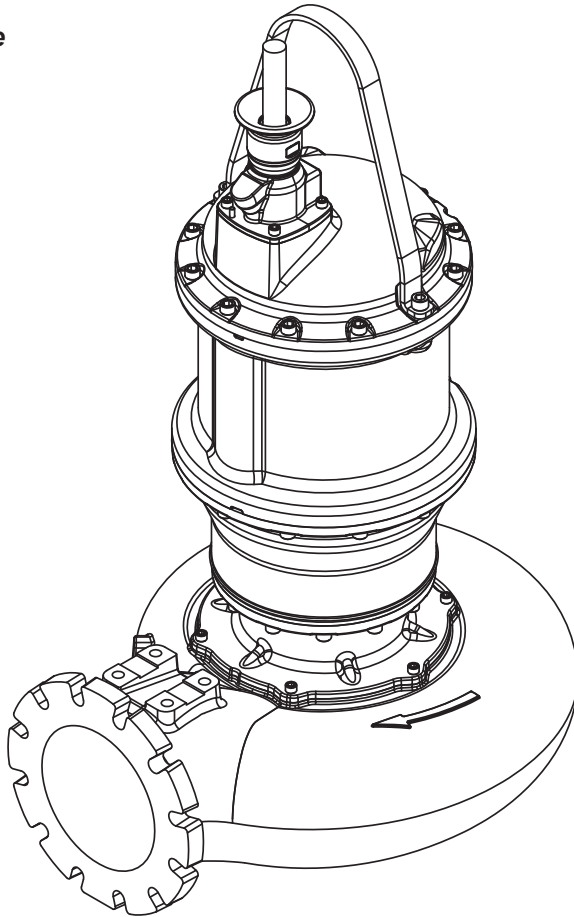


DEMING®

INSTALLATION and OPERATION MANUAL X-Pruf® 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 8,128,360

These pumps are classified as a Class I Division 1 Groups C&D Explosion-Proof by CSA to NEC and CEC specifications. Opening the motor, including maintenance of the upper mechanical seal, must be performed by CP&S to maintain the certification. Internal maintenance performed by non-certified personnel will void the explosion-proof rating

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

PUMPS & SYSTEMS

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 **HYDRAULIC
INSTITUTE**
PROUD MEMBER

 **MEMBER**

Form No. 138551XPDS-Rev. D

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2016

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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.

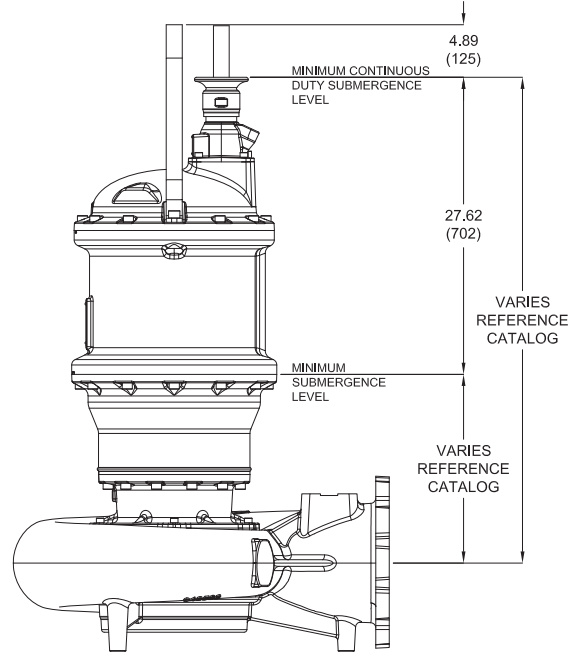


FIGURE 1

B-2) Discharge:

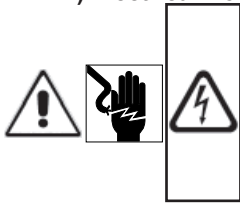
Discharge piping should be as short as possible. Both a check valve and a shut-off valve are recommended for each pump being used. The check valve is used to prevent backflow into the sump. Excessive backflow can cause flooding and/or damage to the pump. The shut-off valve is used to stop system flow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



WARNING! - All model pumps and control panels must be properly grounded per the NATIONAL ELECTRIC CODE or CANADIAN ELECTRIC CODE, State, Province and local codes. Improper grounding voids warranty.

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.

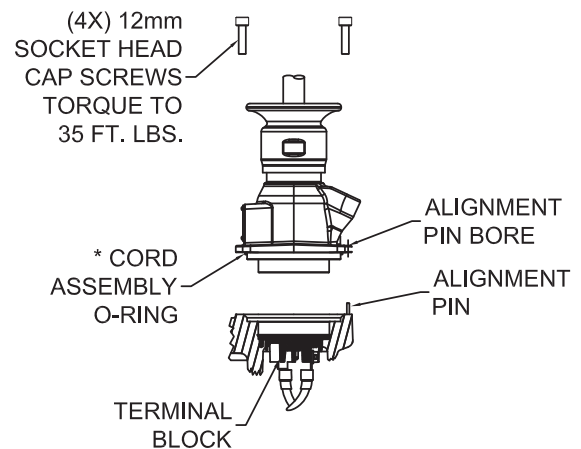
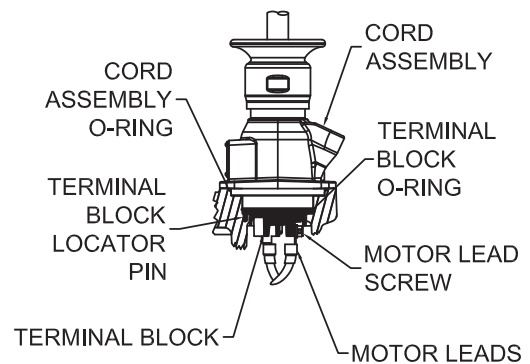
B-4.2) Wire Size:

