



INSTALLATION, OPERATION & MAINTENANCE MANUAL

XP-SKX SERIES - (PUMP END ONLY) EXPLOSION PROOF SUBMERSIBLE SHREDDER PUMPS (CLASS 1, DIVISION 1, GROUPS C&D): FM APPROVED

Three Phase
208V, 230V, 460V & 575V

CAST IRON MOTOR WITH CAST 316SS WET END

THREE PHASE

XP-SKX15CSS
XP-SKX22CSS
XP-SKX37CSS

XP-SKX55CSS
XP-SKX75CSS
XP-SKX110CSS
XP-SKX150CSS

The first half of this manual covers the PUMP END (also called wet end) and general pump operation.

The second half of this manual covers the XP-SK Series motor.

***** See the EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation & Maintenance on the EMQY Series submersible motors.**

Read both sections of 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

INTRODUCTION.....	4
SAFETY.....	5
INSPECTION.....	5
PRE-INSTALLATION INSPECTION.....	6
PUMP INSTALLATION.....	6
POSITIONING THE PUMP.....	6
WIRING INSTRUCTIONS.....	7
PUMP ROTATION.....	7
PUMP OPERATION.....	8
STOPPING.....	9
TROUBLE SHOOTING.....	9
PUMP WILL NOT RUN.....	9
PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY.....	9
SERVICING YOUR SUBMERSIBLE PUMP.....	9
MAINTAINING YOUR PUMP.....	9
CHANGING SEAL OIL.....	10
EXPLODED VIEW OF XP-SKX15CSS (2HP).....	11
BJM WET END ASSEMBLY FOR EIM FM MOTOR.....	11
EXPLODED VIEW OF XP-SKX22CSS, XP-SKX37CSS (3 & 5HP).....	12
BJM WET END ASSEMBLY FOR EIM FM MOTOR.....	12
EXPLODED VIEW OF XP-SKX55CSS, XP-SKX75CSS.....	13
BJM WET END ASSEMBLY FOR EIM FM MOTOR.....	13
EXPLODED VIEW OF XP-SK110C, XP-SKX150CSS.....	14
BJM WET END ASSEMBLY FOR EIM FM MOTOR.....	14
XP-SKX SERIES PARTS LIST.....	15
XP-SKX DIMENSIONAL DRAWING.....	16
SEAL MINDER® - THERMAL MOTOR SENSOR SWITCH.....	17
WARRANTY AND LIMITATION OF LIABILITY.....	20
START-UP REPORT FORM.....	21
NOTES:.....	24
EIM MANUAL FOR EMQY SUBMERSIBLE MOTORS.....	27

INTRODUCTION

This Installation, Operation and Maintenance manual located in the front half of this manual only covers the pump end (wet end) of the XP-SKX Series pumps.

Refer to EIM ELECTRIC CO., LTD Instruction Manual located in the second half of this manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

This manual provides important information on safety and the proper inspection; disassembly, assembly and testing of the BJM Pumps® SK Series Wet End attached to EIM Electric Co., LTD. EMQY Series Explosion Proof Submersible Motors. This manual also contains information to optimize performance and longevity of your **BJM Pumps®** submersible pump end.

The submersible XP-SKX Series pumps are designed to pump water with some solids. The pump motor housing is made of cast iron with a special industrial epoxy coating, and the pump wet end is made of cast 316SS. Consult chemical resistance chart for compatibility between pump materials and liquid before operating pump.

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

Note: All service work on the FM Approved motor by EIM Electric Co., needs to be done by an FM Approved repair facility.


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

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

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.

 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.

⚠ WARNING Before attempting to open or service the pump:

- 1) Familiarize yourself with this manual & the EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the EMQY Series FM approved submersible pump motor.
- 2) Disconnect the pump power cable to ensure that the pump will remain inoperative.
- 3) Allow the pump to cool if overheated.

⚠ 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.

⚠ 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.

**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.

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 cord (and Seal Leak Detector cord, 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.

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.

PUMP INSTALLATION

The Shredder pumps (2 HP) are not designed to pump unscreened solids which could contain matter such as bunched paper towels, feminine napkins, tampon applicators, etc. This type of debris can clog the pump & prevent it from operating properly. The **BJM Pumps** Shredder Pumps (7 ½ HP and larger) are designed to handle unscreened sewage.

POSITIONING THE PUMP

BJM Pumps, XP-SKX Series pumps are designed to operate fully or partially submerged. Avoid running the pump dry for extended periods of time. Refer to data sheet for minimum submersion depth for your particular model. Data sheets can be obtained online at www.bjmpumps.com or by calling BJM Pumps, LLC at 860-399-5937. For minimum submergence requirements, refer to EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

⚠ 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.
- 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 (recommended if static head is 30' or greater).
- Take stand off of pump when using slide rail. Keep stand and reattach when transporting or handling the pump.

WIRING INSTRUCTIONS

Electrical wiring and protection must be in accordance with the National Electrical Code per NEC articles 500 through 503 for installation in Class I, Division 1, Group C & D Hazardous Locations, and any other applicable state and local electrical requirements.

