



TechNotes



Romtec Utilities is a dedicated integrator of submersible pumps and lift station equipment manufactured by ITT Flygt.

ROMTEC UTILITIES, INC.
Product Information & Updates
Installation & Technical Tips

May, 2004



This issue of TechNotes continues our description of the parts of Romtec pre-engineered package lift stations. The **Pre-cast Top Slab** of the wet well is available in six and eight-foot interior diameters. Cast of 4000 psi steel reinforced concrete to meet ASTM C 478-97, the top slab fits on the top barrel section of the wet well with the same single-offset R-3 rubber gasket joint used between the wet well barrels.

In typical installations the top slab is set about one foot above the surrounding finished grade of earth, crushed rock, asphalt, or concrete. This placement prevents precipitation water from flowing into the well through the hatch. This placement also eliminates the possibility of vehicles driving over the wet well. The standard hatch in the Romtec top slab is not rated for traffic loads, however Romtec can supply top slabs optionally equipped with a hatch rated for traffic loads or parking lot loads.



Safety First

Worker safety and maintenance ease are key design factors of the Romtec top slab. There should be no need, under typical operating circumstances, for personnel to enter the wet well at any time.

Lift, Set & Align

(top) While suspended from crane, the pre-cast wet well top slab is prepared for setting with lubricant on joint.

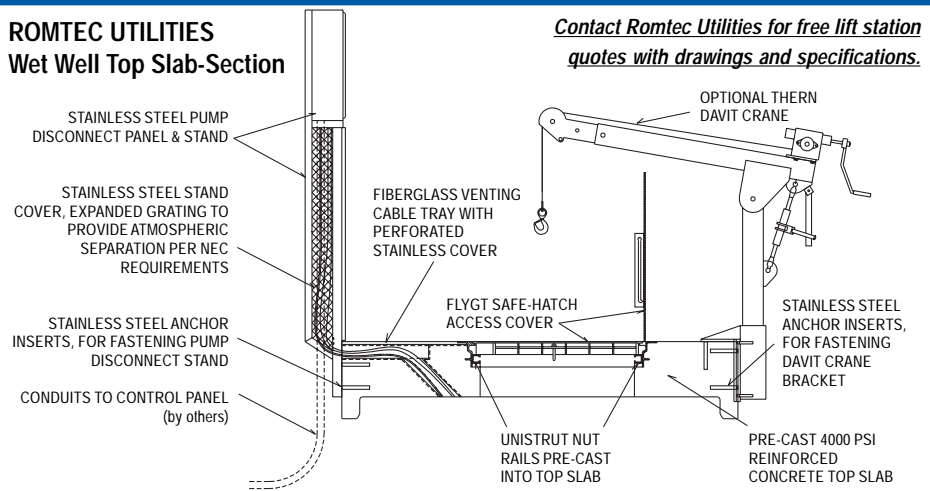
(bottom) Worker checks alignment of top slab with wet well barrel. Alignment marking is applied to concrete parts at factory.

Safety features designed into the Romtec Utilities top slab include:

- Proper venting of the wet well
- Flygt Safe-Hatch* Access Cover
- Ease of pump placement and extraction
- Convenient and safe pump disconnect panel and stand
- Electrical safety with connections outside Class 1/Division 2 envelope

Proper venting of wet wells is very important. Gases present in the well can include methane, classified as explosive, and hydrogen sulfide, which is also toxic and corrosive. Venting of the wet well through its top slab is accomplished by routing the vent aperture through Romtec's **Venting Cable Tray**, which is pre-cast into the top slab. The 6" x 7" fiberglass tray features a stainless steel perforated cover that ventilates the wet well, while providing a chase for the cables running between the wet well and pump disconnect panel.

ROMTEC UTILITIES Wet Well Top Slab-Section



Contact Romtec Utilities for free lift station quotes with drawings and specifications.



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continued from page 1

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ITT Flygt Safe-Hatch* access covers are pre-cast in every Romtec top slab. The covers are OSHA-compliant; both the hatch cover and inner grate have two doors each. In their open position, surrounding three sides of the access opening, they provide protection against falling. The hatch cover is made of aluminum with stainless steel hardware. The underlying inner grate is aluminum. Its large grate openings provide for easy visual inspection of the wet well interior. The hatch grate is rated to support the weight of a submersible pump. The pump, when removed for service, can be hosed off while it rests on the grate. Pump wash water thus goes down into the wet well.

** Patented by ITT Flygt*

Ease of pump placement and extraction

is key to worker safety and maintenance efficiency. The Romtec top slab has unistrut nut rails integral with the hatch on both sides of the opening. These provide the fastening points for the pump guide bar brackets. The guide bars permit the simple installation and removal of pumps without anyone entering the wet well. Also included in the nut rail assembly are stainless steel brackets and hooks for hanging the pump cables and sensor cable at the correct height, and a cleaning device for cleaning the sensor probe as it is removed from the well. An optional davit crane can be supplied with the lift station to simplify removal and reinstallation of pumps. The crane is bolted to the side of the top slab.

The stainless steel **Pump Disconnect Panel & Stand** provide a convenient, lockable connections for cables from pumps and liquid level sensing probes. This unit bolts to the side of the top slab with pre-installed stainless steel inserts. **Electrical safety** is of the highest priority. Electric cables from the wet well feed through the venting cable tray upward to the pump disconnect panel. These include the power



(this photo) Romtec Utilities Top Slab with Flygt Safe-Hatch and Pump Disconnect Panel & Stand (below) Flygt technician uses guide rails to lower submersible pump into wet well through half-open hatch.



cables for the pumps and the liquid level sensor signal cables. The pump disconnect panel is positioned outside the Class 1/ Division 2 envelope (NEC) for safety from explosion. In addition, the pump cables are connected with the Meltric DSN Deconnector that is rated as a manual motor controller, as well as plug-in and receptacle. This connector provides the safest method for connecting pumps.

The pump disconnect panel provides “intrinsically safe” relays for the liquid level control sensor wires in explosion-proof applications. The **MultiTrobe Sensing Probe** is hung from a bracket in the top slab. It uses safe low voltage for sensing the level of the wastewater in the wet well. Virtually no maintenance is required of the sensor; its performance is unaffected by grease, debris, or foam.

Free Lift Station Sizing & Quote

Romtec Utilities offers a free service to specify the right lift station for your next project. On our web site, you can download an easy-to-follow form to help you compile the data required to specify the size, capacity and all other parameters of your lift station. You can also call us to receive this form by email or fax.



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