

Our units conform to BSRIA AG 1/2001 and AG 2 / 93 with respect to:

Provision of side stream filtration to < 5 microns.

(Utilising the differential pressure across the system pumps means no additional inline pump is required to create the side stream loop. The filtration rate and resistance through the fixed media bed has minimal impact on the main system flows making the process very efficient. The bed is isolated from the main system and backwashed to remove debris, this is a simple change in the valve sequence and can be automated reducing the need for consumables and maintenance associated with cartridge filters/bags. There is only a small exchange of system water during a backwash (25 litres) and the advanced filtration media is designed to facilitate fast and effective backwashing – makeup water consumption per backwash is typically 200 litres. Standard backwash regime becomes monthly as part of standard PPM. During initial clean up the units will be set to turnover the total system volume twice daily. By taking a smaller proportion of water the filter polishes to a very high standard (particle content and clarity are within limits recommended for potable water). The rate of turnover is reduced to once daily when the system is 'very clean' and water quality is maintained in this state due to the combined effects of the filtration and our treatment regime).

Side stream cartridge filters that operate at 10% system volume to achieve only 20 microns are extremely inefficient, the operating cost of the pump and replacement cartridges are not justifiable, they present both additional maintenance and waste for the client. Several of our recent projects in the UK have seen EnwaMatic® replace similar types of devices.

Self regulating water conditioning. Elevation of pH and active control of hardness provide corrosion inhibition and scale control. BSRIA guidelines for dissolved iron – a key indicator of corrosion rate – are < 5 mg/l. Our target is < 1 mg/l, with established systems typically < 0.1 mg/l.

Restriction of bacterial growth through environmental control. Elevation of pH (> 9.0), physical cleaning and removal of nutrients complies fully with BSRIA guidelines on bacterial control. Whilst not specified as a biocide, the EnwaMatic is complementary to their application where required. Unlike traditional nitrite based inhibitors, the materials used within our units do not provide a nutrient source for bacteria.

New Builds: We would commonly commission our units after the standard chemical cleaning and flushing. We liaise with the pre-commissioning cleaning company and commissioning manager. Fine filtration post flushing can remove considerable quantities of debris and assists in the successful commissioning, completion and hand-over of new builds. The calcite / dolomite media treatment ensures dissolved metal levels remain well below industry standards. Effective water treatment applied at the earliest opportunity will reduce the number of problems which arise during the defects period and ensures the designed performance and efficiency is maintained throughout the life of the system.

The treatment is passive, non-scouring and not 'leak seeking'. The benefits of the self regulating chemistry are important in retrofit systems which are more susceptible to unforeseen 'top up'. This often leads to the failure of conventional chemical additives through dilution. Combined with the automated backwash the labour requirements for the 'clean up' operation and future maintenance will be low. The maintenance requirements, procedures and associated costs are very competitive and designed to prevent non-performance.

The savings and payback achievable are always project specific. In general we see savings in the following areas:

- Reduced use of chemicals, associated costs and potential for future flushing/cleaning operations.
- Reduced reactive maintenance costs and associated costly 'emergency' call outs.
- Improved HVAC system control and reliability.
- Increased component and system longevity.
- Reduced energy consumption and maintenance of component/system design efficiency.
- Increased productivity – Building/ personnel performance is enhanced.

The EnwaMatic® combines both the filtration and treatment regime in one simple and easy to maintain package, once purchased this amount is fixed and can be managed effectively and budgeted each year by the client. Chemical regimes present greater risk of non performance and unplanned expenditure in the future.

Please refer to the supporting documentation and our standard specification for plantroom loadings, unit dimensions and start-up procedures.