

### ABSTRACT

Two conductivity measuring cells, each having at least two electrodes are arranged in series in a flow path of a sample to be measured so that the sample may make contact with the cells in sequence. A difference conductivity meter produces the difference between the signals themselves detected by the conductivity cells as the difference in conductivity of the sample between the positions of the conductivity measuring cells. Based on the predetermined correlation between the change in conductivity of the sample and the change in concentration of the ion of interest in the sample, an ion concentration meter thus constructed derives the change in ion concentration of the sample from the output from the difference conductivity meter. The ion concentration meter can measure a minute change in ion concentration, such as of ammonia, with extremely high accuracy and sensitivity, while carrying out continuous measurement.