

Reference #2 Lead Reduction Ability

SEONDO ELECTRON Test		Lead TEST REPORT
TEST NO. 20190221-1 Mr. Park S.D. elect. 7-29, Sinchon 2 Ro, Paju, Keonggi-Do, Korea		
TEST RESULT		
Result	PASS	Report Date 25-03-2019
Customer Name	Seondo electron	
Tested TO	Standard 53 Lead Reduction POU/POE 200%	
Description	Terra CTU T300	
Test Type	Qualification	
Job Number	J-20190221	
Project Number	Terra Water Research CTU T-300	
Project Manager	Jeahyeog Choe	
Report Authorization :		Date 25-03-2019

Standard 53 Lead Reduction POU/POE 200% : PASS

Manufacture's Name: Seondo electron

Job NO.: J-20190221

Date of Job Creation: 21-02-2018

Date Sample Received: 21-02-2018

Date Test Completed: 25-03-2019

Sample Type: Qualification

Product: Terra Water Research CTU T 300

DCC Number: 00190221

Filter Capacity: 6,000 Gallons (22,000 Liter)

Flusing Time: 3 minute

Maximum Rated Op. Pressure: 140 PSI

Percent Capacity: 200%

Physical Description of Sample: Counter Top Connected to Sink Faucet without Diverter

Rated Service Flow: 4.0 LPM (1.05 GPM)

Test Description: Lead 6.5 pH Reduction

Trade Designation/Model Number: Terra Water Research CTU T 300

Performance Strandard: 53 -2018

Lead reduction P/F: PASS

Pass/Fail Criteria (Lead): 10 ug/L

Overall Percent Reduction: >99.3%

Test Result Maximum Effluent: <1 ug/L

All effluent values are less than or equal to the pass/fail criteria: YES

Data Summary Table

Sample point	Accumulated Volume (Liter)		Stop Pressure (kgf/cm ²)	Lead (ug/L)		
	Effluent 1	Effluent 2	Influent	Influent	Effluent 1	Effluent 2
Startup (0%)	10	10	4.2	150	ND	ND
10%	1,134	1,100	4.2	150	ND	ND
50%	5,670	5,600	4.2	150	ND	ND
100%	11,340	11,300	4.2	150	ND	ND
150%	17,010	17,000	4.2	150	ND	ND
180%	20,412	20,400	4.2	150	ND	ND
200%	22,680	22,600	4.2	150	ND	ND

Sample point	Flow Rate (LPM)		Lead (ug/L)
	Effluent 1	Effluent 2	Influent
Startup (0%)	4.0	4.0	150
10%	4.0	4.0	150
50%	4.0	4.0	150
100%	4.0	4.0	150
150%	4.0	4.0	150
180%	4.0	4.0	150
200%	4.0	4.0	150

Lead Detection Limit: 10 ug/L

pH Detection Limit: 0.01

Data Analysis Table

Sample point	Inf. Average (ug/L)	Average (ug/L)	Average (ug/L)	Eff. % Reduction (Ave. Inf.) (%)		
		Effluent 1	Effluent 2	All Effluent	Effluent 1	Effluent 2
Startup (0%)	150	ND	ND	99.3	99.3	99.3
10%	150	ND	ND	99.3	99.3	99.3
50%	150	ND	ND	99.3	99.3	99.3
100%	150	ND	ND	99.3	99.3	99.3
150%	150	ND	ND	99.3	99.3	99.3
180%	150	ND	ND	99.3	99.3	99.3
200%	150	ND	ND	99.3	99.3	99.3

Sample point	Ave. % Reduction (%)	Maximum (ug/L)	Met Minimum Criteria	
Startup (0%)	99.3	ND	YES	
10%	99.3	ND	YES	
50%	99.3	ND	YES	
100%	99.3	ND	YES	
150%	99.3	ND	YES	
180%	99.3	ND	YES	
200%	99.3	ND	YES	

Inf. Average: Influent Average

Average: All Effluent Average

Eff. % Reducton (Ave. Inf.):

Effuent percent reduction calculated from average of previous influent values.

Ave. % Reductio: Percent reuction calculated from all prior influents and effluents.

Maxxmum: Maximum Effluent

Met Minimum Criteria: All efflunt values are less than or equal to the pass/fail criteria

Water Characteristics

Characteristic	Units	Range		
		Minimum	Average	Maximum
Total dissolved solids (TDS)	mg/L	60	80	100
Temperature	Degrees C	17.5	20.0	22.5
Polyphosphate (as P)	mg/L	0.1	0.3	0.5
Hardness (as CaCO ₃)	mg/L	10	20.0	30
Alkalinity (as CaCO ₃)	mg/L	10	20.0	30
Turbidity	NTU	0	0.5	1
pH		6.0	6.5	7.0

All analyses performed at Seondo electro.

Percent Reduction Calculations

Overall Percent Reduction:

Influent Average includes all influents.

Effluent Average includes all effluents.

$$\% \text{ Reduction} = \text{Influent Average} - \text{Effluent Average} / \text{Influent Average} * 100$$

Influent Average Percent Reduction Calculations

Influent Average Percent Reduction for Current Influent Point:

Influent Average includes all influents up to and including the current sample point.

Effluent Average includes all effluent for the current sample point.

$$\text{Average } \% \text{ Reduction} = \text{Influent Average} - \text{Effluent Average} / \text{Influent Average} * 100$$

Influent Average Percent Reduction for Current Effluent Point:

Influent Average includes all influents up to and including the current sample point.

Effluent includes the effluent value for the specific sample point.

$$\text{Average } \% \text{ Reduction} = \text{Influent Average} - \text{Effluent} / \text{Influent Average} * 100$$

Average Percent Reduction Calculations

Average Percent Reduction:

Influent Average includes all influents up to and including the current sample point.

Effluent Average includes all effluents up to and including the current sample point.

$$\% \text{ Reduction} = \text{Influent Average} - \text{Effluent Average} / \text{Influent Average} * 100$$

