

# Sample acquisition, preparation & filtrate delivery...

*raw & waste water solutions*

PPM manufacture three types of sample preparation systems for analytical measurement. Cross Flow Filtration, Paper Band Filtration & Membrane Filtration. Selection is determined by the application, the temperature & physical water quality i.e. the concentration of suspended solids, biology, oils, fat & grease. Depending upon sample quality, we would typically select an appropriate submersible or industrial peristaltic pump, to deliver sample to the filtration system, unless a positive sample head is available.

## Cross Flow Filtration

### Filtration: CFF

**Description:** The CFF comprises a stainless steel outer body & filter element that has a dog tooth mesh. Filtration to a nominal 50 micron. Ideal as a precautionary screen to protect analysers, from occasional particulate ingress.

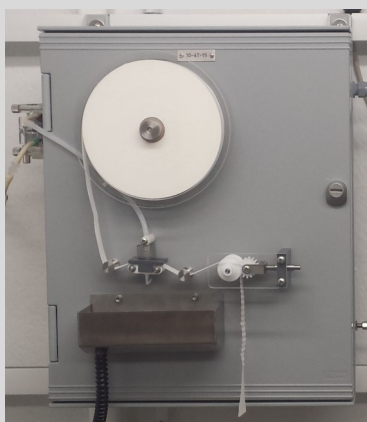


**Sample Supply:** Circa 1-3L/min  
**Filtrate rate:** 10ml/min  
**Sample Temperature:** 0-60°C  
**Max Suspended Solids:** 50 mg/L

## Paper Band Filtration

### Filtration: PBF

**Description:** The PBF comprises a surface mount enclosure containing a peristaltic sample pump, delivering sample through a continuous moving filter paper. Sample is filtered to a nominal 20 micron. Ideal for sample containing small amounts of fat, grease or glycol ethylene.



**Sample Supply:** Circa 1-5L/min  
**Filtrate rate:** 10ml/min  
**Sample Temperature:** 0-50°C  
**Max Suspended Solids:** 250 mg/L

## Membrane Filtration

### Filtration: Panel Filter

**Description:** The membrane panel is a double sided filter element housed within a stainless steel panel. The filter removes solids & biology above a nominal 0.45 micron; ideal for sample with limited fat or grease.



**Sample Supply:** Circa 1-10L/min  
**Filtrate rate:** 10-20ml/min  
**Sample Temperature:** 0-45°C  
**Max Suspended Solids:** 1,000 mg/L



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## Direct Membrane Filtration

### Filtration: DMF

**Description:** The membrane filter may be installed directly into the sample chamber, using a special stainless steel plate suspended from a chain & hand rail bracket. Suitable for mixed liquor & final effluents.



**Filtrate Rate:** 10-20ml/min  
**Sample Temperature:** 0-45°C  
**Max Suspended Solids:** 20,000 mg/L

## Filtrate Delivery Pump

### Pump: Peristaltic Filtrate Pump

**Description:** The surface-mount pump, continuously delivers the filtered sample from the membrane filter (panel or DMF version) to a filtrate header, from which the analyser draws sample for analysis. One or two pump tubes, may be fitted depending upon configuration.



**Filtrate Supply:** 10ml-20ml/min  
**Max Sample Lift:** 3.0m (1/4" hose)  
**Max Distance:** 5.0m (1/4" hose)  
**Power Supply:** 110/230VAC

## Sample Delivery Systems

### Pump: Submersible Pumps

**Description:** Sample pump selection is dependent upon the sample type & operation conditions. We provide various submersible pumps for effluents & surface water, capable of different sample lifts. Pumps may be fitted with automatic float switches, as a precaution against dry flows.

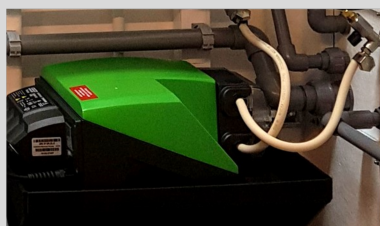


**Sample Supply:** 25-50L/min  
**Max Sample Lift:** 5-11.0m  
**Versions:** Manual or Auto  
**Power Supply:** 110/230VAC

## Sample Delivery Systems

### Pump: Peristaltic Pumps

Peristaltic sample pumps may be used with an inlet strainer to deliver problematic sample or intermittent flows. Integration of compressed air back-purging can minimise ragging.

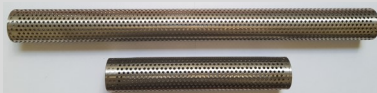


## Sample Strainers

### Strainers: Ingress Protection

To reduce the risk of blockage, stainless steel strainers, screen sample to 3mm & connect to 3/8" ID flexible hose. Low cost versions available for 1/4" ID flexible hose.

**Short Strainer 3/8":** 500 x 44 mm  
**Long Strainer 3/8":** 1250 x 44 mm  
**Small Strainer 1/4":** 110 x 50 mm  
**Large Strainer 1/4":** 150 x 85 mm



## Kiosks, Panels & Tanks

### Bespoke: Measurement Systems

PPM specialise in bespoke systems - instruments pre-mounted into kiosks, on PVC panels, sensors in PVC tanks, flow cells & pre-formed pipework.



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