



## Ultra Filter for the OPA2000



### Description

The ultra filter is based on hollow fibre filament membrane filtration, giving high quality samples for on-line analyzers measuring soluble compounds in the aqueous phase.

### Applications

- Return Activated Sludge
- Primary Sedimentation Tank Effluent
- Secondary Effluent
- Industrial Effluents and Process Liquors
- River Waters
- Potable Water Supply
- Ammonia
- Nitrate
- Nitrite
- Phosphate
- Residual Chlorine
- Dissolved Organics

### Benefits

- Automatic operation requiring minimal attention. Membrane self-scouring and vessel self-clearing by flow action.
- High filtrate outputs possible without the use of a vacuum pump.
- Can be used in difficult industrial applications.
- Easy to retrofit to existing installations.
- Low maintenance with only one inexpensive consumable item.
- Requires only a suitable pump, compressed air and power supply.

### Features

- Advanced ultra filtration membrane technology.
- Transparent body for ease of membrane inspection.
- Compact, robust design with standard socket union connections.
- Supplied as a complete system in ready to assemble kit form.

### Main Specifications

- All particles greater than 0.04 micron removed.
- Typical filtrate output 90 - 120 ml/minute, dependant on vessel pressure, static head and effluent characteristics.
- Operating ranges: Trans membrane pressure 0.1 to 0.6 bar; maximum 0.7 bar.
- Temperature 15 to 35°C; minimum > freezing; maximum 40°C.
- pH 5 to 9; extremes 2 to 12 for one hour.

### Specific Case Studies

The Vortex Ultra Filter has run for several months before cartridge cleaning in each of the following industrial applications where the existing filters required cleaning at intervals ranging from two days to a matter of hours:-

- Soluble organics analysis of surface run-off water containing oils at a chemical plant.
- Soluble organics analysis of surface run off water containing colloidal iron oxide at a solvent storage depot.
- Ammonia analysis of high rate oxygenated mixed liquor at greater than 6000 ppm solids.

## Other Skalar filters and Accessories

### DISC FILTER



The Disc filter is a miniaturized cross-flow filtration. The key is the combination of this filter unit with the low sample volume of the monitor unit. The filtration unit has a completely closed sample loop and is mainly used for samples with average suspended solids. The filter cell for the raw liquid guarantees a cleaning effect due to turbulent flow in combination with filter material, POM/Teflon, and therefore provides the On-line Process Analyzer with sufficient, 3 ml/min filtrate over a long period (min. 1 week). The cleaning is dependent on the sample composition, mechanical or mechanical in combination with chemical, by periodical back-flush with a cleaning agent. The filtration system is such that it is easy to change a filter without breaking the process.

### PAPER BAND FILTER



Paper band filtration is ideally suited for samples that contain small quantities of relatively large particles. The filtration removes particles larger than fifteen microns in size and will also remove any oil in the sample. The paper band filtration unit is available in a single or dual stream configuration. Paper band filtration is being successfully applied to surface water, drinking water, effluent streams and small pilot plants. The 25 mm paper filter moves over the teflon table. The unfiltered sample is pumped with the sample pump and sprayed over the filter paper. The filtered sample line is directly connected to the monitor sample selection valve. The transport of the filter paper is controlled by a slow speed motor which moves the paper continuously with a speed of approximately 15 cm per hour.

### OVERFLOW UNIT



For handling pressurized samples an overflow unit has been developed by Skalar. The pressured sample is run into a catch reservoir, from where the sample is taken at atmospheric pressure through a valved PVC line to the analyzer and the overflow runs to waste.

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