

# Ruwac USA Industrial Vacuums

## Slurry Vac

Installation, Operation, Maintenance & Service

Model No.

Serial No.

Filter No.

Start-Up Date

# SLURRY VACUUM



Version: 2.3 11/6/23

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I. \_\_\_\_\_ **Warranty**

RUWAC warrants that new equipment which are complete units and are sold and/or manufactured by RUWAC, Inc. will be free from defects in material and workmanship for a period of 18 months from date of shipment or 12 months from date of start-up, whichever come first. RUWAC warrants that replacement parts sold hereunder will be free from defects in material or workmanship for a period of 120-days after the date of shipment. RUWAC machines that have been completely re-built at the factory will carry a 180-day warranty from date of shipment. All field repairs performed by authorized RUWAC service personnel are covered by a 120-day parts only warranty.

RUWAC, Inc. will not assume any responsibility under the terms of this limited warranty on equipment, which has not been paid in full. This warranty does not apply to any equipment that has been disassembled, repaired, or otherwise altered by any person without the written authorization of RUWAC'S service department, nor does it apply to any product that has been subjected to failure sure to corrosive or abrasive attack, misused, damaged, or improperly installed, nor does it apply to motors, controls, and components not manufactured by RUWAC, Inc. Motors, controls, and other Sub vendor's components therefor are warranted only to the extent of the manufacture's warranty. All warranty work on such products must be authorized by RUWAC, Inc. and must be performed in an authorized shop as designated by the manufacturer. RUWAC sole liability and buyer's sole and exclusive remedy hereunder is the replacement or repair at RUWAC'S option of products not complying with this warranty. Such repair or replacement shall be F.O.B. RUWAC'S factory, and RUWAC reserves the right to invoice all expenses incurred when repairs are made in the field at the request of the customer, except as specifically set forth herein, RUWAC makes no warranty express or implied, with respect to the products and/or service supplied hereunder, this warranty is in lieu of and excludes all other warranties, including without limitation, any warranty of merchantability, fitness for a particular purpose, or conformance to purchaser's specifications.

## **II.** \_\_\_\_\_ **Safety**

**CAUTION:** Standard Ruwac Slurry Vac machines are not to be used for the removal of flammable, volatile, or explosive media. If you are unsure about your application requirements consult your Ruwac Representative.

**CAUTION:** Standard Ruwac Slurry Vac machines are designed for intermittent use, i.e. not more than 2 hours continuously.

**CAUTION:** A dust mask should be worn when working with used filters.

**CAUTION: Disconnect the machine from power before and during inspection or maintenance.**

**Use only Ruwac replacement parts, accessories and hoses specifically designed for your machine. Clean unit daily.**

**When in use, this machine should always be connected to a ground fault interrupter (GFCI/GFI), either the circuit breaker or receptacle type.**

**CAUTION:** Standard Ruwac Slurry Vac machines are for the pick-up of wet material and solids only. Standard Slurry Vac machines should not be used for the pickup of fine dust.

**CAUTION: Hoses and accessories must be checked for continuity prior to each use when used in a hazardous application (i.e. combustible materials or environment).**

## SLURRY VAC INSTRUCTIONS: START UP / SHUTDOWN



Check that the slide valve is closed.



Connect to proper power source as indicated on the serial tag.



Start machine using the ON / OFF switch on the motor domes.



Turn machine off using the ON / OFF switch on the motor domes.



Machine should be emptied after every use.

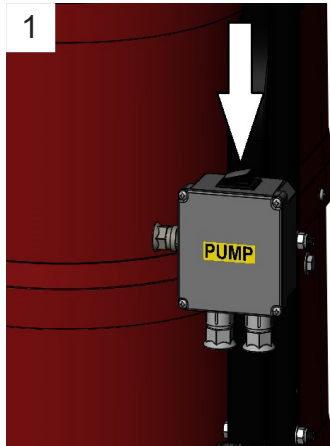
It is critical that you empty/clean the vacuum after each use. If material is allowed to “set up” inside it will render the pump inoperable. Please refer to Section IV for instructions.

Ruwac recommends a viscosity of less than 5cP (centipoise). Centipoise is a measure of a product’s general viscosity. Water is generally regarded as 1cP, milk as 3cP, blood as 10cP and olive oil as 40cP. The pump is able to handle solids in the range of 0.276-0.393”.

**Note:** Electrical installation should be performed by a qualified electrician in accordance with governing national and local electrical codes.

## SLURRY VAC INSTRUCTIONS:

**EMPTYING** - Collection vessel and pump must be cleaned after every single use. The pump may be used while the vacuum is running, but if the pump needs to be cleaned you must turn the vacuum off.



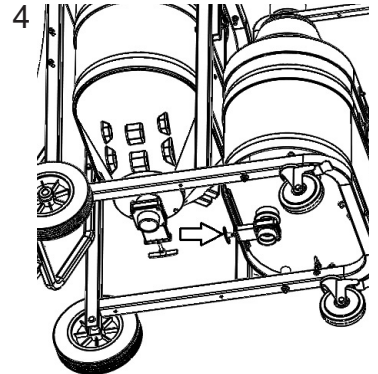
1 Use the internal pump to evacuate the water. You must hold the switch down to operate the pump.



2 If pump becomes clogged, refer to the pump cleaning instruction on the next page.



3 Once most of the water has been pumped out of the machine you can open the slidegate at the bottom of the collection unit. The solids can be flushed or scooped out. Close slidegate when finished.



