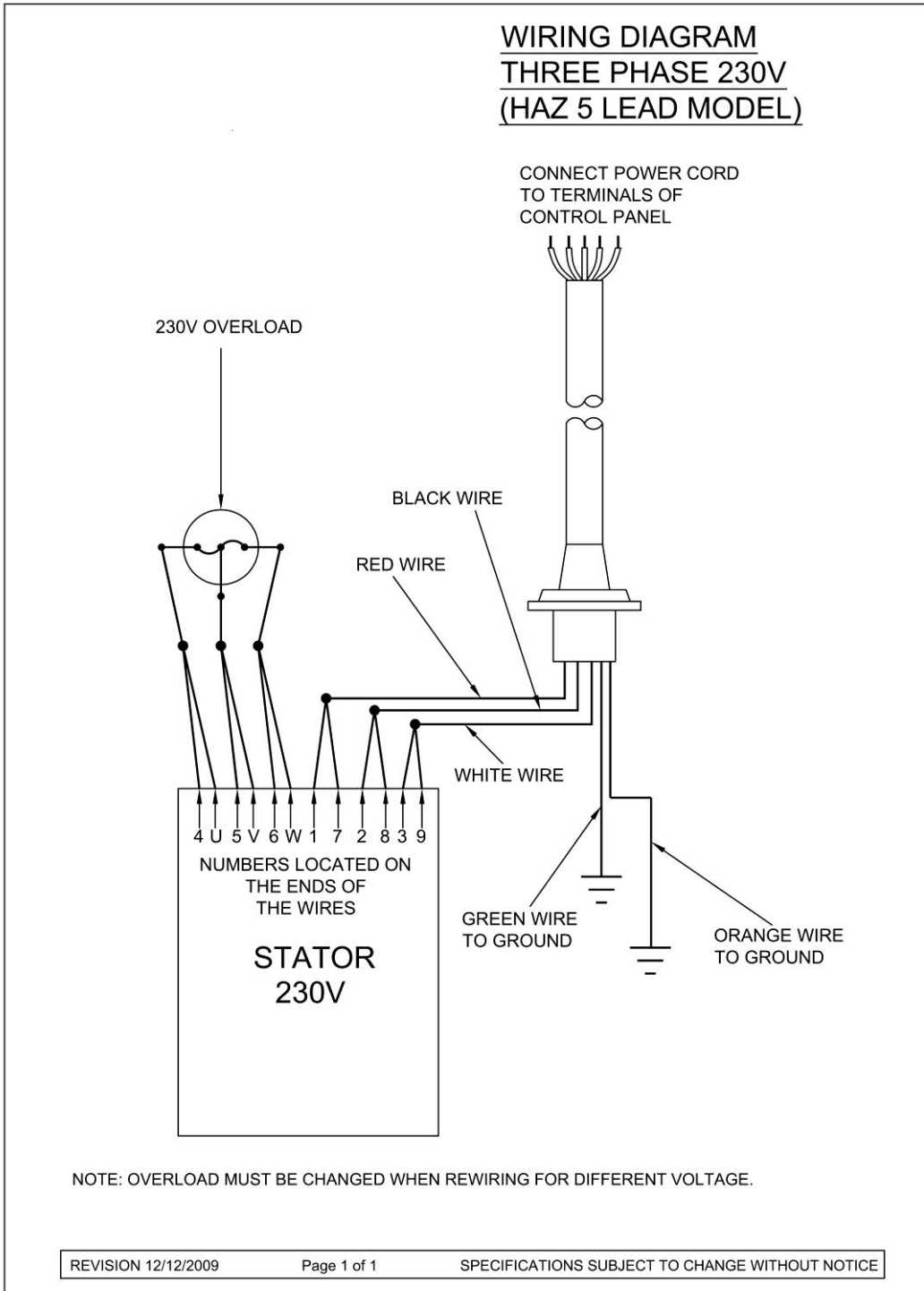
HAZ SERIES PARTS LIST

	Pump Model	HAZ37	HAZ55	HAZ55CH	HAZ75
Pos. No.	Part Description	Item #	Item #	Item #	Item #
01N-01	Stand w/ Strainer Plate	201982	201982	201983	201982
02	Wear Plate	202018	202018	202019	202018
02W	Suction Cover	202869	202869	202870	202873
04	Lock Washer	202917	202917	202917	202917
05	Impeller	202976	202977	202979	202980
05W	Agitator	202983	202983	202983	202983
06	Impeller Key	202146	202146	202146	202146
07	Pump Housing	202191	202191	203026	202191
07-3	Pump Housing Sleeve	202182	202182	202182	202182
08	Oil Chamber Cover	202225	202225	202225	202225
08 -1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
09	Lip Seal Buna N	202248	202248	202248	202248
10	Shaft Sleeve	203071	203071	203071	203071
13	Mech. Seal Set - FKM**	200419	200419	200419	200419
13-2	Mech. Seal Retainer	202271	202271	202271	202271
14	Lower Ball Bearing	200963	200963	200963	200963
14-2	Lower Bearing Retainer	202280	202280	202280	202280
16	Motor Housing.	203084	203084	203084	203085
17	Rotor w/ Shaft, 3 phase	203108	203109	203109	203110
18	Stator 230V/460V 3 phase	200681	200683	200683	200685
20	Upper Ball Bearing	200968	200968	200968	200968
20-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
20-2	Spring Washer	202361	202361	202361	202361
21A	Lower Bearing Housing	202378	202378	202378	202378
21A-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
23	Overload 230V, 3PH	202392	202394	202394	202396
23	Overload 460V, 3PH	202391	202393	202393	202394
26	Pump Top Cover	202447	202447	202447	202447
26-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
27	Power Cord Set (5 lead)	203144	203144	203144	203144
27-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
27-2	Power Cord Housing	202491	202491	202491	202491
27-2-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
27-3	Cable Stuffing Box	202486	202486	202486	202486
27-3-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
27-4	Cable Gland, AWG 10 Power Cord	203146	203146	203146	203146
27-5	Bushing, Cable Gland, AWG 10	202451	202451	202451	202451

27-6	Bolt - Suction Cover	203147	203147	203147	203147
27-7	Dead End Conector	202488	202488	202488	202488
