

## **BECODISC LENTICULAR MODULES**

### **General Usage Summary**

#### **Installation:**

1. Lubricate o-rings before installing with clean water or food-grade lubricant to assist installation and removal.
2. Install Becodiscs with perimeter nodules in the downwards position.
3. Avoid directly touching media with hands and be gentle with installation to avoid consequential damage to the filter media.
4. Ensure filters are mounted and connected securely before beginning filtration cycles to prevent the possibility of bypass.
5. Ensure that the deflection plate is installed in the housing before beginning any processing, since without this it is easy to damage the filter media.

#### **Pre-Flushing:**

1. **Flushing of modules must always be conducted in forward-flow direction.** It is recommended that a non-return valve be installed to offer additional protection.
2. Pre-filtered water must always be used to prevent premature blockage of modules.
3. **Becodisc** modules require approximately 50% less water for priming than conventional media types. We recommend using 25L/m<sup>2</sup> of filter media:
  - a. 12" Modules = 1.9 m<sup>2</sup>, therefore flush with approximately 50 L
  - b. 16" Modules = 3.7 m<sup>2</sup>, therefore flush with approximately 100 L
4. Flush modules at 1.25 times the normal process flow rate in the forward direction.
5. Flushing should be conducted until the water is tasteless and clear.
6. Citric acid may be used however it is not required.

#### **Sterilisation (hot water or steam):**

1. **Sterilisation must be conducted in forward-flow direction.**
2. Sterilisation with hot water should be conducted at 85-95 °C; steam should be used at a maximum of 110 °C. In both cases, maximum differential pressure (DP) should be 0.5 bar.
3. Sterilisation should be conducted for at least 30 mins once the media temperature reaches the desired temperature.
4. Hot water may be circulated as a water-saving measure if required.
5. Ensure that a vacuum is not created during the cool-down process to avoid housing damage.

### Operation

1. **Always filter in the forward direction only and prevent the possibility of reverse flow.**
2. For optimum bio-retention and best efficiencies, use the following recommended flow rates (modules can operate at much higher flow rates, but for optimal results used this guide):
  - a. 12" Modules: < 1000 L/hr (per module)
  - b. 16" Modules: < 2000 L/hr (per module)
3. Filtration can occur until a maximum differential pressure of 300 kPa (3 bar).  
**Important:** where separation of microorganisms is required, a maximum DP of 150 kPa is recommended.
4. When the designated DP is reached, stop the filtration cycle and change-out filter(s) or conduct a regeneration procedure (below).

### Module Regeneration

1. **Always regenerate filters in the forward direction only and prevent the possibility of reverse flow.**
2. **NOTE:** Module regeneration is merely a means of dissolving and dislodging dissolvable components from the filter matrix. Regeneration procedures will not remove DE, Perlite, PVPP or other non-dissolvable solids from the depth filter medium. As depth filtration works through entrapment of particulates, only materials that can be dissolved are able to be removed through regeneration. This process is designed to maximise the total service life of each module, not to bring them back to new condition.
3. Flush modules with filtered cold water at 1.25 times the process flow rate for 3-5 minutes, ensuring that there is always a differential pressure across the filter.  
  
**Important:** To ensure that the entire filter medium is flushed evenly we recommend a constant DP be held at around 50-100 kPa (0.5-1.0 bar). This can be achieved by adjusting the outlet valve.
4. Increase the flushing water temperature gradually to 70-80°C and flush for a further 5-10 minutes, then discard all water to drain. Recirculation of flush water is not possible to reduce water waste in this instance.

For any queries, please consult the instruction guide provided with each filter module or contact:

**Blue H<sub>2</sub>O Filtration on 03 9564 7029**