



1/2 HP SUMP PUMP

OWNER'S MANUAL



WARNING:

Read carefully and understand all **INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 109230

For technical questions and replacement parts, please call 1-800-222-5381.

Thank you very much for choosing a NORTHERN TOOL + EQUIPMENT CO., INC. Product! For future reference, please complete the owner's record below:

Model: _____ Purchase Date: _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This machine is designed for certain applications only. Northern Tool + Equipment cannot be responsible for issues arising from modification. We strongly recommend this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted Northern Tool + Equipment to determine if it can or should be performed on the product.

For technical questions please call 1-800-222-5381.

INTENDED USE

This sump pump can be used to drain rain water, infiltration water, domestic waste water and to remove water from flooded rooms in emergency conditions. The pump can be completely or partially submersed and used to transfer clean or moderately dirty fluids.

⚠ WARNING! The pump cannot be used for sea water and inflammable, corrosive, explosive or dangerous liquids. Always be sure that the pump never runs without liquids.

TECHNICAL SPECIFICATIONS

Description	Specifications
Output:	1/2 HP
Max. flow:	2800 GPH
Max. head:	26.2 Feet
Max. diameter pf particle:	1.18"
Discharge:	1 1/4" - 1"

GENERAL SAFETY RULES

⚠ WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

⚠ WARNING! The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

Every pump is carefully tested and packed during its assembly. On receiving the pump, check that pump has not been damaged during transportation. If the pump is damaged, immediately inform the dealer within 8 days from the date of purchase.

WORK AREA

- **Keep work area clean**, free of clutter and well lit. Cluttered and dark work areas can cause accidents.
- **Do not use where there is a risk of causing a fire or an explosion;** e.g. in the presence of flammable liquids, gasses, or dust. Some tools create sparks, which may ignite the dust or fumes.
- **Keep children and bystanders away while operating this tool.** Distractions can cause you to lose control, so visitors should remain at a safe distance from the work area.
- **Be aware of all power lines, electrical circuits,** water pipes and other mechanical hazards in your work area, particularly those hazards below the work surface hidden from the operator's view that may be unintentionally contacted and may cause personal harm or property damage.
- **Be alert of your surroundings.** Using tools in confined work areas may put you dangerously close to cutting tools and rotating parts.

ELECTRICAL SAFETY

⚠ WARNING! Always check to ensure the power supply corresponds to the voltage on the rating plate.

- **Do not abuse the cord.** Never carry a portable tool by its power cord, or yank tool or extension cords from the receptacle. Keep power and extension cords away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords may cause a fire and increase the risk of electric shock.
- **Grounded tools** must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.
- **Double insulated tools** are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still doesn't fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.

- **Avoid body contact** with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increase risk of electric shock if you body is grounded.
- **When operating a power tool outside**, use an outdoor extension cord marked “W-A” or “W”. These cords are rated for outdoor use and reduce the risk of electric shock.
- **Extension Cord Use.**
 - A. Use only 'Listed' extension cords. If used outdoors, they must be marked “For Outdoor Use.” Those cords having 3-prong grounding type plugs and mating receptacles are to be used with grounded tools.
 - B. Replace damaged or worn cords immediately.
 - C. Check the name plate rating of your tool. Use of improper size or gauge of extension cord may cause unsafe or inefficient operation of your tool. Be sure your extension cord is rated to allow sufficient current flow to the motor. For the proper wire gauge for your tool, see chart.

CHART FOR MINIMUM WIRE SIZE OF EXTENSION CORD:

Nameplate AMPS	CORD LENGTH			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	(NOT RECOMMENDED)	

If in doubt, use larger cord. Be sure to check voltage requirements of the tool to your incoming power source.

- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not let your fingers** touch the terminals of plug when installing to or removing from the outlet.
- **Ground fault circuit interrupters.** If work area is not equipped with a permanently installed Ground Fault Circuit Interrupter outlet (GFCI), use a plug-in GFCI between power tool or extension cord and power receptacle.

PERSONAL SAFETY

- **Stay alert**, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly.** Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.
- **Use safety apparel and equipment.** Use safety goggles or safety glasses with side shields which comply with current national standards, or when needed, a face shield. Use as dust mask in dusty work conditions. This applies to all persons in the work area. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate.
- **Avoid accidental starting.** Do not carry the power tool with your finger on the switch. Ensure the switch is in the off position before plugging tool into power outlet. In the event of a power failure, while a tool is being used, turn the switch off to prevent surprise starting when power is restored.

- **Do not overreach.** Keep proper footing and balance at all times.
- **Remove adjusting keys or wrenches** before connecting to the power supply or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.

TOOL USE AND CARE

- **Do not force the tool.** Tools do a better and safer job when used in the manner for which they are designed. Plan your work, and use the correct tool for the job.
- **Never use a tool with a malfunctioning switch.** Any tool that cannot be controlled with the switch is dangerous and must be repaired by an authorized service representative before using.
- **Disconnect power from tool** and place the switch in the locked or off position before servicing, adjusting, installing accessories or attachments, or storing. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle tools.** When tools are not in use, store them in a dry, secure place out of the reach of children. Inspect tools for good working condition prior to storage and before re-use.
- **Use only accessories that are recommended** by the manufacturer for your model. Accessories that may be suitable for one tool may create a risk of injury when used on another tool.
- **Keep guards in place** and in working order.