For motor specifications, motor technical data, design features, power supply, electrical wiring, operation, inspecting & maintenance, replacing shaft seals, replacing cables, replacing bearings and other parts, repairing, storing and troubleshooting the submersible electric motor, refer to EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

Note: All service work on the FM approved motor by EIM Electric Co., needs to be done by an FM Approved repair facility.

The XP-SKX Series motors have a separate sensor cable for the motor thermal sensors and Seal Minder®. See [Seal Minder® - Thermal Motor Sensor Switch section](#) in this manual for proper connection method

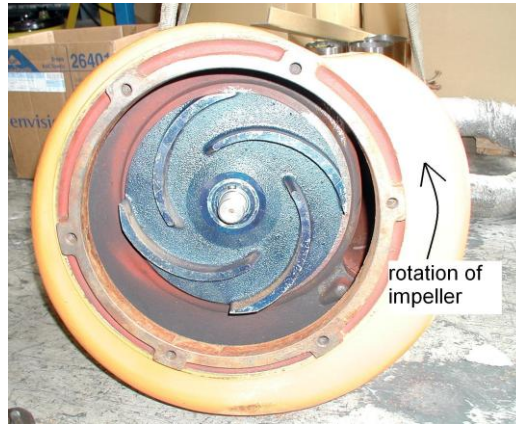
PUMP ROTATION**⚠ DANGER**

DO NOT PLACE HANDS IN PUMP SUCTION WHILE CHECKING MOTOR ROTATION. TO DO SO WILL CAUSE SEVERE PERSONAL INJURY.

Before installing a pump, check the pump rotation to insure that wiring has been connected properly to power source, and that the green lead of power cord (See wiring diagram), is connected to a valid ground, 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 rotation arrow on the pump casing. If rotation is not correct, switching of any two power leads other than ground will provide the proper 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. Do not attempt to pump any liquids which may damage the pump or endanger personnel as a result of pump failure.

Consult EIM ELELCTRIC Co., LTD. Instruction Manual for Installation, Operation and Maintenance before connecting, operating or conducting maintenance on the Explosion Proof Submersible Motor.

STOPPING

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

TROUBLE SHOOTING



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

PUMP WILL NOT RUN

Refer to EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

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. 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.

Service on submersible electric motor should only be performed by a qualified electrician. Refer to EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

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.



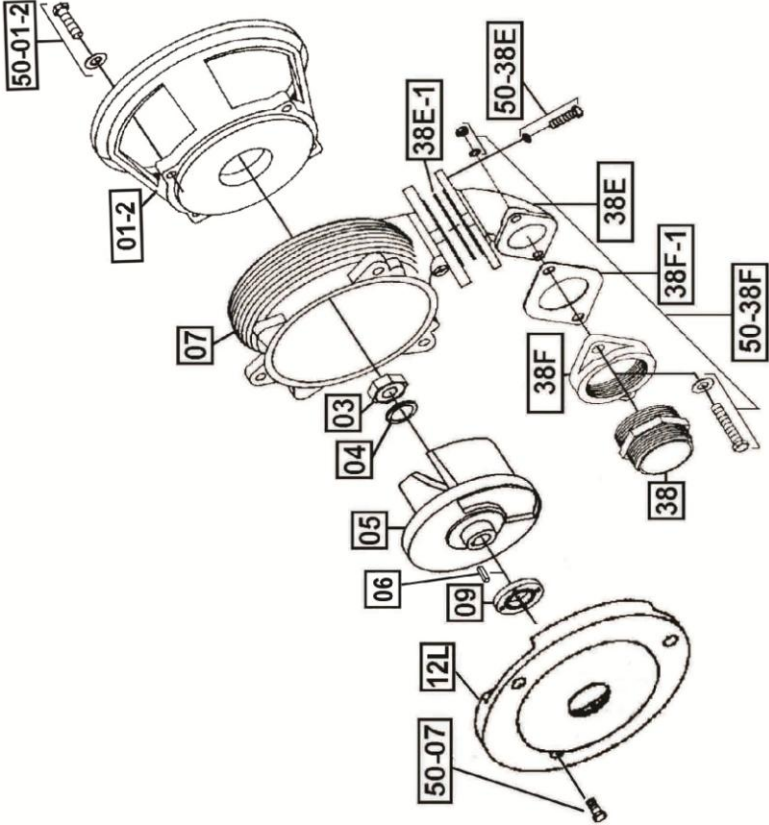
- Cut or cracked power cords must be replaced. **(Never operate a pump with a cut, cracked or damaged power cord.)**
- Maintenance should always be done when taking a pump out of service before storage.
- The impeller to suction cover clearance should be adjusted to between 0.01” to 0.02” for optimal cutting of the shredder. Shim kits are available if adjustment is required.
 - 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.

CHANGING SEAL OIL

Refer to EIM ELECTRIC CO., LTD Instruction Manual for Installation, Operation and Maintenance for the Explosion Proof Submersible Motors (EMQY Series; FM Approved for Class I, Division 1, Group C & D).