31	Power Cord Cable	202749	202749	202749	202749
32	Power Cable Strain Relief Holder	202501	202501	202501	202501
34	Lift Ring	203172	203172	203172	203172
38	3" NPT Male Coupling Flange	202583	202583	202583	-
38	4" NPT Male Coupling Flange	202585	202585	202585	202585
38B	3" Hose Barb Fitting	202584	202584	202584	-
38B	4" Hose Barb Fitting	202586	202586	202586	202586
50-01N	Bolt - Stand	203258	203258	203258	203258
50-02	Bolt - Wear Plate	203253	203253	203253	203253
50-02W	Bolt - Suction Cover	203236	203236	203236	203236
50-07	Bolt - Pump Housing	203271	203271	203271	203271
50-08	Bolt - Oil Chamber Cover	202698	202698	202698	202698
50-08-1	Lock Washer, Oil Chamber	202902	202902	202902	202902
50-11	Bolt - Oil Inspection	203268	203268	203268	203268
50-11-1	O-Ring (Kit Only)	Kit	Kit	Kit	Kit
50-13-2	Screw - Seal Retainer	203214	203214	203214	203214
50-14-2	Bolt - Bearing Retainer	202711	202711	202711	202711
50-14-2-1	Lock Washer, Bearing Retainer	202909	202909	202909	202909
50-21A	Bolt - Bearing Housing	202711	202711	202711	202711
50-21A-1	Lock Washer, Bearing Housing	202909	202909	202909	202909
50-23	Bolt - Overload Protector	202700	202700	202700	202700
50-26	Bolt-Top Cover	202712	202712	202712	202712
50-26-1	Lock Washer, Top Cover	202905	202905	202905	202905
50-27	Bolt - Power Cord	202711	202711	202711	202711
50-27-1	Lock Washer, Cable Stuffing Box	202909	202909	202909	202909
50-27-2	Hex Bolt, Power Cord Housing	202697	202697	202697	202697
50-27-2-1	Lock Washer, Power Cord Housing	202909	202909	202909	202909
50-27-2-2	Hex Head Pipe Plug,	202708	202708	202708	202708
50-27-2-3	Set Screw	202709	202709	202709	202709
50-27-2-4	Lock Wire	203159	203159	203159	203159
50-32-1	Bolt- Cable Strain Relief	203256	203256	203256	203256
50-32-2	Bolt- Cable Strain Relief	203246	203246	203246	203246
50-32-3	Nut, Cable Strain Relief	202889	202889	202889	202889
50-32-4	Flat Washer Cable Strain Relief	202049	202049	202049	202049
50-32-5	Chain, Cable Strain Relief	202502	202502	202502	202502
50-32-6	Pin, Cable Strain Relief	202503	202503	202503	202503
50-38	Bolt - Discharge Flange	203262	203262	203262	203262
O-Ring Kit - Buna N		203205	203205	203205	203205

