

# MicroScreen

Drum Filter - Model BMF Information Pack



Innovating Wastewater Solutions



| tertiary treatment | clean water treatment |  
| wastewater treatment | industrial wastewater treatment |



## The MicroScreen

WPL's MicroScreen filter offers the perfect solution to problems resulting from the presence of suspended solids. The unit operates using a pump or gravity feed. The unique design of the drum filter, maximises the surface area of the filtration cloth to achieve high removal efficiency with minimal investment and operating costs.

## Benefits

- The simple construction of the filters allows for quick visual inspection of all parts including the filtration cloth
- The filters are made of 300 series stainless steel to resist corrosion even in harsh environments
- Each unit comes complete with a mudwell and is offered with a gravity feed discharge pipe or optional mud well pump
- The self-contained filters are equipped with their own backwash pumps that use filtered water to clean the filtration media
- The filtration is gravitational with headloss being 250 - 400mm
- Completely automatic operation, low operational costs, internal non-metallic components and large flow capabilities
- Exceptionally small footprint

## Unit Options

### BMF - B2

This is the standard open-top model for installation in concrete channels

### BMF - BK2

This is the standard open-top model for installation in concrete channels, complete with stainless steel cover to protect it from debris and other objects falling into the treatment zone

### BMF - 0

The unit is designed to minimise capital expenditure. It is supplied in a stainless steel tank, located above ground with inlet/outlet pipe stubs integral to the unit

### HIRE UNITS

WPL HAVE A RANGE OF MICROSCREENS AVAILABLE FOR IMMEDIATE HIRE



## The ideal solution in:

- Sewage Treatment Plants
- Fish Farms
- Paper Manufacturing Plants
- The Textile Industry
- Food Processing Plants
- Power Stations
- Zoos

## Who can benefit from the MicroScreen?

Any water user who needs to reduce suspended solids from water, wastewater or industrial processes.

The WPL MicroScreen is in service at a large number of Water Plc. treatment works, including Yorkshire Water, Southern Water, South West Water, Anglian Water, Wessex Water and Welsh Water.



## How the MicroScreen Works

- Process water flows through the inlet pipe into the interior part of the drum filter
- Impurities are caught on the inside of the filter cloth and filtered water flows out through the cloth
- The filter remains off during this initial stage, but as the filter cloth becomes soiled the resistance to flow through the filter increases and the water level rises
- When the rising water reaches a probe, a backwash cycle is activated and the drum is rotated so that a clean section of cloth presents itself to the influent wastewater
- Simultaneously, a jet of filtered water is directed at the soiled portion of the cloth
- The solids are washed off into a trough located in the centre of the drum, flow into a wet well and are pumped back to the beginning of the works for re-treatment
- Because the clean cloth allows a greater flow to pass, the level of process water in the drum will diminish until the level probe automatically turns off the backwash cycle
- The flow of process water remains uninterrupted during the whole backwash cycle and there is no necessity for a separate supply of water for the backwash operation
- The automatic activation and de-activation of the filter minimizes the amount of power needed for operation, increasing the average quality of filtered water and the density of the outflowing sludge, whilst prolonging the lifespan of the entire apparatus



Skid Mounted Unit

## Mobile or Emergency Treatment

- If your site has a problem that requires immediate tertiary treatment, why not use our mobile unit?
- Please contact a member of WPL staff if you require further advice or would like to hire this product.

## Technical Information

### Installation into Concrete Channel

Filter	Channel width at Filter (mm)	Channel Depth (mm)	Filter Length (mm)
5 BMF 5 - B2	700	840	1800
5 BMF 10 - B2	700	840	2720
10 BMF 10 - B2	1300	1500	3000
10 BMF20 - B2	1300	1500	4000
15 BMF 30 - B2	1900	1550	5550

### Filter Area

Filter Type	Compete filter area (m <sup>2</sup> )	Maximum applicable filter area (m <sup>2</sup> )
5 BMF 5	0.76	0.50
5 BMF 10	1.52	1.00
10 BMF 10	3.62	2.50
10 BMF 20	7.20	5.00
15 BMF 30	19.35	13.55

### Installation into Steel Tank

Filter	Filter Width (mm)	Filter Height (mm)	Filter Length (mm)
5 BMF 5 - 0	734	915	1193
5 BMF 10 - 0	734	915	1688
10 BMF 10 - 0	1402	1610	1875
10 BMF 20 - 0	1402	1610	2803

### Example 1: Maximum in-flow capacity with TSS @ 25 mg/l max

Filter Type	Capacity filter with 60 micron	Capacity filter with 40 micron	Capacity filter with 30 micron	Capacity filter with 20 micron
5 BMF 5	9 l/s	7 l/s	5 l/s	3 l/s
5 BMF 10	25 l/s	15 l/s	10 l/s	6 l/s
10 BMF 10	55 l/s	42 l/s	30 l/s	20 l/s
10 BMF 20	110 l/s	85 l/s	60 l/s	45 l/s
15 BMF 30	260 l/s	220 l/s	150 l/s	110 l/s

### Example 2: Maximum in-flow capacity with TSS @ 40 mg/l max

Filter Type	Capacity filter with 60 micron	Capacity filter with 40 micron	Capacity filter with 30 micron	Capacity filter with 20 micron
5 BMF 5	7 l/s	5 l/s	3 l/s	2 l/s
5 BMF 10	20 l/s	13 l/s	8 l/s	5 l/s
10 BMF 10	50 l/s	38 l/s	30 l/s	17 l/s
10 BMF 20	100 l/s	77 l/s	55 l/s	35 l/s
15 BMF 30	230 l/s	200 l/s	130 l/s	90 l/s

WPL is recognised internationally as a principle designer and manufacturer of high quality package and turnkey sewage treatment systems, and grease management solutions.

It has over 15 years' industry experience and services an extensive customer portfolio comprising the UK's major water utilities, all areas of the commercial sector and the domestic market place.

The company's consistent focus on ecology, coupled with extensive research & development into new technology, have enabled it to far exceed all existing and proposed discharge consent standards enforced by the Environment Agency, SEPA and other regulatory authorities.



WPL Limited  
Units 1 & 2 Aston Road  
Waterlooville  
Hampshire PO7 7UX  
United Kingdom



Tel: (+44) 0 845 4504819  
Fax: (+44) 0 23 92242624  
email: [enquiries@wpl.co.uk](mailto:enquiries@wpl.co.uk)  
[www.wpl.co.uk](http://www.wpl.co.uk)