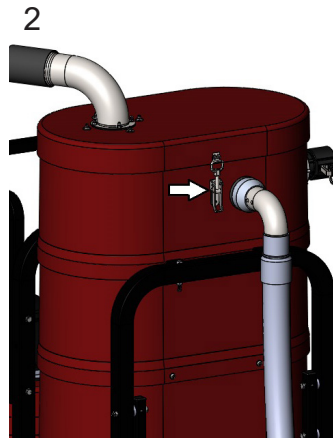
4 Check for carryover liquid by opening the slidegate under the filter housing. Close slidegate when finished.

**Note:** The emptying/cleaning instructions must be performed after each use. Do not allow the material to set up inside.

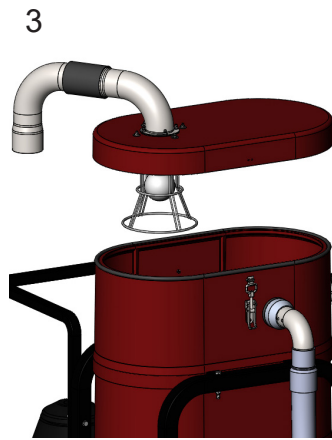
## SLURRY VAC INSTRUCTIONS: PUMP CLEANING INSTRUCTIONS



Loosen hose cuff.



Disconnect clamps on either side.



Remove lid.



Remove the pump from the tank without disconnecting the hose.

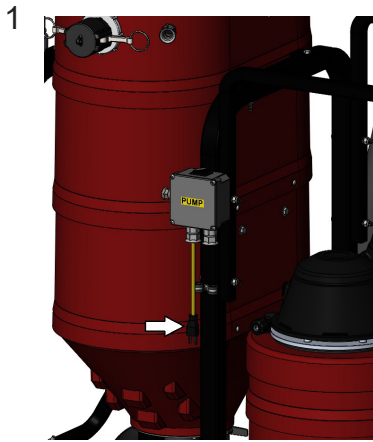


Place the pump in a 5 gallon bucket and run the clean water through the pump.

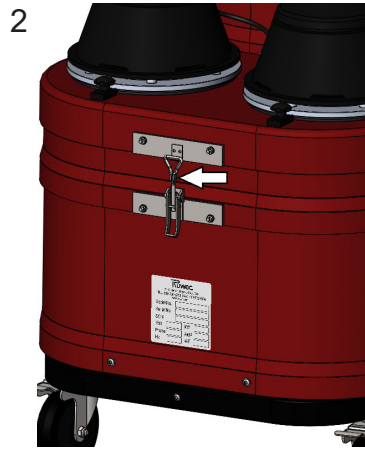
**Note:** Pump should be cleaned daily to ensure material doesn't build up and harden.



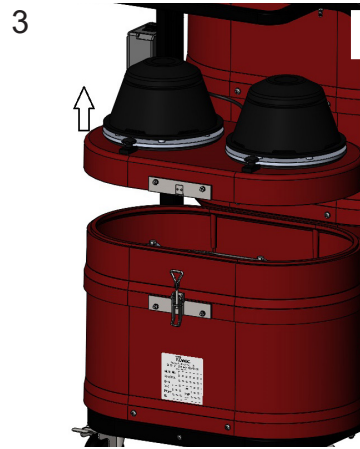
## SLURRY VAC INSTRUCTIONS: FILTER INSPECTION



Disconnect the pump from power if included.



Disconnect clamps on either side.



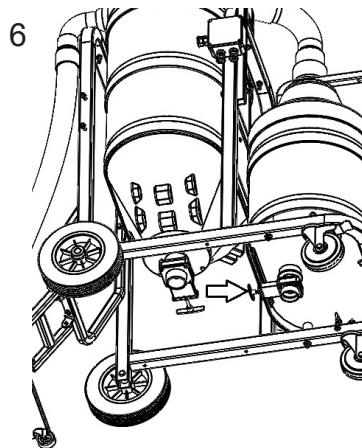
Remove motordeck and inspect filter. The filter is used to stop moisture from entering the motor and not for filtering dust.



Loosen filter hold down bracket bolts enough to remove the filter.



Remove filter and inspect. Replace filter as needed to maintain optimal performance.



Open the slidegate under the filters to empty any liquid from the filter chamber. Close the slide gate before using the unit.

**Note:** Inspection of the filter will vary with usage of the machine.

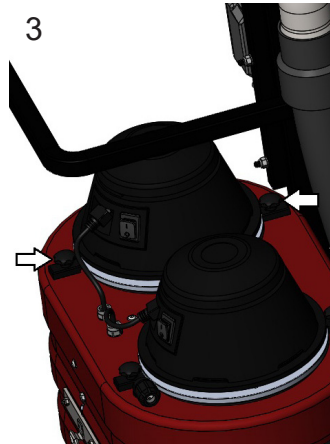
## SLURRY VAC INSTRUCTIONS: MOTOR COVER DISASSEMBLY FOR BRUSH INSPECTION



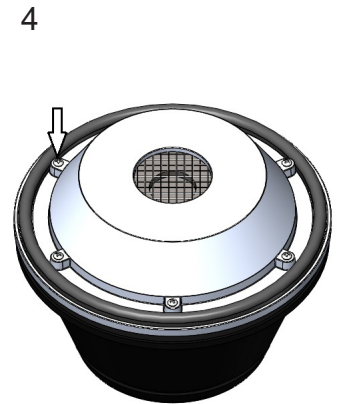
1 Turn the machine off, then disconnect the power source.



