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Tsurumi Pump NK2-22L

Tsurumi 3 HP Construction Site/Residential Dewatering Pump

Model: NK2-22L - Instruction Manual

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Tsurumi 3 HP Construction Site/Residential Dewatering Pump, Model NK2-22L. Please read this manual thoroughly before operating the pump to ensure proper usage and to prevent injury or damage.

2. Safety Information

WARNING: Failure to follow these safety instructions could result in electric shock, fire, serious injury, or death.

- Always disconnect power before performing any maintenance or service on the pump.
- Ensure the pump is properly grounded. Do not remove the grounding prong from the power cord.
- Do not operate the pump with a damaged cord or plug.
- Keep hands, feet, and clothing away from moving parts and the pump intake during operation.
- Do not pump flammable or corrosive liquids. This pump is designed for water dewatering only.
- Ensure adequate ventilation when operating in enclosed spaces.
- Always wear appropriate personal protective equipment (PPE) such as safety glasses and gloves.

3. Product Overview and Components

The Tsurumi NK2-22L is a robust dewatering pump designed for construction sites and residential applications, capable of handling water with solids up to 5/16 inches in diameter.



Figure 3.1: Tsurumi NK2-22L Dewatering Pump. This image displays the complete pump unit. Key visible components include the sturdy blue pump body, the black discharge port at the top for water expulsion, a robust metal handle for easy transport, and a perforated black base (strainer) at the bottom designed to filter out larger debris. A warning label and product information plate are visible on the side of the pump body.

Key Components:

- **Discharge NPT:** 3-inch threaded port for connecting discharge hoses.
- **Handle:** Integrated handle for portability and deployment.
- **Motor Housing:** Die-cast aluminum housing protecting the motor.

- **Impeller:** High chrome impeller designed for durability and efficient pumping of water with solids.
- **Strainer Base:** Perforated base that prevents large debris from entering the pump.
- **Power Cord:** 32 ft, 14/3 STOW type, resistant to water and oil.

4. Specifications

Specification	Value
Item	Construction Site/Residential Dewatering Pump
Type	Construction Site and Residential Dewatering
HP	3
Voltage	220
Amps	13
Cord Length	32 ft.
Cord Size	14/3
Cord Type	3-Conductor STOW, Resists Water and Oil
Discharge NPT	3"
Maximum Head	59 ft.
Height	26-1/2"
Diameter	9-1/4"
Housing	Die Cast Aluminum
Top Material	Die Cast Aluminum
Base Material	Steel
Impeller Material	High Chrome
Length	26-1/2"
Width	9-1/4"
Max. Dia. Solids	5/16"
Max. Liquid Temp.	104 Degrees F
Min. Sump Pit Dia.	14"
Motor Type	PSC
Thermal Protection	Automatic
Motor Housing	Die Cast Aluminum
Phase	1

Specification	Value
RPM	3465
Hz	60
Insulation Class	B
Bearing Type	Double Shielded, Permanently Lubricated, High Temperature C3 Ball Bearing
UNSPSC	40151531

Performance Data (GPM @ Head):

- GPM @ 1 Ft. of Head: 211
- GPM of Water @ 5 Ft. of Head: 211
- GPM of Water @ 10 Ft. of Head: 200
- GPM of Water @ 15 Ft. of Head: 188
- GPM of Water @ 20 Ft. of Head: 180
- GPM of Water @ 25 Ft. of Head: 170
- GPM of Water @ 30 Ft. of Head: 152
- GPM of Water @ 35 Ft. of Head: 140
- GPM of Water @ 40 Ft. of Head: 120
- GPM of Water @ 45 Ft. of Head: 100

5. Setup

1. **Unpacking:** Carefully remove the pump from its packaging. Inspect for any shipping damage.
2. **Placement:** Position the pump on a firm, level surface in the area to be dewatered. Ensure the strainer base is fully submerged in the liquid. The minimum sump pit diameter is 14 inches.
3. **Discharge Hose Connection:** Connect a suitable 3-inch NPT discharge hose to the pump's outlet. Secure the connection to prevent leaks and ensure the hose is routed to a safe discharge point away from the dewatering area.
4. **Power Connection:** Ensure the power supply matches the pump's voltage (220V, 60Hz, 1 Phase). Plug the pump into a properly grounded electrical outlet. Use a Ground Fault Circuit Interrupter (GFCI) for added safety, especially in wet environments.

6. Operating Instructions

1. **Pre-Operation Check:**
    - Verify all connections are secure.
    - Ensure the pump is fully submerged and stable.
    - Check that the discharge hose is clear and properly routed.
2. **Starting the Pump:** Once all checks are complete, apply power to the pump. The pump will begin to operate automatically if the water level is sufficient.
3. **Monitoring Operation:** Observe the pump during operation. Listen for unusual noises and check for proper water flow. The pump has automatic thermal protection to prevent overheating.

4. **Stopping the Pump:** Disconnect power to stop the pump. The pump will also stop automatically when the water level drops below its intake.
5. **Dry Running:** Avoid prolonged dry running, as this can damage the pump. While the pump is designed for dewatering, continuous operation without water can lead to premature wear.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your Tsurumi pump.

- **After Each Use:**
  - Rinse the pump thoroughly with clean water to remove any accumulated debris, especially from the strainer base.
  - Inspect the power cord for any cuts, abrasions, or damage.
  - Check the discharge port for blockages.
- **Periodic Checks (Monthly/Quarterly, depending on usage):**
  - Inspect the impeller for wear or damage.
  - Ensure all fasteners are tight.
  - Check for any signs of oil leakage from the motor housing (indicates seal wear).
- **Storage:** When not in use, store the pump in a clean, dry place, protected from freezing temperatures.

8. Troubleshooting

Problem	Possible Cause	Solution
Pump does not start.	No power supply. Thermal overload tripped. Motor failure.	Check power connection and GFCI. Allow pump to cool down; it should reset automatically. Contact qualified service personnel.
Pump runs but no water is discharged or flow is low.	Strainer or impeller clogged. Discharge hose kinked or blocked. Air lock. Insufficient water level.	Disconnect power, clear strainer/impeller. Clear hose obstruction. Lift and lower pump slightly to release air. Ensure pump is fully submerged.
Pump cycles on and off frequently.	Insufficient water level for continuous operation. Sump pit too small.	Ensure adequate water supply. Consider a larger sump pit or adjust pump placement.
Excessive noise or vibration.	Debris in impeller. Worn bearings. Pump not stable.	Disconnect power, clear impeller. Contact qualified service personnel. Ensure pump is on a firm, level surface.

9. Warranty and Support

For warranty information and technical support, please refer to the official Tsurumi Pump website or contact their

customer service department. Keep your purchase receipt as proof of purchase for warranty claims.

Tsurumi Pump Official Website: www.tsurumipump.com

Contact Information: Refer to the website for regional contact details or authorized service centers.

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