



Why use a Fluoride Monitor ?

- ▶ An on-line fluoride monitor:
 - continuously monitors the fluoride content of water leaving the plant – *thus ensuring compliance with legislative requirements,*
 - initiates fail-safe plant shutdown if a monitor/controller fails,
 - ensures the final treated water complies with regulatory requirements (DWI within the UK).

Why use ABB Instrumentation ?

- ▶ Our monitor offers unrivalled accuracy across the measurement range – accuracies better than $\pm 5\%$ of reading or $\pm 0.1\text{mg/l}^{-1}$ can be achieved.
- ▶ Low on-going costs – reagent, operating and maintenance.
- ▶ Minimal maintenance – routine operator involvement is only:
 - a four-weekly replenishment of reagent,
 - a twelve-monthly service, guaranteed through the use of specially developed long-life pump tubing.
- ▶ The single consumable spares kit included with the monitor:
 - includes 2-years supply of all necessary spares and peripheral items (from date of commissioning),
 - has no hidden extras.
- ▶ Our products feature proven reliability – we have over 100 years of process instrumentation experience.
- ▶ Full installation, commissioning and routine servicing is available (in the UK this is covered by the **Assist**™ Customer Support Programme).

What ABB Products are Suitable ?

- ▶ **Model 8231 Fluoride Monitor**
 - Electronics protection to IP65.
 - Uses a fluoride ion-selective and reference electrode pair manufactured by ABB Instrumentation – mounted in a temperature controlled flowcell.
 - Two high/low concentration alarms can be generated and sent back to main control unit.
 - Diagnostics displayed locally and available as master alarm for transmission back to a main control unit.
 - Current output (one as standard, second optional) can be expanded to show an expanded window of the overall range of the monitor and can be output to a local recorder or DCS system.
 - Programmable delay and hysteresis functions avoid false alarms causing subsequent control problems.
 - Optional serial communications link for computer interface is available.
 - Calibration points (automatic two-point calibration) can be set closely to the legal dosed limit of 1.0mg/l F , eg. 0.5mg/l at 1.5mg/l F^{+1} thereby ensuring maximum accuracy at the control point of 1.0mg/l F^{-1} .

Associated ABB Products for use in Potable Water Treatment Plant

▶ Analytical Applications

- Type 8232 ammonia monitors on the inlet and final treated outlet water.
- Type 8236 nitrate monitors at the de-nitrification stage to control nitrate removal and at the final treated outfall to ensure that discharge consent limits are met.
- Type 8242 phosphate monitors on the inlet and final treated water (if phosphoric acid addition being made).
- Type 4630 pH transmitters on the inlet, coagulation, lime addition and final treated water.
- Type 4640 dissolved oxygen monitors (with type 9408 measuring system) for reservoir storage.
- Type 4670 turbidity monitors on the inlet, clarifiers, filters and final treated water.



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