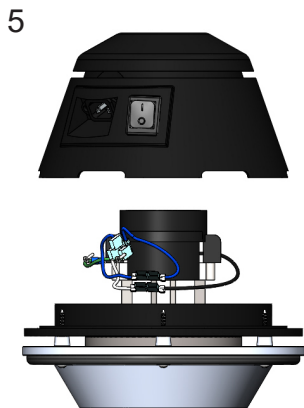
2 Disconnect motor terminal.



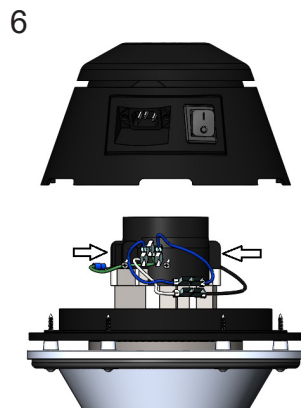
3 Loosen the motor retaining knobs enough to remove motor under negative pressure.



4 Remove the 6 screws attached to each motor assembly.



5 Remove the plastic motor cover to access the top of the motor.



6 Remove the 2 metal motor-cap-retaining clips locating on each motor (**for Ametek motors only**)

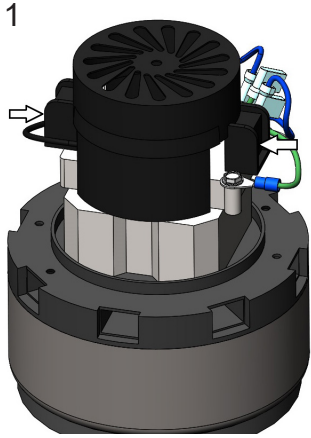
**SEE PAGE 9 FOR  
AMETEK  
MOTOR BRUSH  
INSPECTION  
INSTRUCTIONS**

**SEE PAGE 10 FOR  
ELECTRO MOTOR  
MOTOR BRUSH  
INSPECTION  
INSTRUCTIONS**

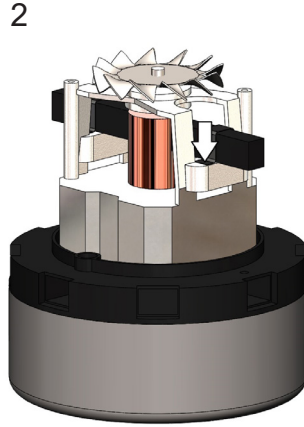


## SLURRY VAC INSTRUCTIONS: AMETEK MOTOR BRUSH INSPECTION

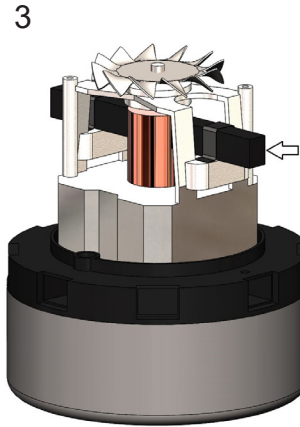
**NOTE:** A motor brush should be replaced if its length is less than 0.25 inches.



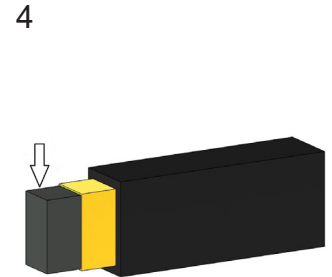
Remove motor fan cover by pressing down on clips located on each side.



Remove the two screws securing the brush. Repeat the process for the other side.



Pull brush out from wire clip.

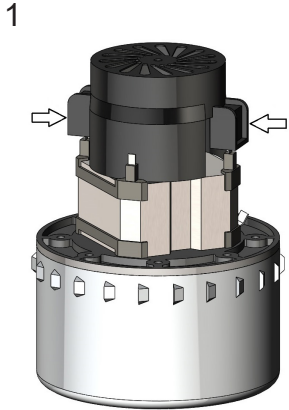


Remove brush from wire clip by sliding off groove. If brush is worn down to a length of 0.25" or less, replace brush.

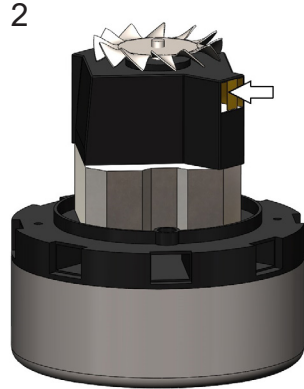
To replace or reinstall brush, repeat process in reverse.

## SLURRY VAC INSTRUCTIONS: ELECTRO MOTOR BRUSH INSPECTION

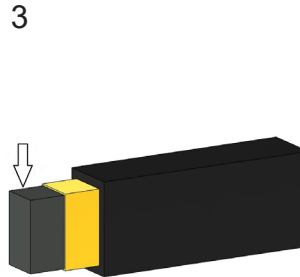
**NOTE:** A motor brush should be replaced if its length is less than 0.25 inches.