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
7366-414-67-32N	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
7366-414-82-32N	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
7366-414-68-32N	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
7366-414-83-32N	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
7366-618-67-32N	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
7366-618-82-32N	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
7366-618-68-32N	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
7366-618-83-32N	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
7366-618-69-32N	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
7366-618-84-32N	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
7366-860-67-32N	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
7366-860-82-32N	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
7366-850-67-32N	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
7366-850-82-32N	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
7366-850-68-32N	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
7366-850-83-32N	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
7366-850-69-32N	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
7366-850-84-32N	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
7366-850-97-32N	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
7366-850-1G-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
7366-823-95-32N	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
7366-823-1E-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
7366-823-96-32N	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
7366-823-1F-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
7366-823-67-32N	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
7366-823-82-32N	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
7366-823-68-32N	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
7366-823-83-32N	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
7366-851-94-32N	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
7366-851-1D-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. (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
7366-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 ± .03	.130
7366-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 ± .03	.189
7366-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 ± .03	.130
7366-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 ± .03	.189
7366-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 ± .03	.077
7366-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 ± .03	.113
7366-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 ± .03	.077
7366-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 ± .03	.113
7366-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 ± .03	.166
7366-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 ± .02	.226
7366-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 ± .03	.166
7366-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 ± .02	.226
7366-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 ± .03	.130
7366-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 ± .03	.189
7366-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 ± .03	.130
7366-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 ± .03	.189
7366-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 ± .03	.130
7366-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 ± .03	.130

▲ CORD SOLD SEPARATELY.

IMPORTANT !

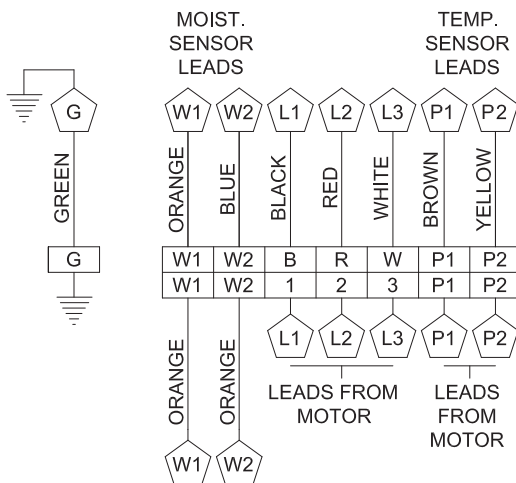
- 1.) MOISTURE AND TEMPERATURE SENSORS **MUST** BE CONNECTED TO VALIDATE THE CSA LISTING.
- 2.) A SPECIAL MOISTURE SENSOR RELAY IS REQUIRED IN THE CONTROL PANEL FOR PROPER OPERATION OF THE MOISTURE SENSORS. CONTACT CP&S FOR INFORMATION CONCERNING MOISTURE SENSING RELAYS FOR CUSTOMER SUPPLIED CONTROL 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 ± 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 '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)



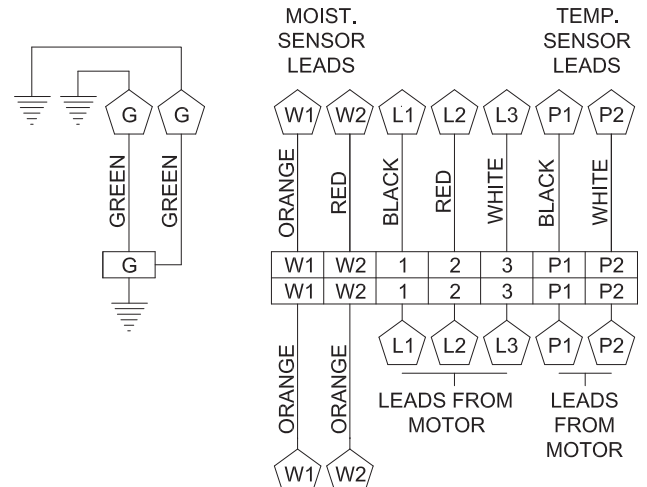
INTERNAL PUMP CONNECTIONS
THREE PHASE: 460/575 VOLTS

