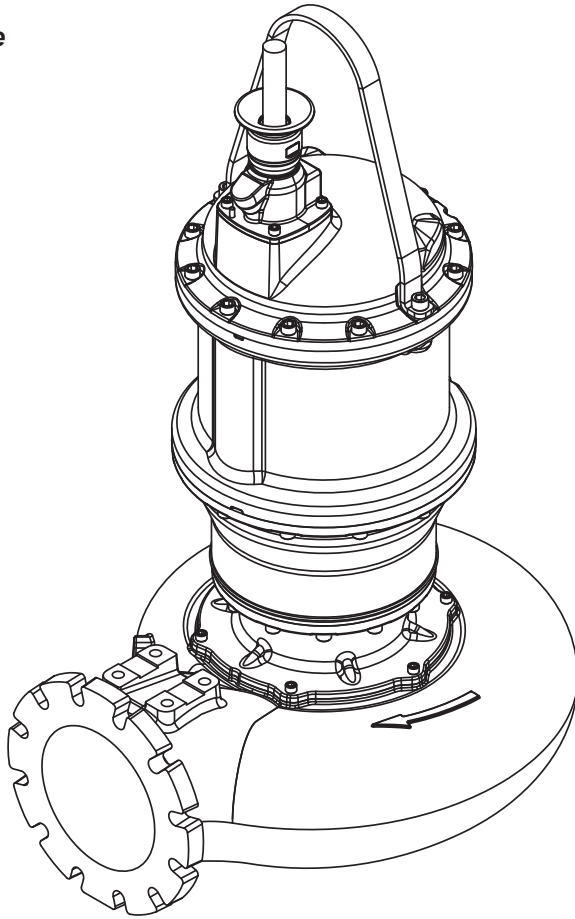


DEMING[®]

INSTALLATION and OPERATION MANUAL Demersible Chopper Pump

#5 Frame



4D
Dual Vane Pumps
75 - 100HP, 1750RPM

6D
Dual Vane Pumps
75 - 125HP, 1750RPM

8D
Dual Vane Pumps
75-100HP, 1750RPM

8T
Tri Vane Pumps
75 - 150HP, 1750RPM
50 - 100HP, 1150RPM
40HP, 870RPM

10D
Dual Vane Pumps
50 - 100HP, 1150RPM
40 - 50HP, 870RPM

This product may be covered by one or more of the following patents and other patent(s) pending: US Patent 7,931,473, NZ DSN NO. 424412, NZ DSN NO. 424413, AUS DSN NO. 201812608, AUS DSN NO. 201812609, EU Design Reg. 005293040-0001

IMPORTANT!

*Read all instructions in this manual before operating pump.
As a result of Crane Pumps & Systems, Inc., constant product improvement program,
product changes may occur. As such Crane Pumps & Systems reserves the right to
change product without prior written notification.*

CRANE[®]

A Crane Co. Company

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 **HYDRAULIC
INSTITUTE**
PROUD MEMBER

 **MEMBER**

Form No. 142699S-Rev. D

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SAFETY FIRST!

Please Read This Before Installing Or Operating Pump.
This information is provided for **SAFETY and to PREVENT EQUIPMENT PROBLEMS**. To help recognize this information, observe the following symbols:



IMPORTANT! Warns about hazards that can result in personal injury or Indicates factors concerned with assembly, installation, operation, or maintenance which could result in damage to the machine or equipment if ignored.

CAUTION ! Warns about hazards that can or will cause minor personal injury or property damage if ignored. Used with symbols below.

WARNING ! Warns about hazards that can or will cause serious personal injury, death, or major property damage if ignored. Used with symbols below.



Hazardous fluids can cause fire or explosions, burns or death could result.



Extremely hot - Severe burnes can occur on contact.



Biohazard can cause serious personal injury.



Hazardous fluids can Hazardous pressure, eruptions or explosions could cause personal injury or property damage.



Rotating machinery Amputation or severe laceration can result.



Hazardous voltage can shock, burn or cause death.

Only qualified personnel should install, operate and repair pump. Any wiring of pumps should be performed by a qualified electrician.



WARNING ! - To reduce risk of electrical shock, pumps and control panels must be properly grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances.

WARNING! - To reduce risk of electrical shock, always disconnect the pump from the power source before handling or servicing. Lock out power and tag.



WARNING! Operation against a closed discharge valve will cause premature bearing and seal failure on any pump, and on end suction and

self priming pump the heat build may cause the generation of steam with resulting dangerous pressures. It is recommended that a high case temperature switch or pressure relief valve be installed on the pump body.



CAUTION! Pumps build up heat and pressure during operation-allow time for pumps to cool before handling or servicing.



WARNING! - **DO NOT** pump hazardous materials (flammable, caustic, etc.) unless the pump is specifically designed and designated to handle them.



Do not block or restrict discharge hose, as discharge hose may whip under pressure.



WARNING! - **DO NOT** wear loose clothing that may become entangled in the impeller or other moving parts.

WARNING! - Keep clear of suction and discharge openings. **DO NOT** insert fingers in pump with power connected.



Always wear eye protection when working on pumps.



Make sure lifting handles are securely fastened each time before lifting. **DO NOT** operate pump without safety devices in place. Always replace safety devices that have been removed during service or repair. Secure the pump in its operating position so it can not tip over, fall or slide.

DO NOT exceed manufacturers recommendation for maximum performance, as this could cause the motor to overheat.

DO NOT remove cord and strain relief. Do not connect conduit to pump.



WARNING! Cable should be protected at all times to avoid punctures, cut, bruises and abrasions - inspect frequently. Never handle connected power cords with wet hands.

WARNING! To reduce risk of electrical shock, all wiring and junction connections should be made per the NEC or CEC and applicable state or province and local codes. Requirements may vary depending on usage and location.

WARNING! Submersible Pumps are not approved for use in swimming pools, recreational water installations, decorative fountains or any installation where human contact with the pumped fluid is common.



WARNING! Products Returned Must Be Cleaned, Sanitized, Or Decontaminated As Necessary Prior To Shipment, To Insure That Employees Will Not Be Exposed To Health Hazards In Handling Said Material. All Applicable Laws And Regulations Shall Apply.

Bronze/brass and bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Lead is known to cause cancer and birth defects or other reproductive harm. Various government agencies have determined that leaded copper alloys should not be used in potable water applications. For non-leaded copper alloy materials of construction, please contact factory.



IMPORTANT! - Crane Pumps & Systems, Inc. is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.

SECTION A: GENERAL INFORMATION

A-1) To the Purchaser:

Congratulations! You are the owner of one of the finest pumps on the market today. CP&S pumps are products engineered and manufactured of high quality components. Over one hundred years of pump building experience along with a continuing quality assurance program combine to produce a pump which will stand up to the toughest applications. This manual will provide helpful information concerning installation, maintenance, and proper service guidelines.

A-2) Receiving:

Upon receiving the pump, it should be inspected for damage or shortages. If damage has occurred, file a claim immediately with the company that delivered the pump. **MAKE CERTAIN TO RETAIN THIS MANUAL!**

A-3) Storage:

Short Term- CP&S Pumps are manufactured for efficient performance following short inoperative periods in storage. For best results, pumps can be retained in storage, as factory assembled, in a dry atmosphere with constant temperatures for up to six (6) months.

Long Term - Any length of time exceeding six (6) months, but not more than twenty-four (24) months. The unit should be stored in a temperature controlled area, a roofed over walled enclosure that provides protection from the elements (rain, snow, wind-blown dust, etc.), and whose temperature can be maintained between +40 deg. F and +120 deg. F. (4.4 - 49°C). Pump should be stored in its original shipping container. On initial start up, rotate impeller by hand to assure seal and impeller rotate freely. If it is required that the pump be installed and tested before the long term storage begins, such installation will be allowed provided:

- 1.) The pump is not installed under water for more than one (1) month.
- 2.) Immediately upon satisfactory completion of the test, the pump is removed, thoroughly dried, repacked in the original shipping container, and placed in a temperature controlled storage area.

A-4) Service Centers:

For the location of the nearest Deming Service Center, contact Crane Pumps & Systems, Inc., Service Department in Piqua, Ohio, telephone (937) 778-8947 or Crane Pumps & Systems Canada, in Brampton, Ontario, (905) 457-6223.

SECTION B: INSTALLATION

B-1) Location:

These self-contained pumping units are recommended for use in a sump, lift station or basin. This pump is designed for submerged continuous duty (15 minutes duty in air at nameplate horsepower), pumping sewage, effluent, wastewater or other nonexplosive or noncorrosive liquids not above 104°F (40°C). Never install the pump in a trench, ditch or hole with a dirt bottom; the legs will sink into the dirt and the suction will become plugged.

B-1.1) Submergence:

It is recommended that the pump be operated at the minimum continuous duty submerged condition (See Fig. 1). The time required to draw the well down from top of motor to the minimum submergence level should not be greater than 15 minutes. **NOTE:** Outer shaft seal must be in liquid when motor is operated, whether motor is submerged or in air.

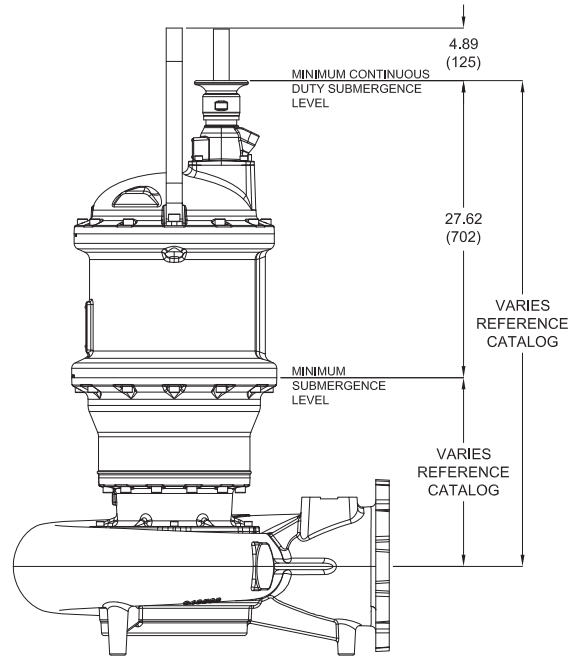


FIGURE 1

B-2) Discharge:

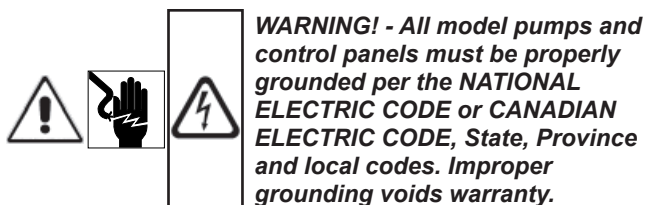
Discharge piping should be as short as possible. Both a check valve and a shut-off valve are recommended for each pump being used. The check valve is used to prevent backflow into the sump. Excessive backflow can cause flooding and/or damage to the pump. The shut-off valve is used to stop system flow during pump or check valve servicing.

Crane Pumps & Systems manufactures a break away fitting discharge system designed to allow the submersible wastewater pump to be installed or removed without requiring personnel to enter the wet well. Place the Break Away Fitting (BAF) in position. Temporarily secure the guide rails in the upper mounting brackets and locate the base elbow on the bottom of the wet well. Level the base elbow with grout and/or shims. Install the intermediate support brackets, if required. Make sure the rails are in a true vertical position so the pump will clear the access opening and will slide freely down the rails into place on the discharge base elbow. Once the rails are in proper alignment, bolt the base elbow into the floor of the station and connect the discharge pipe to the elbow. Connect the movable portion and other supplied fittings of the BAF onto the pump and lower into wet well. See the Break Away Fitting manual for more information.

B-3) Liquid Level Controls:

It is recommended to use a liquid level control system that allows the on and off point to be separated by at least twelve inches. An additional set point (lag point) should be incorporated with an alternator switching system for a duplex (two pump) station. A high level alarm may be required to alert maintenance personnel that there is a high water situation in the wet well should the output of the pump station drop below the inflow rate. A low level cut off may be installed to provide system shutdown if the main level control system malfunctions. The off point should be positioned so that the liquid level never drops below the minimum continuous duty point for the pump shown in Figure 1.

B-4.1) Electrical Connections:



B-4) Power/Control Cord:

The cord assembly mounted to the pump must not be modified in any way except for shortening to a specific application. Any splice between the pump and the control panel must be made in accordance with all applicable electric codes. It is recommended that a junction box (if used) be mounted outside the sump or be of at least Nema 6 or 6P construction with NEMA 6 or 6P watertight cord grips if located within the wet well. A water and vapor tight seal fitting **MUST** be used in conduit leaving the wet well to prevent moisture and gases from reaching the control panel. Prior to installation, the pump power cable should be inspected for nicks or damage. If damaged, the cord should be replaced before installation.

Install the cord assembly o-ring onto the cord assembly as shown in Figure 2. Align the hole in the cord assembly with the alignment pin in the motor cap. Lower the cord assembly into the bore of the motor cap taking care to keep the pins aligned. Push the cord assembly into the motor housing until fully engaged. Install the four 12mm socket head cap screws through the cord assembly into the motor cap. Slowly tighten the four screws alternating in a cross pattern until the cord assembly is drawn down flush to the motor cap. The screws should then be torqued to 35 ft. lbs.

CORD CLAMPING PLATE SHOULD BE DRAWN METAL TO METAL (35 FT/LBS BOLT TORQUE). IF A GAP EXISTS CONTINUE TO TIGHTEN BOLTS. DO NOT USE ANY TYPE OF SEALANT OR GREASE ON THE CORD ENTRY.

DO NOT USE THE POWER CORD TO LIFT PUMP.

NOTE: The White Wire Is Not A Neutral Or Ground Lead. The Black, White And Red Leads Are Power Carrying Conductors. The Green Lead Is For Connection To Ground.

B-4.1) Electrical Connections:

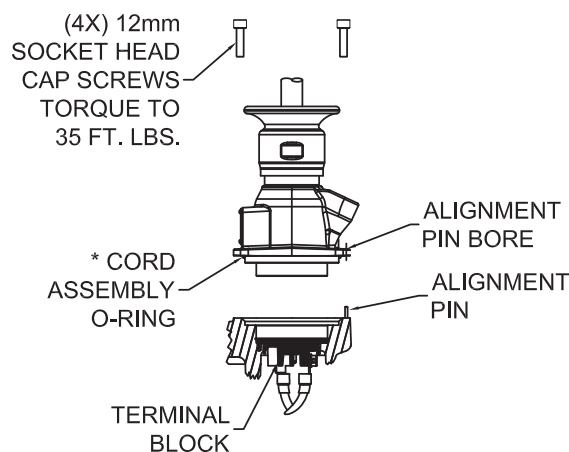
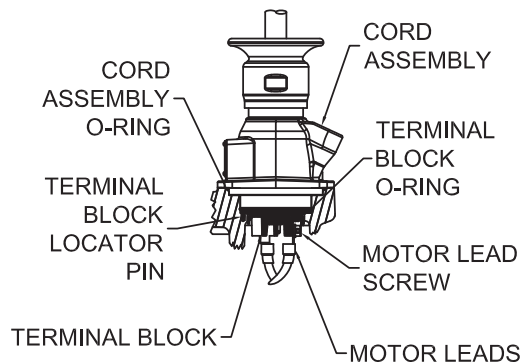
When the electrical connections are made, the lead wires from the power cable should be stripped so that the ground wire is at least two inches longer than the power leads. This will ensure that if the cable is inadvertently pulled out of the connection point, the ground wire will be the last lead to break the circuit.