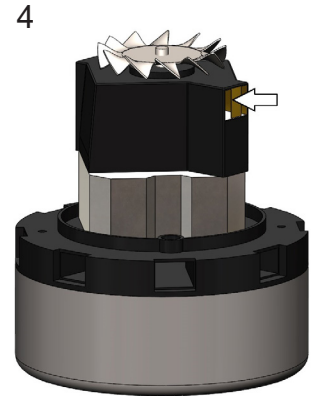
Carefully dislodge the plastic motor cap via the built-in hooks on both sides of motor brush. **(TIP: Dislodge one side of a cap first followed by the other.)**



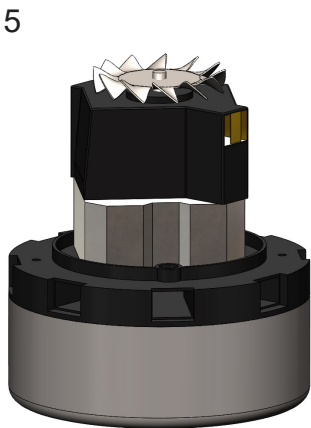
With a flathead screwdriver, flip brush tab upward. Use pliers to then pull the brush out by the tab.



If the brush is worn down to a length of 0.25" or less, replace the brush. To replace or reinstall brush, hold down internal spring using the tool supplied with brush.



While holding spring down, push the brush back in. Remove the brush tool once the brush is in.



Push the motor brush in until it's flush.

## SLURRY VAC INSTRUCTIONS: PUMP INSPECTION

Regular maintenance and inspection are indispensable to maintaining the pump's performance. If the pump behaves differently from its normal operating condition, refer to section "9. Troubleshooting" and take appropriate measures at an early stage. We also recommend that you have a spare pump on hand for an emergency.

## Prior to Inspection



## WARNING

**Make sure that the power supply (i.e. circuit breaker) is disconnected and disconnect the cabtyre cable from the power outlet or remove it from the terminal board. Failure to do so may cause electrical shock or unintended starting of the pump, which may lead to serious accidents.**

- (1) Washing the Pump  
Remove any debris attached to the pump's outer surface, and wash the pump with tap water. Pay particular attention to the impeller area, and completely remove any debris from the impeller.
- (2) Inspecting the Pump Exterior  
Verify that there is no damage, and that the bolts and nuts have not loosened.

**Note:** *If the pump must be disassembled for repair due to damage or loose bolts or nuts, contact the dealer where it was purchased, or the Tsurumi sales office in your area.*

## Daily and Periodic Inspection

Interval	Inspection Item
Daily	Measuring the operating current ■ To be within the rated current Measuring the power voltage ■ Power supply voltage variation = within ± 10% of the rated voltage
Monthly	Measuring the insulation resistance ■ Insulation resistance reference value = 1MΩ minimum [NOTE] The motor must be inspected if the insulation resistance is considerably lower than the last inspection.
Semi-yearly	Inspecting oil ■ 1,000 hours or 6 months, whichever comes first. Inspection of lifting rope ■ Replace if damage, corrosion, or wear has occurred to the rope. Remove if foreign object is attaching to it.
Yearly	Changing oil ■ 2,000 hours or 12 months, whichever comes first. Changing the mechanical seal [NOTE] The inspection and replacement of the mechanical seal requires specialized equipment. To have this operation performed, contact the dealer where this equipment was purchased, or the Tsurumi sales office in your area.
Once every 2 to 5 years	Overhaul ■ The pump must be overhauled even if the pump appears normal during operation. Especially, the pump may need to be overhauled earlier if it is used continuously. [NOTE] To overhaul the pump, contact the dealer where it was purchased, or the Tsurumi sales office in your area.

**Note:** Refer to section "Oil Inspection and Change Procedures" below for further detail.

## Storage

If the pump will not be operated for a long period of time, pull the pump up, wash the pump, allow it to dry, and store it indoors.

**Note:** For reinstallation, be sure to perform a trial operation before putting the pump into operation.

If the pump remains immersed in water, operate it on a regular basis (i.e. once a week).

## SLURRY VAC INSTRUCTIONS: PUMP INSPECTION

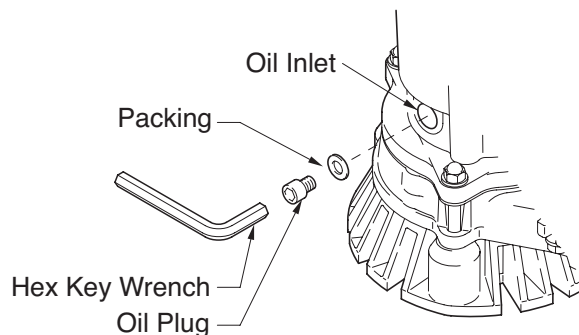
### Oil Inspection and Changing Procedures

#### Inspecting Oil

Remove the oil plug and take out a small amount of oil. The oil can be extracted easily by tilting the pump so that the oil filler plug faces downward. If the oil appears milky or intermixed with water, a likely cause is a defective shaft sealing device (i.e. mechanical seal), which requires that the pump be disassembled and repaired.

#### Changing Oil

Remove the oil plug and drain the oil completely.  
Pour a specified volume of oil into the oil filler inlet.



**Note:** *The drained oil must be disposed of properly to prevent it from being released into the sewer or rivers. The packing or the O-ring for the oil plug must be replaced with a new part at each oil inspection and change.*

Specified Oil: Turbine Oil VG32 (non-additive)

Unit : ml

Pump Model	Specified Volume
HS2.4S,HSE2.4S,HSZ2.4S	160
HS2/3.75S,HSZ2/3.75S	160

### Replacement Parts

The table lists the parts that need to be replaced periodically. Replace these using the recommended frequency as a guideline.