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

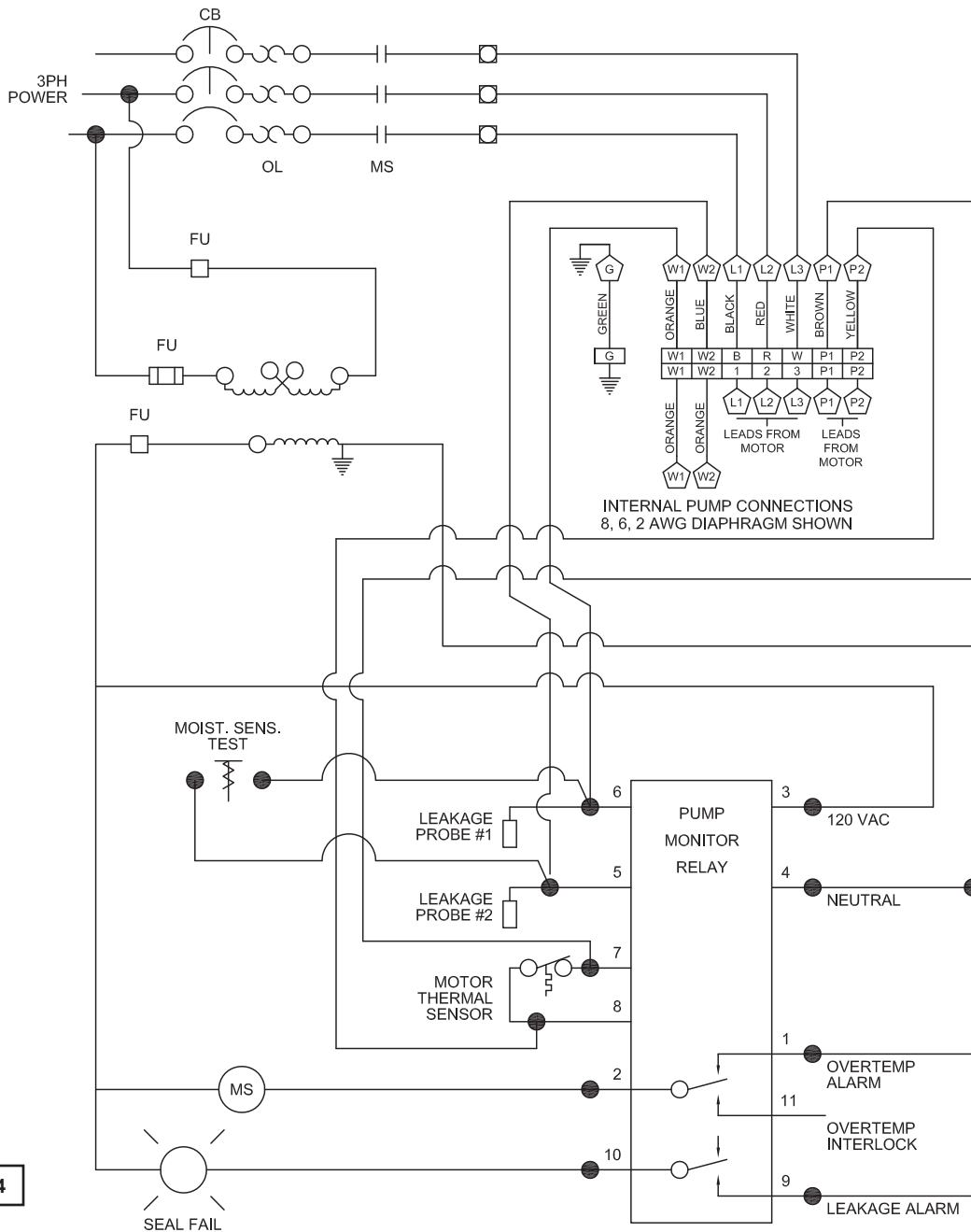


FIGURE 4

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.

TABLE 1 TEMPERATURE SENSOR ELECTRICAL RATINGS		
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 intact 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 turn-down 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 Deming 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 its 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 Deming Pumps 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-1.
- 3) Check motor for ground leakage and proper amp draw.

SECTION E: SERVICE AND REPAIR

NOTE: All item numbers in () refer to Figures 10, 11, 12 & 13.



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) Impeller and Volute Service:

E-1.1) Impeller, Lower Mechanical Seal, Volute and Power Cord:

Service is limited to the following components because of the explosion proof rating: only the impeller, lower mechanical seal, volute and power cord. Service to any other components WILL VOID the warranty and explosion proof certification. Any further work required contact Crane Pumps & Systems.

E-1.2) Disassembly and Inspection:

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

E-1.3) Reassembly:

To install impeller, apply a thin film of oil to motor shaft and slide impeller straight onto shaft, keeping keyways lined up. Drive key into keyway. Thread cap screw and washer into shaft and torque to 140 ft. lbs. Rotate impeller to check for binding. Place o-ring on seal plate pilot diameter lining up holes and install impeller and motor assembly onto volute. Loctite cap screws, insert into volute and motor assembly and torque to 35 ft. lbs. Check for free rotation of motor and impeller.



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.

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.

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).

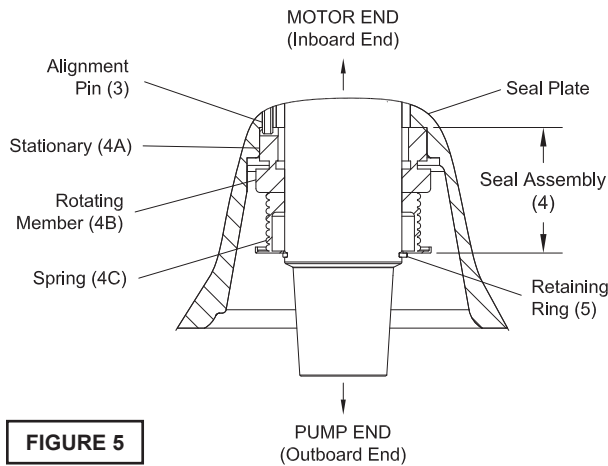


FIGURE 5

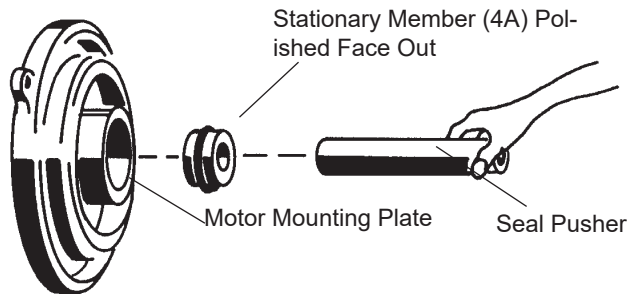


FIGURE 6

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).