EXPLODED VIEW OF XP-SKX15CSS (2HP)

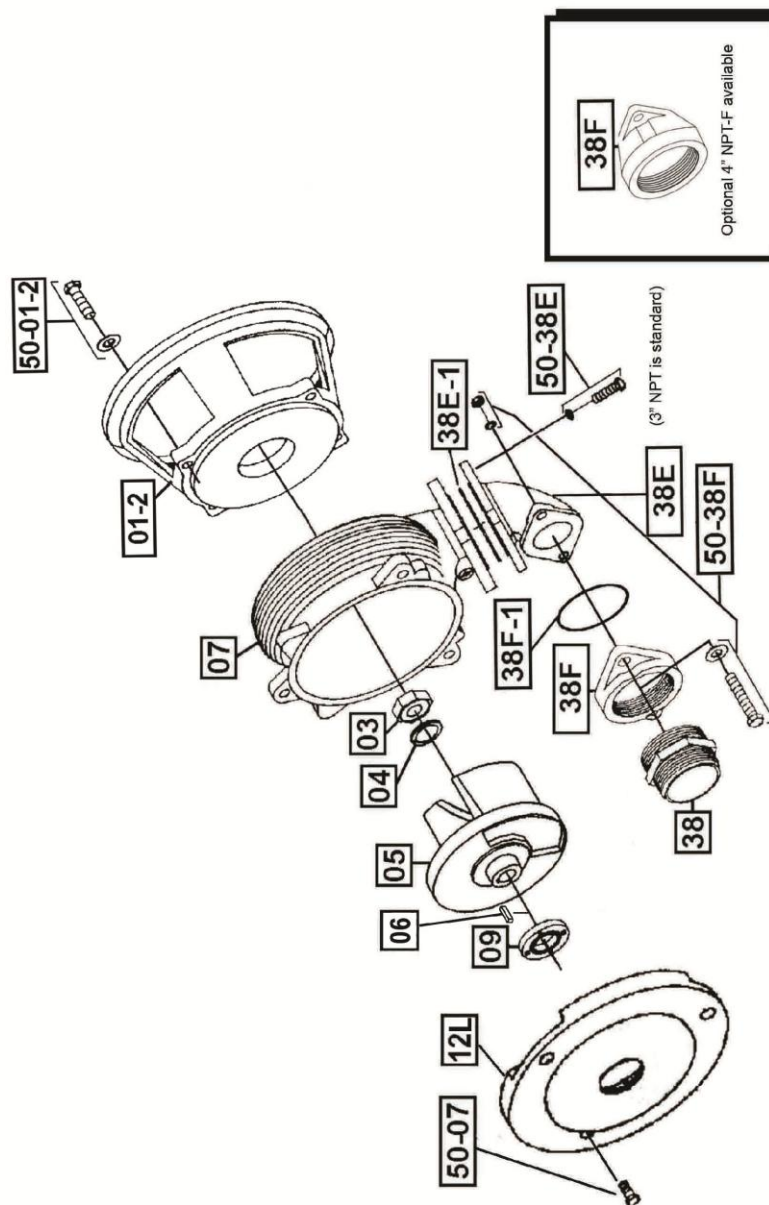
BJM STAINLESS STEEL WET END ASSEMBLY FOR EIM FM MOTOR



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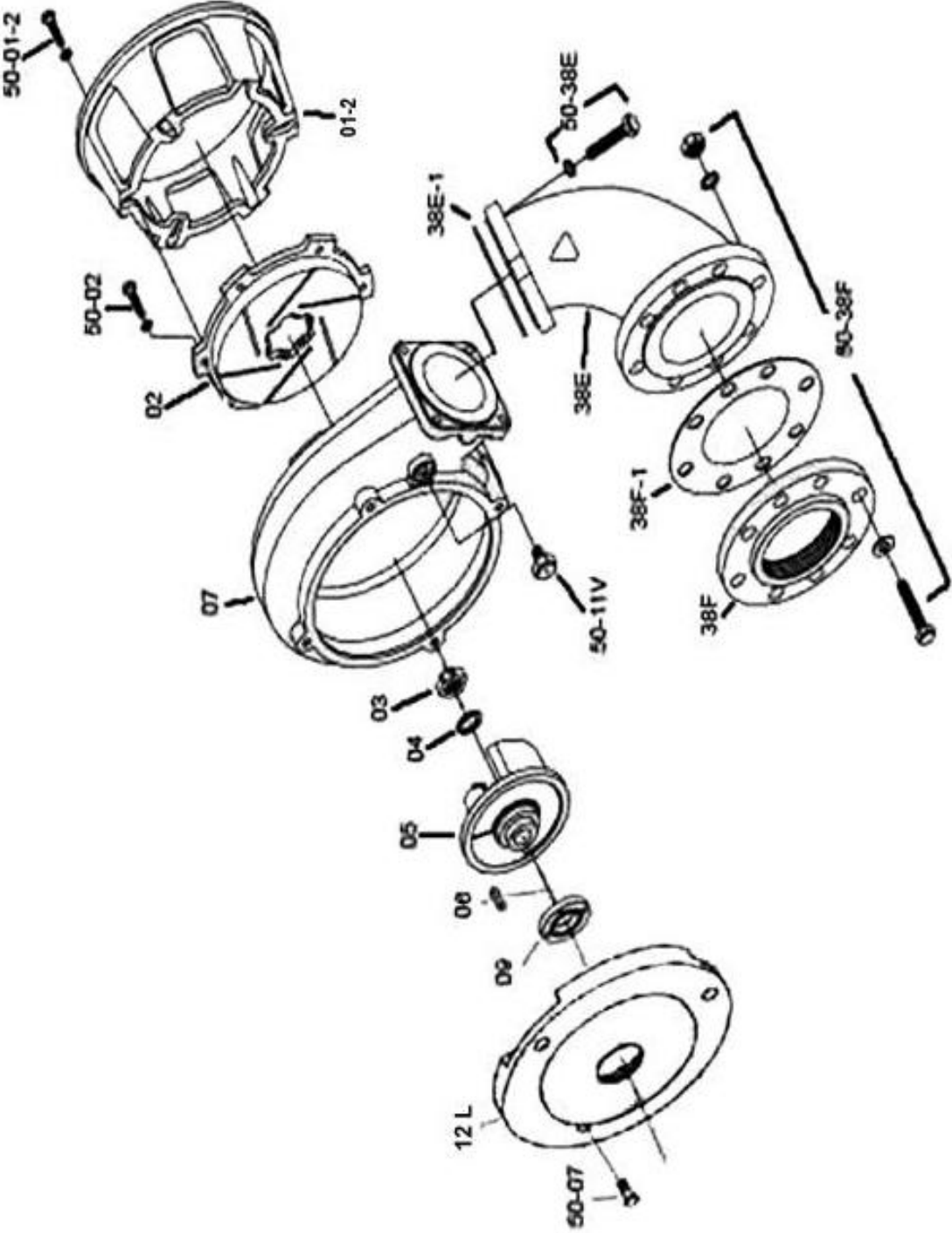