B-4.2) Wire Size:

If additional cable is required consult a qualified electrician for proper wire size. Voltage drop due to wire resistance between the pump and power connection point should be limited to 3% when additional cable is added.

WARRANTY NOTE:

Both the temperature sensor and moisture detection system must be connected to the motor circuitry such that the motor will be de-energized or sound alarm if excessive motor temperatures are reached and/or if water is detected in the seal chamber and/or motor chamber. Failure to have the above mentioned systems installed and operative, nullifies warranty



* FAILURE TO INSTALL O-RING VOIDS WARRANTY

FIGURE 2

MODEL NO.	SIZE	IMP. DIA. INCHES (MM)	HP	VOLT	PH	HZ	RPM	NEMA START CODE	FULL LOAD AMPS	SERVICE FACTOR	SERVICE FACTOR AMPS	LOCKED ROTOR AMPS	DRIVER FRAME	CORD P/N ▲	CORD SIZE	CORD O.D.	WINDING RESISTANCE
7366N-414-67-32N	4DH	14.17 (360)	75	460	3	60	1750	G	108.4	1.15	120.7	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-414-82-32N	4DH	14.17 (360)	75	575	3	60	1750	G	86.7	1.15	96.6	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-414-68-32N	4DH	14.57 (370)	100	460	3	60	1750	E	136.6	1.15	155.3	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-414-83-32N	4DH	14.57 (370)	100	575	3	60	1750	E	109.2	1.15	124.2	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-618-67-32N	6D	13.19 (335)	75	460	3	60	1750	G	108.4	1.15	120.7	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-618-82-32N	6D	13.19 (335)	75	575	3	60	1750	G	86.7	1.15	96.6	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-618-68-32N	6D	14.37 (365)	100	460	3	60	1750	E	136.6	1.15	155.3	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-618-83-32N	6D	14.37 (365)	100	575	3	60	1750	E	109.2	1.15	124.2	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-618-69-32N	6D	14.57 (370)	125	460	3	60	1750	F	169.4	1.15	191.5	800.0	5	138320	1/0/4 - 18/4	1.72 ± .03	.049
7366N-618-84-32N	6D	14.57 (370)	125	575	3	60	1750	F	135.6	1.15	153.2	640.0	5	138319	2/4 - 18/4	1.47 ± .03	.065
7366N-860-67-32N	8D	12.01 (305)	75	460	3	60	1750	G	108.4	1.15	120.7	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-860-82-32N	8D	12.01 (305)	75	575	3	60	1750	G	86.7	1.15	96.6	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095

▲ CORD SOLD SEPARATELY.

IMPORTANT !

- 1.) MOISTURE AND TEMPERATURE SENSORS **MUST** BE CONNECTED TO VALIDATE THE CSA LISTING.
- 2.) A SPECIAL MOISTURE SENSOR RELAY IS REQUIRED IN THE CONTROL PANEL FOR PROPER OPERATION OF THE MOISTURE SENSORS. CONTACT CP&S FOR INFORMATION CONCERNING MOISTURE SENSING RELAYS FOR CUSTOMER SUPPLIED CONTROL PANELS.
- 3.) THESE PUMPS ARE CSA LISTED FOR PUMPING WATER AND WASTEWATER. **DO NOT USE TO PUMP FLAMMABLE LIQUIDS.** NOT SUITABLE FOR ENVIRONMENTS CONTAINING GASOLINE OR HEXANE.
- 4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS; RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.
- 5.) WINDING RESISTANCE ± 7.5%. WINDING RESISTANCE MEASURED IN OHMS @ 25°C (BETWEEN LINES) AT MOTOR LEADS.
- 6.) PUMP RATED FOR OPERATION AT ± 10% VOLTAGE AT MOTOR.
- 7.) CORD SUFFIX: XF - 50 FEET, XJ - 75 FEET, OR XL - 100 FEET. CORD SOLD SEPARATELY.

CHART 'A'

MODEL NO.	SIZE	IMP. DIA. (MM)	HP	VOLT	PH	HZ	RPM	NEMA START CODE	FULL LOAD AMPS	SERVICE FACTOR	SERVICE FACTOR AMPS	LOCKED ROTOR AMPS	DRIVER FRAME	CORD P/N ^	CORD SIZE	CORD O.D.	WINDING RESISTANCE
7366N-850-67-32N	8T	10.43 (265)	75	460	3	60	1750	G	108.4	1.15	120.7	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-850-82-32N	8T	10.43 (265)	75	575	3	60	1750	G	86.7	1.15	96.6	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-850-68-32N	8T	11.42 (290)	100	460	3	60	1750	E	136.6	1.15	155.3	578.0	5	138319	2/4 - 18/4	1.47 ± .03	.070
7366N-850-83-32N	8T	11.42 (290)	100	575	3	60	1750	E	109.2	1.15	124.2	462.4	5	138319	2/4 - 18/4	1.47 ± .03	.095
7366N-850-69-32N	8T	12.40 (315)	125	460	3	60	1750	F	169.4	1.15	191.5	800.0	5	138320	1/0/4 - 18/4	1.72 ± .03	.049
7366N-850-84-32N	8T	12.40 (315)	125	575	3	60	1750	F	135.6	1.15	153.2	640.0	5	138319	2/4 - 18/4	1.47 ± .03	.065
7366N-850-97-32N	8T	13.39 (340)	150	460	3	60	1750	D	187.0	1.0	187.0	800.0	5	138320	1/0/4 - 18/4	1.72 ± .03	.049
7366N-850-1G-32N	8T	13.39 (340)	150	575	3	60	1750	D	159.5	1.0	159.5	640.0	5	138320	1/0/4 - 18/4	1/0/4-18/4	.065
7366N-823-95-32N	8T	12.60 (320)	50	460	3	60	1150	H	76.4	1.15	84.0	400.0	5	138318	6/4 - 18/4	1.14 ± .03	.130
7366N-823-1E-32N	8T	12.60 (320)	50	575	3	60	1150	H	61.2	1.15	67.2	320.0	5	138318	6/4 - 18/4	1.14 ± .03	.189
7366N-823-96-32N	8T	13.19 (335)	60	460	3	60	1150	F	86.7	1.15	96.8	400.0	5	138319	2/4 - 18/4	1.47 ± .03	.130
7366N-823-1F-32N	8T	13.19 (335)	60	575	3	60	1150	F	69.4	1.15	77.4	320.0	5	138318	6/4 - 18/4	1.14 ± .03	.189
7366N-823-67-32N	8T	14.37 (365)	75	460	3	60	1150	H	109.3	1.15	119.5	612.0	5	138319	2/4 - 18/4	1.47 ± .03	.077
7366N-823-82-32N	8T	14.37 (365)	75	575	3	60	1150	H	87.4	1.15	95.6	489.6	5	138319	2/4 - 18/4	1.47 ± .03	.113
7366N-823-68-32N	8T	14.57 (370)	100	460	3	60	1150	E	135.0	1.0	135.0	612.0	5	138319	2/4 - 18/4	1.47 ± .03	.077
7366N-823-83-32N	8T	14.57 (370)	100	575	3	60	1150	E	108.0	1.0	108.0	489.6	5	138319	2/4 - 18/4	1.47 ± .03	.113
7366N-851-94-32N	8T	14.57 (370)	40	460	3	60	870	F	62.2	1.15	69.4	275.0	5	138318	6/4 - 18/4	1.14 ± .03	.166
7366N-851-1D-32N	8T	14.57 (370)	40	575	3	60	870	F	49.8	1.15	55.5	220.0	5	138317	8/4 - 18/4	1.12 ± .02	.226

▲ CORD SOLD SEPARATELY.

IMPORTANT !

- 1.) MOISTURE AND TEMPERATURE SENSORS **MUST** BE CONNECTED TO VALIDATE THE CSA LISTING.
- 2.) A SPECIAL MOISTURE SENSOR RELAY IS REQUIRED IN THE CONTROL PANEL FOR PROPER OPERATION OF THE MOISTURE SENSORS. CONTACT CP&S FOR INFORMATION CONCERNING MOISTURE SENSING RELAYS FOR CUSTOMER SUPPLIED CONTROL PANELS.
- 3.) THESE PUMPS ARE CSA LISTED FOR PUMPING WATER AND WASTEWATER. **DO NOT USE TO PUMP FLAMMABLE LIQUIDS.** NOT SUITABLE FOR ENVIRONMENTS CONTAINING GASOLINE OR HEXANE.
- 4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.
- 5.) WINDING RESISTANCE ± 7.5%. WINDING RESISTANCE MEASURED IN OHMS @ 25°C (BETWEEN LINES) AT MOTOR LEADS.
- 6.) PUMP RATED FOR OPERATION AT ± 10% VOLTAGE AT MOTOR.
- 7.) CORD SUFFIX: XF - 50 FEET, XJ - 75 FEET, OR XL - 100 FEET. CORD SOLD SEPARATELY.

CHART 'B'

MODEL NO.	SIZE	IMP. DIA. INCHES (MM)	HP	VOLT	PH	HZ	RPM	NEMA START CODE	FULL LOAD AMPS	SERVICE FACTOR	SERVICE FACTOR AMPS	LOCKED ROTOR AMPS	DRIVER FRAME	CORD P/N Δ	CORD SIZE	CORD O.D.	WINDING RESISTANCE
7366N-X52-95-32N	10DL	14.57 (370)	50	460	3	60	1150	H	76.4	1.15	84.0	400.0	5	138318	6/4 - 18/4	1.14 \pm .03	.130
7366N-X52-1E-32N	10DL	14.57 (370)	50	575	3	60	1150	H	61.2	1.15	67.2	320.0	5	138318	6/4 - 18/4	1.14 \pm .03	.189
7366N-X52-96-32N	10DL	15.16 (385)	60	460	3	60	1150	F	86.7	1.15	96.8	400.0	5	138319	2/4 - 18/4	1.47 \pm .03	.130
7366N-X52-1F-32N	10DL	15.16 (385)	60	575	3	60	1150	F	69.4	1.15	77.4	320.0	5	138318	6/4 - 18/4	1.14 \pm .03	.189
7366N-X52-67-32N	10DL	16.14 (410)	75	460	3	60	1150	H	109.3	1.15	119.5	612.0	5	138319	2/4 - 18/4	1.47 \pm .03	.077
7366N-X52-82-32N	10DL	16.14 (410)	75	575	3	60	1150	H	87.4	1.15	95.6	489.6	5	138319	2/4 - 18/4	1.47 \pm .03	.113
7366N-X52-68-32N	10DL	17.32 (440)	100	460	3	60	1150	E	135.0	1.0	135.0	612.0	5	138319	2/4 - 18/4	1.47 \pm .03	.077
7366N-X52-83-32N	10DL	17.32 (440)	100	575	3	60	1150	E	108.0	1.0	108.0	489.6	5	138319	2/4 - 18/4	1.47 \pm .03	.113
7366N-X53-94-32N	10DL	17.13 (435)	40	460	3	60	870	F	62.2	1.15	69.4	275.0	5	138318	6/4 - 18/4	1.14 \pm .03	.166
7366N-X53-1D-32N	10DL	17.13 (435)	40	575	3	60	870	F	49.8	1.15	55.5	220.0	5	138317	8/4 - 18/4	1.12 \pm .02	.226
7366N-X53-95-32N	10DL	17.91 (455)	50	460	3	60	870	D	74.5	1.15	84.9	275.0	5	138318	6/4 - 18/4	1.14 \pm .03	.166
7366N-X53-1E-32N	10DL	17.91 (455)	50	575	3	60	870	D	59.0	1.15	67.4	220.0	5	138317	8/4 - 18/4	1.12 \pm .02	.226
7366N-X54-95-32N	10DH	13.78 (350)	50	460	3	60	1150	H	76.4	1.15	84.0	400.0	5	138318	6/4 - 18/4	1.14 \pm .03	.130
7366N-X54-1E-32N	10DH	13.78 (350)	50	575	3	60	1150	H	61.2	1.15	67.2	320.0	5	138318	6/4 - 18/4	1.14 \pm .03	.189
7366N-X54-96-32N	10DH	13.98 (355)	60	460	3	60	1150	F	86.7	1.15	96.8	400.0	5	138319	2/4 - 18/4	1.47 \pm .03	.130
7366N-X54-1F-32N	10DH	13.98 (355)	60	575	3	60	1150	F	69.4	1.15	77.4	320.0	5	138318	6/4 - 18/4	1.14 \pm .03	.189
7366N-X54-67-32N	10DH	14.17 (360)	75	460	3	60	1150	H	109.3	1.15	119.5	612.0	5	138319	2/4 - 18/4	1.47 \pm .03	.130
7366N-X54-82-32N	10DH	14.17 (360)	75	575	3	60	1150	H	87.4	1.15	95.6	489.6	5	138319	2/4 - 18/4	1.47 \pm .03	.130

▲ CORD SOLD SEPARATELY.

IMPORTANT !

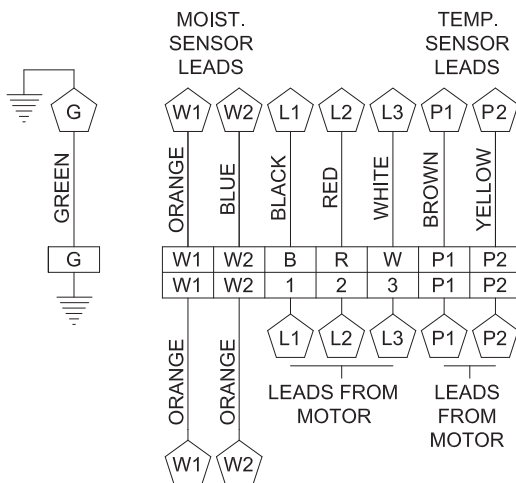
- 1.) MOISTURE AND TEMPERATURE SENSORS **MUST** BE CONNECTED TO VALIDATE THE CSA LISTING.
- 2.) A SPECIAL MOISTURE SENSOR RELAY IS REQUIRED IN THE CONTROL PANEL FOR PROPER OPERATION OF THE MOISTURE SENSORS. CONTACT CP&S FOR INFORMATION CONCERNING MOISTURE SENSING RELAYS FOR CUSTOMER SUPPLIED CONTROL PANELS.
- 3.) THESE PUMPS ARE CSA LISTED FOR PUMPING WATER AND WASTEWATER. **DO NOT USE TO PUMP FLAMMABLE LIQUIDS.** NOT SUITABLE FOR ENVIRONMENTS CONTAINING GASOLINE OR HEXANE.
- 4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS; RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.
- 5.) WINDING RESISTANCE \pm 7.5%. WINDING RESISTANCE MEASURED IN OHMS @ 25°C (BETWEEN LINES) AT MOTOR LEADS.
- 6.) PUMP RATED FOR OPERATION AT \pm 10% VOLTAGE AT MOTOR.
- 7.) CORD SUFFIX: XF - 50 FEET, XJ - 75 FEET, OR XL - 100 FEET. CORD SOLD SEPARATELY.

