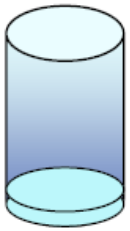
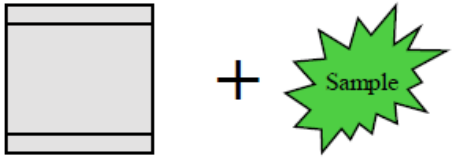
Ashing Procedure

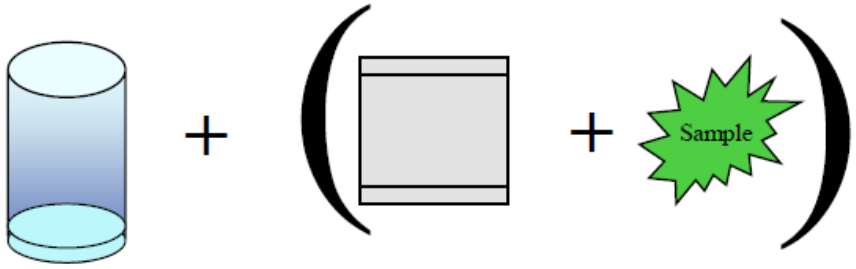
ANKOM Filter Bags (F57, XT4 and *In situ* Bags) are virtually ash free, therefore they can be used for ash determination. They can be ashed using conventional means. When the F57 Bag kindles, it will produce a small puff of smoke. Ovens with vent hoods are very helpful.



Record weight of a clean crucible or other suitable vessel for ashing process



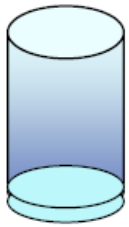
Record weight of digested and dried filter bag with sample enclosed



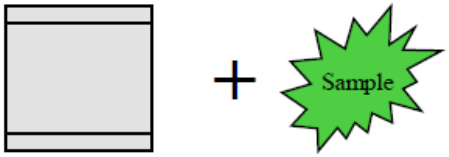
Pre-weighed crucible

Insert filter bag/sample into crucible and ash

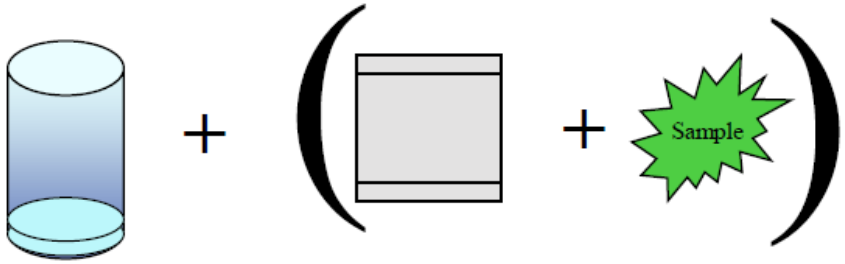
Ashing Procedure - *Sample*



Crucible weight = 30.2432 grams



Digested Filter bag/sample weight = .7954



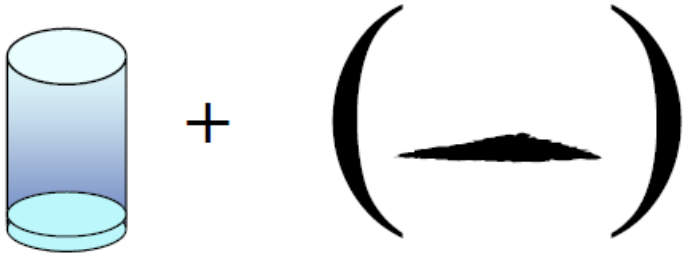
Combined weight = 31.0386 grams

Pre-weighed crucible

Ashing Procedure - *Sample*

After Ashing (550°- 600°C)

Re-weigh crucible and contents and record weight



Pre-weighed crucible

Remaining ash (inorganic matter)

Combined weight after ashing = 30.2586 grams

Ashing Procedure - *Sample*

Determining loss in weight after ignition (Ashing)

Pre-ignition Combined weight of crucible and filter bag/sample = 31.0386 grams

Minus Combined weight after ashing = 30. 2586 grams

Loss of weight after ignition = 0.7800 grams (organic matter)

Ashing Procedure - *Sample*

Using the ashing results in a formula

Example given - **Crude Fiber**

$$\frac{(W_4-(W_1 \times C_2)) \times 100}{W_2 \times DM}$$

$$\frac{(0.7800 - (.7603 \times 0.998)) \times 100}{1.0433 \times .95}$$

Crude Fiber = 2.141%

W_1 = Original bag weight
W_2 = Sample Weight
W_3 = Weight after extraction
W_4 = Weight of Organic Matter (Loss of weight on ignition of bag & fiber residue)
C_1 = Blank Bag Correction (final oven-dried weight/original bag weight)
C_2 = Ash corrected blank bag (Loss of weight on ignition of bag expressed as a decimal)
DM = Dry Matter value as decimal

For this example
W_1 = 0.7603
W_2 = 1.0433
W_4 = 0.7800
C_2 = 0.998
DM = 0.95 (95%)