EXPLODED VIEW OF XP-SKX22CSS, XP-SKX37CSS (3 & 5HP)

BJM STAINLESS STEEL WET END ASSEMBLY FOR EIM FM MOTOR



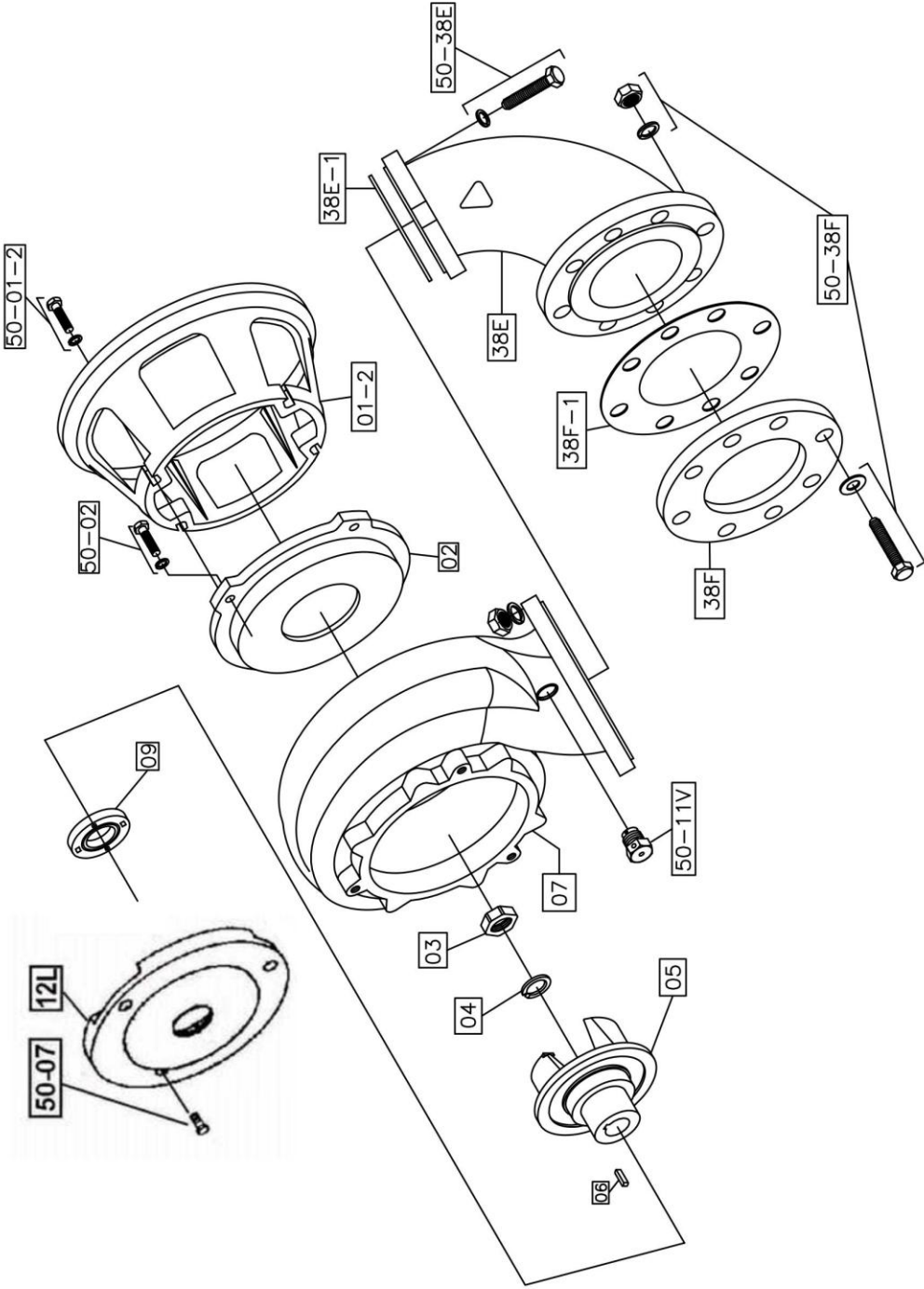
EXPLODED VIEW OF XP-SKX55CSS, XP-SKX75CSS

