

Controlled Roof Dewatering With a Portable Pump JHA

Worked instructional example

Work and worksite

A maintenance crew will remove known rainwater from a released low-slope roof using a Tsurumi LB480 manual-operation pump. Responsible structural, utility, access and discharge parties have accepted the actual condition and monitored drawdown plan. Protected operation ends with isolation and roof-status handover. This fictional example contains planned controls, without inspection findings or authorization.

- Actual structural assessment accepts the water load, roof condition, worker/pump/hose loads, access positions and drawdown sequence. Utility and discharge arrangements are separately released. This example does not authorize approaching an unassessed pond or replace a post-event reentry decision.
- The actual US 115V LB480 unit and applicable LB-series instructions B-10221-1 are identified. Required water quality, electrical protection, hose/head and running-water-level criteria are available. Known rainwater is accepted for this pump; contaminated floodwater, chemicals and unknown liquid are excluded.
- Roof maintenance 238160-35 is a partial connection: controlled portable pumping after technical release only. Concealed drain cleaning, roof-drain replacement, emergency stabilization, structural redesign, automatic unattended pumping, dry-running cleanup and pump repair are excluded.

Questions before work

- Who accepts the actual roof/water/load condition and sets permitted drawdown, observation positions and stop criteria?
- Where is the isolated protected power supply, and how will the operator stop the pump without entering wet or unsafe access?
- Which discharge route prevents backflow, uncontrolled siphoning, inundation and unauthorized release while the crew monitors pumping?

Task Hazard Control

1 Accept the released dewatering plan

Hazard: Unassessed water loading, weak roof areas or an unsuitable drawdown sequence can expose workers to collapse while they try to remove ponded water.

Control: Roof lead obtains the actual structural, utility, access and discharge releases from their responsible people. Identify allowed positions, pump/hose loads, water condition, drawdown limits and observation/stop criteria. Confirm weather and escape routes fit the plan. Hold entry or pumping for missing acceptance; the pump's ability to move water does not establish structural safety.

Verification: Lead records technical releases, access and drawdown criteria.

Reasoning: Assess roof suitability before workers approach the pond.

2 Prepare protected power and discharge routes

Hazard: Water reaching a defective connection or an unrestrained outlet can cause shock, uncontrolled discharge, trips or water returning to the roof.

Control: The appropriate electrical person verifies actual supply suitability, grounding and required ground-fault protection for the wet installation. Keep connections protected and service isolation accessible from dry safe positions. Accept the complete discharge and hose arrangement, including backflow or continuing siphon potential. Route and secure hose without obstructing access, damaging the membrane or sending water to an unapproved location.

Verification: Assigned leads verify power, isolation and discharge arrangements.

Reasoning: Safe removal needs a controlled supply and destination.

3 Inspect and position the isolated pump

Hazard: Lifting by the power cable, unsupported placement or a damaged strainer can lead to shock, pump movement or intake blockage during operation.

Control: With power isolated, inspect the actual LB480 and required maintenance/inspection status through its instructions. Quarantine cable, plug or component defects. Move the pump using its handle and accepted handling equipment, never its power cable. Place it upright on the separately accepted stable support from protected positions; keep inlet access clear without adding unapproved roof loads.

Verification: Operator checks inspection disposition and upright supported placement.

Reasoning: Portability does not remove support and electrical requirements.

Complete the work and hand over

4 Establish controlled trial operation

Hazard: A disconnected hose, incorrect power condition or unsafe startup can discharge water unexpectedly or expose someone near a running pump.

Control: Confirm sound hose engagement, clear intake, permitted water level and the safe observation/shutoff positions. Follow the applicable single-phase LB480 trial-operation method; any prescribed electrical measurement belongs to qualified personnel. Never start a suspended pump or enter the pump area while energized. Stop for abnormal vibration, sound, smell, leakage or a discharge condition outside the plan.

Verification: Assigned verifier records model-specific trial findings.

Reasoning: A trial checks operation before sustained drawdown.

5 Monitor drawdown and stop within accepted limits

Hazard: Dry running, thermal-protector restart or a changed roof/water condition can damage equipment and expose the crew during an attempted intervention.

Control: Monitor water level, pump behavior, hose/discharge and structural observation criteria continuously from accepted positions. Keep operation within the actual manual's running level and site drawdown limits. Stop before dry running and for any technical stop condition. Isolate power for a thermal trip, outage or fault; cooling can permit automatic restart, so a stopped motor is not safe isolation.

Verification: Operator records monitored conditions and technical stop disposition.

Reasoning: Drawdown changes conditions; a stopped motor may restart.

6 Isolate retrieve and transfer remaining roof status

Hazard: Reaching into an energized intake, handling a hot pump or reopening access with residual water can injure the crew or the next roof user.

Control: Stop and isolate the supply through the accepted method before inspection or movement. Allow required cooling, keep hands clear of the intake, and retrieve using the handle and released handling route. Control hose contents and residual water without dry-running the pump. Record remaining water, roof observations, defects and continuing restrictions; any changed structural or access acceptance requires its responsible person's disposition.

Verification: Receiving lead accepts isolation, residual water and open actions.

Reasoning: Pump completion does not release the roof for unrestricted use.

Pause and reassess

- Water identity, roof condition, loading, permitted position, discharge or drawdown differs from the accepted technical plan.
- Protected power, safe isolation, stable upright support, inlet clearance or restrained hose/discharge cannot be maintained.
- Abnormal operation, thermal trip, changed water level, roof movement or weather requires shutdown and the assigned technical review.

Improve the controls

Needs improvement: Run the pump and the roof will become safer as it drains.

More useful: Structural and utility parties first accept actual access, loads and drawdown; the crew operates only within that released monitored plan.

Needs improvement: The thermal protector stopped it, so the intake can be checked.

More useful: Operator isolates the actual power source before inspection because the cooled motor or restored supply can restart the pump.

Decisions that change the analysis

What if the roof has not received actual structural and utility release?

Keep people outside the unassessed area and refer the condition to the responsible authorities. Do not walk through ponded water, place a pump or improvise a drain opening to begin the assessment. This bounded example starts after a real release of roof loads, access, utilities and drawdown. Emergency stabilization or unknown contaminated water requires a separately planned operation.

What must the crew record for actual use?

Record roof/water, structural/utility releases, access/loads, discharge/drawdown criteria, pump/manual, electrical and component findings, water-level basis and actual trial/monitoring results. Include stops/faults, isolation, residual water, roof observations and continuing restrictions. Identify checkers and dispositions; this example supplies no roof capacity or operating release.

Training needs

- LB480 model-specific installation and operation instruction, including upright support, handle-based movement, actual water-level limits, restart hazards and safe isolation for any inspection or blockage.
- Crew instruction in the accepted structural/drawdown plan, wet-work electrical protection, restrained discharge/hose routing, protected observations and prompt reporting of changed roof or utility conditions.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

Tsurumi LB-series operation manual B-10221-1, applicable LB480 manual-operation sections

<https://www.tsurumipump.com/assets/f3/dc/f3dc5b36-2c2b-4893-aed1-4c7e8422c66b/Operation%20Manual%20-%20LB%20Series%20%28B-10221-1%29.pdf>

Tsurumi current LB-480-62 US 115V product identification

<https://www.tsurumipump.com/products/lb-480-62-115v>

OSHA 1926.501(a)(2), actual working-surface strength and integrity

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

OSHA 1926.404, construction electrical and ground-fault protection

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.404>

References reviewed October 13, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.