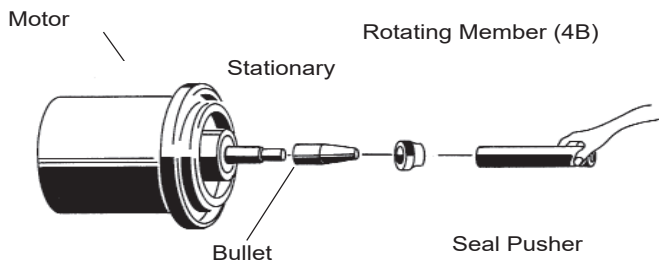


FIGURE 7



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 Piqua, Ohio		DEMING®	
Power	Ph.	RPM	Volts
Hz.	FLA.	SFA	SF
Ambient 0-40°C	Duty CONT.	Code	Weight
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 DÉMARRÉUR APPROUVÉ CONVÉNANT 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.		UL674	
8. DO NOT PUMP FLAMMABLE LIQUIDS		LR16667	
9. NOT SUITABLE FOR ENVIRONMENTS CONTAINING GASOLINE OR HEXANE.			

127265C

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.
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



IMPORTANT! - Service is limited to the following components because of the explosion proof rating: impeller, lower mechanical seal, volute and power cord. Service to any other components WILL VOID the warranty and explosion proof certification. Any further work required contact Crane Pumps & Systems.

