

## OC-1 FILTRATION MEDIA

### How to change an existing COMMERCIAL sand filter to OC-1.

1. Turn off any heating and/or chemical dosing systems.
2. Turn off the circulation pump and isolate the filter & pump.
3. Move the multiport valve to the CLOSED position or position the valves on the pipework battery to isolate the filter.
4. Open the lid of the filter.
5. Open the lower drain port on the filter to remove the water from the tank, this will make it easier to remove the existing media.
6. Once the filter is drained remove the top diffuser (if possible) and scoop out all the existing media.
7. Once all the media is removed wash out the vessel using a hose and brush. Ensure there is no residue / debris left in the vessel.
8. Close the drain port.
9. Modify or replace the bottom laterals (see separate instruction sheet on following pages).
10. Fit the new special top diffuser or lateral set to the top pipe assembly (in place of the original diffuser).
11. Fill the filter with OC-1 Media to roughly the same level as the old media.
12. Refit the lid.
13. Open/close the valves needed to return the system to operation mode.
14. Move the multiport valve or valves on the pipework battery to the RINSE position.
15. If you are using a variable speed pump or an inverter (variable speed drive) on your pump, it should be possible to reduce the pump speed and still achieve the same turnover of the pump as with the old media. This will save energy and money.
16. Turn on the pump and rinse to waste for 2 minutes whilst bleeding the air from the filter.
17. Turn off the pump and move the multiport valve or valves on the pipework battery to the FILTER position.
18. Turn on the pump and continue to bleed the air from the filter as required.
19. Continue to vent periodically during these first days as required.
20. Follow your normal backwashing regime. However, we recommend that back- washing takes place at least once a month. For best result backwash until the sight glass runs clear then RINSE until the sight glass again runs clear.
21. Your OC-1 Media is now working.

**Please note:** *Ensure that the TDS and Cyanuric Acid levels remain within the recommended parameters.*

# COMMERCIAL SAND FILTER



## OC-1 FILTRATION MEDIA

### Achieving optimum flow through laterals with OC-1 Media

#### TOOLS REQUIRED:

Heat shrink material, heat gun, 8mm drill bit and drill.

**STEP 1:** If possible remove the laterals and seal the laterals using the heat shrink and the heat gun as below. If they can not be removed, heat shrink the laterals in position.



1a. Cut the heat shrink to size



1b. Heat the heat shrink so it is tight on the lateral

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### Achieving optimum flow through laterals with OC-1 Media

**STEP 2:** To achieve optimum flow, you need to work out how many holes you need to drill in each lateral, including one hole in the end.

$$\begin{array}{l} \text{Total Flow Rate} \\ \text{Of The Filter} \\ \text{(Litres per hour)} \end{array} \div \begin{array}{l} \mathbf{200} \\ \text{(Litres)} \end{array} = \begin{array}{l} \text{Total Number} \\ \text{Of Holes For} \\ \text{Entire Filter} \end{array} \div \begin{array}{l} \mathbf{12} \\ \text{Total Number} \\ \text{Of Laterals} \end{array}$$

**EXAMPLE:** 48,000 litres per hour  $\div$  200 = 240  $\div$  12 =  
**20 holes to be drilled per lateral**

**PLEASE NOTE:** The total flow of the filter should be the maximum flow you expect through the filter and not the maximum the filter diameter would allow.

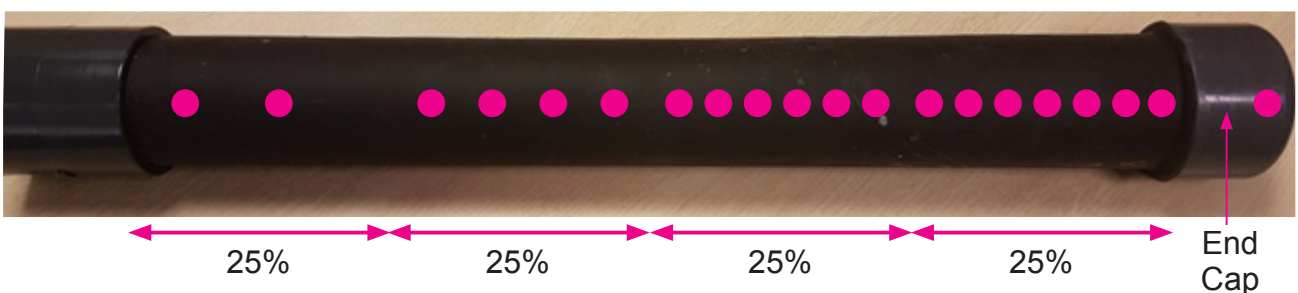
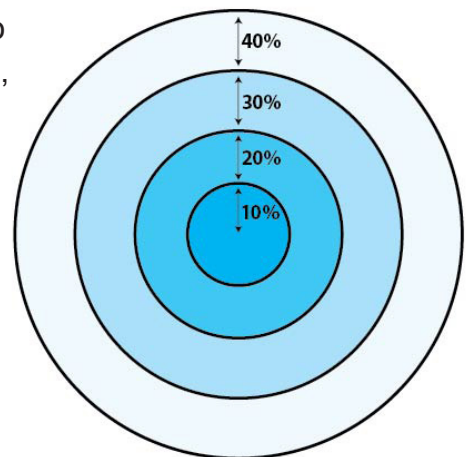
**For example:** a 2.0m filter could flow 157m<sup>3</sup>/h (157,000 litres) at a velocity of 50m<sup>3</sup>/m<sup>2</sup>/hr but only 63m<sup>3</sup>/h at a velocity of 20m<sup>3</sup>/m<sup>2</sup>/hr.

The following diagram shows the breakdown of filtration area in a filter.

We need to mirror the proportion of the filtration area with the flow through the laterals. Therefore we need to put 40% of the 8mm holes in the last 25% of the lateral, 30% in the next 25%, followed by 20% and then only 10% of the 8mm holes nearest the central hub.

In our example, this means a split per lateral of: -

- 8 holes (1 in the end cap)
- 6 holes
- 4 holes
- 2 holes
- Total = 20 holes



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### Achieving optimum flow through laterals with OC-1 Media

**STEP 3:** You should have worked out how many holes need to be drilled on each lateral. The first hole **should be** drilled in the end cap of the lateral if this is possible.



**STEP 4:** Using the 8mm drill bit, begin drilling each hole as per the calculation and the 40% / 30% / 20% / 10% split.



**STEP 5:** Once all holes are drilled in the lateral, replace it back inside the filter (if removed).

**STEP 6:** If possible, direct the holes to the bottom of the filter.

**STEP 7:** Repeat steps 4 to 6 on all the remaining laterals.

**Please note:** *Ensure that the TDS and Cyanuric Acid levels remain within the recommended parameters.*