MANTECH
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Q: How long does a batch take for Automated Sample Transfer, pH Adjustment, & Dechlorination + Automated BOD Preparation & Uncapping/Capping system?

A: MANTECH Pro™ prepares and transfers all samples first (pH adjustment*, dechlorination*, transfer), then BOD Pro™ fills the bottles and reads the initial DOs. For 18 field bottles with 3 dilutions each, expect about 3.0 to 3.3 h* with Buret seed when every sample needs pH adjustment and dechlorination, or about 2.4 h* when neither is needed.

Time per step*

Step	Time
pH adjustment (per sample, if required)*	60 to 90 s
Dechlorination (per sample, if required)*	60 to 90 s
Sample transfer (per bottle)*	90 s (each extra bottle of the same sample: about 27 s)
MANTECH Pro™ end sequence (i.e. final rinse and parking pH and ORP electrode storage)	about 75 s per run
BOD Pro™ fill and initial read, seed by burette*	about 113 s per bottle (about 225 s per pair)
BOD Pro™ fill and initial read, seed by dosing pump*	about 93 s per bottle (about 185 s per pair)

Seed is 4 mL per bottle. Each probe has its own Buret (10mL syringe, therefore, 10 mL per minute, 1 minute to refill 10 mL), and the run waits while it refills: about 24 s to inject plus about 24 s average refill per pair. A dosing pump at 30 mL per minute needs 8 s per pair*, saving about 40 s per pair (20 s per bottle)*.

Example: 3 dilutions per field bottle (BOD bottles = 3 x field bottles), total time:

Field bottles	BOD bottles	No pH / dechlor, Buret seed*	No pH / dechlor, Dosing seed*	pH + dechlor, Buret seed*	pH + dechlor, Dosing seed*
1	3	11 min	10 min	13-14 min	12-13 min
18	54	2.4 h	2.1 h	3.0-3.3 h	2.7-3.0 h
50	150	6.7 h	5.9 h	8.4-9.2 h	7.6-8.4 h
70	210	9.4 h	8.2 h	11.7-12.9 h	10.6-11.7 h
100	300	13.4 h	11.7 h	16.7-18.4 h	15.1-16.7 h

What changes the time*

- Whether pH adjustment or dechlorination is required: each step skipped saves its time for that sample.
- Number of dilutions: each extra bottle adds about 27 s on the MANTECH Pro™ side plus a full bottle fill on BOD Pro™.
- Sample volume: a fuller bottle needs less dilution water, so the fill is shorter, but the transfer may take longer*.

Note*: Timings come from one batch with the same volumes. pH adjustment and dechlorination times are estimated, and finals are not included. Times assume one run; BOD bottles fill in pairs.