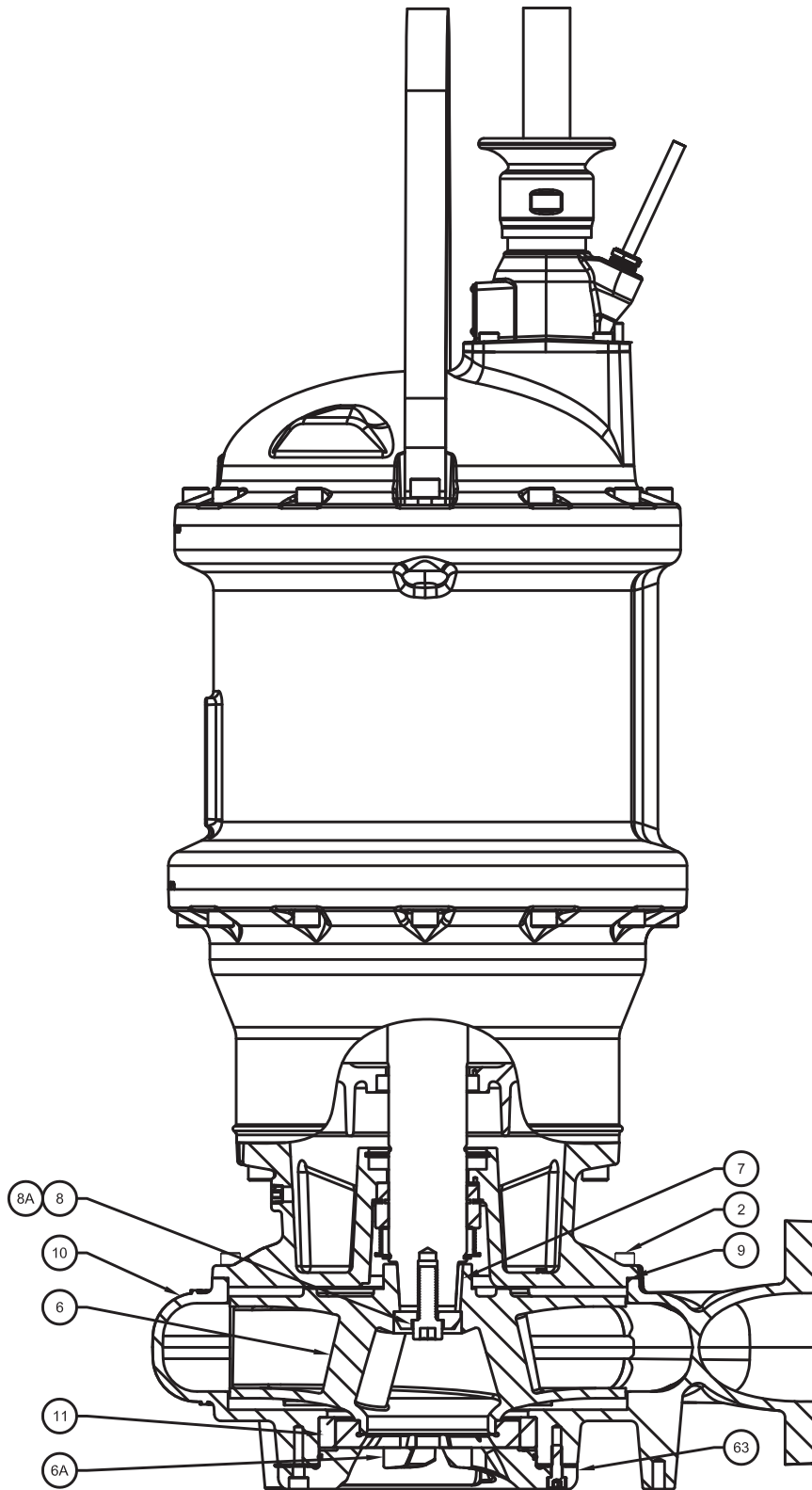


FIGURE 8

Exploded View

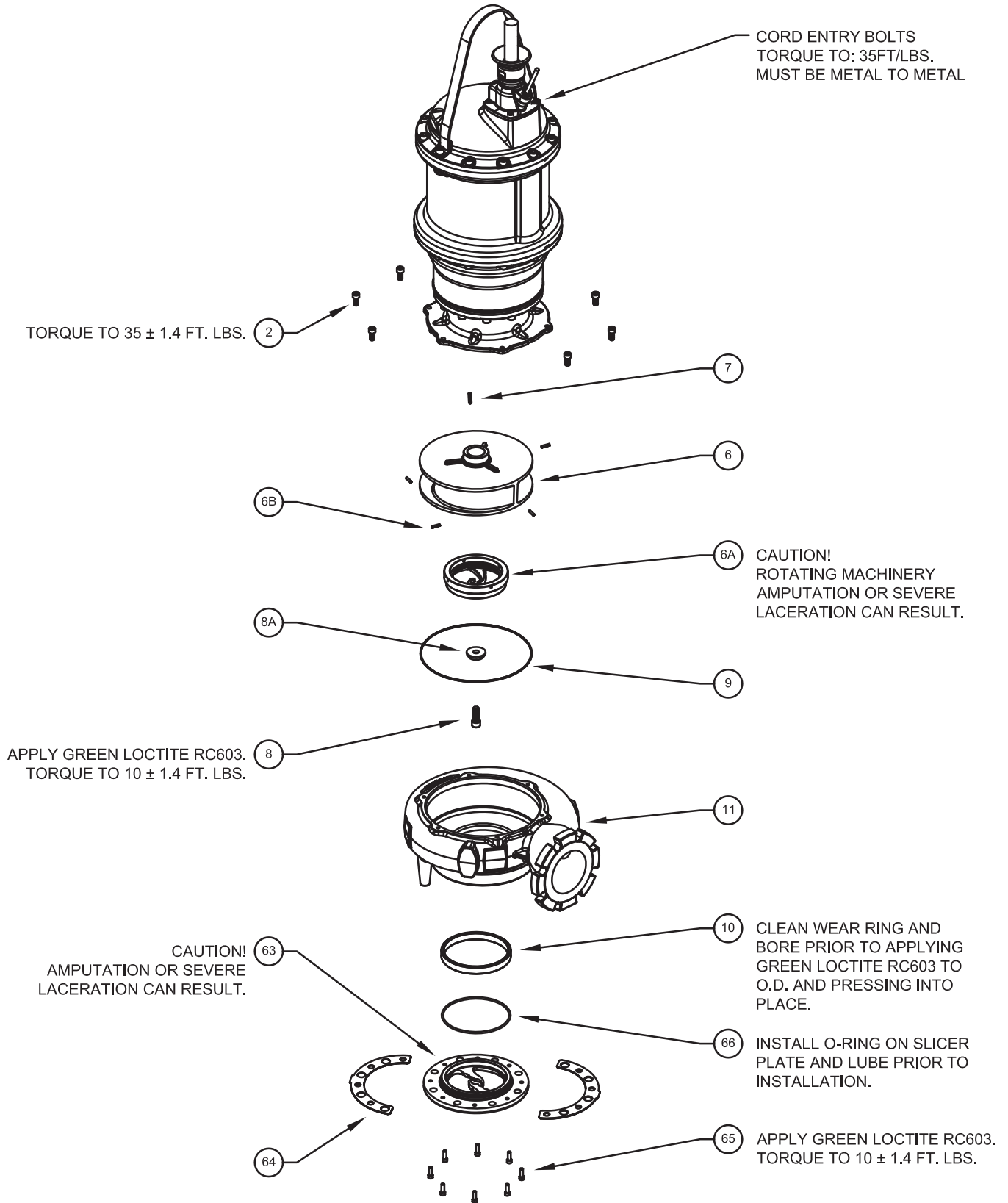


FIGURE 9

PARTS LIST

Seal Kit	See Table on Page 25	
O-Ring Kit	140614-XP	(+) 9, 19, 60
Hardware Kit	140609-XP	(☼)
Volute Kit	See Table on Page 18	(♦) 2, 7, 8, 8A
Slicer Blade Attachment Kit	See Table on Page 26	(■) 10, 11, 70
Removeable Cord Assy	See Table on Page 18	(○) 7, 8, 8A
Cord Attachment Kit	140152-32	(β) 2, 58, 59, 70
Lifting Handle Kit	138550-KIT	(π) 2, 59
Leg Kit	See Table on Page 25	(>)
Slicer Blade Kit	See Table on Page 21	(∂) 6, 6A, 6B
Shim Kit	See Table on Page 19	(Δ) 64
Striker Plate Kit	See Table on Page 19	(Σ) 63, 64, 65, 66
Striker Shell Kit	See Table on Page 19	(Δ) 61, 62, 63, 64, 65, 66
Striker Hardware Kit	See Table on Page 19	(∩) 65, 66
Striker O-Ring Stock Kit	p/n 142635	(▲) 66