BJM STAINLESS STEEL WET END ASSEMBLY FOR EIM FM MOTOR



EXPLODED VIEW OF XP-SKX110CSS, XP-SKX150CSS

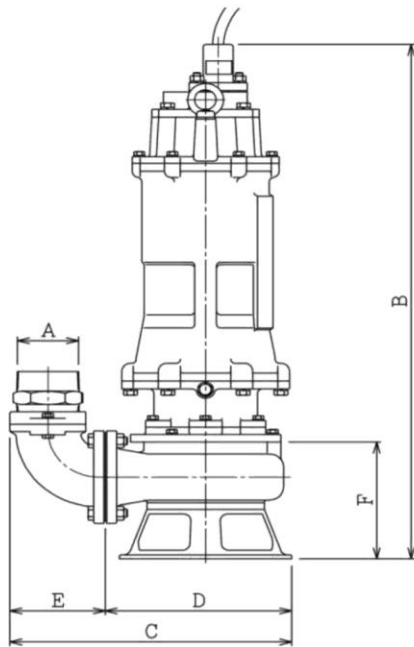
BJM STAINLESS STEEL WET END ASSEMBLY FOR EIM FM MOTOR



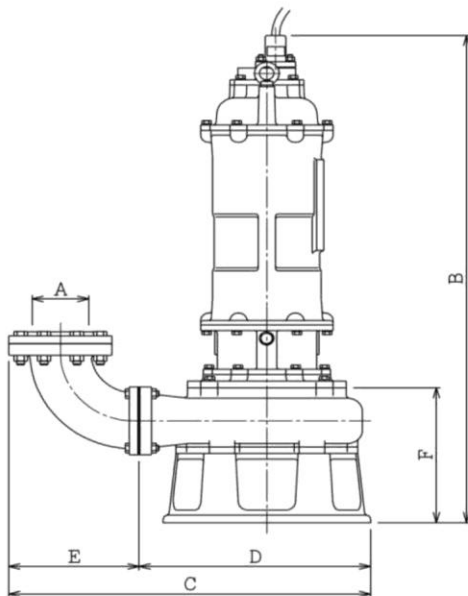
XP-SKX PARTS LIST

	Pump Model	XP-SKX15CSS	XP-SKX22CSS	XP-SKX37CSS	XP-SKX55CSS	XP-SKX75CSS	XP-SKX110CSS	XP-SKX150CSS
Pos. No.	Part Description	Item #	Item #	Item #	Item #	Item #	Item #	Item #
01-2	Stand Only	201995	201989	201994	201999	201999	202001	202001
02	Suction Cover	-	-	-	202881	202881	202040	202040
03	Impeller Nut	202894	202894	202894	202897	202897	202897	202897
3	Upper Ball Bearing (See EIM Manual)	200959	200959	200959	200968	200968	200968	200962
04	Impeller Washer	202907	202907	202907	202917	202917	202917	202917
05	Impeller	204628	204629	204630	204568	204570	202946	202948
06	Impeller Key	202140	202140	202140	202146	202146	202146	202987
6	Stator 208V (See EIM Manual)	200969	200971	200973	-	-	-	-
6	Stator 230V (See EIM Manual)	200969	200971	200973	200975	200977	200979	200981
6	Stator 460V (See EIM Manual)	200969	200971	200973	200975	200977	200979	200981
6	Stator 575V (See EIM Manual)	200970	200972	200974	200976	200978	200980	200982
07	Pump Housing	202172	202177	202181	202190	202190	202194	202194
7 & 8	Rotor/Shaft Assy. (See EIM Manual)	200983	200984	200985	200986	200987	200988	200989
12L	Mating Plate / Oil Chamber Cover	See the EIM Electric Co., LTD I O & M Manual						
09	Lip Seal FKM	202232	202235	202235	202241	202241	202241	202241
9	Lower Ball Bearing (See EIM Manual)	200961	200961	200961	200494	200494	200495	200496
10	Mechanical Seal - FKM (See EIM Manual)	200338	200338	200338	200339	200339	200339	200340
38	Discharge Nipple 3"	202535	202535	202535	-	-	-	-
38E	Discharge Elbow	202559	202559	202559	202573	202573	202574	202574
38E-1	Gasket, Discharge Elbow FKM	203327	203327	203327	203211	203211	202664	202664
38F	Discharge Flange 3"	202546	202546	202546	-	-	-	-
38F	Discharge Flange 4"	-	-	-	202576	202576	-	-
38F	Discharge Flange 6" ANSI Slip Weld	-	-	-	-	-	202549	202549
38F-1	Gasket, Discharge Flange FKM	202724	202724	202724	202662	202662	202664	202664
50-01-2	Bolt for Strainer/Stand	203228	203228	203228	203236	203236	203279	203279
50-02	Bolt for Suction Cover	-	-	-	203236	203236	203279	203279
50-07	Bolt for Mating Plate to Volute	203229	203229	203229	203236	203236	-	-
50-11V	Air Release Valve	-	-	-	202707	202707	202707	202707