CHART 'C'

8 AWG, 6 AWG, 2 AWG

THREE PHASE 460-575 VOLT AC	
Power Cable	Motor Lead ID
Green (Ground)	Green
Black	1
Red	2
White	3

MOISTURE AND TEMPERATURE SENSORS	
Control Cable	Lead ID
Brown	P1 (Temperature Sensor)
Yellow	P2 (Temperature Sensor)
Orange	W1 (Moisture Sensor)
Blue	W2 (Moisture Sensor)



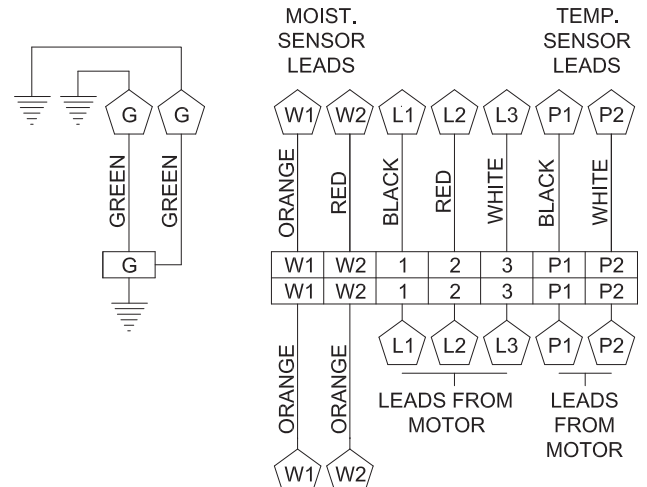
INTERNAL PUMP CONNECTIONS
THREE PHASE: 460/575 VOLTS

FIGURE 3a

0 AWG / 18/5 - Dual Cord

THREE PHASE 460-575 VOLT AC	
Power Cable	Motor Lead ID
Green (Ground)	Green
Black	1
Red	2
White	3

MOISTURE AND TEMPERATURE SENSORS	
Control Cable	Lead ID
Black	P1 (Temperature Sensor)
White	P2 (Temperature Sensor)
Orange	W1 (Moisture Sensor)
Red	W2 (Moisture Sensor)
Green	G (Ground)



INTERNAL PUMP CONNECTIONS
THREE PHASE

FIGURE 3b

External Ground Note:

(Grd symbol) An external ground screw is provided on the side of the motor cap which can be used for supplemental bonding connection where local codes permit or require such connection.

WIRING DIAGRAM

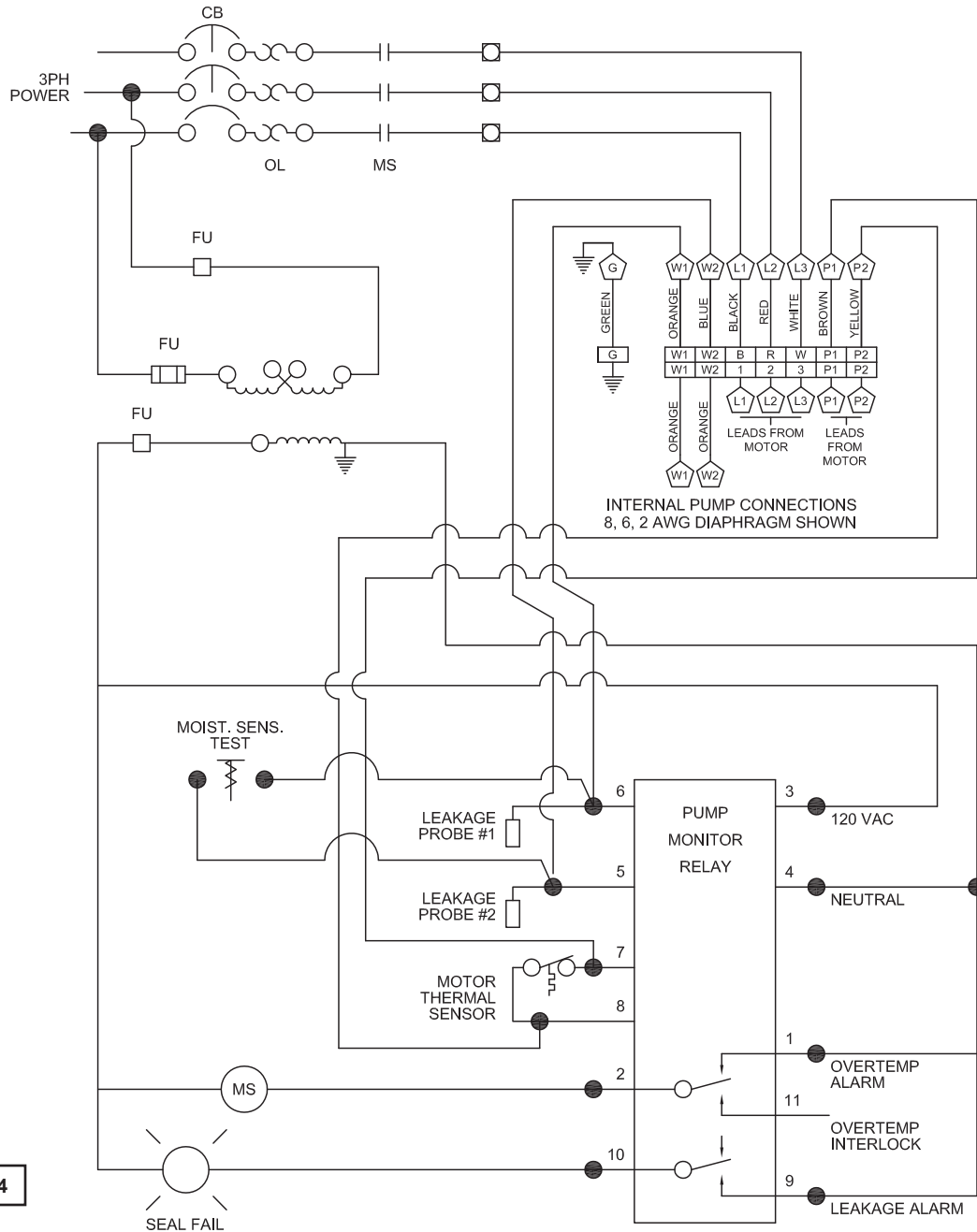


FIGURE 4

B-4.3) Overload Protection:

Current sensing overloads must be provided in the pump control panel and should be properly sized for the full load current of the pump. Three normally closed (N/C) thermal sensors wired in series (one per phase) are embedded in the motor windings and will detect excessive heat in the event an overload condition occurs. Upon sensing the over temperature condition, the normally closed contact in the sensors will open and turn the pump off when wired in series with the motor contactor control circuit. The thermal sensor leads marked P1 and P2 MUST be connected in series with the pilot circuit of the magnetic motor controller located in the control panel so that the thermostat will open the circuit before dangerous temperatures are reached.

A manual momentary start switch is required to prevent the automatic restarting of the motor when the thermostat resets, refer to Figure 4.

In the event of an over temperature condition, the source of this condition should be determined and rectified before the pump is put back into normal operation. **DO NOT LET THE PUMP CYCLE OR RUN IF AN OVER TEMPERATURE CONDITION OCCURS!**

If current through the temperature sensor exceeds the values listed, an intermediate control circuit relay must be used to reduce the current or the sensor will not work properly.

Volts	Continuous Amperes	Inrush Amperes
110-120	3.00	30.0
220-240	1.50	15.0
440-480	0.75	7.5

B-4.4) Moisture Sensors:

A normally open (N/O) set of moisture probes are installed in the pump seal chamber, which can be used to detect any moisture present in the seal chamber and/or motor chamber. A 330 K-Ohm, 1 watt test resistor is mounted between the probes to allow for verification that the moisture sensor circuit is in-tact using a multi-meter. The moisture sensors MUST be connected to moisture detector control in the control panel. The normally closed (N/C) contact of the moisture detector MUST be connected in series with the control circuit of the motor contactor. Wiring must be provided from the moisture detector sensor probe leads of the motor designated W1 and W2. In the event of moisture detection, the pump should be pulled and the source of the failure located and repaired. **IF MOISTURE DETECTION HAS OCCURRED, SCHEDULE MAINTENANCE AS SOON AS POSSIBLE!**

B-4.5) Control Panel and Electrical System:

The control panel and the electrical system MUST be properly designed and wired to include at least, but not limited to the following:

- a. Proper grounding per NEC.
- b. A temperature sensing circuit (See Fig. 4)
- c. A moisture detection circuit with continuity test circuit (See Fig. 4)
- d. A level control system.
- e. A main power manual disconnect and lock out.
- f. A motor starter and overload system.

B-5) When Used with a Variable Speed Drive:

Maximum turndown should not exceed 2:1. Drive should be set to operate in constant torque mode.

It is advisable that all three phase control panels be purchased from the factory.

If a panel is to be supplied locally, it is recommended that the Crane Pumps & Systems Pump Monitor Relay (P/N 134667) be used to perform the control circuit functions for the Temperature and Moisture Sensor Monitoring described in sections B4.3 and B4.4. The Pump Monitor Relay was designed to perform these functions in a compact module that can be base or panel mounted and is resistant to noise issues found with some VFD's. Indicator lights on the front display notify the operator in the event of a fault condition for either temperature, moisture or both. Normally open and normally closed contacts are flexible to accommodate nearly any wiring scenario and the moisture sensor sensitivity can be adjusted to prevent nuisance alarms.

SECTION: C START-UP OPERATION

C-1) Check Voltage and Phase:

Before operating pump, compare the voltage and phase information stamped on the pump's identification plate to the available power.

C-2) Check Pump Rotation:

Before putting pump into service for the first time, the motor rotation must be checked. Improper motor rotation can result in poor pump performance and can damage the motor and/or pump. To check the rotation, suspend the pump freely, momentarily apply power and observe the "kickback". "Kickback" should always be in a counter-clockwise direction as viewed from the top of the pump motor housing and will always be in the opposite direction of the rotation arrows cast in the pump volute.

C-2.1) Incorrect Rotation for Three-Phase Pumps:

In the event that the rotation is incorrect for a three-phase installation, interchange any two power cable leads at the control box. Recheck the "kickback" rotation again by momentarily applying power.

C-2.2) Test Procedure For Moisture Sensor Control:

With a moisture detection control, a normally open push button is typically provided as a means of checking the moisture sensing components. When the push button is depressed, the probes will be shorted simulating water. While being held, the seal leakage indicating lamp will be illuminated to indicate (A) power is supplied to the control, (B) the control is operative, and (C) wiring to the moisture sensing probes in the pump is intact. This procedure should be performed periodically to confirm integrity of the circuit.

C-3) Start-Up Report:

Included at the end of this manual is one start-up report sheet, this sheet is to be completed as applicable. Return a copy to Crane Pumps & Systems and store the second in the control panel or with the pump manual. It is important to record this data at initial start-up since it will be useful to refer to should servicing the pump be required in the future.

C-3.1) Identification Plate:

Record the numbers from the pump's identification plate on the START-UP REPORT provided at the end of the manual for future reference.

C-3.2) Insulation Test:

Before the pump is put into service, an insulation (megger) test should be performed on the motor. The resistance values (ohms) as well as the voltage (volts) and current (amps) should be recorded on the start-up report. Pumps/systems with an insulation value of less than 5 M-Ohms should be investigated for moisture or damaged cables before proceeding.

C-3.3) Pump-Down Test:

After the pump has been properly wired and lowered into the basin, sump or lift station, it is advisable to check the system by filling with liquid and allowing the pump to operate through it's pumping cycle. The time needed to empty the system, or pump-down time along with the volume of water, should be recorded on the start-up report.

IMPORTANT! THE MAXIMUM ALLOWABLE STARTS PER HOUR IS 15, EVENLY SPACED.

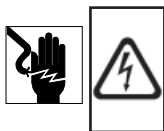
SECTION D: PREVENTATIVE MAINTENANCE

As the motor and seal chamber are oil-filled, no lubrication or other maintenance is required, and generally Crane Pumps & Systems will give very reliable service and can be expected to operate for years of normal sewage pumping without failing. However, as with any mechanical piece of equipment a preventive maintenance program is recommended and suggested to include the following checks:

- 1) Test moisture detector control "Test Switch" for continuity of circuit. Water in the seal chamber will energize a seal leak warning light at the control panel. This is a warning light only and does not stop the motor. It indicates the seal has leaked and must be repaired. This should be done within 2 or 3 weeks to prevent further damage. See section C-2.2.
- 2) Inspect impeller and body for excessive build-up or clogging and repair as required per section E-2.
- 3) Inspect outer shaft seal and replace as required per section E-3.
- 4) Check motor for ground leakage and proper amp draw.

SECTION E: SERVICE AND REPAIR

NOTE: All item numbers in () refer to Figures 8 & 9.



WARNING ! - Electrical power to the pump motors must be disconnected and locked out to prevent any dangerous electrical hazards or personnel danger before any service work is done to the pump.



CAUTION ! - Operating pump builds up heat and pressure; allow time for pump to cool to room temperature before handling or servicing.

E-1) Lubrication

E-1.1) Checking Oil

1. Place pump on it's side, and drain oil into a clean, dry container.

2. Check oil for contamination using an oil tester with a range to 30 Kilovolts breakdown.
3. If oil is found to be clean and uncontaminated (measure above 15 KV. breakdown), refill the seal chamber as per section E-1.2.
4. If oil is found to be dirty or contaminated (or measures below 15 KV. breakdown), the pump must be carefully inspected for leaks at the shaft seal, before refilling with oil. To locate the leak, perform a pressure test as per section E-1.3. After leak is repaired, refill with new oil as per section E-1.2.

E-1.2) Replacing Oil:

Seal Chamber - Drain all oil from seal chamber and dispose of properly. Refill with (see parts list for amount) new cooling oil as per Table 2. An air space must remain to compensate for oil expansion. Set unit on side and fill.



IMPORTANT! - Do not overfill oil. Overfilling of seal chamber with oil can create excessive and dangerous hydraulic pressure which can destroy the pump and create a hazard. Overfilling oil voids warranty.

E-1.3) Pressure Test:

Seal Chamber - Before checking the pump for leaks around the shaft seal, the oil level should be full. Remove pipe plug. Apply pipe sealant to pressure gauge assembly and tighten into pipe plug hole. Pressurize motor housing to 5 P.S.I. Use a soap solution around the sealed area and inspect joints for "air bubbles". If, after five minutes, the pressure is still holding constant, and no "bubbles" are observed, slowly bleed the pressure and remove the gauge assembly. Replace the pipe plug using a sealant. If the pressure does not hold, then the leak must be located.



CAUTION! - Pressure builds up extremely fast, increase pressure by "tapping" air nozzle. Too much pressure will damage seal. Do Not exceed 10 P.S.I. in seal chamber.

TABLE 2 - COOLING OIL - Dielectric	
SUPPLIER	GRADE
BP	Enerpar SE100
Conoco	Pale Paraffin 22
Mobil	D.T.E. Oil Light
G & G Oil	Circulating 22
Imperial Oil	Voltesso-35
Shell Canada	Transformer-10
Texaco	Diala-Oil-AX
Woco	Premium 100

E-2) Impeller and Volute Service:

E-2.1) Disassembly and Inspection:

To clean out the volute (10), or clean out or replace impeller (6), disconnect power, remove cap screws (2) then vertically lift motor assembly from the pump body (10). Clean out the volute, if necessary, clean and examine impeller (6) for pitting or wear, replace if required. To remove Impeller (6), remove cap screw (8) and washer (8A). The impeller is keyed onto the shaft with a square key (7) and to remove, pull impeller straight off the shaft using a wheel puller if required. Inspect o-ring (9) and replace if cut or damaged. Before reinstallation, check the motor shaft and impeller bore for damage.