ITEM	QTY	PART NO.	DESCRIPTION	MATERIAL	
1	1	See Table	No Resale	Driver Assembly	
2	8	127223	♦ >	Screw, SHCS, M12 x 1.75 x 25	18-8 SS
6	1	See Table	∂	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, ¼ x ¼ x 1½", 303 SS	303 SS
8	1	138310	♦ ○βπ	Screw, SHCS, M18 x 1.50 x 50	18-8 SS
8A	1	138543	♦ ○	Washer, Impeller, .75 x 2.44	18-8 SS
9	1	See Table	+☼	O-Ring (Volute)	Buna-N
10	1	See Table	■ ∆	Volute	Cast Iron
11	1	See Table	■ ∆	Volute Wear Ring	Bronze
19	2	130063	+☼	Ring, Retaining, EXT, 5100-187-H	PH 15-7 Mo SS
26	1	138550	No Resale	Handle, Lifting, SS	304 SS
56	1	2-31003-248	βπ	O-Ring, Cord, Attachment	Buna-N
59	1	See Table	β	Cord	See Table
61		125502	■ ∆	Paint, Epoxy, Part A	Epoxy
62		125503	■ ∆	Paint, Epoxy, Part B	Epoxy
63	1	See Table	Σ∆	Striker Plate	Stainless 440C
64	*	See Table	ΔΣ∆	Shims	
65	**	131147	Σ∆∩	Striker Plate Screw, SHCS, M10 x 1.5 x 35	18-8 Stainless Steel
66	1	See Table	Σ∆∩▲	Striker, O-Ring, Buna-N, 70 Duro	Buna-N
67	1	See Table	+	Seal, Mechanical, Lower, Type 21, 1.875"	SC/SC/B

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	Max Amps	Cord O.D.
138317XF	50	8/4 - 18/4	59.0	1.12in ± .02in (28.4mm ± .5mm)
138317XJ	75	8/4 - 18/4	59.0	1.12in ± .02in (28.4mm ± .5mm)
138317XL	100	8/4 - 18/4	59.0	1.12in ± .02in (28.4mm ± .5mm)
138318XF	50	6/4 - 18/4	79.0	1.14in ± .03in (28.9mm ± .8mm)
138318XJ	75	6/4 - 18/4	79.0	1.14in ± .03in (28.9mm ± .8mm)
138318XL	100	6/4 - 18/4	79.0	1.14in ± .03in (28.9mm ± .8mm)
138319XF	50	2/4 - 18/4	138.0	1.47in ± .03in (37.3mm ± .8mm)
138319XJ	75	2/4 - 18/4	138.0	1.47in ± .03in (37.3mm ± .8mm)
138319XL	100	2/4 - 18/4	138.0	1.47in ± .03in (37.3mm ± .8mm)
138320XF	50	0/4 - 18/5	187.0	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)
138320XJ	75	0/4 - 18/5	187.0	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)
138320XL	100	0/4 - 18/5	187.0	1.72in ± .03in (43.7mm ± .8mm) .47in ± .02in (12mm ± .5mm)

* All Assemblies include cord, grommets, spacer, clamp & friction rings.

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	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	143475	125857-360
8D	305mm	143415S	143415SK-D-KIT	143438	125857-295
8T	370mm	143414S	143414SK-D-KIT	143438	125857-360
10DL	465mm	143484S	143484SK-D-KIT	143486	M-6614
10DH	370mm	143483S	143483SK-D-KIT	143486	125857-360
Volute Pilot Diameter (BEFORE FEB.-2019)					
4XSCDI	370mm	127254S	127254SK-D-KIT	141581	125857-360
6XSCDK	370mm	130830S	130830SK-2D-KIT	142134	125857-360

Volute Kit includes:
<ul style="list-style-type: none"> • Wear Ring (PRESSED) • Volute (painted) <p><i>(Components are Fully Assembled)</i></p>

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								
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	143264SK-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								
6MM	6 INCH								
6MH	6 INCH								
6DL	6 INCH								
6D	8 INCH	143388SK-D-ASSY-KIT	14339D-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						143465-002 (RED) 143465-004 (TAN) 143465-010 (BROWN) 143465-025 (WHITE) 143465-060 (CLEAR)	12
8T	10 INCH	143414SKD-ASSY-KIT	143411D-ASSY-KIT	143465D-KIT	142633-10D-KIT	143411	142174-378	143487-002 (RED) 143487-004 (TAN) 143487-010 (BROWN) 143487-025 (WHITE) 143487-060 (CLEAR)	12
10DL	12 INCH	143483SK-D-ASSY-KIT							
10DH	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)	12
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)	8

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 5 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 5 Frame		
6MM	6 INCH			
6MH	6 INCH			
6DL	6 INCH			
6D	8 INCH	142635D	143551D-STK-KIT	142634
8D	10 INCH		143465D-STK-KIT	
8T	10 INCH		143487D-STK-KIT	
10DL	12 INCH			
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

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

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)

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

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)