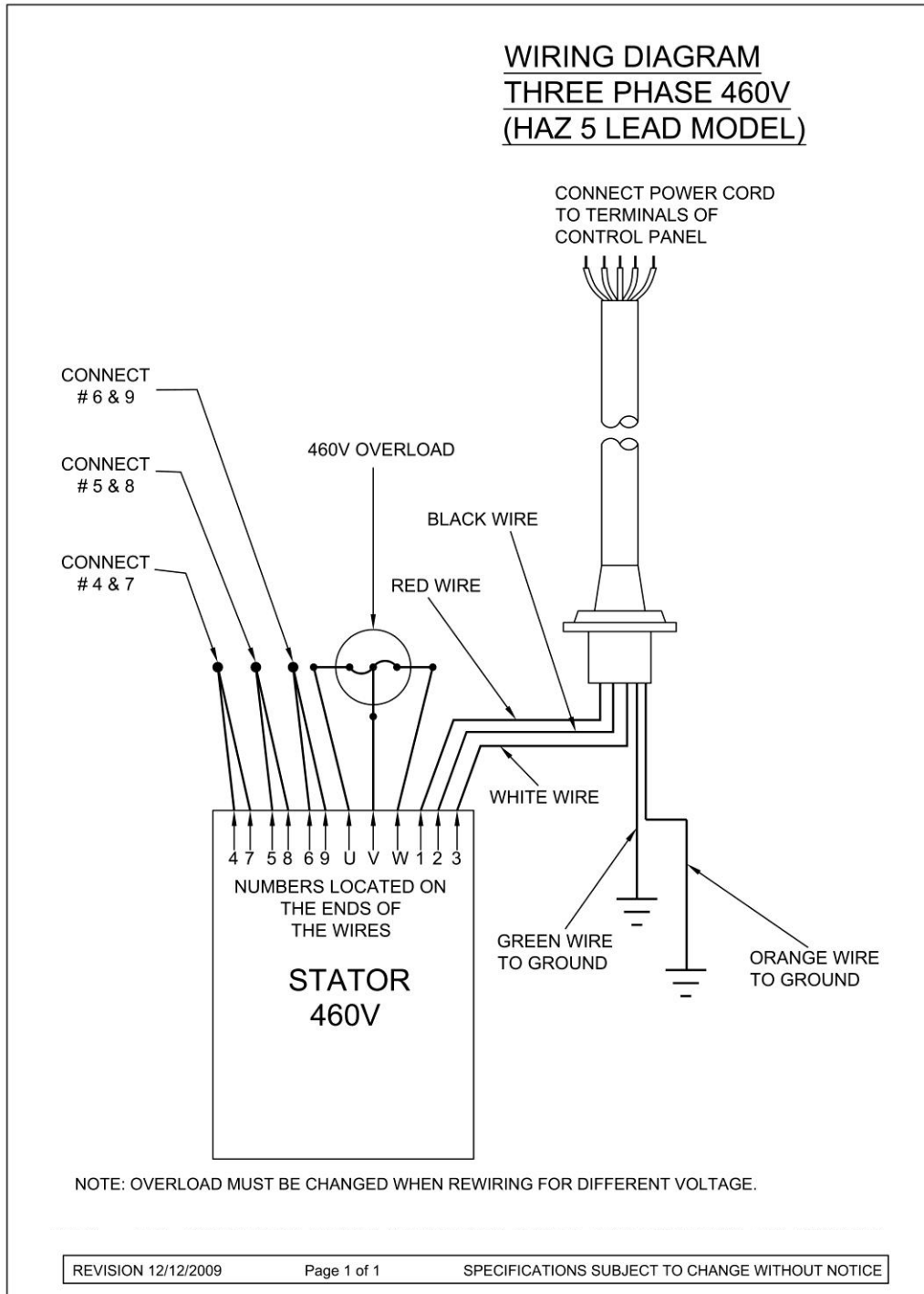
THREE PHASE WIRING DIAGRAMS

230V (5 LEAD)



MODELS HAZ37, 55, 55CH, 75

460V (5 LEAD)



MODELS HAZ37, 55, 55CH, 75

BJM PUMPS®, LLC



104 John W Murphy Drive
New Haven, CT 06513, USA

WARRANTY AND LIMITATION OF LIABILITY

Unless otherwise expressly authorized in writing, specifying a longer or shorter period, BJM Pumps® warrants for a period of eighteen (18) months from the date of shipment from the Point of Shipment, or one (1) year from the date of installation, whichever occurs first, that all products or parts thereof furnished by BJM Pumps® under the brand name **BJM Pumps®**, hereinafter referred to as the "Product" are free from defects in materials and workmanship and conform to the applicable specification.

BJM Pumps® liability for any breach of this warranty shall be limited solely to replacement or repair, at the sole option of BJM Pumps® of any part or parts of the Product found to be defective during the warranty period, provided the Product is properly installed and is being used as originally intended. Any breach of this warranty must be reported to BJM Pumps® or Industrial Flow Solutions' authorized service representative within the aforementioned warranty period, and defective Product or parts thereof must be shipped to BJM Pumps® or an Industrial Flow Solutions Operating, LLC authorized representative, transportation charges prepaid. Any cost associated with removal or installation of a defective Product or part is excluded.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF BJM PUMPS® DISTRIBUTORS AND CUSTOMERS. UNDER NO CIRCUMSTANCES SHALL BJM PUMPS® BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES OR CONSEQUENTIAL DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE DESIGN, MANUFACTURE, SALE, USE OR REPAIR OF THE PRODUCT, WHETHER BASED ON WARRANTY, CONTRACT, NEGLIGENCE, OR STRICT LIABILITY. IN NO EVENT WILL LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

THE WARRANTY AND LIMITS OF LIABILITY CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY BJM PUMPS, LLC AND EXCLUDED FROM THIS WARRANTY.

