

Water Polisher Vault Installation Manual



OVERVIEW

This installation guide is for vaults containing Water Polisher internals. Please read all warning and safety instructions prior to rigging and installing the vault. The Contractor is responsible for supplying all cranes and rigging equipment required for installation. The Contractor is also responsible for all pipe grouting and system activation requirements.





WARNING

Fall protection may be required. Watch your step when standing on the Water Polisher internals at any time. Great care and safety must be taken while walking or maneuvering on the Water Polisher screens to prevent slipping or tripping. The Water Polisher screens can be slippery when wet. If the top slab, covers, or hatches have not yet been installed or are removed for any reason, great care must be taken to not drop anything onto the screens. The Water Polisher screens may be damaged under high impact loads. This type of activity voids all warranties.

SAFETY NOTICE AND PERSONAL SAFETY EQUIPMENT

Jobsite safety is a topic and a practice addressed comprehensively by others. The inclusions here are merely reminders to whole areas of Safety Practice that are the responsibility of the Owner(s), Manager(s), and Contractor(s). OSHA and Canadian OSH, Federal, State/Provincial, and Local Jurisdiction Safety Standards apply on any given site or project. The knowledge and applicability of those responsibilities is the Contractor's responsibility and outside the scope of Contech Engineered Solutions.







Gloves



Hard Hat



Eye Protection

Ear Protection





Ventilation and Respiratory Maintenance and Protection Protection of Traffic Plan

WATER POLISHER COMPONENTS LIST

The Water Polisher system will arrive on-site with the internals pre-installed, secured, and sealed to a precast structure. The components per the shop drawings (plans) typically include:



CONFINED SPACE ENTRY

Obtain all equipment and training to meet applicable local and OSHA regulations regarding confined space entry. It is the Contractor's or entry personnel's responsibility to always proceed safely.

UNLOADING AND HANDLING

Any unloading/handling guidance of the Water Polisher precast structure is beyond the scope of work of Contech but can be obtained from the precaster. Contact Contech to obtain contact information from precaster. Handle Water Polisher components with care. Special lift gear and rigging may be necessary to unload and handle any precast components, which is the responsibility of the site Contractor.

DO NOT DAMAGE the parts in handling or unloading, and if parts are damaged prior to off-loading, immediately call Contech.

The Contractor is responsible for the inspection of all Water Polisher components shipped, and all components shall be inspected at time of delivery by the site Engineer/Inspector and the Contractor. Any nonconformance to approved drawings or damage to any part of the system shall be documented on the shipping ticket. Contech should be contacted immediately. Damage to the unit during and after unloading shall be corrected at the expense of the Contractor. Any necessary repairs shall be made at the acceptance of the Engineer/Inspector.

CRANE SELECTION

The Contractor is responsible for selecting the appropriate equipment to safely rig, lift, unload, and set-in-place the Water Polisher system, as well as provide a safe environment at the jobsite for the offloading and installation/assembly of the structure. Contech or the precast producer will provide the Contractor with the maximum pick weight of the heaviest precast component. Safety considerations of crane size, placement, ground support, stability, distance to excavation, swing and lifting radius, overhead conflicts, permits, or traffic control and other items must be carefully addressed but are outside the responsibility of Contech.

EXCAVATION SAFETY

Any site excavation and shoring are beyond the scope of work of Contech. This is the responsibility of the Contractor, and all OSHA, Canadian OSH, Federal, State/Provincial, and Local Jurisdiction Safety Standards shall apply on all sites.

BASE PREPARATION

Compact undisturbed sub-grade materials to 95% of maximum density at +/- 2% of optimum moisture content prior to placement of crushed rock. Crushed rock base material shall be six-inch minimum layer of ¾-inch minus rock. Unsuitable material below sub-grade shall be replaced per site engineer's approval. The allowable amount of variation from corner to corner is 0.5%.

SETTING THE WATER POLISHER VAULT



1. SETTING BASE SECTION

Before offloading, obtain a copy of the final approved shop drawings and site plan to verify all components are correctly placed and at the proper elevation. The Contractor is responsible for safely rigging and offloading the structure and associated components. Set the base section of the Water Polisher vault on solid, level sub-grade. Ensure the inlet(s) and outlet are properly oriented. The system floor shall slope ¹/₄" maximum across the width and slope downstream 1 inch per 12 feet of length.



2. SEAL PRECAST SECTIONS

Place butyl mastic tape between each precast section. Verify level and elevation of the base section before adding any additional precast riser sections.



3. RISER SECTIONS

Set riser section(s), if needed, on the base section per approved shop drawings. If riser sections are not required, skip this step.



4. TOP SLAB

Set the Top Slab according to the approved shop drawings. Prior to setting the top slab, ensure butyl mastic tape has been applied to all joints.

PIPE CONNECTIONS

Inlet pipe(s) and outlet pipe shall be stubbed in and connected to the system according to Engineer's requirements and specifications. Contractor to grout all inlet and outlet pipes flush with or protruding up to <u>1 inch maximum</u> into the vault interior per plan and specifications. Contractor to supply non-shrink grout and center all inlet pipe(s) and outlet pipe in the core holes provided in the vault/manhole.



BALLAST

When required, the Contractor shall place ballast to the dimensions specified by the Engineer and noted on the plans. Ballast shall not encase the inlet and/or outlet piping, and 12-inches of clearance should be provided between the ballast and the inlet/outlet pipes.

RISERS, COVERS, AND CLOSING THE SYSTEM

The Water Polisher is delivered with the necessary risers and covers to bring the unit to grade. It is the contractor's responsibility to assemble the Water Polisher per the plans and as directed by the Engineer.

- Place a layer of butyl mastic sealant between the top slab, riser sections, and riser rings
- The top slab should be oriented per the drawing with access openings positioned over steps (if provided)
- Place riser sections and riser rings with steps oriented as shown on plans
- Install frames and covers per plans

The contractor is responsible for sealing and making all joints, line entry, and exit points watertight.



BACKFILL

Backfill material and placement method should be performed in accordance with the construction plans and specifications and as directed by the Engineer.

SYSTEM ACTIVATION

Once construction is complete and the site has been fully stabilized (i.e., landscaping is in place, grass growing, and top course of pavement laid), the Water Polisher system can be activated.

The contractor is responsible for keeping the Water Polisher system clean and free of construction debris and sediment prior to activation. This reduces the potential of a large rainfall/runoff event entering the Water Polisher and loading (and/or overloading) the filtration media, prematurely shortening the media service life for the owner. Practices to protect the media include, but are not limited to, plugging the inlet pipe, diverting construction runoff around the unit, and/or delaying media installation until the time of activation. All debris and standing water MUST be removed from the Water Polisher prior to activation and/or media installation.

Vault Activation

Remove the inlet plug, direct runoff to the Water Polisher unit, and/or install the filtration media. If installing filtration media, follow the Maintenance Instructions and Media Replacement Instructions in the Water Polisher O&M Manual which can be found on the Contech website.





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SUPPORT

DRAWINGS AND SPECIFICATIONS ARE AVAILABLE AT WWW.CONTECHES.COM

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