"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)	130829-ASSY-KIT	143284-ASSY-KIT	130829-C	143284-C	143412	143491-1000
365mm (14.37in)	130829TA-ASSY-KIT	143284TA-ASSY-KIT	130829TA-C	143284TA-C	143412	143491-1000
360mm (14.17in)	130829TB-ASSY-KIT	143284TB-ASSY-KIT	130829TB-C	143284TB-C	143412	143491-1000
355mm (13.98in)	130829TC-ASSY-KIT	143284TC-ASSY-KIT	130829TC-C	143284TC-C	143412	143491-1000
350mm (13.78in)	130829TD-ASSY-KIT	143284TD-ASSY-KIT	130829TD-C	143284TD-C	143412	143491-1000
345mm (13.58in)	130829TE-ASSY-KIT	143284TE-ASSY-KIT	130829TE-C	143284TE-C	143412	143491-1000
340mm (13.39in)	130829TF-ASSY-KIT	143284TF-ASSY-KIT	130829TF-C	143284TF-C	143412	143491-1000
335mm (13.19in)	130829TG-ASSY-KIT	143284TG-ASSY-KIT	130829TG-C	143284TG-C	143412	143491-1000
330mm (12.99in)	130829TH-ASSY-KIT	143284TH-ASSY-KIT	130829TH-C	143284TH-C	143412	143491-1000
325mm (12.80in)	130829TJ-ASSY-KIT	143284TJ-ASSY-KIT	130829TJ-C	143284TJ-C	143412	143491-1000
320mm (12.60in)	130829TK-ASSY-KIT	143284TK-ASSY-KIT	130829TK-C	143284TK-C	143412	143491-1000
315mm (12.40in)	130829TL-ASSY-KIT	143284TL-ASSY-KIT	130829TL-C	143284TL-C	143412	143491-1000
310mm (12.21in)	130829TM-ASSY-KIT	143284TM-ASSY-KIT	130829TM-C	143284TM-C	143412	143491-1000
305mm (12.01in)	130829TN-ASSY-KIT	143284TN-ASSY-KIT	130829TN-C	143284TN-C	143412	143491-1000
300mm (11.81in)	130829TP-ASSY-KIT	143284TP-ASSY-KIT	130829TP-C	143284TP-C	143412	143491-1000
295mm (11.61in)	130829TR-ASSY-KIT	143284TR-ASSY-KIT	130829TR-C	143284TR-C	143412	143491-1000
290mm (11.42in)	130829TS-ASSY-KIT	143284TS-ASSY-KIT	130829TS-C	143284TS-C	143412	143491-1000
285mm (11.22in)	130829TT-ASSY-KIT	143284TT-ASSY-KIT	130829TT-C	143284TT-C	143412	143491-1000
280mm (11.02in)	130829TU-ASSY-KIT	143284TU-ASSY-KIT	130829TU-C	143284TU-C	143412	143491-1000
275mm (10.83in)	130829TV-ASSY-KIT	143284TV-ASSY-KIT	130829TV-C	143284TV-C	143412	143491-1000
270mm (10.63in)	130829TW-ASSY-KIT	143284TW-ASSY-KIT	130829TW-C	143284TW-C	143412	143491-1000
265mm (10.43in)	130829TX-ASSY-KIT	143284TX-ASSY-KIT	130829TX-C	143284TX-C	143412	143491-1000
260mm (10.24in)	130829TY-ASSY-KIT	143284TY-ASSY-KIT	130829TY-C	143284TY-C	143412	143491-1000
255mm (10.04in)	130829TZ-ASSY-KIT	143284TZ-ASSY-KIT	130829TZ-C	143284TZ-C	143412	143491-1000
250mm (9.84in)	130829UA-ASSY-KIT	143284UA-ASSY-KIT	130829UA-C	143284UA-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)	138102S-ASSY-KIT	143293S-ASSY-KIT	138102S-C	143293S-C	143413	143491-1125
300mm (11.81in)	138102STA-ASSY-KIT	143293STA-ASSY-KIT	138102STA-C	143293STA-C	143413	143491-1125
295mm (11.61in)	138102STB-ASSY-KIT	143293STB-ASSY-KIT	138102STB-C	143293STB-C	143413	143491-1125
290mm (11.42in)	138102STC-ASSY-KIT	143293STC-ASSY-KIT	138102STC-C	143293STC-C	143413	143491-1125
285mm (11.22in)	138102STD-ASSY-KIT	143293STD-ASSY-KIT	138102STD-C	143293STD-C	143413	143491-1125
280mm (11.02in)	138102STE-ASSY-KIT	143293STE-ASSY-KIT	138102STE-C	143293STE-C	143413	143491-1125
275mm (10.83in)	138102STF-ASSY-KIT	143293STF-ASSY-KIT	138102STF-C	143293STF-C	143413	143491-1125
270mm (10.63in)	138102STG-ASSY-KIT	143293STG-ASSY-KIT	138102STG-C	143293STG-C	143413	143491-1125
265mm (10.43in)	138102STH-ASSY-KIT	143293STH-ASSY-KIT	138102STH-C	143293STH-C	143413	143491-1125
260mm (10.24in)	138102STJ-ASSY-KIT	143293STJ-ASSY-KIT	138102STJ-C	143293STJ-C	143413	143491-1125
255mm (10.04in)	138102STK-ASSY-KIT	143293STK-ASSY-KIT	138102STK-C	143293STK-C	143413	143491-1125
250mm (9.84in)	138102STL-ASSY-KIT	143293STL-ASSY-KIT	138102STL-C	143293STL-C	143413	143491-1125
245mm (9.65in)	138102STM-ASSY-KIT	143293STM-ASSY-KIT	138102STM-C	143293STM-C	143413	143491-1125
240mm (9.45in)	138102STN-ASSY-KIT	143293STN-ASSY-KIT	138102STN-C	143293STN-C	143413	143491-1125
235mm (9.25in)	138102STP-ASSY-KIT	143293STP-ASSY-KIT	138102STP-C	143293STP-C	143413	143491-1125
230mm (9.05in)	138102STQ-ASSY-KIT	143293STQ-ASSY-KIT	138102STQ-C	143293STQ-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 Kit includes:
<ul style="list-style-type: none"> • Volute O-Ring (option 1) • Volute O-Ring (option 2) • Volute O-Ring (option 3) • Volute O-Ring (option 4) • External Retaining Ring • Lower Mechanical Seal