50-38E	Bolt for Discharge Elbow	203271	203271	203271	203276	203276	203278	203278
50-38F	Bolt for Discharge Flange	203294	203294	203294	203277	203277	203278	203278
49	Bell Mouth (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
49-SN	Stud & Nut - Bell Mouth (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
50	Cable Bushing (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
54	Cable (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
55	Cable clamp (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
55-B	Bolt (See EIM Manual)	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.	Pwr Cable Assy.
	Pwr Cable Assy.208V	200998	200998	200999	200999	-	-	-
	Pwr Cable Assy.230V	200998	200998	200999	200999	201000	201000	-
	Pwr Cable Assy.460V	200998	200998	200998	200998	200998	200999	201001
	Pwr Cable Assy.575V	200998	200998	200998	200998	200998	200999	201001
49	Bell Mouth (See EIM Manual)	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit
49-SN	Stud & Nut (See EIM Manual)	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit
50	Cable Bushing (See EIM Manual)	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit
55-B	Bolt (See EIM Manual)	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit
55	Cable clamp (See EIM Manual)	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit	Pwr Cable Kit
	Pwr Cable Kit 208V	200233	200233	200291	200291	-	-	-
	Pwr Cable Kit 230V	200233	200233	200291	200291	200328	200328	-
	Pwr Cable Kit 460V	200233	200233	200233	200233	200233	200291	200330
	Pwr Cable Kit 575V	200233	200233	200233	200233	200233	200291	200330
2-R	O-Ring (See EIM Manual)	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit
5-R1	O-Ring (See EIM Manual)	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit
5-R2	O-Ring (See EIM Manual)	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit
12U-R	O-Ring (See EIM Manual)	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit
28-P	O-Ring (See EIM Manual)	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit	O-Ring Kit
	O-Ring Kit-FKM	200341	200341	200341	200342	200342	204168	200343

XP-SKX SERIES



MODEL	A	B	C	D	E	F
XP-SKX15CSS	3.0"	29.5"	14.75"	9.5"	5.25"	5.75"
XP-SKX22CSS	3.0"	29.75"	15.25"	10.0"	5.25"	6.0"
XP-SKX37CSS	3.0"	31.0"	15.25"	10.0"	5.25"	7.3"



MODEL	A	B	C	D	E	F
XP-SKX55CSS	4.0"	43.5"	29.5"	18.5"	11.0"	12.5"
XP-SKX75CSS	4.0"	43.5"	29.5"	18.5"	11.0"	12.5"
XP-SKX110CSS	6.0"	48.5"	35.15"	22.5"	13.0"	17.5"
XP-SKX150CSS	6.0"	57.0"	35.15"	22.5"	13.0"	17.5"