OPERATION

Installation



WARNING: When installing, please ensure sump pump is disconnected from electrical supply.

To prevent possible injuries to people, avoid inserting hands into the mouth of the pump if this is connected to an electrical outlet.

1. Use the handle provided to transport or lift the pump.
2. To use the pump in permanent installations with rigid pipes, to install a check valve to avoid the fluid being re-circulated once the pump is stopped. The installing of a quick closing fitting in a convenient position facilitates cleaning and maintenance operations.
3. To use the pump for temporary applications, install a flexible pipe and connect it to the pump using a pipe holder. To immerse the pump, use a rope and affix it to the handle.
4. The pump has a pre-set floating switch. To change the setting, it is necessary to increase or reduce the length of the float switch cable by sliding it in the slot on the handle.
5. The pump used in swimming pools, ponds and small lakes. Fountains or similar installations or close to them should have a cut-out switch. Contact an authorized electrician.



WARNING: Make sure the float switch stops the pump when the minimum level is reached. Always be sure that the float switch is free to move.

Start-up

Verify that the voltage and frequency of the sump pump shown on the nameplate corresponds to those available on the main power supply.



WARNING: The installer must make sure that the electric system is grounded in accordance with local code. Make sure that the electric system has a high-sensitivity circuit breaker = 30 mA (DIN VDE 0100T739).

Instructions for a safe pump start

1. The power cable should have a minimum section equivalent to that of H05 RN-F or H07 RN-F. To be able to use the pump outdoors, it is necessary to use cable with a length of 32 4/5 feet. The plug and connections should be protected by water splashes.
2. Before using the pump, always inspect it visually (especially the power cord and plug). Do not use the pump if it is damaged.
3. Make sure that electric connections are protected from rain, moisture and wet areas.
4. Protect the plug and the power cord from heat, oil or sharp edges. If damaged, the power cord must be replaced by qualified personnel only.

Grounding

The plug of the power cable has a double grounding contact so that grounding can be performed by simply inserting the plug .

Overload protection

This unit has a built-in thermal protection switch. The pump stops if an overload condition occurs. The motor restarts automatically after it has cooled down (see Pint 4 of the Troubleshooting section for information on causes and corrective actions).

To start the pump, insert plug into a 120V socket.

ATTENTION: The pump runs as soon as the float switch reaches the start-up level.

⚠ WARNING: This pump is not designed to be used in swimming pools where there is a chance for people to come into contact with the water.

MAINTENANCE & TROUBLESHOOTING

In ordinary conditions, this pump does not require any maintenance.

It may be necessary, however, to clean the hydraulics or replace the impeller.

⚠ WARNING: Make sure the pump is disconnected from electric power supply before performing any maintenance operation.

- **Maintain your pump.** It is recommended that the general condition of any pump be examined before it is used. Keep your pump in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. If any abnormal vibrations or noise occurs, turn the pump off immediately and have the problem corrected before further use. Have necessary repairs made by qualified service personnel.
- The pump of this series is not suitable for table fountains or aquariums. In this cases, it is necessary to use a H07 RN-F cable. If these pumps are used in continuous mode for ponds with fish, it is necessary to check them at regular intervals of 6 months (if the water contains aggressive substances).
- It is also advisable to check the maximum dimension off particles recommended for the pump and take the necessary measures to prevent the fish from being sucked into the pump.
- **Store the pump in a dry place and protect it from frost.**

PROBLEM	POSSIBLE CAUSE	REMEDY
1. THE ELECTROPUMP DOES NOT PUMP WATER, THE MOTOR DOES NOT RUN.	1. No electricity.	Verify that voltage is present and that the plug is correctly inserted.
	2. Plug inserted incorrectly.	Reset the safety switch. If the safety switch is once more enabled, Contact a specialized electrician.
	3. Enabled safety switch.	Remove possible obstructions from the impeller.
	4. Blocked safety switch.	Contact the Customer Assistance Service.
	5. Damaged motor or condenser.	Clean the grid.
2. THE PUMP DOES NOT SUPPLY WATER BUT THE MOTOR IS RUNNING.	1. Obstructed suction grid.	Clean or replace the value.
	2. Blocked check valve.	Perform several start-ups in order to remove all the air.
	3. Air in impeller body (air Bubbles.)	Clean the grid.
3. THE PUMP SUPPLIES A LIMITED AMOUNT OF WATER.	1. Partially obstructed suction grid.	Remove the obstructions.
	2. Obstructed pipe.	Contact the Customer Assistance Service.
	3. Worn impeller.	Remove the foreign particles.
4. INTERMITTENT OPERATION	1. Solid particles prevent the free rotation of the impeller.	Supply the pump in accordance with nameplate data.
	2. The temperature of the fluid is too high.	Dilute the pumped fluid.
	3. Voltage out off range.	Contact the Customer Assistance Service.
	4. The fluid is too dense.	
	5. Faulty motor.	



WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.



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