E-2.2) Reassembly:

To install impeller (6), apply a thin film of oil to motor shaft and slide impeller straight onto shaft, keeping keyways lined up. Drive key (7) into keyway. Thread cap screw (8) and washer (8A) into shaft and torque to 45 ft. lbs. Rotate impeller to check for binding. Place o-ring (9) on seal plate pilot diameter lining up holes and install impeller and motor assembly onto volute (10). Loctite cap screws (2), insert into volute and motor assembly and torque to 35 ft. lbs. Check for free rotation of motor and impeller.

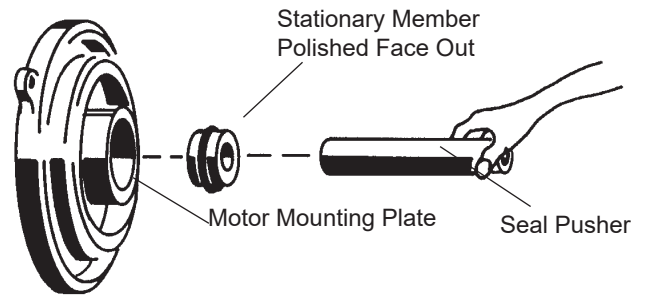


FIGURE 6

E-3) Outer Shaft Seal Service:

CAUTION ! - Handle seal parts with extreme care. DO NOT scratch or mar lapped surfaces.

E-3.1) Disassembly and Inspection:

To expose outer shaft seal (4) for examination, remove Impeller and Volute per Section E-2.1. Set motor assembly (1) in the inverted position to prevent loss of oil. Remove snap ring from motor shaft, then retaining ring (5), spring (4C) and rotating member (4B) from shaft, See Figure 5. Examine all seal parts and especially contact faces. Inspect seal for signs of wear such as uneven wear pattern on stationary members, chips and scratches on either seal face. **DO NOT** interchange seal components, replace the entire shaft seal (4). If replacing seal, remove stationary (4A) from mounting plate by prying out with flat screw driver.

Make sure the stationary member is in straight and that the rubber ring is not out of its groove. Lightly oil (**DO NOT use grease**) shaft and inner surface of bellows on rotating member (4B) see Figure 8. With lapped surface of rotating member (4B) facing inward toward stationary member (4A), slide rotating member (4B) onto shaft using a seal pusher, until lapped faces of (4A) and (4B) are together. (See Fig. 7).

E-3.2) Reassembly:

Lightly oil (**DO NOT use grease**) outer surface of stationary member (4A). Press stationary member (4A) firmly into mounting plate using a seal pusher aligning seal with pin, nothing but the seal pusher is to come in contact with seal face (See Fig. 6).

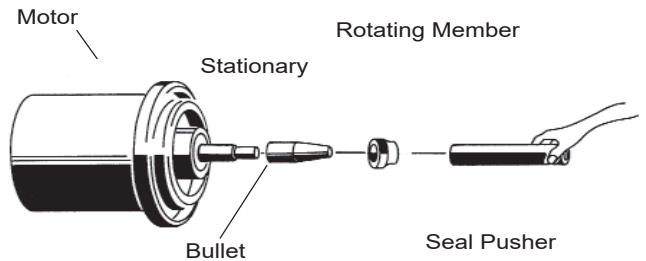


FIGURE 7

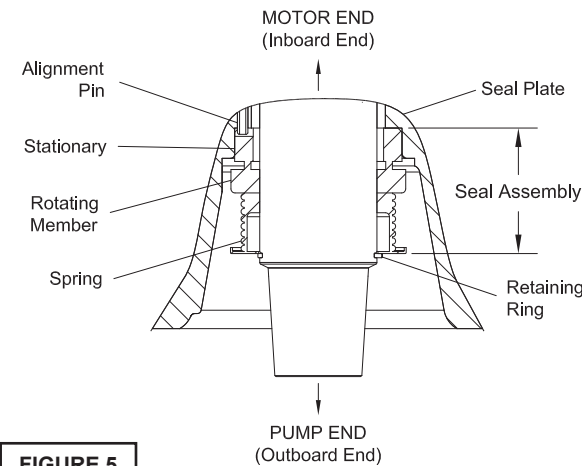


FIGURE 5

IMPORTANT ! - It is extremely important to keep seal faces clean during assembly. dirt particles lodged between these faces will cause the seal to leak.

Place spring (4C) over shaft and in place on rotating member (4B), making sure it is seated on retainer and not cocked or resting on bellows tail. Slide retaining ring (5) over shaft and let rest on spring (4C). Replace snap ring onto motor shaft. Inspect gasket (9) and replace if cut or damaged. Assemble impeller and volute as outlined in paragraph E-2.2.

SECTION: F REPLACEMENT PARTS

F-1 ORDERING REPLACEMENT PARTS:

When ordering replacement parts, ALWAYS furnish the following information:

1. Pump serial number and date code. (Paragraph F-4)
2. Pump model number. (Paragraph F-3)
3. Pump part number. (Paragraph F-2)
4. Part description.
5. Item part number.
6. Quantity required.
7. Shipping instructions.
8. Billing Instructions.

CRANE		PUMPS & SYSTEMS <small>P100A, D110</small>		DEMING®	
Power		Ph.	RPM	Volts	
Hz.	FLA.	SFA		SF	
Ambient 0-40°C	Duty CONT.	Code	Weight	Part No.	
Model No.		Serial No.		Imp. Dia.	

- THERMALLY PROTECTED - CONNECT THERMAL CONTACTS
 - SUBMERSIBLE TO 66 FT - SUBMERSIBLE SEWAGE PUMP - INSUL. CL.: F
 - CLASS I DIV.1 GROUP C AND D HAZARDOUS LOCATIONS - TEMP CODE: T4

WARNING

1. A.) SEE INSTRUCTION MANUAL FOR: PROPER INSTALLATION, CORD REPLACEMENT, MOISTURE SENSOR AND THERMAL CUTOFF WIRING REQUIREMENTS. B.) PUMP MUST BE PROPERLY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES. C.) DISCONNECT THE PUMP FROM THE POWER SOURCE BEFORE HANDLING OR SERVICING. D.) INSTALLATION AND SERVICE SHALL BE CONDUCTED BY A QUALIFIED PERSON.
2. USE WITH APPROVED MOTOR CONTROL THAT MATCHES MOTOR INPUT IN FULL LOAD AMPERES WITH OVERLOAD ELEMENT(S) SELECTED OR ADJUSTED IN ACCORDANCE WITH CONTROL INSTRUCTIONS. (UTILISER UN DÉMARRERUR APPROUVÉ CONVENANT AU COURANT À PLEINE CHARGE DU MOTEUR ET DONT LES ÉLÉMENTS THERMIQUES SONT RÉGLÉS OU CHOISIS CONFORMÉMENT AUX INSTRUCTION QUI L'ACCOMPAGNENT).
3. KEEP CLEAR OF SUCTION AND DISCHARGE OPENING AT ALL TIMES WHEN POWER IS CONNECTED.
4. MOTOR HOUSING WILL CONTAIN HOT OIL UNDER PRESSURE, ALLOW MOTOR TO COOL BEFORE OPENING.
5. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, DECORATIVE FOUNTAINS OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH THE PUMPED MEDIA IS A COMMON OCCURRENCE.

6. DO NOT REMOVE CORD AND STRAIN RELIEF. CSA 108
 7. DO NOT CONNECT CONDUIT TO PUMP. LR16667

8. DO NOT PUMP FLAMMABLE LIQUIDS
 9. NOT SUITABLE FOR ENVIRONMENTS CONTAINING GASOLINE OR HEXANE.

127265A

F-2 PART NUMBER:

This number is used for ordering and obtaining information.

F-3 MODEL NUMBER:

This designation consists of numbers and letters which represent the discharge size, series, horsepower, motor phase and voltage, speed and pump design. This number is used for ordering and obtaining information.

F-4 SERIAL NUMBER:

The serial number block will consist of a six digit number, which is specific to each pump and may be preceded by an alpha character, which indicates the plant location. This number will also be suffixed with a four digit number, which indicates the date the unit was built (Date Code).

EXAMPLE: A012345 0490.

Reference the six digit portion (Serial Number) of this number when referring to the product.

TROUBLE SHOOTING

CAUTION ! Always disconnect the pump from the electrical power source before handling.
If the system fails to operate properly, carefully read instructions and perform maintenance recommendations.
If operating problems persist, the following chart may be of assistance in identifying and correcting them:
MATCH “CAUSE” NUMBER WITH CORRELATING “CORRECTION” NUMBER.

NOTE: Not all problems and corrections will apply to each pump model.

PROBLEM	CAUSE	CORRECTION
Pump will not run	<ol style="list-style-type: none"> 1. Poor electrical connection, blown fuse, tripped breaker or other interruption of power, improper power supply. 2. Motor or switch inoperative (to isolate cause, go to manual operation of pump). 2a. Float movement restricted. 2b. Switch will not activate pump or is defective. 2c. Defective motor 3. Insufficient liquid level. 	<ol style="list-style-type: none"> 1. Check all electrical connections for security. Have electrician measure current in motor leads, if current is within $\pm 20\%$ of locked rotor Amps, impeller is probably locked. If current is 0, overload may be tripped. Remove power, allow pump to cool, then recheck current. 2a. Reposition pump or clean basin as required to provide adequate clearance for float. 2b. Disconnect level control. Set ohmmeter for a low range, such as 100 ohms full scale and connect to level control leads. Actuate level control manually and check to see that ohmmeter shows zero ohms for closed switch and full scale for open switch. (Float Switch). 2c. Check winding insulation (Megger Test) and winding resistance. If check is outside of range, dry and recheck. If still defective, replace per service instructions.
Pump will not turn off	<ol style="list-style-type: none"> 2a. Float movement restricted. 2b. Switch will not activate pump or is defective. 4. Excessive inflow or pump not properly sized for application. 9. Pump may be airlocked 14. H-O-A switch on panel is in “HAND” position 	<ol style="list-style-type: none"> 2b. Disconnect level control. Set ohmmeter for a low range, such as 100 ohms full scale and connect to level control leads. Actuate level control manually and check to see that ohmmeter shows zero ohms for closed switch and full scale for open switch. (Float Switch). 2c. Check winding insulation (Megger Test) and winding resistance. If check is outside of range, dry and recheck. If still defective, replace per service instructions.
Pump hums but does not run	<ol style="list-style-type: none"> 1. Incorrect voltage 8. Impeller jammed or loose on shaft, worn or damaged, impeller cavity or inlet plugged. 	<ol style="list-style-type: none"> 2c. Check winding insulation (Megger Test) and winding resistance. If check is outside of range, dry and recheck. If still defective, replace per service instructions.
Pump delivers insufficient capacity	<ol style="list-style-type: none"> 1. Incorrect voltage. 4. Excessive inflow or pump not properly sized for application. 5. Discharge restricted. 6. Check valve stuck closed or installed backwards. 7. Shut-off valve closed. 8. Impeller jammed or loose on shaft, worn or damaged, impeller cavity or inlet plugged. 9. Pump may be airlocked. 10. Pump running backwards 	<ol style="list-style-type: none"> 3. Make sure liquid level is at least equal to suggested turn-on point. 4. Recheck all sizing calculations to determine proper pump size. 5. Check discharge line for restrictions, including ice if line passes through or into cold areas. 6. Remove and examine check valve for proper installation and freedom of operation. 7. Open valve.
Pump cycles too frequently or runs periodically when fixtures are not in use	<ol style="list-style-type: none"> 6. Check valve stuck closed or installed backwards. 11. Fixtures are leaking. 15. Ground water entering basin. 	<ol style="list-style-type: none"> 8. Check impeller for freedom of operation, security and condition. Clean impeller and inlet of any obstruction. 9. Loosen union slightly to allow trapped air to escape. Verify that turn-off level of switch is set so that the suction is always flooded. Clean vent hole.
Pump shuts off and turns on independent of switch, (trips thermal overload protector). CAUTION! Pump may start unexpectedly. Disconnect power supply.	<ol style="list-style-type: none"> 1. Incorrect voltage. 4. Excessive inflow or pump not properly sized for application. 8. Impeller jammed, loose on shaft, worn or damaged, impeller cavity or inlet plugged. 12. Excessive water temperature. (internal protection only) 	<ol style="list-style-type: none"> 10. Check rotation. If power supply is three phase, reverse any two of three power supply leads to ensure proper impeller rotation.. 11. Repair fixtures as required to eliminate leakage.
Pump operates noisily or vibrates excessively	<ol style="list-style-type: none"> 2c. Worn bearings, motor shaft bent. 5. Debris in impeller cavity or broken impeller 10. Pump running backwards 13. Piping attachments to building structure too rigid or too loose. 	<ol style="list-style-type: none"> 12. Check pump temperature limits & fluid temperature. 13. Replace portion of discharge pipe with flexible connector. 14. Turn to automatic position. 15. Check for leaks around basin inlet and outlets.

