



b. Discrete processing: in this type of auto analyzer, each sample is provided a discrete space. It means each analysis even for same analyte or sample takes place at different cups. This is the main principle of discrete processing.



Let us take the previous example of the nephrotic syndrome patient again. You If you want to analyze the same 3 parameters: total protein, albumin and creatinine. The procedure is:

1. In case of discrete processing analyzer, the same patient sample will be sucked by the instrument and poured into 3 different cups.
2. Then reagents for protein, albumin and creatinine and diluents (if needed) will be added. Mixing will be done.
3. The Cups will be read at different times to give results.
4. Exact amount of sample and reagent is aspirated and mixed. So there is no loss of excess reagents used for flow as in continuous flow processing.
5. As each analysis is done in different cups and read in different covets, there is no carry over effect at all. So each analysis is discrete from each other.

This type is more useful: It is Saves reagent cost and hence popular than continuous flow analysis, and No sample carry over effects.

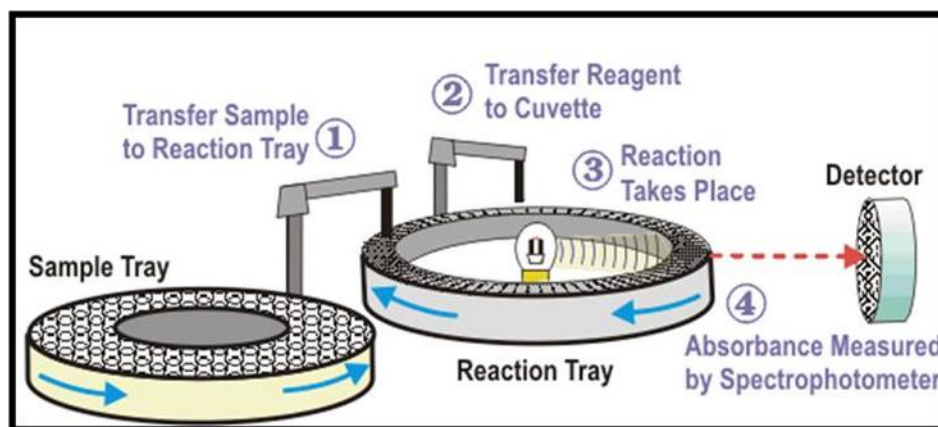
Based on this principle the auto analyzers developed into two different varieties such as centrifugal analyzer and random access analyzer.

1. Centrifugal analyzer

Sample and reagents is pipette into different chambers on a rotor. The centrifugal force



is used for transfer and mixing of sample and reagents. Rotor moves the final product up to the optical system for final reading. This is time saving for batch analysis because all cuvettes can be read at a time. But its disadvantage is that only one test can be performed at a time.



2. Random access analyzer

Each sample can be analyzed for multiple tests, and multiple samples for one test also can be done by giving appropriate commands to computer software. It is the most versatile of all type analyzers. Let us say we have 3 different samples. First one needs renal profile, second one needs only glucose and urea and third one need triglyceride, albumin and calcium. So the technician has to simple take 3 different sample cups and loads samples. Then he has to enter sample number, cup number and the tests required. And when he presses the start button tests will be done automatically.