NOTE: Kit contains hardware your pump may not require.

Hardware Kit includes:
<ul style="list-style-type: none"> • Volute attachment bolts • Impeller Key • Impeller attachment hardware

NOTE: Kit contains hardware your pump may not require.

Additional Components			
Component	Part No.	Single Sale	Kit
Impeller	See Table	Yes	N/A
Wear Ring (Volute)	See Table	No Resale	Impeller, Volute Kit
Driver Assembly	No Resale		
Overhaul Kit	Purchase Seal Kit and Hardware Kit		
Nameplate/Model Plate Rivets	001628	No Resale	Rivet Kit (p/n 139398)

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

7366-414-67-32N	Seal Kit	O-Ring Kit	Hardware Kit	Volute Kit	Slicer Blade Attachment Kit	Cord Attachment Kit	Slicer Blade Kit	Leg Kit	Shim Kit	Striker Plate Kit	Striker Shell Kit	Striker Hardware Kit
7366-414-82-32N	140614-XP	140614-XP	140609-D	143264SK-D-KIT	138614D	140152-32	138928TB-ASSY-KIT	125506B	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366-414-68-32N	140614-XP	140614-XP	140609-D	143264SK-D-KIT	138614D	140152-32	138928TB-ASSY-KIT	125506B	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366-414-83-32N	140614-XP	140614-XP	140609-D	143264SK-D-KIT	138614D	140152-32	138928TB-ASSY-KIT	125506B	142158D-KIT	143265D-ASSY-KIT	143264SK-D-ASSY-KIT	142633-6D-KIT
7366-618-67-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930TG-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-618-82-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930TG-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-618-68-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930TA-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-618-83-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930TA-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-618-69-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-618-84-32N	140614-XP	140614-XP	140609-D	143338SK-D-KIT	138614D	140152-32	138930-ASSY-KIT	125506B	143551D-KIT	14339D-ASSY-KIT	14338SK-D-ASSY-KIT	142633-8D-KIT
7366-860-67-32N	140614-XP	140614-XP	140609-D	143415SK-D-KIT	143617D	140152-32	138102-ASSY-KIT	125506B	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT
7366-860-82-32N	140614-XP	140614-XP	140609-D	143415SK-D-KIT	143617D	140152-32	138102-ASSY-KIT	125506B	143465D-KIT	143411D-ASSY-KIT	143415SK-D-ASSY-KIT	142633-10D-KIT

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

Model	Seal Kit	O-Ring Kit	Hardware Kit	Volute Kit	Slicer Blade Attachment Kit	Cord Attachment Kit	Slicer Blade Kit	Leg Kit	Shim Kit	Striker Plate Kit	Striker Shell Kit	Striker Hardware Kit
7366-850-67-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TX-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-82-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TX-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-68-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TS-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-83-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TS-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-69-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TL-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-84-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TL-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-97-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TF-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-850-1G-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TF-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-95-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TK-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-1E-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TK-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-96-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TG-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-1F-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TG-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-67-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TA-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-82-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932TA-ASSY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-68-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932AS-SY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-823-83-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932AS-SY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-851-94-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932AS-SY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT
7366-851-1D-32N	140614-XP	140614-XP	140609-D	143414SK-D-KIT	143617D	140152-32	138932AS-SY-KIT	125506C	143465D-KIT	143411-D-ASSY-KIT	143414SKD-ASSY-KIT	142633-10D-KIT

Model	Seal Kit	O-Ring Kit	Hardware Kit	Volute Kit	Slicer Blade Attachment Kit	Cord Attachment Kit	Slicer Blade Kit	Leg Kit	Shim Kit	Striker Plate Kit	Striker Shell Kit	Striker Hardware Kit
7366-X52-95-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TS-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-1E-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TS-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-96-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TP-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-1F-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TP-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-67-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TJ-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-82-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TJ-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-68-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TC-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X52-83-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TC-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X53-94-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TD-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X53-1D-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099TD-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X53-95-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099AS-SY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X53-1E-32N	140614-XP	140614-XP	140609-D	143484SK-D-KIT	143617D	140152-32	138099AS-SY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143484SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-95-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100TB-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-1E-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100TB-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-96-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100TA-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-1F-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100TA-ASSY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-67-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100AS-SY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT
7366-X54-82-32N	140614-XP	140614-XP	140609-D	143483SK-D-KIT	143617D	140152-32	138100AS-SY-KIT	125506C	143487D-KIT	143472D-ASSY-KIT	143483SK-D-ASSY-KIT	142633-12D-KIT

BARNES®



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WEINMAN®

DEMING®

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.



PUMPS & SYSTEMS

A Crane Co. Company

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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



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