Part	Replacement condition
Mechanical Seal	When oil in oil compartment becomes milky.
Lubricant ; Turbine Oil VG 32(non-additive)	Every 12 months or after 2,000 hours of use, whichever comes first.
Packing, O-Ring	Each time pump is disassembled or inspected
V-Ring	When ring is worn, and each time pump is disassembled or inspected
Shaft sleeve	When it becomes worn

## SLURRY VAC INSTRUCTIONS: PUMP DISASSEMBLY AND REASSEMBLY PROCEDURE

Prior to Disassembly and Reassembly



### WARNING

Before disassembling and reassembling the pump, be sure that the power supply (i.e. circuit breaker) is disconnected, and remove the cabtyre cable from the outlet or the terminal board. Do not connect or disconnect the power plug with a wet hand, in order to prevent electrical shock. Do not perform an activation test (to check the rotation of the impeller) during disassembly and reassembly. Failure to observe this precaution could lead to a serious accident, including injury.

This section explains the disassembly and reassembly processes that are involved up to the replacement of the impeller itself. Operations involving the disassembly and reassembly of the sealing portion (i.e. mechanical seal) and of the motor require a specialized facility including vacuum and electrical test equipment. For these operations, contact the dealer where this equipment was purchased, or the Tsurumi sales office in your area.

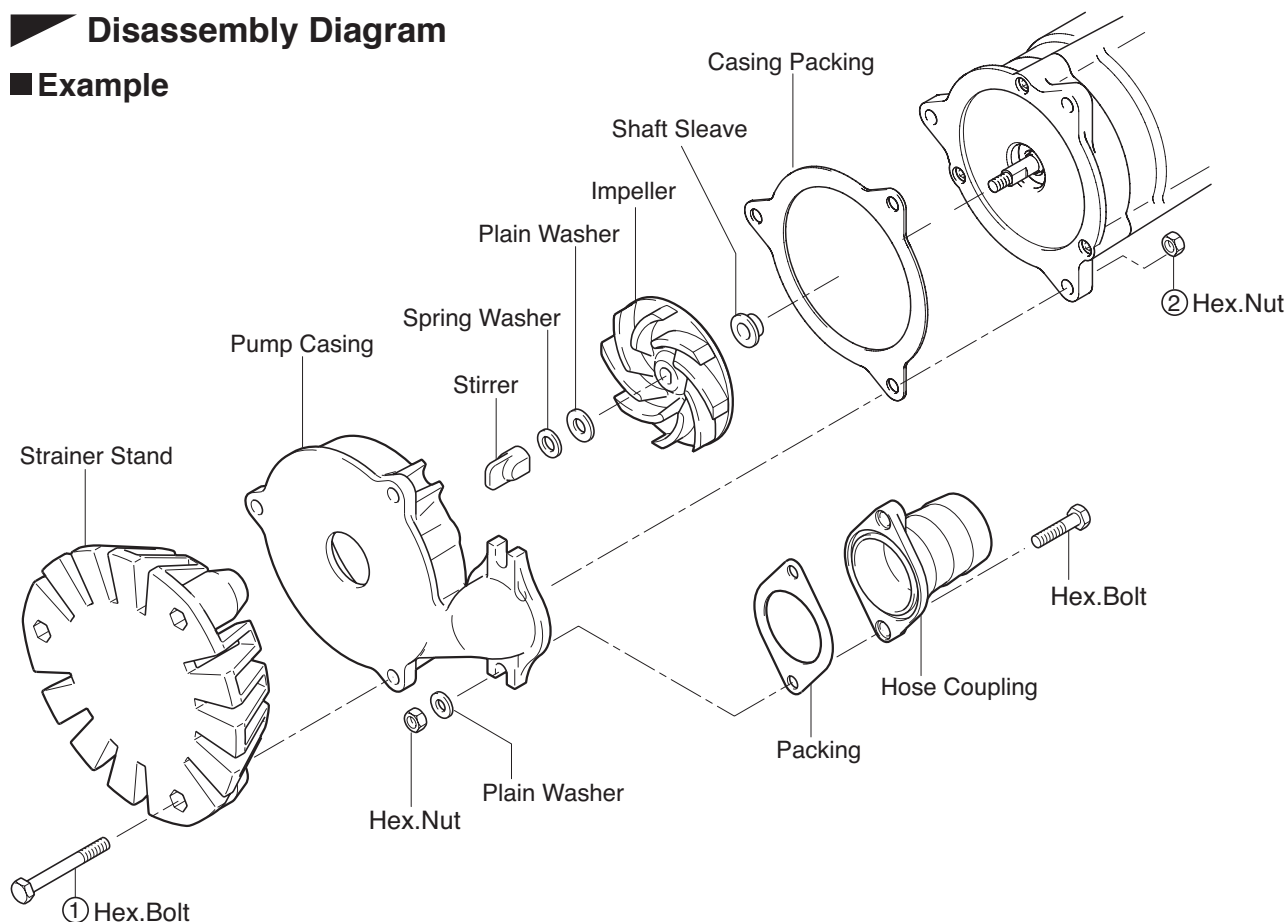
### Disassembly Procedure

**Note:** For assembly or disassembly, place the pump on its side.

Remove the Hex.Bolts(1) and Hex.Nuts(2), then remove the Strainer Stand and Pump Casing.

### Disassembly Diagram

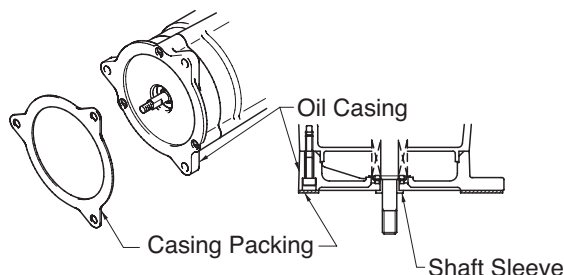
#### Example



### Reassembly Procedure

Reassembly can be performed by reversing the steps for disassembly.

