

Appendix G3: Basic Maintenance Routine (Bosch-Stemele)

1. PIPELINES

1.1. Operation

All air valves should be open and all scour valves closed under normal operation.

To avoid cavitation of the high lift pumps when filling/priming the respective rising mains, it is necessary to:

- Fill the clear water well
- Open the isolating valves on the suction side of the pump pipework
- Close the isolating valves on the pump discharge pipe work and then partially open valve(5 turns on the hand wheel)
- Start the pump
- Slowly open the discharge isolating valve once the pressure has reached 750kPa

1.2. Maintenance

The pipelines should be inspected once a week to check for leaks, tampering, erosion, etc.

The pipelines should be scoured every 6 months, to prevent a possible build-up of solid particles in the pipeline.

The padlocks on valve chambers should be oiled and kept free from dirt.

2. CONCRETE RESERVOIR

2.1. Description

The reservoir is constructed from reinforced concrete.

New flow meter, Isolating valves are located in the inlet of reservoir, while another control valve is located on interconnecting pipe between new and old reservoir.

2.2. Operation

Command storage reservoirs are supplied via dedicated rising main from the water treatment works. The bulk reservoirs each provide 48 hours of storage for the respective sector that they supply.

The bulk reservoirs should be kept between 50% and 75% full at all times to ensure an adequate supply to the distribution reservoirs.

2.3. Maintenance

The inlet and outlet isolation valves and scour valves should be opened and closed on a monthly basis. The level control valves are leveldex valves and should be checked on a monthly basis to see that they are operating correctly.

The Reservoir should be flushed, cleaned out and sterilised annually.

Locks on manhole covers should be kept oiled and free from dirt.

3. PUMPSTATION

3.1 Operation

For detailed breakdown of the controls and electrical operation of the pumpstation, please refer to the Electrical O&M manual compiled by Supplier.

3.2 Pumps

The two pumps installed in the pumpstation are Multistage Pumps coupled with 400V, 3 phase motors.

3.3 Maintenance

3.3.1 Daily Maintenance

The operator should keep a log of the running hours of each pump on a daily basis. Over time, the hours should amount to about the same. He should also check that the pumps are alternating between each duty cycle.

3.3.2 Monthly Maintenance

The isolating valves should be fully closed and fully opened once a month.

Note: There is no specific maintenance that needs to be done to the pumps or motors on a regular basis. The pumps have mechanical seals, and therefore no tightening of glands is required. The bearings in the motors are greased for life, and not require regular greasing.

We would suggest that the pumps are inspected on an annual basis by a qualified technician, and removed to reputable pump company for full service every 3-5 years.