

INSTALLATION, OPERATION & MAINTENANCE MANUAL

Fluidtrol Balance Tanks — Vertical and Horizontal

Scope

This manual covers installation, operation, and maintenance guidelines for pre-manufactured balance tanks used in commercial and industrial pool systems.

1 | Site Inspection & Sizing

- Determine tank size and location.
- Confirm tank volume accommodates expected surge (bather load, splash, gutter flow) per project design.
- Verify a flat, level footprint and adequate space for service access around fittings and instruments.
- Confirm structural loading, safe drainage, and proximity to utilities.

2 | Tank Installation (Pre-manufactured Tank)

Placement

Set the tank on a flat, level, and properly supported surface.

Orientation

Orient the tank to accommodate system piping as shown on approved shop drawings.

Secure Installation

Anchor or otherwise secure the tank to prevent shifting or instability, per manufacturer and engineer recommendations.

3 | Plumbing & Connections

Gutter/Overflow Line

Connect the overflow gutter system to the balance tank using appropriately sized piping per design.

Main Drain Line

Provide the main drain connection as indicated. This connection typically includes a modulating float valve (sometimes supplied with the balance tank). Refer to the float valve manufacturer's installation instructions.

Suction Line to Pump

Connect a suction line from the balance tank to the pool circulation pump per design. Ensure proper pipe sizing and support.

Venting

Closed-top balance tanks must be vented above the pool water level to prevent air locks and ensure proper operation.

Sight Glass

If supplied, install the sight glass per the drawings for location and orientation.

4 | Flanged Connections

- 1/8" thick soft full-face gaskets are preferred for plastic flanges.
- Verify bolt holes of mating flanges align with strainer/surge tank flange holes. Flanges up to 12" are loose-ring and may be rotated to suit plumbing.
- Insert all bolts only after the surge tank is in final position.
- After gasket insertion, ensure mating faces are not separated by more than 1/16". If larger, insert a spacer ring.
- Tighten bolts diametrically opposite using a torque wrench in stages for uniform stress (see Table 1).

Table 1 — Recommended Flange Bolt Torque

Flange Size	Torque Value
3" and 4"	20–30 ft-lbs
6" and 8"	30–50 ft-lbs
10" and 12"	53–75 ft-lbs

Table 2 — Typical Bolt Sizes (SCH 80 PVC flanges)

Flange Size	Bolt Size
3"	5/8-11 × 3-5/8"
4"	5/8-11 × 3-3/4"
6"	3/4-10 × 4-3/8"
8"	3/4-10 × 4-3/8"
10"	7/8-9 × 4-1/2"
12"	7/8-9 × 4-5/8"

5 | Safety & Controls

Float Switches / Modulating Float Valves

Install and set float switches or modulating float valves to regulate water level and prevent overflow or pump dry-run.

Electrical Safety

All electrical components (e.g., float switches) must be installed and grounded by qualified personnel in accordance with applicable electrical codes and standards.

6 | Testing, Start-Up & Maintenance

Factory Hydrostatic Test

Balance tanks are hydrostatically tested by Fluidtrol prior to shipment.

System Start-Up

Follow the pool system start-up procedures to gradually fill and circulate water. Confirm proper balance tank operation (level control, venting, and flow).

Regular Maintenance

Implement a maintenance schedule that includes periodic cleaning and inspection of the balance tank, level control devices, strainers/traps, and venting to prevent debris accumulation and ensure proper operation.

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