Cross Section

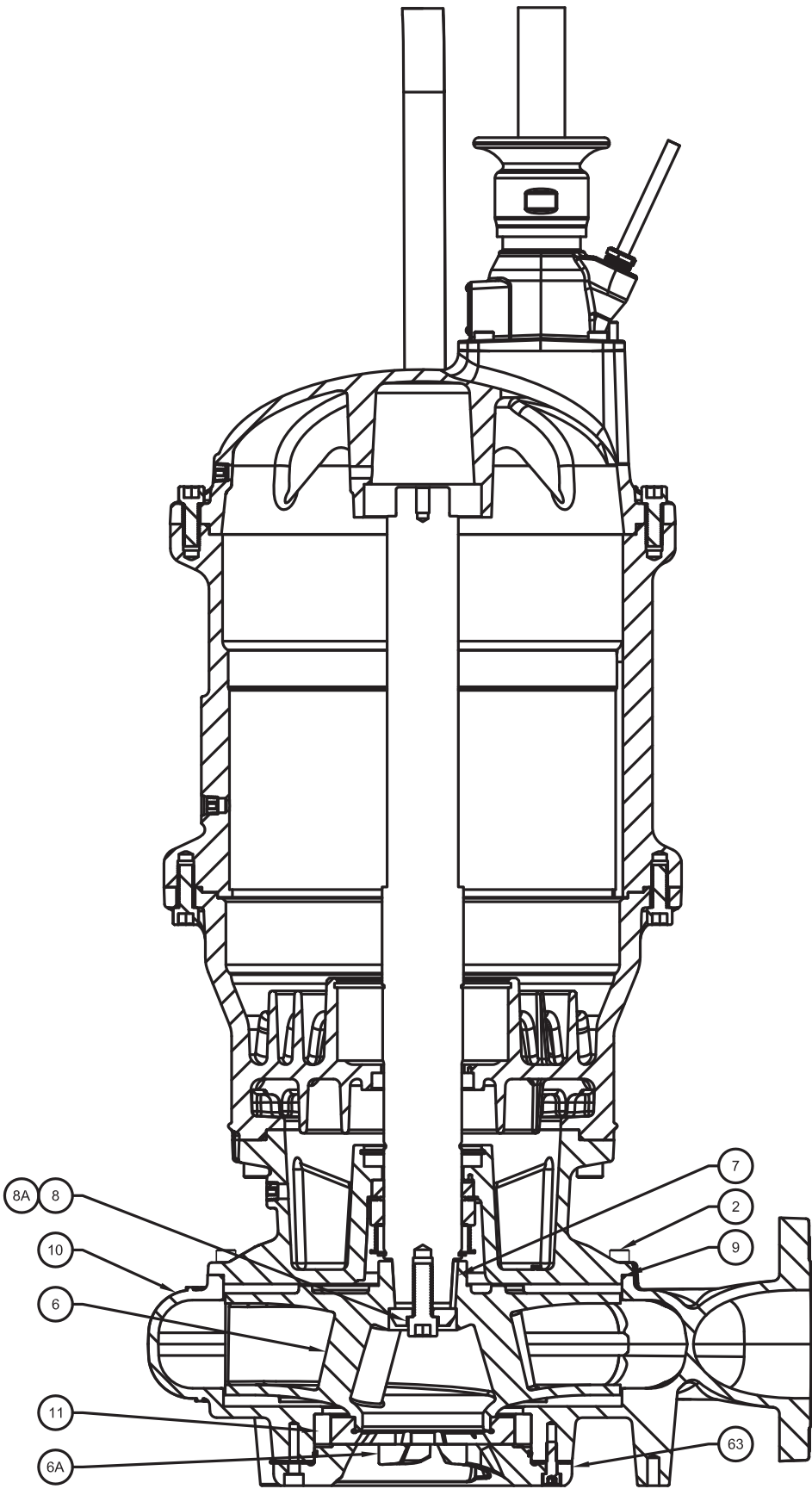


FIGURE 8

Exploded View

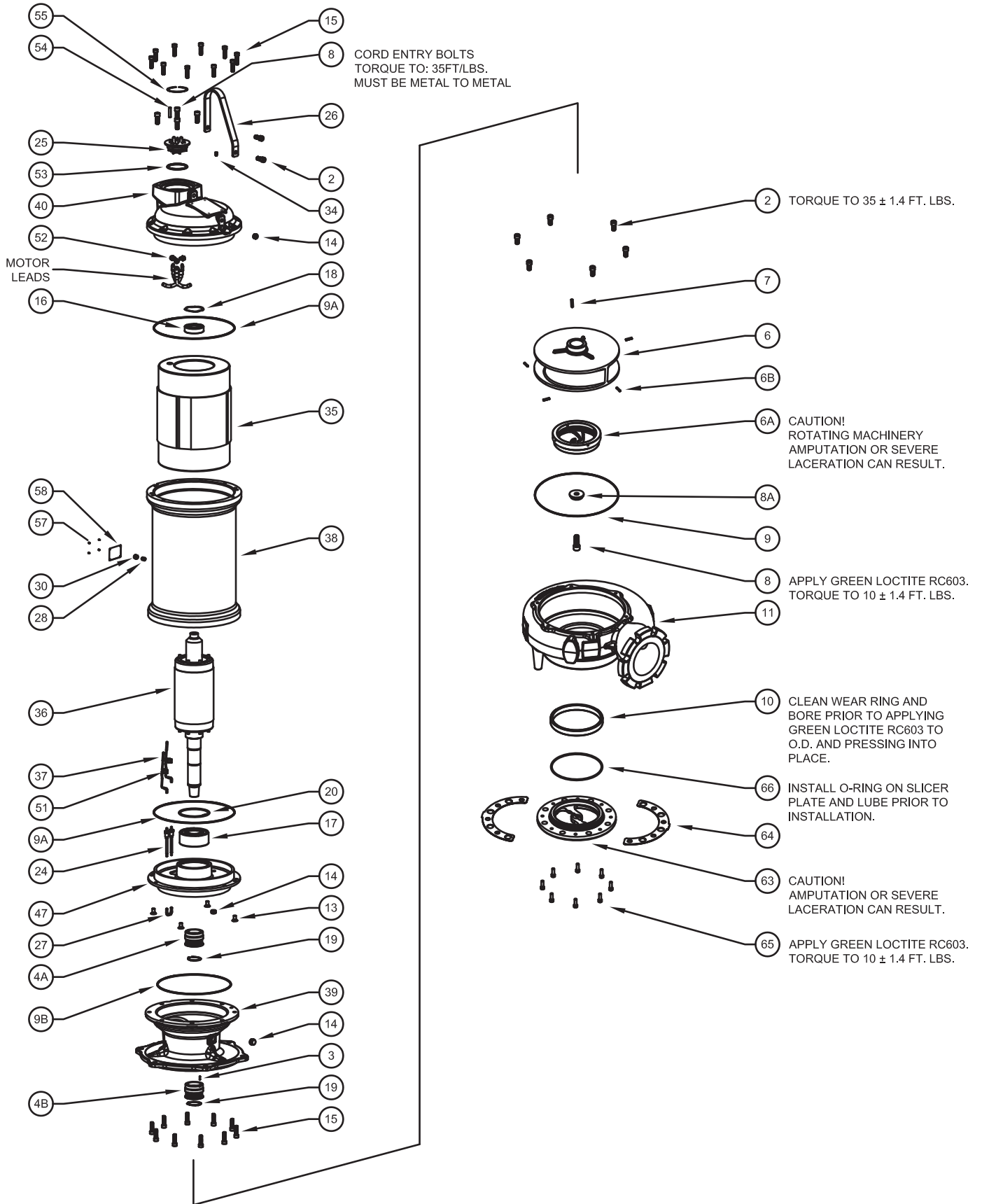


FIGURE 9

PARTS LIST

Rotor Kit	See Table on Page 29	(◇) 19B, 36
Stator Kit	See Table on Page 29	(≈) 14, 28, 35, 38, 70
Seal Kit	See Table on Page 27	(+) 3, 4A, 4B, 7, 9-, 19A, 53, 60
Bearing Kit	p/n 140607DN	(●) 16, 17, 18, 19, 20, 41, 43
Hardware Kit	p/n 140609DN	(♦) 2, 3, 8, 8A, 14, 15, 42, 52
Volute Kit	See Table on Page 20	(■) 10, 11, 70
Seal Plate Kit	See Table on Page 20	(‡) 3, 14, 39, 44, 70
Bearing Bracket Kit	p/n 140601DN	(□) 3, 47, 70
Terminal Block Kit	p/n 140611DN	(§) 25, 52, 53, 55
Moisture Sensor Kit	p/n 138613DN	(-) 24, 27, 37, 51
Slicer Blade Attach. Kit	See Table on Page 30	(○) 7, 8, 8A
Motor Cap Kit	p/n 140604DN	(£) 2, 14, 40, 54, 61, 70
Leg Kit	See Table on Page 28	
Removeable Cord Assy	See Table on Page 19	(β) 8, 56, 59, 62
Cord Attachment Kit	p/n 140152-32	(π) 8, 56
Slicer Blade Kit	See Table on Page 23	(∂) 6, 6A, 6B
Shim Kit	See Table on Page 21	(Δ) 64
Striker Plate Kit	See Table on Page 21	(Σ) 63, 64, 65, 66
Striker Shell Kit	See Table on Page 21	(△) 62, 63, 64, 65, 66
Striker Hardware Kit	See Table on Page 21	(∩) 65, 66
Striker O-Ring Stock Kit	p/n 142635	(▲) 66

ITEM	QTY	PART NO.				DESCRIPTION	MATERIAL
2	8	127223	♦		βπ£	Screw, SHCS, M12 x 1.75 x 25	300 SS
3	2	138312	+ ♦ ‡□			Pin, Spring, .13 x .20	300 SS
4A	1	138315	+			Seal, Mech, 2.88"	C/CE/B
4B	1	138315SD	+			Seal, Mech, 2.88"	SC/SC/B
6	1	See Table	Single Sale		f	Impeller	Ductile Iron
6A	1	See Table			∂	Slicer Blade	Stainless 440C
6B	4	See Table			∂	Slicer Pins	Stainless 400
7	1	Q21-20-J8	+		○	Key, .25 x .25 x 1.50"	303 SS
8	1	138310	♦		○ f	Screw, SHCS, M12 x 1.75 x 30	301 SS
8A	1	138543	♦		○ f	Washer, Impeller, .75 X 2.44	18-8 SS
9-	1	M-6614	+			O-Ring, -465, 18.0" ID	Buna-N
9-	1	125857-360	+			O-Ring, M3 x 360, 70 DURO	Buna-N
9-	1	125857-295	+			O-Ring, M3 x 295, 70 DURO	Buna-N
9-	1	018386	+			O-Ring, -276, 10.98" ID	Buna-N
9-	1	2-31003-281	+			O-Ring, -281, 14.98" ID	Buna-N
9-	1	2-31003-282	+			O-Ring, -282, 15.96" ID	Buna-N
10	1	See Table	■		△	Volute	Cast Iron
11	2	See Table	■		△	Volute Wear Ring (as required)	Bronze
14	3	014270-SS	≈ ♦ ‡		£	Plug, Pipe, .375-18NPT	300 SS
15	34	138179	♦			Screw, SHCS, M16 x 2.00 x 40	300 SS
16	1	Q10-51-E4	●			Bearing, Ball, 6310, 4.33	Steel
17	1	138314	●			Bearing, Ball, 3315A	Steel
18	2	138316	●			Washer, Spring, Wavy, 110mm	Steel
19	2	138311	+			Ring, Retaining, EXT, 5100-187-HPH	SS
20	1	130073	●			Ring, Retaining, 5000-433-S	SS
24	2	125856			-	Sensor, Moisture, .250-18NPT	PP / SS
25	1	138175			§	Block, Terminal, 9 Pin, Male	Valox/Brass
26	1	138546	Single Sale			Handle, Lifting, 32FR	304 SS
27	1	127267			-	Resistor, Moisture, Sensor	
28	1	138545	≈			Pin, Dowel, 7/16" D, 5/8" LG	Steel

PARTS LIST cont.

30	1	127269			Plug, Pipe, .250-18 NPT	300 SS
34	1	125855			Screw, SHCS, M5 x .8 x 8	300 SS
35	1	138328-X	≈		Stator, 32FR	
36	1	138327-X	◇		Rotor, Assy, 32FR, RB	
37	2	127234B		-	Wire, Orange, 36", BAR/BAR	
38	1	138054	≈		Housing, Motor, 32FR	Class 30 CI
39	1	138051-465		‡	Plate, Seal, 465mm, 32FR	Class 30 CI
40	1	138057		£	Cap, Motor, 32FR	Class 30 CI
47	1	138053		□	Bracket, Bearing, 32FR	Class 30 CI
51	2	134013		-	Connector, Wire, Clip	PC
52	3	138542	◆	§	Screw, SHCS/SF, M8 x 1.25 x 12	Steel
53	1	625-01551	+	§	O-Ring, 2-232, 2.75" ID	Buna-N
54	1	138547		£	Pin, Dowel, .313" x 1.50" LG	18-8 SS
55	1	138549		§	Ring, Retaining, INT, VH-375	Steel
56	4	001628			Screw, Drive, U #4, .187"	300 SS
57	1	127264C	No Resale		Nameplate, Main	SS
58	1	See Table		β	Cord	
59	1	2-31003-248		βπ	O-Ring, -248, 4.75" ID	Buna-N
60	2	138559	+		Retainer, Seal, 2.88"	SS
61		125502	■	△	Paint, Epoxy, Part A	Epoxy
62		125503	■	△	Paint, Epoxy, Part B	Epoxy
63	1	See Table		∑△	Striker Plate	Stainless 440C
64	*	See Table		Δ∑△	Shims	
65	**	131147		∑△∩	Striker Plate Screw, SHCS, M10x1.5x35	18-8 Stainless Steel
66	1	See Table		∑△∩▲	Striker, O-Ring, Buna-N, 70 Duro	Buna-N

NOTES:

* Quantity dependent on Blade clearance, nominal is 0.09 Shim Stack, with 0.003 gap between Blade and Plate.

** See Table for Quantity.

'Plug and Play' (Removeable) Cord Assemblies			
Part No.	Length (feet)	Cord Size	Cord O.D.
138317XF	50	8/4 - 18/4	1.12in ± .02in (28.4mm ± .5mm)
138317XJ	75	8/4 - 18/4	1.12in ± .02in (28.4mm ± .5mm)
138317XL	100	8/4 - 18/4	1.12in ± .02in (28.4mm ± .5mm)
138318XF	50	6/4 - 18/4	1.14in ± .03in (28.9mm ± .8mm)
138318XJ	75	6/4 - 18/4	1.14in ± .03in (28.9mm ± .8mm)
138318XL	100	6/4 - 18/4	1.14in ± .03in (28.9mm ± .8mm)
138319XF	50	2/4 - 18/4	1.47in ± .03in (37.3mm ± .8mm)
138319XJ	75	2/4 - 18/4	1.47in ± .03in (37.3mm ± .8mm)
138319XL	100	2/4 - 18/4	1.47in ± .03in (37.3mm ± .8mm)
138320XF	50	0/4 - 18/5	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)
138320XJ	75	0/4 - 18/5	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)
138320XL	100	0/4 - 18/5	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)

* All Assemblies include cord, grommets, and housing in a potted assembly.

Removeable Cord Attachment Kit includes:
<ul style="list-style-type: none"> • O-ring Cord • Attachment Bolts

Volute Pilot Diameter (AFTER JAN.-2019)							
Model	Seal Plate Size	Volute P/N	Volute Kit	Seal Plate P/N	Seal Plate Kit	Wear Ring P/N	Volute O-Ring P/N
3MA	208mm	Not Available in 5 Frame					
4M	208mm						
4ML	240mm						
4MM	305mm						
4MB	370mm						
4MH	370mm						
4MHA	370mm						
4D	208mm						
4DM	240mm						
4DH	370mm						
6ML	370mm	Not Available in 5 Frame					
6MM	370mm						
6MH	370mm						
6DL	305mm						
6D	370mm	143338S	143338SK-D-KIT	138051-370	140595DN	142134	125857-360
8D	305mm	143415S	143415SK-D-KIT	138051-305	140597DN	143438	125857-295
8T	370mm	143414S	143414SK-D-KIT	138051-370	140595DN	143438	125857-360
10DL	465mm	143484S	143484SK-D-KIT	138051-465	140595DN	143486	M-6614
10DH	370mm	143483S	143483SK-D-KIT	138051-370	140596DN	143486	125857-360
Volute Pilot Diameter (BEFORE FEB.-2019)							
4DH	370mm	127254S	127254SK-D-KIT	130689P	140595DN	141581	125857-360
6D	370mm	130830S	130830SK-2D-KIT	130689P	140595DN	142134	125857-360