- (1) Remove sand and other debris from rubber parts such as the Impeller and Casing Packing before assembling the pump.
- (2) Make sure the Casing Packing fits snugly against the Oil Casing.
- (3) When tightening the Stirrer, do not apply excessive force that might deform the impeller or cause the rubber liner to flake off.



**⚠ WARNING** To prevent serious accidents, disconnect the power supply before inspecting the pump.

Read this Operation Manual carefully before requesting repair. After re-inspecting the pump, if it does not operate normally, contact the dealer where this equipment was purchased, or the Tsurumi sales office in your area.

Problem	Possible cause	Countermeasure
Pump fails to start; or, starts but stops immediately.	① No proper power is supplied (i.e. power outage). ② Plug is not inserted. ③ Open circuit in cabtyre cable or poor connection. ④ Malfunction in float. ⑤ Electrode is insulated by debris. ⑥ Malfunction in level relay unit.	① Contact the electric power company or an electrical repair shop. ② Connect the plug. ③ Check whether there is an open circuit in the cabtyre cable or wiring. ④ Remove obstacles and check the operation of the float. ⑤ Use sandpaper to remove the debris. ⑥ Repair or replace the level relay unit.
Pump starts but stops immediately, causing the motor protector to trip.	① Foreign matter is wedged in the impeller, causing the motor protector to trip. ② The movement of the stop float is obstructed, causing the start float alone to perform the start and stop operations. ③ The voltage is too low. ④ A 50Hz unit is used at 60Hz. ⑤ The pump has been operated for a long time with its strainer stand clogged. ⑥ Malfunction of motor (seizure or water leakage). ⑦ The pump is drawing in too much mud.	① Inspect the pump and remove the debris. ② Remove obstacles and check the operation of the stop float. ③ Provide the rated voltage or use an extension cable that meets the specifications. ④ Check the nameplate and replace the pump or the impeller. ⑤ Remove the debris from the strainer stand. ⑥ Repair or replace. ⑦ Place a concrete block under the pump to prevent the pump from drawing in excess mud.
The pumping volume is low.	① The impeller is worn. ② The hose is clogged or kinked at its midspan. ③ The strainer stand is clogged or is buried. ④ The motor rotates in reverse. ⑤ A 60Hz pump is used at 50Hz.	① Replace the impeller. ② Minimize the bends of the hose, and if the pump is used in a dusty area, place it inside a mesh basket during operation. ③ Remove the debris from the strainer stand. Place a concrete block under the pump to prevent the pump from drawing in excess mud. ④ Change the power connection. ⑤ Check the nameplate and replace the pump or the impeller.
Pump generates vibration or noise.	① Motor bearings are damaged.	① Replace the bearings.
The pump does not stop automatically.	① The movement of the floats is obstructed. The switch in a float is faulty. ② The water level of the (stop) float is set lower than the pump's minimum possible operating water level. ③ Malfunction in level relay unit ④ Electrode is shorted by debris. ⑤ Influence by electrical device in the vicinity of the pump.	① Remove the blockage. Or, replace the part. ② Set the water level of the (stop) float higher than the pump's minimum possible operating water level. ③ Repair or replace the level relay unit. ④ Use sandpaper to remove the debris. ⑤ Check whether there are any wires that are tangled around the electrode. Check whether there are any electrical devices that could generate electro-magnetic interference, and relocate the unit as necessary.

The following information is required when ordering repairs or making other inquiries.

Product model	
Manufacturing number	
Purchase date	
Remarks	

### Disposal of Product

Properly dispose of the product by disassembling it, presorting the contents, and sending them to the waste material treatment site.



PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Insufficient Vacuum	<ul style="list-style-type: none"> <li>- Hose blocked</li> <li>- Filter clogged or improperly seated</li> <li>- Vacuum leak</li> </ul>	<ul style="list-style-type: none"> <li>- Unplug hose.</li> <li>- Follow filter inspection procedure (Section IV)</li> <li>- Check that motor deck is properly seated and secured. Also, check all hoses.</li> </ul>
<b>Air Leaks</b>	<ul style="list-style-type: none"> <li>- Worn or poorly seated seals, Retainers improperly installed</li> </ul>	<ul style="list-style-type: none"> <li>- Block the inlet with a flat and rigid material to place the unit under vacuum pressure then remove retainers and turn the unit off. Inspect the seals for completeness, then reseal and secure components again under vacuum pressure.</li> </ul>
<b>Unable to Control Pump Manually</b>	<ul style="list-style-type: none"> <li>- Incorrect pump setting</li> </ul>	<ul style="list-style-type: none"> <li>- Remove the motor deck (Section IV), then check that the internal sump pump switch (near handle) is set to the manual "HAND" position, i.e. the switch is pushed up.</li> </ul>
<b>Unusual or High Pitched Noises</b>	<ul style="list-style-type: none"> <li>- Motor bearings, turbine bearing</li> <li>- Worn or poorly seated seals, Retainers improperly installed</li> </ul>	<ul style="list-style-type: none"> <li>- Follow relevant motor / turbine inspection procedure, Section III. Check motor bearings for noise by hand.</li> <li>- Block the inlet with a flat and rigid material to place the unit under vacuum pressure then remove retainers and turn the unit off. Inspect the seals for damage, then reseal and secure components again under vacuum pressure.</li> </ul>

**ACCEPTANCE:** The terms and conditions of sale set forth herein apply to any order accepted or acknowledged by RUWAC, Inc. Buyer's acceptance of RUWAC'S proposal or delivery of all or any part of the goods covered hereunder constitutes acceptance of the terms and conditions of sale contained herein, and RUWAC hereby rejects any additions to or modification to these terms and conditions. Any representations, promises, warranties, or statements by RUWAC or its agents that differ in anyway from these terms and conditions shall be given no force or effect. No contract is final until accepted in writing by RUWAC at its corporate office in Holyoke, Massachusetts.