SEAL MINDER® - THERMAL MOTOR SENSOR SWITCH

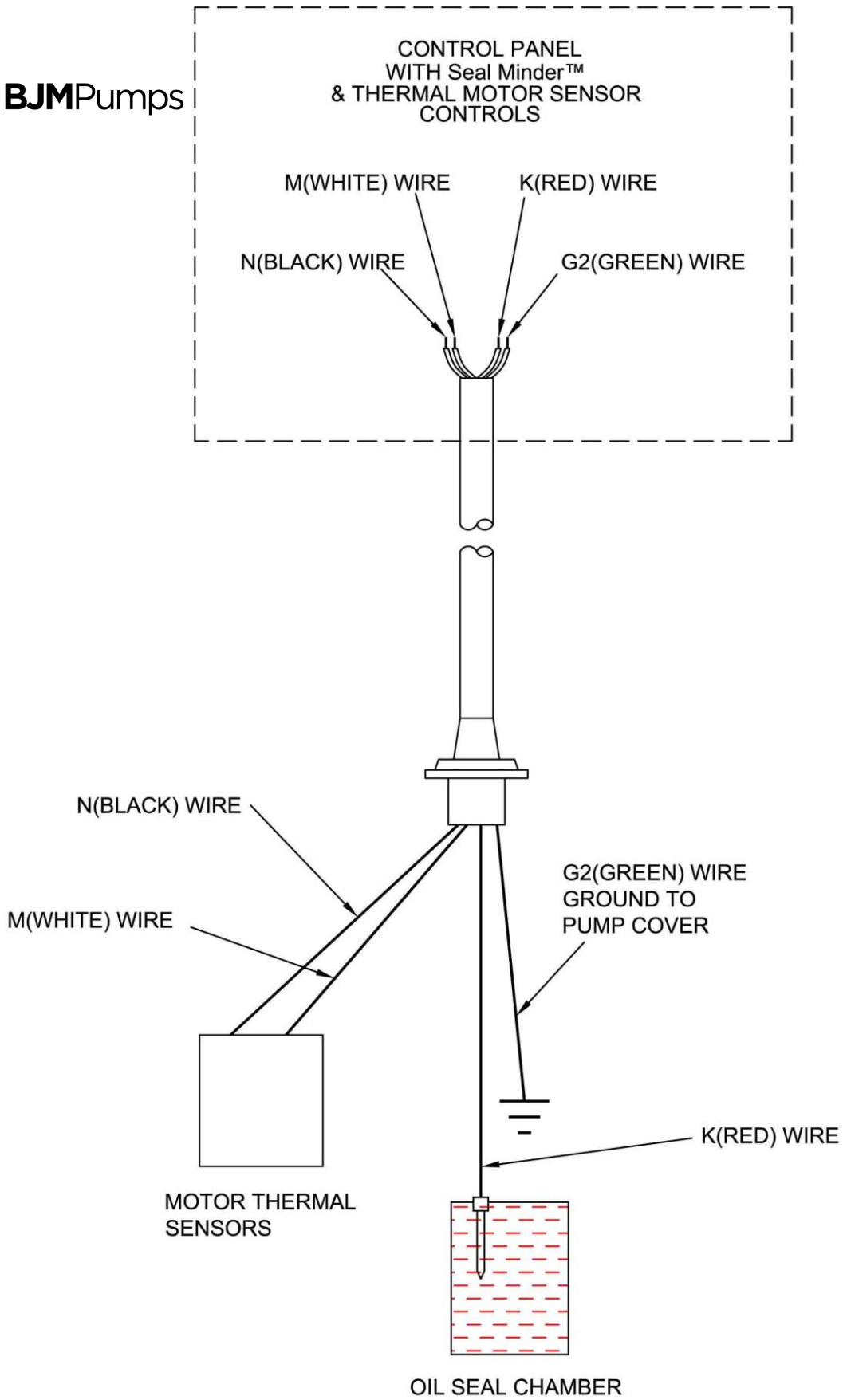
Seal Minder®:

Also known as a seal failure circuit (or moisture detection circuit) is designed to inform the pump operator that there is moisture within the oil chamber. This early warning can allow the operator to schedule repair & inspection on the pump. The **Seal Minder®** sensor probe is inside the oil chamber. (The oil chamber houses the mechanical seals that are cooled & lubricated by oil). The **Seal Minder**, when properly connected to a control panel, can help indicate seal failure. The **Seal Minder** cord requires a seal fail circuit in control panel for warning signal.