Striker Kits (AFTER JAN.-2019)									
Model	Plate Flange Size	Striker Shell Kit	Striker Plate Kit	Shim Kit	Striker Hardware Kit	Kit Component Info (Ref. ONLY)			
						Striker Plate	Striker Plate O-Ring	Striker Plate Shims	Striker Plate Screw Quantity
3MA	3 INCH	Not Available in 5 Frame	Not Available in 5 Frame	Not Available in 5 Frame	Not Available in 5 Frame	143265	142174-265	142158-002 (RED) 142158-004 (TAN) 142158-010 (BROWN) 142158-025 (WHITE) 142158-060 (CLEAR)	8
4ML	4 INCH								
4MM	4 INCH								
4MB	4 INCH								
4MH	4 INCH								
4MHA	4 INCH								
4M	4 INCH								
4D	4 INCH								
4DM	5 INCH								
4DH	6 INCH	143264SSK-D-ASSY-KIT	143265D-ASSY-KIT	142158D-KIT	142633-6D-KIT	143265	142174-265	142158-002 (RED) 142158-004 (TAN) 142158-010 (BROWN) 142158-025 (WHITE) 142158-060 (CLEAR)	8
6ML	6 INCH	Not Available in 5 Frame	Not Available in 5 Frame	Not Available in 5 Frame	Not Available in 5 Frame	143339	142174-371	143551-002 (RED) 143551-004 (TAN) 143551-010 (BROWN) 143551-025 (WHITE) 143551-060 (CLEAR)	8
6MM	6 INCH								
6MH	6 INCH								
6DL	6 INCH								
6D	8 INCH	143338SK-D-ASSY-KIT	143339D-ASSY-KIT	143551D-KIT	142633-8D-KIT	143339	142174-371	143551-002 (RED) 143551-004 (TAN) 143551-010 (BROWN) 143551-025 (WHITE) 143551-060 (CLEAR)	8
8D	10 INCH	143415SK-D-ASSY-KIT	143411D-ASSY-KIT	143465D-KIT	142633-10D-KIT	143411	142174-378	143465-002 (RED) 143465-004 (TAN) 143465-010 (BROWN) 143465-025 (WHITE) 143465-060 (CLEAR)	12
8T	10 INCH	143414SK-D-ASSY-KIT	143411D-ASSY-KIT	143465D-KIT	142633-12D-KIT	143472	142174-455	143487-002 (RED) 143487-004 (TAN) 143487-010 (BROWN) 143487-025 (WHITE) 143487-060 (CLEAR)	
10DL	12 INCH	143484SK-D-ASSY-KIT	143472D-ASSY-KIT	143487D-KIT	142633-12D-KIT	143472	142174-455	143487-002 (RED) 143487-004 (TAN) 143487-010 (BROWN) 143487-025 (WHITE) 143487-060 (CLEAR)	8
10DH	12 INCH	143483SK-D-ASSY-KIT	143472D-ASSY-KIT	143487D-KIT	142633-12D-KIT	143472	142174-455	143487-002 (RED) 143487-004 (TAN) 143487-010 (BROWN) 143487-025 (WHITE) 143487-060 (CLEAR)	
Striker Kits (BEFORE FEB.-2019)									
4DH	4 INCH	127254SK-D-ASSY-KIT	142125D-ASSY-KIT	142157D-KIT	142633-4D-KIT	142125	142174-259	142157-002 (RED) 142157-004 (TAN) 142157-010 (BROWN) 142157-025 (WHITE) 142157-060 (CLEAR)	8
6D	6 INCH	130830SK-2D-ASSY-KIT	141585D-ASSY-KIT	142158D-KIT	142633-6D-KIT	141585	142174-265	142158-002 (RED) 142158-004 (TAN) 142158-010 (BROWN) 142158-025 (WHITE) 142158-060 (CLEAR)	

CURRENT DESIGN (AFTER JAN.-2019)				
Model	Striker Plate Flange Size	Striker O-ring Stock Kit	Shim Stock Kit	Spacing Kit
3MA	3 INCH	Not Available in 32 Frame		
4M	4 INCH			
4ML	4 INCH			
4MM	4 INCH			
4MB	4 INCH			
4MH	4 INCH			
4MHA	4 INCH			
4D	4 INCH			
4DM	5 INCH			
4DH	6 INCH			
6ML	6 INCH	Not Available in 32 Frame		
6MM	6 INCH			
6MH	6 INCH			
6DL	6 INCH			
6D	8 INCH			
8D	10 INCH	142635D	143551D-STK-KIT	142634
8T	10 INCH		143465D-STK-KIT	
10DL	12 INCH		143487D-STK-KIT	
10DH	12 INCH			
PREVIOUS DESIGN (BEFORE FEB.-2019)				
4DH	4 INCH	142635D	142157D-STK-KIT	142634
6D	6 INCH		142158D-STK-KIT	

Striker Plate Kit includes:
<ul style="list-style-type: none"> • Striker Plate • O-ring (Plate) • M10 Bolts (quantity per table) • Shim Kit

Shim Kit includes:
<ul style="list-style-type: none"> • 0.002" Shims (4) • 0.004" Shims (4) • 0.010" Shims (4) • 0.025" Shims (2) • 0.060" Shims (2) • Level 4 Cut proof Gloves • Spacer Gage

Striker Shell Kit includes:
<ul style="list-style-type: none"> • Striker Plate Kit • Volute Kit

Striker Hardware Kit includes:
<ul style="list-style-type: none"> • M10 Bolts (quantity per table) • O-ring (Plate)

Spacing Kit includes:
<ul style="list-style-type: none"> • Level 4 Cut proof Gloves • Spacer Gage

Shim Stock Kit includes:
<ul style="list-style-type: none"> • 0.002" Shims (12) • 0.004" Shims (12) • 0.010" Shims (12) • 0.025" Shims (8) • 0.060" Shims (6)

Striker O-ring Stock Kit includes:
<ul style="list-style-type: none"> • Small O-ring (4 inch Plate)(qty. 4) • Medium O-ring (5 inch Plate)(qty. 2) • Large O-ring (6 inch Plate)(qty. 4) • X-Large O-ring (8 inch Plate)(qty. 2) • XX-Large O-ring (10 inch Plate)(qty. 4) • XXX-Large O-ring (12 inch Plate)(qty. 4)

"4DH = 1" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
370mm (14.57in)	138928-ASSY-KIT	143368-ASSY-KIT	138928-C	143368-C	143266	142141-1000
365mm (14.37in)	138928TA-ASSY-KIT	143368TA-ASSY-KIT	138928TA-C	143368TA-C	143266	142141-1000
360mm (14.17in)	138928TB-ASSY-KIT	143368TB-ASSY-KIT	138928TB-C	143368TB-C	143266	142141-1000
355mm (13.98in)	138928TC-ASSY-KIT	143368TC-ASSY-KIT	138928TC-C	143368TC-C	143266	142141-1000
350mm (13.78in)	138928TD-ASSY-KIT	143368TD-ASSY-KIT	138928TD-C	143368TD-C	143266	142141-1000
345mm (13.58in)	138928TE-ASSY-KIT	143368TE-ASSY-KIT	138928TE-C	143368TE-C	143266	142141-1000
340mm (13.39in)	138928TF-ASSY-KIT	143368TF-ASSY-KIT	138928TF-C	143368TF-C	143266	142141-1000
335mm (13.19in)	138928TG-ASSY-KIT	143368TG-ASSY-KIT	138928TG-C	143368TG-C	143266	142141-1000
330mm (12.99in)	138928TH-ASSY-KIT	143368TH-ASSY-KIT	138928TH-C	143368TH-C	143266	142141-1000
325mm (12.80in)	138928TJ-ASSY-KIT	143368TJ-ASSY-KIT	138928TJ-C	143368TJ-C	143266	142141-1000
320mm (12.60in)	138928TK-ASSY-KIT	143368TK-ASSY-KIT	138928TK-C	143368TK-C	143266	142141-1000
315mm (12.40in)	138928TL-ASSY-KIT	143368TL-ASSY-KIT	138928TL-C	143368TL-C	143266	142141-1000
310mm (12.21in)	138928TM-ASSY-KIT	143368TM-ASSY-KIT	138928TM-C	143368TM-C	143266	142141-1000
305mm (12.01in)	138928TN-ASSY-KIT	143368TN-ASSY-KIT	138928TN-C	143368TN-C	143266	142141-1000
300mm (11.81in)	138928TP-ASSY-KIT	143368TP-ASSY-KIT	138928TP-C	143368TP-C	143266	142141-1000
295mm (11.61in)	138928TR-ASSY-KIT	143368TR-ASSY-KIT	138928TR-C	143368TR-C	143266	142141-1000
290mm (11.42in)	138928TS-ASSY-KIT	143368TS-ASSY-KIT	138928TS-C	143368TS-C	143266	142141-1000
285mm (11.22in)	138928TT-ASSY-KIT	143368TT-ASSY-KIT	138928TT-C	143368TT-C	143266	142141-1000
280mm (11.02in)	138928TU-ASSY-KIT	143368TU-ASSY-KIT	138928TU-C	143368TU-C	143266	142141-1000
275mm (10.83in)	138928TV-ASSY-KIT	143368TV-ASSY-KIT	138928TV-C	143368TV-C	143266	142141-1000
270mm (10.63in)	138928TW-ASSY-KIT	143368TW-ASSY-KIT	138928TW-C	143368TW-C	143266	142141-1000
265mm (10.43in)	138928TX-ASSY-KIT	143368TX-ASSY-KIT	138928TX-C	143368TX-C	143266	142141-1000
260mm (10.24in)	138928TY-ASSY-KIT	143368TY-ASSY-KIT	138928TY-C	143368TY-C	143266	142141-1000
255mm (10.04in)	138928TZ-ASSY-KIT	143368TZ-ASSY-KIT	138928TZ-C	143368TZ-C	143266	142141-1000
250mm (9.84in)	138928TAA-ASSY-KIT	143368TAA-ASSY-KIT	138928TAA-C	143368TAA-C	143266	142141-1000
245mm (9.65in)	138928TAB-ASSY-KIT	143368TAB-ASSY-KIT	138928TAB-C	143368TAB-C	143266	142141-1000
240mm (9.45in)	138928TAC-ASSY-KIT	143368TAC-ASSY-KIT	138928TAC-C	143368TAC-C	143266	142141-1000
235mm (9.25in)	138928TAD-ASSY-KIT	143368TAD-ASSY-KIT	138928TAD-C	143368TAD-C	143266	142141-1000
230mm (9.06in)	138928TAE-ASSY-KIT	143368TAE-ASSY-KIT	138928TAE-C	143368TAE-C	143266	142141-1000

"6D = K" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
370mm (14.57in)	138930-ASSY-KIT	143370-ASSY-KIT	138930-C	143370-C	143340	143491-1125
365mm (14.37in)	138930TA-ASSY-KIT	143370TA-ASSY-KIT	138930TA-C	143370TA-C	143340	143491-1125
360mm (14.17in)	138930TB-ASSY-KIT	143370TB-ASSY-KIT	138930TB-C	143370TB-C	143340	143491-1125
355mm (13.98in)	138930TC-ASSY-KIT	143370TC-ASSY-KIT	138930TC-C	143370TC-C	143340	143491-1125
350mm (13.78in)	138930TD-ASSY-KIT	143370TD-ASSY-KIT	138930TD-C	143370TD-C	143340	143491-1125
345mm (13.58in)	138930TE-ASSY-KIT	143370TE-ASSY-KIT	138930TE-C	143370TE-C	143340	143491-1125
340mm (13.39in)	138930TF-ASSY-KIT	143370TF-ASSY-KIT	138930TF-C	143370TF-C	143340	143491-1125
335mm (13.19in)	138930TG-ASSY-KIT	143370TG-ASSY-KIT	138930TG-C	143370TG-C	143340	143491-1125
330mm (12.99in)	138930TH-ASSY-KIT	143370TH-ASSY-KIT	138930TH-C	143370TH-C	143340	143491-1125
325mm (12.80in)	138930TJ-ASSY-KIT	143370TJ-ASSY-KIT	138930TJ-C	143370TJ-C	143340	143491-1125
320mm (12.60in)	138930TK-ASSY-KIT	143370TK-ASSY-KIT	138930TK-C	143370TK-C	143340	143491-1125
315mm (12.40in)	138930TL-ASSY-KIT	143370TL-ASSY-KIT	138930TL-C	143370TL-C	143340	143491-1125
310mm (12.21in)	138930TM-ASSY-KIT	143370TM-ASSY-KIT	138930TM-C	143370TM-C	143340	143491-1125
305mm (12.01in)	138930TN-ASSY-KIT	143370TN-ASSY-KIT	138930TN-C	143370TN-C	143340	143491-1125
300mm (11.81in)	138930TP-ASSY-KIT	143370TP-ASSY-KIT	138930TP-C	143370TP-C	143340	143491-1125
295mm (11.61in)	138930TQ-ASSY-KIT	143370TQ-ASSY-KIT	138930TQ-C	143370TQ-C	143340	143491-1125
290mm (11.42in)	138930TR-ASSY-KIT	143370TR-ASSY-KIT	138930TR-C	143370TR-C	143340	143491-1125
285mm (11.22in)	138930TS-ASSY-KIT	143370TS-ASSY-KIT	138930TS-C	143370TS-C	143340	143491-1125
280mm (11.02in)	138930TT-ASSY-KIT	143370TT-ASSY-KIT	138930TT-C	143370TT-C	143340	143491-1125
275mm (10.83in)	138930TU-ASSY-KIT	143370TU-ASSY-KIT	130827TU-C	143370TU-C	143340	143491-1125
270mm (10.63in)	138930TV-ASSY-KIT	143370TV-ASSY-KIT	138930TV-C	143370TV-C	143340	143491-1125
265mm (10.43in)	138930TW-ASSY-KIT	143370TW-ASSY-KIT	138930TW-C	143370TW-C	143340	143491-1125
260mm (10.24in)	138930TX-ASSY-KIT	143370TX-ASSY-KIT	138930TX-C	143370TX-C	143340	143491-1125
255mm (10.04in)	138930TY-ASSY-KIT	143370TY-ASSY-KIT	138930TY-C	143370TY-C	143340	143491-1125
250mm (9.84in)	138930TZ-ASSY-KIT	143370TZ-ASSY-KIT	138930TZ-C	143370TZ-C	143340	143491-1125
245mm (9.65in)	138930UA-ASSY-KIT	143370UA-ASSY-KIT	138930UA-C	143370UA-C	143340	143491-1125
240mm (9.45in)	138930UB-ASSY-KIT	143282UB-ASSY-KIT	138930UB-C	143370UB-C	143340	143491-1125
235mm (9.25in)	138930UC-ASSY-KIT	143370UC-ASSY-KIT	138930UC-C	143370UC-C	143340	143491-1125
230mm (9.05in)	138930UD-ASSY-KIT	143370UD-ASSY-KIT	138930UD-C	143370UD-C	143340	143491-1125