**PRICES:** Prices quoted orally expire the same day they are made unless accepted in writing on that day or confirmed by written communication by RUWAC. Written price quotations are guaranteed for thirty (30) days after the date issued, but may be terminated by written notice within that period. After thirty (30) days, any written price quotations are subject to adjustment to reflect prices in effect at the time of shipment, including any changes in packing, storage, or shipping charges. This order or proposal includes only the equipment specified herein, and does not include freight or installation of RUWAC equipment. All prices are F.O.B. RUWAC'S plant in Holyoke, Massachusetts and are exclusive of all taxes, levies, and duties that may be assessed in connection with the sale or delivery of goods, and Buyer shall be responsible for all such taxes, levies, and duties. In the event RUWAC pays any such tax, levy, or duty, Buyer shall promptly reimburse RUWAC therefor. Any packaging requirements other than RUWAC'S standard packaging and commercial container will be invoiced as an extra charge.

**PAYMENT:** Payment is due in full thirty (30) days after the date of invoice. All invoices paid after the due date will be assessed a late payment charge of one and half percent (1.5%) per month or any portion thereof, or the maximum amount allowed by applicable law, whichever is less. Buyer shall be responsible for all costs of collection, including reasonable legal fees. Sales on the foregoing terms are subject to the approval of RUWAC'S credit department and may be changed at any time at RUWAC'S sole discretion. If RUWAC has reasonable grounds with respect to Buyer's ability or willingness to make timely payments for the goods. RUWAC may at any time suspend performance, decline to ship, or require advance payment in cash or other adequate assurance satisfactory to RUWAC.

**SHIPMENTS AND DELIVERY:** RUWAC shall use its reasonable efforts to meet all shipment or delivery dates recited in RUWAC'S proposal or in Buyer's order but any such dates are estimated only and are not guaranteed. RUWAC shall have no liability to Buyer for damages or penalties, direct or indirect, for any delay in shipment or delivery, whether such delay is minor or substantial, nor shall Buyer have the right to declare a breach of contract because of any such delay. In any event, delivery schedules are based upon the effective date of the order and are subject to prompt receipt by RUWAC of all necessary down payments, information and instructions from Buyer, including any required approval of drawings. RUWAC shall have the right to make partial shipments, and invoiced covering the same shall be payment terms hereof. RUWAC will attempt to ship in accordance with Buyer's instructions, but RUWAC will make the final selection of a method of shipment and a carrier unless Buyer clearly and conspicuously specifies that shipment must be by a particular method of carrier. RUWAC is not responsible for damage or loss in transit, and all such claims must be by Buyer directly against the carrier.

**CHANGE ORDERS:** RUWAC shall not be obligated to make any changes in or additions to the scope of the work which are initiated by Buyer or result from circumstances beyond RUWAC'S control unless there is an equitable adjustment in price and or delivery.

**CANCELLATION, SUSPENSION OR DELAY:** In the event Buyer requests or causes a cancellation, suspension or delay in any RUWAC'S work under this proposal or order based thereon, Buyer shall indemnify and pay to RUWAC all appropriate charges, including but not limited to any costs, expenses, and commitments incurred by RUWAC up to the date of receipt of notice of such cancellation, suspension or delay, plus RUWAC'S overhead and reasonable profit. If shipment is delayed on account of Buyer, the purchase price shall be due and payable as if delivery had been made. Additionally, all charges related to storage, disposition and/or resumption of work, at RUWAC'S plant or elsewhere, shall be for Buyer's sole account and Buyer thereto shall assume all risks incidental.

**CLAIMS: NOTICE OF DEFECTS:** Buyer shall give written notice of rejection of any shipment or portion thereof within thirty (30) days after the date of shipment specifying the reasons therefor. Failure to give such notice shall be deemed a waiver of any right of rejection and any claim with respect thereto (except as to claims under the warranty) and shall be deemed an acceptance of such shipment. Buyer shall set aside and hold rejected goods without further processing until RUWAC has an opportunity to inspect and advise of the disposition, if any, to be made of such goods. In no event shall any rejected goods be returned reworked, or scrapped by Buyer without the express written authorization of RUWAC.

**INSPECTION OF EQUIPMENT:** RUWAC shall have the right to inspect, after prior notices, the equipment supplied by it when in operation. If Buyer requires, RUWAC shall execute an appropriate secrecy agreement.

**CONFIDENTIALITY:** All proposals, drawings, diagrams, specification, pricing, and other materials relating to the goods included are the property and confidential information of RUWAC. Buyer shall not disclose such material or information without the written approval of RUWAC.

**BACK CHARGE:** RUWAC will pay claims for expenses of Buyer relating to labor and/or material supplied by Buyer only if (a) RUWAC is advise in writing before such expenses are incurred (2) RUWAC gives Buyer its prior written consent to the supply of such labor and/or material by buyer.