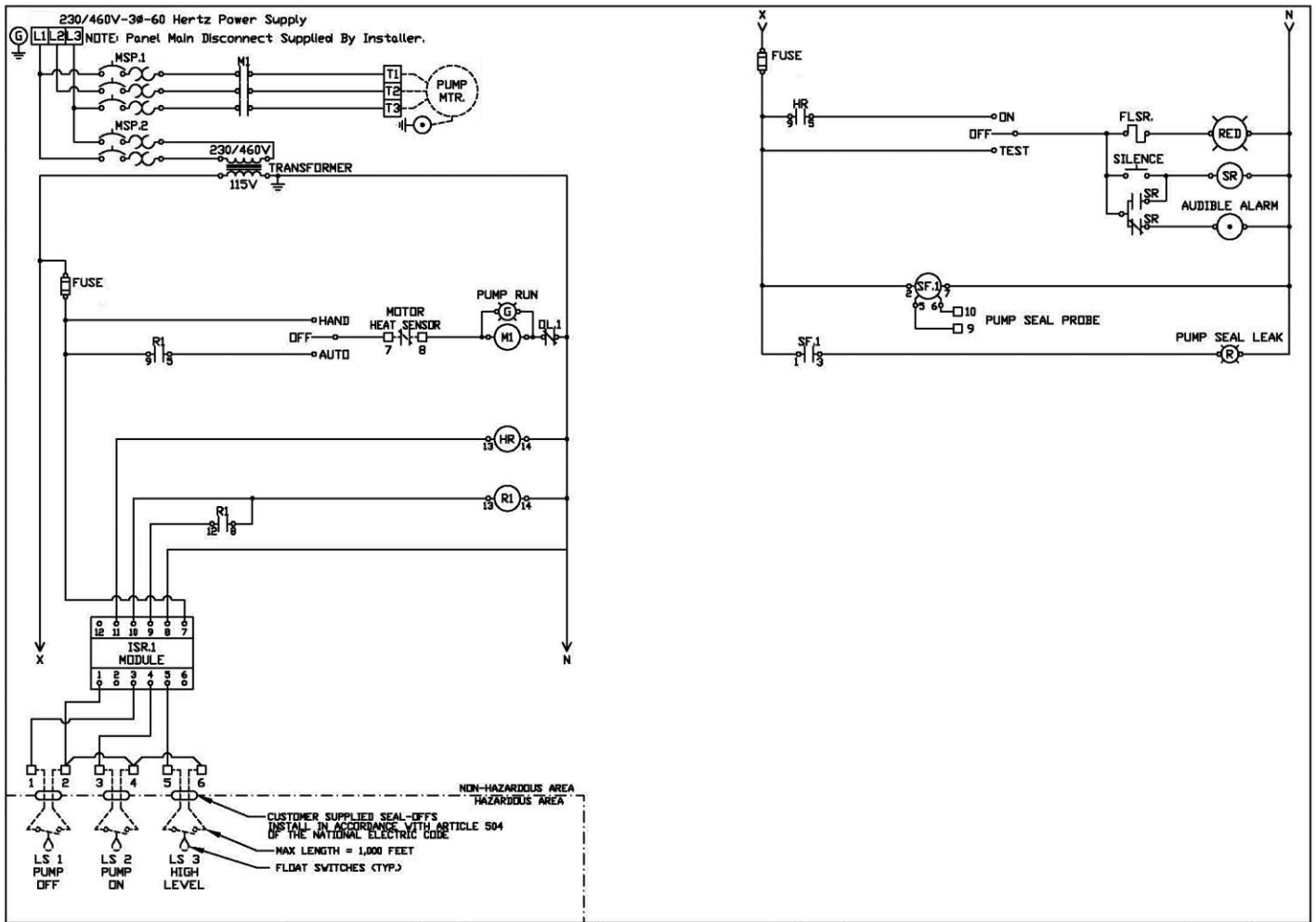
Along, with the **Seal Minder**, the XP-SKX Series pumps also feature thermal temperature sensor switches that are embedded into the motor stator windings. Two switches are embedded into the stator windings and wired in series. The leads are connected to the pump control panel through the sensor cable. If the windings would see a temperature above 300 degrees F, then the switch(s) would open and cut power to the pump. Once the temperature dropped below 300 degrees F, the switch(s) would reset, and the pump would be returned to a state of operation. This feature is designed to prevent damage to the stator winding and allow for longer pump life.

The sensor cable consists of four leads, two are connected to the **Seal Minder**, and two are connected to the thermal sensor switches located in the stator windings. These four leads run to the pump control panel and connect to the proper connections points for seal alarm and thermal cut off. The G2(Green) and K(Red) wires are for the **Seal Minder** connections and the thermal sensors will be connected to the m(White) and N(Black) wires. The three phase automatic wiring diagram shown earlier in the manual will give a guide to the connections in the control panel. The manual for the control panel should be consulted for the exact connections.

The sensor cable with **Seal Minder** and thermal sensor switch connections is standard on all XP-SKX Series pumps. The proper replacement part can be found parts list found in this manual. BJM Pumps, can supply a control with the **Seal Minder** and Thermal sensor switch option. Separate stand alone **Seal Minder** alarm panels are also available. Consult your BJM Pumps® representative for part numbers and ordering details. **BJM Pumps® requires the Seal Minder and thermal sensor switches be used. Failure to connect or misuse of these devices will void warranty.**



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



Typical three phase auto control with intrinsically safe relay(ISR) module and with seal minder & thermal sensor connection.



Industrial Flow Solutions Operating, 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,LLC 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,LLC 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,LLC's liability for any breach of this warranty shall be limited solely to replacement or repair, at the sole option of BJM Pumps,LLC, 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,LLC or BJM Pumps,LLC's authorized service representative within the aforementioned warranty period, and defective Product or parts thereof must be shipped to BJM Pumps,LLC or BJM Pumps,LLC's 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, LLC'S DISTRIBUTORS AND CUSTOMERS. UNDER NO CIRCUMSTANCES SHALL BJM PUMPS, LLC 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.

BJM Pumps,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 BJM Pumps,LLC's facilities unless such repair was authorized in advance by BJM Pumps,LLC 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,LLC's instruction.

In any case of products not manufactured and sold under the BJM Pumps,LLC brand name, there is no warranty from BJM Pumps,LLC; however BJM Pumps,LLC will extend any warranty received from BJM Pumps,LLC's supplier of such products.

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

Pump Owner's Name			
Location of Installation		Date of Installation:	
Dealer		Dealer Phone ()	
Date of Purchase			
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 (viewed from bottom) (Use C/W for clockwise, CC/W for counterclockwise): _____			
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

START-UP REPORT FORM

Are guide rails 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
Float 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).		
<input type="checkbox"/> Check here if using manual on/off only.		
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
Voltage supply at panel line connection, pump on		

START-UP REPORT FORM

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: Do pumps 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:		
Installed by:		
Company:		
Person:		
Date:		

Industrial Flow Solutions Operating, LLC
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