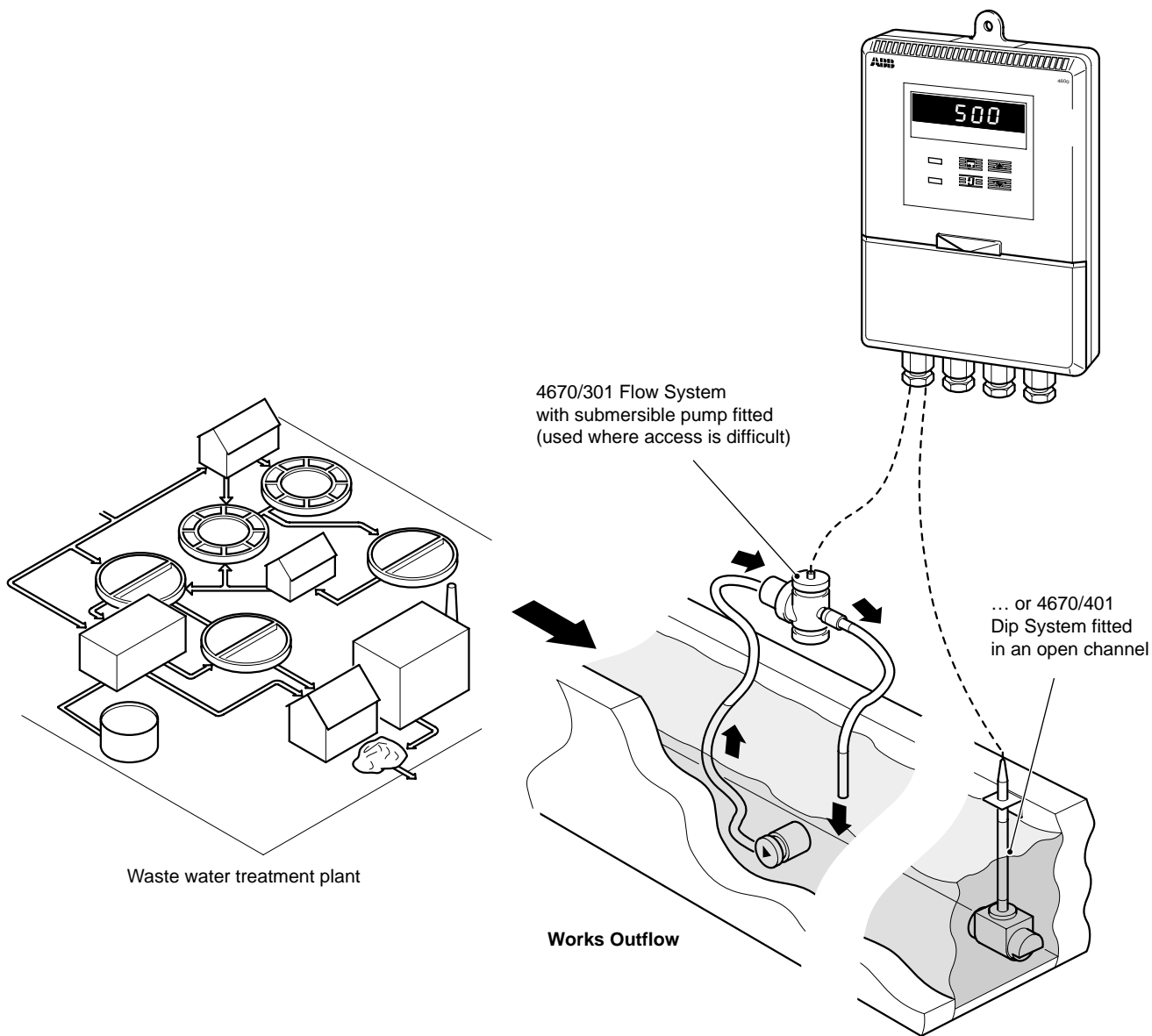


Monitoring Suspended Solids of Effluent Discharge in Sewage Treatment Works



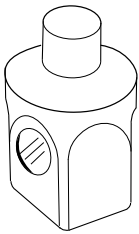
The illustration above shows how suspended solids are monitored at the works outflow of a typical waste

water treatment plant. The ABB system chosen is determined by access to effluent at the outflow.