**LIMITED WARRANTY:** RUWAC warrants that new equipment which are complete units and are sold and/or manufactured by RUWAC, Inc. will be free from defects in material and workmanship for a period of 18 months from date of shipment or 12 months from date of start-up, whichever comes first. RUWAC warrants that replacement parts sold hereunder will be free from defects in material and workmanship for a period of 120-days after the date of shipment. RUWAC machines that have been completely re-built at the factory will carry a 180-day warranty from date of shipment. All field repairs by authorized RUWAC service personnel are covered by a 120-day parts only warranty. RUWAC, Inc. will not assume any responsibility under the terms of this limited warranty on equipment, which have not been paid for in full. This warranty does not apply to any equipment that has been disassembled, repaired, or otherwise altered by any person without the written authorization of RUWAC'S service department, nor does it apply to any product that has been subject to failure due to corrosive or abrasive attack, misused, damaged, or improperly installed, nor does it apply to motors, controls, and components not manufactured by RUWAC, Inc. Motors, controls, and other Sub vendor's components therefor are warranted only to the extent of the manufacturer's warranty. All warranty work on such products must be authorized by RUWAC, Inc. and must be performed in an authorized shop as designated by the manufacturer. RUWAC sole liability and buyer's sole and exclusive remedy hereunder is the replacement or repair at RUWAC'S option of products not complying with this warranty. Such repair or replacement shall be F.O.B. RUWAC'S factory, and RUWAC reserves the right to invoice all expenses incurred when repairs are made in the field at the request of the customer, except as specifically set forth herein, RUWAC makes no warranty express or implied, with respect to the products and/or service supplied hereunder, this warranty is in lieu of and excludes all other warranties, including without limitation, any warranty of merchantability, fitness for a particular purpose, or conformance to purchaser's specifications.

**LIMITATION OF LIABILITY:** RUWAC'S responsibility with respect to the goods and RUWAC'S obligations related thereto should in no event exceed the purchase price of the goods. RUWAC shall not be liable to Buyer for any special incidental, indirect, or punitive damages for any reason whatsoever, including, but without limitation damages in the form of (a) loss of profits, revenues, or anticipated savings resulting from the failure of the equipment to meet specifications or warranties (b) damages suffered by Buyer as a result of loss of production facilities or equipment (c) cost of replacement equipment (d) damages suffered by customers of the Buyer (e) any fines or penalties assessed for failure to comply with any law or government regulations.

**REPAIR OF GOODS EXPOSED TO HAZARDOUS, TOXIC, OR INFECTIOUS MATERIAL:** Buyer shall ensure that any goods submitted by Buyer or any of its customers to RUWAC for repairs or other service have been decontaminated and cleaned (including sterilization, if appropriate) of any hazardous, toxic or infectious materials, including without limitation any materials listed by the Environmental Protection Agency, OSHA, or any applicable state law as deserving or requiring special treatment. Upon RUWAC'S request, Buyer or its customer shall certify in writing that such goods contain no such hazardous, toxic, or infectious materials, and that such decontamination has taken place in accordance with accepted parties and in accordance with all applicable laws and regulations. If special safety equipment is required to protect RUWAC'S service personnel from any such hazardous, toxic, or infectious materials during field service work or otherwise. Buyer shall ensure that such safety equipment is provided and that the personnel are properly instructed. The provision of this paragraph shall apply to all work to be performed by RUWAC'S service personnel at any time, whether or not covered by warranty. Buyer shall defend and indemnify RUWAC for any and all losses, liabilities, expenses, and damages (including attorneys' fees) arising out of any failure of buyer or its customer to comply fully with the terms of this paragraph.

**BUYER SUPPLIED DATA:** Buyer acknowledges that RUWAC has relied upon all specifications and other data supplied by Buyer to RUWAC in the selection and design of the equipment and the preparation of this proposal. In the event the site operating conditions differ from those represented by Buyer and relied upon by RUWAC, any warranties or performance guarantees contained herein affected by such conditions shall be null and void, unless otherwise mutually agreed upon in writing.

## VI. \_\_\_\_\_ Terms & Conditions

**REMEDIES OF SELLER:** In addition to any other remedies of RUWAC provided hereby or by law, in the event Buyer becomes bankrupt, insolvent, assigns assets for the benefit of creditors or its financial condition has substantially deteriorated, RUWAC may, at its sole option, declare a breach of contract, stop all work hereunder or demand payments in advance as security for its performance hereunder.

**FACTIONS: GOVERNING LAW:** Any dispute, controversy, or claim against RUWAC with respect to the goods or any of RUWAC'S obligations related thereto must be commenced within one year from the date of shipment. All contract between Buyer and RUWAC shall be governed by and construed in accordance with the laws of the state of Massachusetts except that body of laws controlling conflict of laws.

**BONDS:** In addition to the price specified herein, Buyer shall pay the cost of any bonds, which Buyer requires RUWAC to obtain.

**ENTIRE AGREEMENT:** These terms and conditions, together with the provisions of the proposal constitute the entire agreement between the parties pertaining to the goods, and they supersede any prior or contemporaneous agreements, representations, or understandings between the parties. No waiver or modification of these terms and conditions is binding unless such waiver or modification is set out in writing signed by an authorized manager or officer of RUWAC. RUWAC'S failure to strictly enforce any right on one occasion does not constitute a waiver of that or any on any other occasion.