"8T = M" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
370mm (14.57in)	138932-ASSY-KIT	143372-ASSY-KIT	138932-C	143372-C	143412	143491-1000
365mm (14.37in)	138932TA-ASSY-KIT	143372TA-ASSY-KIT	138932TA-C	143372TA-C	143412	143491-1000
360mm (14.17in)	138932TB-ASSY-KIT	143372TB-ASSY-KIT	138932TB-C	143372TB-C	143412	143491-1000
355mm (13.98in)	138932TC-ASSY-KIT	143372TC-ASSY-KIT	138932TC-C	143372TC-C	143412	143491-1000
350mm (13.78in)	138932TD-ASSY-KIT	143372TD-ASSY-KIT	138932TD-C	143372TD-C	143412	143491-1000
345mm (13.58in)	138932TE-ASSY-KIT	143372TE-ASSY-KIT	138932TE-C	143372TE-C	143412	143491-1000
340mm (13.39in)	138932TF-ASSY-KIT	143372TF-ASSY-KIT	138932TF-C	143372TF-C	143412	143491-1000
335mm (13.19in)	138932TG-ASSY-KIT	143372TG-ASSY-KIT	138932TG-C	143372TG-C	143412	143491-1000
330mm (12.99in)	138932TH-ASSY-KIT	143372TH-ASSY-KIT	138932TH-C	143372TH-C	143412	143491-1000
325mm (12.80in)	138932TJ-ASSY-KIT	143372TJ-ASSY-KIT	138932TJ-C	143372TJ-C	143412	143491-1000
320mm (12.60in)	138932TK-ASSY-KIT	143372TK-ASSY-KIT	138932TK-C	143372TK-C	143412	143491-1000
315mm (12.40in)	138932TL-ASSY-KIT	143372TL-ASSY-KIT	138932TL-C	143372TL-C	143412	143491-1000
310mm (12.21in)	138932TM-ASSY-KIT	143372TM-ASSY-KIT	138932TM-C	143372TM-C	143412	143491-1000
305mm (12.01in)	138932TN-ASSY-KIT	143372TN-ASSY-KIT	138932TN-C	143372TN-C	143412	143491-1000
300mm (11.81in)	138932TP-ASSY-KIT	143372TP-ASSY-KIT	138932TP-C	143372TP-C	143412	143491-1000
295mm (11.61in)	138932TR-ASSY-KIT	143372TR-ASSY-KIT	138932TR-C	143372TR-C	143412	143491-1000
290mm (11.42in)	138932TS-ASSY-KIT	143372TS-ASSY-KIT	138932TS-C	143372TS-C	143412	143491-1000
285mm (11.22in)	138932TT-ASSY-KIT	143372TT-ASSY-KIT	138932TT-C	143372TT-C	143412	143491-1000
280mm (11.02in)	138932TU-ASSY-KIT	143372TU-ASSY-KIT	138932TU-C	143372TU-C	143412	143491-1000
275mm (10.83in)	138932TV-ASSY-KIT	143372TV-ASSY-KIT	138932TV-C	143372TV-C	143412	143491-1000
270mm (10.63in)	138932TW-ASSY-KIT	143372TW-ASSY-KIT	138932TW-C	143372TW-C	143412	143491-1000
265mm (10.43in)	138932TX-ASSY-KIT	143372TX-ASSY-KIT	138932TX-C	143372TX-C	143412	143491-1000
260mm (10.24in)	138932TY-ASSY-KIT	143372TY-ASSY-KIT	138932TY-C	143372TY-C	143412	143491-1000
255mm (10.04in)	138932TZ-ASSY-KIT	143372TZ-ASSY-KIT	138932TZ-C	143372TZ-C	143412	143491-1000
250mm (9.84in)	138932UA-ASSY-KIT	143372UA-ASSY-KIT	138932UA-C	143372UA-C	143412	143491-1000

"8D = U" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
305mm (12.01in)	138102-ASSY-KIT	143293-ASSY-KIT	138102-C	143293-C	143413	143491-1125
300mm (11.81in)	138102TA-ASSY-KIT	143293TA-ASSY-KIT	138102TA-C	143293TA-C	143413	143491-1125
295mm (11.61in)	138102TB-ASSY-KIT	143293TB-ASSY-KIT	138102TB-C	143293TB-C	143413	143491-1125
290mm (11.42in)	138102TC-ASSY-KIT	143293TC-ASSY-KIT	138102TC-C	143293TC-C	143413	143491-1125
285mm (11.22in)	138102TD-ASSY-KIT	143293TD-ASSY-KIT	138102TD-C	143293TD-C	143413	143491-1125
280mm (11.02in)	138102TE-ASSY-KIT	143293TE-ASSY-KIT	138102TE-C	143293TE-C	143413	143491-1125
275mm (10.83in)	138102TF-ASSY-KIT	143293TF-ASSY-KIT	138102TF-C	143293TF-C	143413	143491-1125
270mm (10.63in)	138102TG-ASSY-KIT	143293TG-ASSY-KIT	138102TG-C	143293TG-C	143413	143491-1125
265mm (10.43in)	138102TH-ASSY-KIT	143293TH-ASSY-KIT	138102TH-C	143293TH-C	143413	143491-1125
260mm (10.24in)	138102TJ-ASSY-KIT	143293TJ-ASSY-KIT	138102TJ-C	143293TJ-C	143413	143491-1125
255mm (10.04in)	138102TK-ASSY-KIT	143293TK-ASSY-KIT	138102TK-C	143293TK-C	143413	143491-1125
250mm (9.84in)	138102TL-ASSY-KIT	143293TL-ASSY-KIT	138102TL-C	143293TL-C	143413	143491-1125
245mm (9.65in)	138102TM-ASSY-KIT	143293TM-ASSY-KIT	138102TM-C	143293TM-C	143413	143491-1125
240mm (9.45in)	138102TN-ASSY-KIT	143293TN-ASSY-KIT	138102TN-C	143293TN-C	143413	143491-1125
235mm (9.25in)	138102TP-ASSY-KIT	143293TP-ASSY-KIT	138102TP-C	143293TP-C	143413	143491-1125
230mm (9.05in)	138102TQ-ASSY-KIT	143293TQ-ASSY-KIT	138102TQ-C	143293TQ-C	143413	143491-1125

"10DH = W" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
360mm (14.17in)	138100-ASSY-KIT	143295-ASSY-KIT	138100-C	143295-C	143473	143491-1125
355mm (13.98in)	138100TA-ASSY-KIT	143295TA-ASSY-KIT	138100TA-C	143295TA-C	143473	143491-1125
350mm (13.78in)	138100TB-ASSY-KIT	143295TB-ASSY-KIT	138100TB-C	143295TB-C	143473	143491-1125
345mm (13.58in)	138100TC-ASSY-KIT	143295TC-ASSY-KIT	138100TC-C	143295TC-C	143473	143491-1125
340mm (13.39in)	138100TD-ASSY-KIT	143295TD-ASSY-KIT	138100TD-C	143295TD-C	143473	143491-1125
335mm (13.19in)	138100TE-ASSY-KIT	143295TE-ASSY-KIT	138100TE-C	143295TE-C	143473	143491-1125
330mm (12.99in)	138100TF-ASSY-KIT	143295TF-ASSY-KIT	138100TF-C	143295TF-C	143473	143491-1125
325mm (12.80in)	138100TG-ASSY-KIT	143295TG-ASSY-KIT	138100TG-C	143295TG-C	143473	143491-1125
320mm (12.60in)	138100TH-ASSY-KIT	143295TH-ASSY-KIT	138100TH-C	143295TH-C	143473	143491-1125
315mm (12.40in)	138100TJ-ASSY-KIT	143295TJ-ASSY-KIT	138100TJ-C	143295TJ-C	143473	143491-1125
310mm (12.21in)	138100TK-ASSY-KIT	143295TK-ASSY-KIT	138100TK-C	143295TK-C	143473	143491-1125
305mm (12.01in)	138100TL-ASSY-KIT	143295TL-ASSY-KIT	138100TL-C	143295TL-C	143473	143491-1125
300mm (11.81in)	138100TM-ASSY-KIT	143295TM-ASSY-KIT	138100TM-C	143295TM-C	143473	143491-1125
295mm (11.61in)	138100TN-ASSY-KIT	143295TN-ASSY-KIT	138100TN-C	143295TN-C	143473	143491-1125
290mm (11.42in)	138100TP-ASSY-KIT	143295TP-ASSY-KIT	138100TP-C	143295TP-C	143473	143491-1125

"10DL = X" Impeller						
Trim Dia. mm (in)	Ductile Iron Slicer Blade Kit	Nihard Slicer Blade Kit	Kit Component Info (Ref. ONLY)			
			Ductile Iron Part No.	Nihard Part No.	Blade	Pin
455mm (17.91in)	138099-ASSY-KIT	143296-ASSY-KIT	138099-C	143296-C	143473	143491-1000
450mm (17.72in)	138099TA-ASSY-KIT	143296TA-ASSY-KIT	138099TA-C	143296TA-C	143473	143491-1000
445mm (17.52in)	138099TB-ASSY-KIT	143296TB-ASSY-KIT	138099TB-C	143296TB-C	143473	143491-1000
440mm (17.32in)	138099TC-ASSY-KIT	143296TC-ASSY-KIT	138099TC-C	143296TC-C	143473	143491-1000
435mm (17.13in)	138099TD-ASSY-KIT	143296TD-ASSY-KIT	138099TD-C	143296TD-C	143473	143491-1000
430mm (16.93in)	138099TE-ASSY-KIT	143296TE-ASSY-KIT	138099TE-C	143296TE-C	143473	143491-1000
425mm (16.73in)	138099TF-ASSY-KIT	143296TF-ASSY-KIT	138099TF-C	143296TF-C	143473	143491-1000
420mm (16.54in)	138099TG-ASSY-KIT	143296TG-ASSY-KIT	138099TG-C	143296TG-C	143473	143491-1000
415mm (16.34in)	138099TH-ASSY-KIT	143296TH-ASSY-KIT	138099TH-C	143296TH-C	143473	143491-1000
410mm (16.14in)	138099TJ-ASSY-KIT	143296TJ-ASSY-KIT	138099TJ-C	143296TJ-C	143473	143491-1000
405mm (15.94in)	138099TK-ASSY-KIT	143296TK-ASSY-KIT	138099TK-C	143296TK-C	143473	143491-1000
400mm (15.75in)	138099TL-ASSY-KIT	143296TL-ASSY-KIT	138099TL-C	143296TL-C	143473	143491-1000
395mm (15.55in)	138099TM-ASSY-KIT	143296TM-ASSY-KIT	138099TM-C	143296TM-C	143473	143491-1000
390mm (15.35in)	138099TN-ASSY-KIT	143296TN-ASSY-KIT	138099TN-C	143296TN-C	143473	143491-1000
385mm (15.16in)	138099TP-ASSY-KIT	143296TP-ASSY-KIT	138099TP-C	143296TP-C	143473	143491-1000
380mm (14.96in)	138099TQ-ASSY-KIT	143296TQ-ASSY-KIT	138099TQ-C	143296TQ-C	143473	143491-1000
375mm (14.76in)	138099TR-ASSY-KIT	143296TR-ASSY-KIT	138099TR-C	143296TR-C	143473	143491-1000
370mm (14.57in)	138099TS-ASSY-KIT	143296TS-ASSY-KIT	138099TS-C	143296TS-C	143473	143491-1000
365mm (14.37in)	138099TT-ASSY-KIT	143296TT-ASSY-KIT	138099TT-C	143296TT-C	143473	143491-1000
360mm (14.17in)	138099TU-ASSY-KIT	143296TU-ASSY-KIT	138099TU-C	143296TU-C	143473	143491-1000
355mm (13.98in)	138099TV-ASSY-KIT	143296TV-ASSY-KIT	138099TV-C	143296TV-C	143473	143491-1000
350mm (13.78in)	138099TW-ASSY-KIT	143296TW-ASSY-KIT	138099TW-C	143296TW-C	143473	143491-1000
345mm (13.58in)	138099TX-ASSY-KIT	143296TX-ASSY-KIT	138099TX-C	143296TX-C	143473	143491-1000
340mm (13.39in)	138099TY-ASSY-KIT	143296TY-ASSY-KIT	138099TY-C	143296TY-C	143473	143491-1000

Slicer Blade Kit includes:
<ul style="list-style-type: none"> • Impeller (Balanced, trimmed) • Blade (Pressed) • Attachment Pins (Pressed) <i>(Components are Fully Assembled)</i>

Slicer Blade Attachment Kit includes:
<ul style="list-style-type: none"> • Impeller Washer • Impeller Bolt • Impeller Key

Seal Kits				
Seal Kit Part No.	I.B. Seal Part No.	I.B. Seal Material	O.B. Seal Part No.	O.B Seal Material
140613DN	138315	Carbon / Ceramic	138315	Carbon / Ceramic
140614DN (STD)	138315	Carbon / Ceramic	138315SD	Silicon Carbide / Silicon Carbide
140615DN	138315	Carbon / Ceramic	138315SB	Tungsten Carbide / Tungsten Carbide
140616DN	138315SD	Silicon Carbide / Silicon Carbide	138315SD	Silicon Carbide / Silicon Carbide
140617DN	138315SD	Silicon Carbide / Silicon Carbide	138315SB	Tungsten Carbide / Tungsten Carbide
140618DN	138315SB	Tungsten Carbide / Tungsten Carbide	138315SB	Tungsten Carbide / Tungsten Carbide

Seal Kit includes:

- Lower Volute O-Ring (option 1)
- Lower Volute O-Ring (option 2)
- Lower Volute O-Ring (option 3)
- Seal Plate Upper O-ring
- Upper and Lower Stator O-Rings
- Terminal Block O-ring
- Retaining Rings
- Key
- Upper Mechanical Seal
- Lower Mechanical Seal
- Cord attachment O-ring
- Seal Pins

NOTE: Kit contains hardware your pump may not require.

Bearing Kit includes:

- Upper Ball Bearing
- Lower Ball Bearing
- Wavy Spring Washer
- Retaining Rings

Bearing Bracket Kit includes:

- Bearing Bracket (painted)
- Large Pipe Plug
- Spring Pin

Hardware Kit includes:

- Socket Head Cap Screws (for Motor Cap)
- Impeller Bolt and Washer Set
- Socket Head Cap Screws (for Upper Seal Plate and Bearing Bracket)
- Socket Head Cap Screws (for Motor Leads)
- Socket Head Cap Screws (Ground Screw)
- Socket Head Cap Screws (for Handle)
- Socket Head Cap Screws (for Volute)
- Cord Attachment Screws
- Spring Pin
- Pipe Plug

NOTE:
Kits contain hardware your pump may not require.

