

## Low-Flow Kits and Accessories

Part Number 0094250 (Complete smarTROLL<sup>®</sup> MP Low-Flow Kit), 0094400 ( smarTROLL Flow Cell Kit), 0066820 (Complete Aqua TROLL<sup>®</sup> 500/600 Low-Flow Kit), 0066830 (Aqua TROLL 500/600 Flow Cell Kit), 0093480 (Fittings Kit)

### Application

Low-Flow Sampling equipment is used to direct the flow of water past water quality sensors during purging and low-flow sample tests. The seal between the instrument and the flow cell prevents water oxygenation prior to analysis. The 3-way intake valve can be used to divert flow for sample collection. The anti-siphon check valve prevents back flow at the outlet. The system accommodates 3/8" and 1/4" tubing, which is not included.



Aqua TROLL 600 Low-Flow Kit

### Low-Flow Kit Contents

Complete Low-Flow Kits contain all of the items in the Fittings Kit, Flow Cell Kit and Base Plate Kit.

### Fittings Kit Contents

- 3/8" NPT to 3/8" barbed adapter fittings (2)
- 3/8" NPT to 1/4" barbed adapter fittings (2)
- 3/8" cap plug (1)
- 3/8" and 1/4" check valve (1 each)
- 3/8" and 1/4" 3-way ball valve (1 each)
- Pipe thread tape

### Flow Cell Kit Contents

- Flow Cell with removable end cap (installed with O-ring and stainless steel sleeve). The Aqua TROLL 600 top cap is also removable.
- (1) Ground spike in the smarTROLL kit
- (2) Ground spikes in the AquaTROLL 600 kit

### Base Plate Kit

- 12" x 12" PVC, with hardware

### Set up

1. Select the NPT/adapter fitting that matches the tubing size.
2. Apply tape to the adapter fittings and twist them into the threaded holes on the flow cell cylinder. Tighten until hand tight. Do not over tighten. Ensure that the fittings do not protrude beyond the wall of the flow cell.



smarTROLL Low-Flow Kit

3. If you are using the 3-way valve, attach it to the intake fitting (bottom) with a short piece of tubing.
4. If you are using the anti-siphon check valve, attach it to the outlet fitting (top) with a short piece of tubing.
5. The arrow on the valve indicates the flow direction.
6. To provide stability, attach the flow cell to the base plate with the included screw. Use the corner hole to attach the Aqua TROLL 600, or the center hole for the smarTROLL. The Aqua TROLL 600 will sit on the base at

an angle as shown in the photo above. If necessary, loosen the rounded end cap and rotate it slightly to align the threaded-brass insert with the hole in the base plate. The inlet and outlet may not align when the flow cell is attached to the base (A). A small gap between the flow cell and the rounded end cap is acceptable and will provide a sufficient seal (B). With the smarTROLL, you also have the option of using the ground spike to secure the flow cell directly to the ground.



### smarTROLL Low-Flow Specifications


Flow Cell Dimensions	6.4 cm (2.5 in.) O.D. 15.2 cm (6 in.) length
Flow Cell Volume	125 mL without sensors
Flow Cell Materials	Clear polished polycarbonate
Ground Spike	316L stainless steel
Base plate	12" x 12" PVC
NPT fittings	3/8" to 1/4" or 3/8' to 3/8' NPT
Tubing size compatibility	3/8", 1/4"
Typical flow rate	0.1 - 0.5 liters per minute
Recommended operational limits	Flow rate: 8.0 liters per minute, Pressure: 30 psi

### Aqua TROLL 500/600 Low-Flow Specifications

Flow Cell Dimensions	7.62 cm (3 in.) O.D. 23.5 cm (9.25 in) length
Flow Cell Volume	126.5 mL with sensors and wiper 130 mL with sensors, without wiper
Flow Cell Materials	Black Delrin® Clear polycarbonate Brass
Ground Spike	316L stainless steel
Base plate	12" x 12" PVC
NPT fittings	3/8" to 1/4" or 3/8' to 3/8' NPT
Tubing size compatibility	3/8", 1/4"
Typical flow rate	0.1 - 0.5 liters per minute
Recommended operational limits	Flow rate: 8.0 liters per minute, Pressure: 30 psi

7. Calibrate the instrument as shown in the Operator's Manual and in the mobile Help.

Remove the restrictor from the instrument when using a smarTROLL Multiparameter Handheld. Twist the instrument into the flow cell tight enough to attach it, but do not over tighten.

 Remove the blue end cap from the restrictor and screw the restrictor into the threads of the flow cell when using an Aqua TROLL 600 Multiparameter Sonde. You may need to twist the sonde to insert it into the flow cell.

8. Follow the directions in the manual or the mobile Help to perform the Low-Flow test.