Why monitor for suspended solids?

- ▶ To ensure compliance with local authority requirements.
- ▶ To gain early warning of plant failure.
- ▶ To assess the effectiveness of the sewage treatment plant.

Why use ABB Instrumentation?

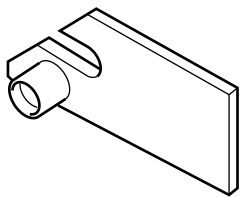


Dry Calibration Standard for 4670/300

2 operating ranges available:

Model 7997/165, value typically 140 – 160 FTU

Model 7997/166, value typically 270 – 320 FTU



Dry Calibration Standard for 4670/400

3 operating ranges available:

Model 7997/160, value typically 60 – 80 FTU

Model 7997/161, value typically 450 – 550 FTU

Model 7997/162, value typically 700 – 800 FTU

- ▶ System is immune to ambient light – can be used in open channels.
- ▶ Provides accurate measurement below 5ppm (mg/l) – essential on discharge monitoring, but maintains performance up to 1000FTU to accurately follow incidents.
- ▶ Simple robust sensing system – minimal maintenance and easy calibration.
- ▶ Dry calibration standard has many advantages, e.g.:
 - Obviates the use of formazine – is safer, ensures repeatable accurate results and eliminates operator error.
 - Dry standard is transferable between the same sensor systems – reduces cost.
 - Choice of dry standards – enables calibration to be carried out near or close to expected operating range and maximises accuracy.
 - Very robust – designed to avoid physical damage for long life performance.
 - Dry calibration standard storage container – to protect the standard when not in use for long life performance.
- ▶ Ultra-low back scatter – enables true zero setting to be used ensuring accurate low level performance.
- ▶ Virtual life time zero, very stable electronics using LED technology – avoids risk of electronic drift.
- ▶ Auto cleaning on all systems except low level monitor – extends maintenance periods and optimises performance on dirty water applications.
- ▶ LED technology – reduces risk of algae buildup as no heat is generated.
- ▶ Suspended solids capability – unit can be calibrated in mg/l or ppm in addition to NTU/FTU – essential on sewage discharge.
- ▶ Robust no fuss emitter and receiver – no special positioning required, can easily be removed and replaced for maintenance purposes. Double sealed with silica gel driers to avoid internal condensation.
- ▶ High immunity to temperature fluctuations – unique design minimises error due to temperature change.
- ▶ IP66/NEMA 4X Wall mounted transmitter – to work in demanding environments.
- ▶ IP66/NEMA 4X Front cover on panel mount version – no additional protection necessary.
- ▶ Back lit LCD display – easy to read in all environments.
- ▶ Choice of 0 to 10, 0 to 20 and 4 to 20mA isolated current O/P.
- ▶ Serial interface option available.
- ▶ Non-volatile memory – no battery back-up required.

What ABB products are suitable?

- ▶ **Model 4670/301 flow system:**
 - where access is difficult and a pumped system is necessary,
 - offer dry standards 7997/165 or 166 according to the operating range required.
- ▶ **Model 4670/401 dip system:**
 - where an open channel or tank is available,
 - offer dry standards 7997/160, 161 or 162 according to the operating range required.

Other ABB monitoring capabilities suitable for such plants

- ▶ Ammonia monitoring of final discharge.
- ▶ Dissolved oxygen monitoring on aeration tanks.
- ▶ Phosphate monitoring of final discharge.
- ▶ Flow monitoring of final discharge (MagMaster products).

Intallation

- ▶ Ensure there is sufficient cable to allow access to the sensor for maintenance/calibration.
- ▶ Where a flow system is used, ensure that flow is regulated on the outlet of the flow system to avoid air bubbles.

ABB has Sales & Customer Support
expertise in over 100 countries worldwide

www.abb.com

The Company's policy is one of continuous product
improvement and the right is reserved to modify the
information contained herein without notice.

Printed in UK (12.03)

© ABB 2003



ABB Limited

Oldends Lane, Stonehouse
Gloucestershire
GL10 3TA
UK
Tel: +44 (0)1453 826661
Fax: +44 (0)1453 827856

ABB Inc.

125 E. County Line Road
Warminster
PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183