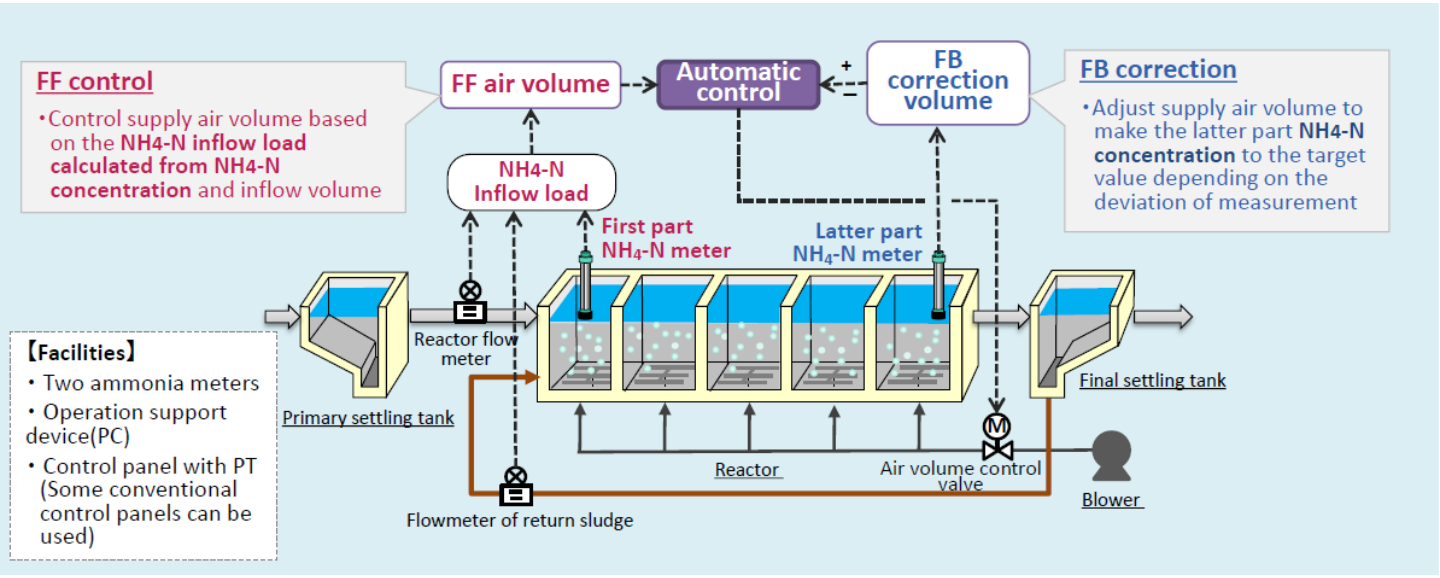
Feedforward Aeration Control by Ammonia Sensor

Developers: Nissin Electric Co., Ltd.

Two ammonia meters in a reactor **automatically control the aeration according to the inflow nitrogen load and nitrification status** to **save energy** by reducing the air volume and **stabilize the treated water quality** (ex. NH4-N concentration) at the same time.

✓ Feed-forward (FF) control by NH4-N inflow loads
⇒ Real-time tracking of inflow nitrogen load variations
✓ Feedback (FB) correction based on the deviation from the target NH4-N concentration in the rear part of the reactor
⇒ Stabilize the NH4-N concentration in the treated water



Needs

- Energy-saving blowers
- Stable NH4-N concentration for treated wastewater

Benefits

- Reduce blowing air volume by 10% for constant DO control
- Stabilize NH4-N concentration at low levels

*Assuming that the system is an activated sludge process facility that promotes nitrification. However, the OD process is excluded.