Industrial Flow Solutions Operating, LLC neither assumes, nor authorizes any person to assume for it, any other warranty obligation in connection with the sale of the product. This warranty shall not apply to any Product or parts of Product which have (a) been repaired or altered outside of Industrial Flow Solutions Operating, LLC facilities unless such repair was authorized in advance by BJM Pumps® or by its authorized representative; or (b) have been subject to misuse, negligence or accident; or (c) have been used in a manner contrary to BJM Pumps® instruction.

In any case of products not manufactured and sold under the Industrial Flow Solutions Operating, LLC brand name, there is no warranty from BJM Pumps®, however Industrial Flow Solutions Operating, LLC will extend any warranty received from Industrial Flow Solutions Operating, LLC supplier of such products.

START-UP REPORT FORM

START-UP REPORT FORM

This form is designed to record the initial installation, and to serve as a guide for troubleshooting at a later date (if needed).

Industrial Flow Solutions
104 John W Murphy Drive
New Haven, CT 06513

Pump Owner's Name			
Location of Installation			
Person in Charge			Phone()
Purchased From			
Model		Serial No	
Voltage	Phase	Hertz	HP
Does impeller turn freely by hand?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Condition of Equipment	<input type="checkbox"/> New <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		
Condition of Cable Jacket	<input type="checkbox"/> New <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		
Rotation: Direction of Impeller Rotation (Use C/W for clockwise, CC/W for counterclockwise):			

Method used to check rotation (viewed from bottom) _____			
Resistance of cable and Pump Motor (measured at pump control)			
Red-Black_____ ohms	Red-White_____ ohms	White-Black____ohms	
Resistance of ground circuit between control panel and outside of pumps			
_____ Ohms			
MEG OHM CHECK OF INSULATION			
Red to ground_____ White to ground_____ Black to ground_____			
Condition of location at start-up	<input type="checkbox"/> Dry <input type="checkbox"/> Wet <input type="checkbox"/> Muddy		
Was equipment stored	<input type="checkbox"/> Yes <input type="checkbox"/> No.		
If YES, length of storage:			
Liquid being pump			
Debris in bottom of station?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Was debris removed in your	<input type="checkbox"/> Yes <input type="checkbox"/> No		

START-UP REPORT FORM

presence?		
Are guide rails exactly vertical?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is base elbow installed level?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Liquid level controls: Model _____		
Is control installed away from turbulence?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Operation Check		
Tip lowest float (stop float), all pumps should remain off. Tip second float (and stop float), one pump comes on. Tip third float (and stop float), both pumps on (alarm on simplex). Tip fourth float (and stop float), high level alarm on (omit on simplex).		
If not on levels controls, describe type of controls		
Does liquid level ever drop below volute top?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Control Panel MFG & model no.		
Number of pumps operated by control panel		
NOTE: At no time should hole be made in top of control panel, unless proper sealing devices are utilized.		
Short Circuit protection:	Type:	
Number and size of short circuit device(s)	Amp rating:	
Overload type:	Size:	Amp rating:
Do protective devices comply with pump motor amp rating?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Are all pump connections tight?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the interior of the panel dry?	<input type="checkbox"/> Yes	<input type="checkbox"/> No If No, correct moisture problem.
Electrical readings		
SINGLE PHASE		
Voltage supply at panel line connection, pump off	L1	L2
Voltage supply at panel line connection, pump on	L1	L2
Amperage load connection, pump on	L1	L2
THREE PHASE		
Voltage supply at panel line connection, pump off		
L1-L2	L2-L3	L3-L1

START-UP REPORT FORM

Voltage supply at panel line connection, pump on		
L1-L2	L2-L3	L3-L1
Amperage load connection, pump on		
L1	L2	L3
FINAL CHECK		
Is pump secured properly?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Was pump checked for leaks?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do check valves operate properly?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Flow: Does station appear to operate at proper rate?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Noise level:	Acceptable <input type="checkbox"/>	Unacceptable <input type="checkbox"/>
Comments:		
Describe and equipment difficulties during start-up		
Installed by: Company: _____ Person: _____ Date: _____		
Maintained by: Company: _____ Person: _____		
Date and time of start-up _____ Present at start-up: () Engineer's name _____ () Contractor's name _____ () Operator's name _____ () others _____		

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