Seal Plate Kit includes:

- Spring Pin
- Pipe Plug
- Seal Plate (painted)

Volute Kit includes:

- Wear Ring (if required)(pressed)
- Volute (painted)

Moisture Sensor Kit includes:

- 18" Orange Wire Jumper
- 24" Blue Wire Jumper
- Moisture Sensor Resistor
- Moisture Sensor
- 36" Orange Wire Jumper
- Wire Connector Clip
- 24" Orange Wire Jumper

Impeller Attachment Kit includes:

- Impeller Washer
- Impeller Bolt

Terminal Block includes:

- Terminal Block
- Terminal Block O-ring
- Terminal Block Alignment Pin
- Terminal Block Retaining Ring
- Motor Lead Screws

Motor Cap Kit includes:

- Upper Motor Housing Cap
- Pipe Plug
- Ground Screw
- Caution Tag
- Dowel Pin

Additional Components			
Component	Part No.	Single Sale	Kit
Impeller	See Table	Yes	N/A
Wear Ring	See Table	Yes	Impeller, Volute Kit
Lifting Handle	138546	Yes	N/A
Pipe Plugs	014270-SS, 127269	Yes	Seal Plate Kit, Stator Kit, Bearing Bracket Kit, Motor Cap Kit
Wire Tie Cable	039462	Yes	Stator Kit
Nameplate	No Resale		
Nameplate/Model Plate Rivets	001628	No Resale	Rivet Kit (p/n 139398)
Driver Assembly	No Resale		
Overhaul Kit	Purchase Seal Kit and Hardware Kit		

Leg Kits		
Model	Leg Kit Part No.	Leg Kit Height Inches (mm)
3MA	125506	3.15 (80)
4M	125506	3.15 (80)
4D	125506	3.15 (80)
4ML	125506	3.15 (80)
4DM	125506	3.15 (80)
4MM	125506B	6.50 (165)
6DL	125506B	6.50 (165)
4MB	125506B	6.50 (165)
4MH	125506B	6.50 (165)
4MHA	125506B	6.50 (165)
4DH	125506B	6.50 (165)
6ML	125506B	6.50 (165)
6MM	125506B	6.50 (165)
6MH	125506B	6.50 (165)
6D	125506B	6.50 (165)
8D	125506B	6.50 (165)
8T	125506C	10.75 (273)
10DL	125506C	10.75 (273)
10DH	125506C	10.75 (273)

Leg Kit includes:
<ul style="list-style-type: none"> • 3 Legs (painted) • attachment hardware

Model No.	HP	Volt	1750 RPM		1150 RPM		870 RPM	
			Rotor Kit Part No.	Stator / Motor Housing Kit Part No.	Rotor Kit Part No.	Stator / Motor Housing Kit Part No.	Rotor Kit Part No.	Stator / Motor Housing Kit Part No.
7366N-___-94-32N	40.0	460	N/A	N/A	N/A	N/A	140252D	140253D
7366N-___-1D-32N	40.0	575	N/A	N/A	N/A	N/A	140254D	140255D
7366N-___-95-32N	50.0	460	N/A	N/A	140256D	140257D	140258D	140259D
7366N-___-1E-32N	50.0	575	N/A	N/A	140260D	140261D	140262D	140263D
7366N-___-96-32N	60.0	460	N/A	N/A	140264D	140265D	N/A	N/A
7366N-___-1F-32N	60.0	575	N/A	N/A	140266D	140267D	N/A	N/A
7366N-___-67-32N	75.0	460	140268D	140269D	140270D	140271D	N/A	N/A
7366N-___-82-32N	75.0	575	140272D	140273D	140274D	140275D	N/A	N/A
7366N-___-68-32N	100.0	460	140276D	140277D	140278D	140279D	N/A	N/A
7366N-___-83-32N	100.0	575	140280D	140281D	140285D	140286D	N/A	N/A
7366N-___-69-32N	125.0	460	140287D	140288D	N/A	N/A	N/A	N/A
7366N-___-84-32N	125.0	575	140289D	140290D	N/A	N/A	N/A	N/A
7366N-___-97-32N	150.0	460	140291D	140292D	N/A	N/A	N/A	N/A
7366N-___-1G-32N	150.0	575	140293D	140294D	N/A	N/A	N/A	N/A

Rotor Kit includes:
• Rotor

Example		
Model No.	Rotor Kit Part No.	Stator / Motor Housing Kit Part No.
7366N-414-82-32N	140272D	140273D

Stator/Motor Housing Kit includes:
<ul style="list-style-type: none"> • Motor Housing (painted) • Stator • Dowel Pin (Replaces Pin Spring) • Small Pipe Plug • Motor Plate • Self-clinching Tie Cable • Model Plate Rivets

7366N-414-67-32N	140288	140269	Seal Kit	Bearing Kit	Volute Kit	Seal Plate Kit	Bear. Bkkt. Kit	Term. Block Kit	Hardw. Kit	Moist. Sensor Kit	Slicer Blade Attach. Kit	Motor Cap Kit	Leg Kit	Slicer Blade Kit	Shim Kit	Striker Plate Kit	Striker Shell Kit	Striker Hardware Kit
			*140614DN, 140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143264SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138928TB-ASSY-KIT	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366N-414-82-32N	140272	140273	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143264SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138928TB-ASSY-KIT	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366N-414-68-32N	140276	140277	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143264SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138928-ASSY-KIT	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366N-414-83-32N	140280	140281	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143264SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138928-ASSY-KIT	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366N-618-67-32N	140288	140269		140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930TG-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-618-82-32N	140272	140273	*140614DN, 140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930TG-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-618-68-32N	140276	140277	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930TA-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-618-83-32N	140280	140281	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930TA-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-618-69-32N	140287	140288		140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-618-84-32N	140289	140290		140607DN	143338SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	138614D	140604DN	125506B	138930-ASSY-KIT	143551D-KIT	143339D-ASSY-KIT	143338SK-D-ASSY-KIT	142633-8D-KIT
7366N-860-67-32N	140288	140269	*140614DN, 140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143415SK-D-KIT	140597DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506B	138102-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT
7366N-860-82-32N	140272	140273	140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143415SK-D-KIT	140597DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506B	138102-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT

* NOTE: Standard part number. For more information see page 27.

KIT PART NUMBERS (BEFORE FEB.-2019)								
Model	Volute Kit	Slicer Blade Kit	Shim Kit	Striker Plate Kit	Striker Shell Kit	Striker Hardware Kit		
7366N-860-68-32N	143415SK-D-KIT	138102-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT		
7366N-860-83-32N	143415SK-D-KIT	138102-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT		

NOTE:

For NIHard impeller info, start on page 23.

* Standard part number. For more information see page 27.

7366N-850-67-32N	140268	140269	Seal Kit	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TX-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-82-32N	140272	140273	140607DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TX-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-68-32N	140276	140277	140607DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TS-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-83-32N	140280	140281	*140614DN, 140613DN, 140615DN, 140617DN, 140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TL-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-69-32N	140287	140288	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TL-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-84-32N	140289	140290	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TF-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-97-32N	140291	140292	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TF-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-850-1G-32N	140293	140294	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TF-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-95-32N	140256	140257	140607DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TK-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-1E-32N	140260	140261	140607DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TK-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-96-32N	140264	140265	140607DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TG-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-1F-32N	140266	140267	*140614DN, 140613DN, 140615DN, 140617DN, 140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TG-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-67-32N	140270	140271	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TA-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-82-32N	140274	140275	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932TA-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-68-32N	140278	140279	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-823-83-32N	140285	140286	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-851-94-32N	140252	140253	*140614DN, 140613DN, 140615DN, 140616DN, 140617DN, 140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT
7366N-851-1D-32N	140254	140255	140618DN	140607DN	143414SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138932-ASSY-KIT	143465D-KIT	143411D-ASSY-KIT	143414SK-D-ASSY-KIT	142633-10D-KIT

* NOTE: Standard part number. For more information see page 27.

7366N-X52-95-32N	140256	140257	Seal Kit	140607DN	Volute Kit	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TS-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-1E-32N	140260	140261		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TS-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-96-32N	140264	140265		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TP-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-1F-32N	140266	140267	*140614DN, 140613DN, 140615DN,	140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TP-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-67-32N	140270	140271	140616DN, 140617DN, 140618DN	140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099J-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-82-32N	140274	140275		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099J-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-68-32N	140278	140259		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TC-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X52-83-32N	140285	140263		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TC-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X53-94-32N	140252	140253		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TD-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X53-1D-32N	140254	140255	*140614DN, 140613DN, 140615DN,	140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099TD-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X53-95-32N	140258	140259	140616DN, 140617DN, 140618DN	140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X53-1E-32N	140262	140263		140607DN	143484SK-D-KIT	140596DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138099-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-95-32N	140256	140257		140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100TB-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-1E-32N	140260	140261		140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100TB-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-96-32N	140264	140265	*140614DN, 140613DN, 140615DN,	140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100TA-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-1F-32N	140266	140267	140616DN, 140617DN, 140618DN	140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100TA-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-67-32N	140270	140271		140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366N-X54-82-32N	140274	140275		140607DN	143483SK-D-KIT	140595DN	140601DN	140611DN	140609DN	138613DN	143617D	140604DN	125506C	138100-ASSY-KIT	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT

* NOTE: Standard part number. For more information see page 27 Z

BARNES®



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WEINMAN®

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PROSSER®

Limited 24 Month Warranty

Crane Pumps & Systems warrants that products of our manufacture will be free of defects in material and workmanship under normal use and service for twenty-four (24) months after manufacture date, when installed and maintained in accordance with our instructions. This warranty gives you specific legal rights, and there may also be other rights which vary from state to state. In the event the product is covered by the Federal Consumer Product Warranties Law (1) the duration of any implied warranties associated with the product by virtue of said law is limited to the same duration as stated herein, (2) this warranty is a LIMITED WARRANTY, and (3) no claims of any nature whatsoever shall be made against us, until the ultimate consumer, his successor, or assigns, notifies us in writing of the defect, and delivers the product and/or defective part(s) freight prepaid to our factory or nearest authorized service station. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. **THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY AND ALL WARRANTIES WITH RESPECT TO ANY PRODUCT SHALL BE TO REPLACE OR REPAIR AT OUR ELECTION, F.O.B. POINT OF MANUFACTURE OR AUTHORIZED REPAIR STATION, SUCH PRODUCTS AND/OR PARTS AS PROVEN DEFECTIVE. THERE SHALL BE NO FURTHER LIABILITY, WHETHER BASED ON WARRANTY, NEGLIGENCE OR OTHERWISE.** Unless expressly stated otherwise, guarantees in the nature of performance specifications furnished in addition to the foregoing material and workmanship warranties on a product manufactured by us, if any, are subject to laboratory tests corrected for field performance. Any additional guarantees, in the nature of performance specifications must be in writing and such writing must be signed by our authorized representative. Due to inaccuracies in field testing if a conflict arises between the results of field testing conducted by or for user, and laboratory tests corrected for field performance, the latter shall control. **RECOMMENDATIONS FOR SPECIAL APPLICATIONS OR THOSE RESULTING FROM SYSTEMS ANALYSES AND EVALUATIONS WE CONDUCT WILL BE BASED ON OUR BEST AVAILABLE EXPERIENCE AND PUBLISHED INDUSTRY INFORMATION. SUCH RECOMMENDATIONS DO NOT CONSTITUTE A WARRANTY OF SATISFACTORY PERFORMANCE AND NO SUCH WARRANTY IS GIVEN.**

This warranty shall not apply when damage is caused by (a) improper installation, (b) improper voltage (c) lightning (d) excessive sand or other abrasive material (e) scale or corrosion build-up due to excessive chemical content. Any modification of the original equipment will also void the warranty. We will not be responsible for loss, damage or labor cost due to interruption of service caused by defective parts. Neither will we accept charges incurred by others without our prior written approval.

This warranty is void if our inspection reveals the product was used in a manner inconsistent with normal industry practice and/or our specific recommendations. The purchaser is responsible for communication of all necessary information regarding the application and use of the product. **UNDER NO CIRCUMSTANCES WILL WE BE RESPONSIBLE FOR ANY OTHER DIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO TRAVEL EXPENSES, RENTED EQUIPMENT, OUTSIDE CONTRACTOR FEES, UNAUTHORIZED REPAIR SHOP EXPENSES, LOST PROFITS, LOST INCOME, LABOR CHARGES, DELAYS IN PRODUCTION, IDLE PRODUCTION, WHICH DAMAGES ARE CAUSED BY ANY DEFECTS IN MATERIAL AND/OR WORKMANSHIP AND/OR DAMAGE OR DELAYS IN SHIPMENT. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

No rights extended under this warranty shall be assigned to any other person, whether by operation of law or otherwise, without our prior written approval.

CRANE

PUMPS & SYSTEMS

A Crane Co. Company

420 Third Street
Piqua, Ohio 45356
(937) 778-8947
Fax (937) 773-7157
www.cranepumps.com

83 West Drive
Brampton, Ont. Canada L6T 2J6
(905) 457-6223
Fax (905) 457-2650

**IMPORTANT!
WARRANTY INFORMATION**

Warranty will be voided if the product
is serviced by any
Unauthorized Service Center.

**IMPORTANT!
WARRANTY REGISTRATION**

Your product is covered by the enclosed Warranty.
To complete the Warranty Registration Form go to:

<http://www.cranepumps.com/ProductRegistration/>

If you have a claim under the provision of the warranty, contact your local
Crane Pumps & Systems, Inc. Distributor.

RETURNED GOODS

**RETURN OF MERCHANDISE REQUIRES A "RETURNED GOODS AUTHORIZATION".
CONTACT YOUR LOCAL CRANE PUMPS & SYSTEMS, INC. DISTRIBUTOR.**



**Products Returned Must Be Cleaned, Sanitized,
Or Decontaminated As Necessary Prior To Shipment,
To Insure That Employees Will Not Be Exposed To Health
Hazards In Handling Said Material. All Applicable Laws
And Regulations Shall Apply.**



START-UP REPORT

General Information

Pump Owner's Name: _____
Address: _____
Location of Installation: _____
Contact Person: _____ Phone: _____
Purchased From: _____

Nameplate Data

Pump Model #: _____ Serial #: _____
Part #: _____ Impeller Diameter: _____
Voltage: _____ Phase: _____ Ø Hertz: _____ Horsepower: _____
Full Load Amps: _____ Service Factor Amps: _____
Motor Manufacturer: _____

Controls

Control panel manufacturer: _____
Model/Part number: _____
Number of pumps operated by control panel: _____
Short circuit protection? YES___ NO___ Type: _____
Number and size of short circuit device(s): _____ Amp rating: _____
Overload Type: _____ Size: _____ Amp rating: _____
Do protection devices comply with pump and motor Amp rating? YES___ NO___
Are all electrical and panel entry connections tight? YES___ NO___
Is the interior of the panel dry? YES___ NO___
Liquid level Control Brand and Model: _____

Pre-Startup

All Pumps

Type of equipment: NEW___ REBUILT___ USED___
Condition of equipment at Start-Up: DRY___ WET___ MUDDY___
Was Equipment Stored? YES___ NO___ Length of Storage: _____
Liquid being pumped: _____ Liquid Temperature: _____
Supply Voltage/Phase/Frequency matches nameplate? YES___ NO___
Shaft turns freely? YES___ NO___
Direction of rotation verified for 3Ø motors? YES___ NO___
Debris in piping or wet well? YES___ NO___
Debris removed in your presence? YES___ NO___
Pump case/wet well filled with liquid before startup? YES___ NO___
Is piping properly supported? YES___ NO___

Non-Submersible Pumps

Is base plate properly installed / grouted? YES___ NO___ N/A___
Coupling Alignment Verified per I&O Manual? YES___ NO___ N/A___
Grease Cup/Oil Reservoir Level checked? YES___ NO___ N/A___

Submersible Pumps

Resistance of cable and pump motor (measured at pump control):

Red-Black: _____ Ohms(Ω) Red-White: _____ Ohms(Ω) White-Black: _____ Ohms(Ω)

Resistance of Ground Circuit between Control Panel and outside of pump: _____ Ohms(Ω)

MEG Ohms check of insulation:

Red to Ground: _____ White to Ground: _____ Black to Ground: _____

Operational Checks

Is there noise or vibration present? YES___ NO___ Source of noise/vibration: _____

Does check valve operate properly? YES___ NO___ N/A___

Is system free of leaks? YES___ NO___ Leaks at: _____

Does system appear to operate at design flow rate? YES___ NO___

Nominal Voltage: _____ Phase: 1Ø 3Ø (select one)

Voltage Reading at panel connection, Pump OFF: L1, L2 _____ L2, L3 _____ L1, L3 _____

Voltage Reading at panel connection, Pump ON: L1, L2 _____ L2, L3 _____ L1, L3 _____

Amperage Draw, Pump ON: L1 _____ L2 _____ L3 _____

Submersible Pumps

Are BAF and guide rails level / plumb? YES___ NO___

Is pump seated on discharge properly? YES___ NO___

Are level controls installed away from turbulence? YES___ NO___

Is level control operating properly? YES___ NO___

Is pump fully submerged during operation? YES___ NO___

Follow up/Corrective Action Required

YES___ NO___

Additional Comments:

Startup performed by: _____ Date: _____

Present at Start-Up

() Engineer: _____ () Operator: _____

() Contactor: _____ () Other: _____

All parties should retain a copy of this report for future trouble shooting/reference



PUMPS & SYSTEMS

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