

Application Note - *Easy*PREP Sample Handler - *Accu*NORM validation

Test Procedure:

The following test is a study of *Accu*NORM accuracy and consistency. Sample Handler and its *Accu*NORM option were used to normalize 50ml *Digi*TUBE[®]s with DI water. 20 *Digi*TUBE[®]s were tared and manually filled with a random volume of DI water between 10 and 40 ml. The *Digi*TUBE[®]s were measured for current volume and then filled to 50ml with DI water using *Accu*NORM. Then, the tubes were weighed and the total volume of water was calculated.

Results:

- Water density: 0.99715 g/ml
- Expected volume: 50 ml

Vial	Empty	Full	H ₂ O Weight (g)	H ₂ O Volume (ml)	% Off	Vol. off (ml)
1	13.6688	63.512	49.843	49.943	-0.11%	-0.06
2	13.6575	63.7689	50.111	50.212	0.42%	0.21
3	13.6724	63.8345	50.162	50.263	0.53%	0.26
4	13.7042	63.5945	49.890	49.990	-0.02%	-0.01
5	13.5105	63.4854	49.975	50.075	0.15%	0.08
6	13.6677	63.6541	49.986	50.087	0.17%	0.09
7	13.6864	63.5527	49.866	49.966	-0.07%	-0.03
8	13.682	63.5922	49.910	50.010	0.02%	0.01
9	13.6744	63.4653	49.791	49.891	-0.22%	-0.11
10	13.7027	63.5303	49.828	49.927	-0.15%	-0.07
11	13.6438	63.4897	49.846	49.946	-0.11%	-0.05
12	13.5737	63.2857	49.712	49.812	-0.38%	-0.19
13	13.6619	63.4153	49.753	49.853	-0.29%	-0.15
14	13.5776	63.3405	49.763	49.863	-0.27%	-0.14
15	13.6666	63.368	49.701	49.801	-0.40%	-0.20
16	13.6428	63.4841	49.841	49.941	-0.12%	-0.06
17	13.6399	63.303	49.663	49.763	-0.47%	-0.24
18	13.6635	63.5066	49.843	49.943	-0.11%	-0.06
19	13.6513	63.4702	49.819	49.919	-0.16%	-0.08
20	13.6372	63.4955	49.858	49.958	-0.08%	-0.04

Conclusion:

Standard deviation is 0.12 ml (relative standard deviation of 0.25%). This test shows accuracy and consistency of automated normalization done by Sample Handler and *Accu*NORM.

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

CANADA / USA

Tel.: (800) 361-6820

Fax: (800) 253-5549

FRANCE

Tel.: +33 (0) 1 69 18 71 17

Fax: +33 (0)1 60 92 05 67

INTERNATIONAL

Tel.: (514) 457-0701

Fax: (514) 457-4499

CHINA

Tel.: +86 (10) 58032301

Fax.: +86 (10) 58032302

GERMANY

Tel.: +49 (0) 8342-89560-61

Fax.: +49 (0) 8342-89560-69

www.scpscience.com
sales@scpscience.com