

## **What to consider when purchasing an RO unit**

In the past couple of months I have discussed the importance of water quality, within our practice, and the associated pathogens. In this final part I wanted to discuss RO water and the things we should consider before purchasing these units.

UK Guidance points out that the water which is to be used in our DUWL's should be either distilled or RO water. Also the water used within our sterilisers, under EN Norms, should be the same with a hardness level no higher than 15ms (Microsiemens).

Traditionally distillers have been the unit of choice by the vast majority of dental practices, however over recent years the use of RO units have become ever more popular. Distillers, although producing extremely good quality water, produce a lot of heat and use a lot of electricity. With the majority of these being situated in an LDU, these just add to the already warm room. Distillers also are slow at producing water, with top end units typically producing 25Ltrs per day.

RO units, on the other hand, are relatively inexpensive to run, in relation to electricity, and produce no heat. They also provide good quality water on demand through the use of a storage tank. This makes them ideal for placement in the LDU, where they would be positioned under the dirty sink, in a cupboard.

Before we purchase one of these units there are a couple of questions that I would ask our distributor or manufacturer of choice:

### **Is my practice water metered?**

If your practice IS water metered, using an RO unit can be very expensive due to the amount of water the unit will waste to produce usable RO water. Typically most RO units will waste approximately 80% of the water produced meaning only approximately 20% of the water produced is usable. This doesn't mean that you shouldn't purchase one but it's a good idea to know how much water you typically use and factor the additional costs in.

### **What equipment do I want RO water used with?**

I would recommend that the water is used in the autoclave's, ultrasonic bath and treatment centres (providing a bacterial filter is fitted)

### **How much water am I currently using per week?**

It is important to calculate how much water you are currently using through your autoclave's/ ultrasonic's/ treatment centres to enable you to match the RO's storage capability. If you speak to your distributor or manufacturer they should be able to match the units storage tank to the quantity of water you are using.

### **How much water am I likely to use first thing in the morning?**

Like the previous question, this is important to ensure that the unit has suitable capacity for all of your equipment before having to refill. It's important to note that once the storage tank is full the unit will not produce any further water. You should draw the water off and store in 5Ltr containers

as you would with a distiller. Remember that the water that you draw off should be used as soon as possible, typically within 24 hours.

#### **What testing and validation is required?**

Ensure that the unit you purchase has TDS monitor to ensure that the quality of the output water is satisfactory. Periodically you should also perform a microbiological dip slide test, as you would a treatment centre, to ensure that there is no biofilm or bacterial growth in the storage tank.

#### **What servicing is required?**

Filters will need changing periodically, this will be dependant on your area's water quality as to the frequency. On an annual basis it is recommended that a full system sanitisation be carried out to remove any potential biofilm growth from the internals of the unit and storage tank. The manufacturer will suggest the recommended procedure, but you should have a replacement set of filters at hand to re-fit once this has been performed.

#### **What training is required?**

Staff should be trained on how to turn on/off the mains water supply. they should also be shown how to change the filters and more importantly how to run a full sanitisation.

Due to the vast majority of the UK having hard water the addition of a water softener and DI cartridge can aid the longevity of the units filters.

If you have any questions or would like some suggestions around recommended units please get in touch at [www.deconpete.co.uk](http://www.deconpete.co.uk) or [info@deconpete.co.uk](mailto:info@deconpete.co.uk)