MP-BF
SIEVE-BELT FILTER

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Mechanical filtration of solids

Mechanical filtration represents an efficient as well as economical and environmentally-friendly method to remove solids when treating process and waste waters. The MP-BF sieve-belt filter is a solution suitable for filtering water in many areas and industrial sectors. Examples of application:

Municipal wastewater treatment plants
Requirements for wastewater filtration depend on the actual level of the treatment process. The MP-BF sieve-belt filters are supplied with sieves with various porosity options, for instance:
– Entry screens (1,000–5,000 µm)
– Preliminary treatment (100–500 µm)
– Tertiary or final treatment (40–60 µm)

The removal of solids in wastewater treatment plants increases the efficiency of the treatment process. Solid biological substances are suitable for further processing, for instance, in biogas stations.

Food-processing industry
The removal of solids within productions lines in:

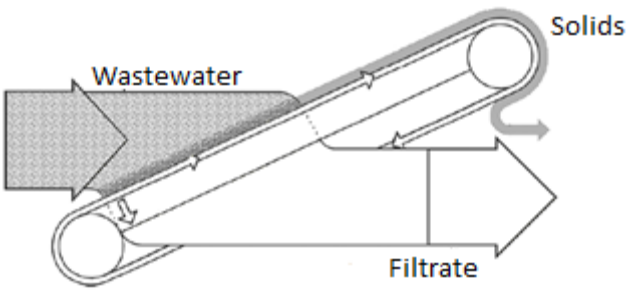
- slaughterhouses
- dairies

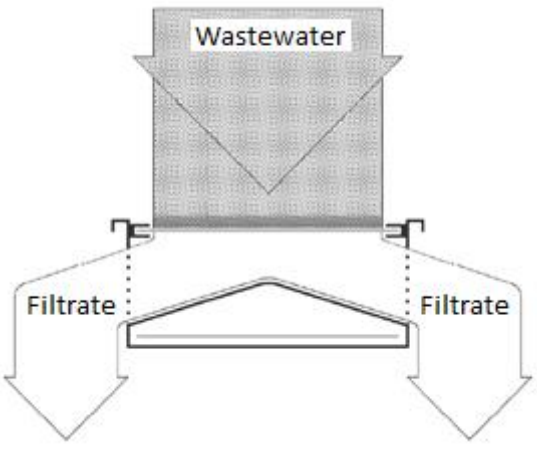
Industrial filtration
Preliminary treatment of surface waters to prevent unintentional leakage of substances into the sewerage system.
Filtration of rinse waters.
For instance, suitable for:
– recycling lines for scrap material
– Zoos and natural parks

Aquaculture
Inland and coastal fish farms use sieve-belt presses for:
– preliminary treatment and primary filtration
– sludge thickening/dewatering
– drum filter concentrated rinsing

In some cases, it is suitable to combine MP-BF sieve-belt filters with chemical pre-treatment in order to increase separation efficiency.

Functional principle of MP-BF sieve-belt filters





Standard models

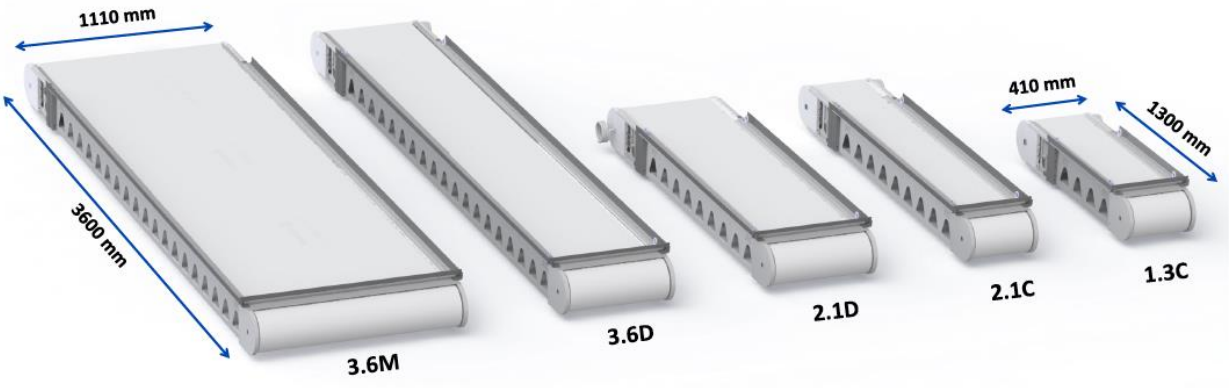
MP-BF series sieve-belt filters are available in several standard size models depending on the application, flow rate and available space. For higher flow rates, models are installed modularly.

Compact design
All the models are based on the same design and hence are identical in terms of efficiency, reliability and use.

The inner drum motor ensures a compact design, long durability and low energy intensity. Available with two speeds. As an option, the motor can also be controlled via a frequency converter with automatic start/stop function, which increases the efficiency of the filtering function.

Flow capacity
The smallest model is designated the 1.3C while the biggest one the 3.6M. The maximum flow rate of the sieve-belt filter depends on the use and selection of the mesh size of the sieve. The length of the sieve-belt filter influences both the flow capacity and dewatering efficiency.

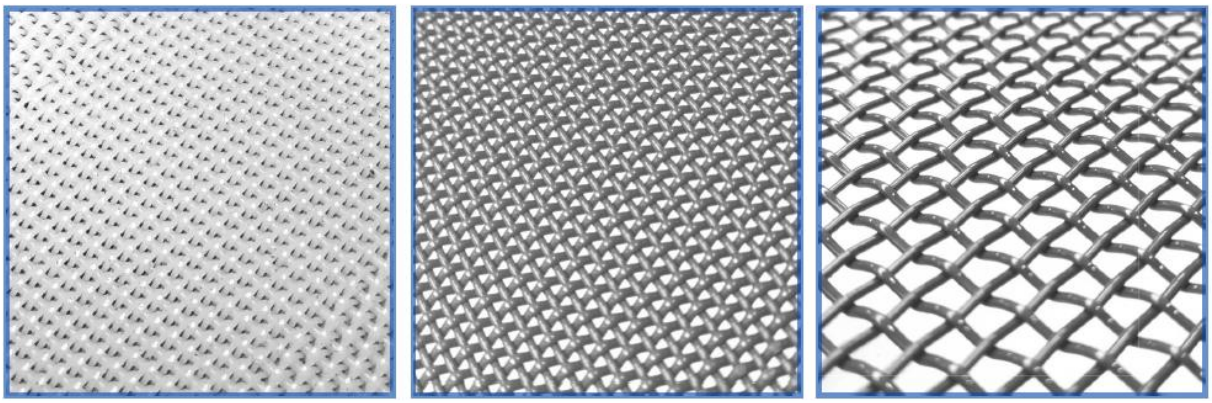
The capacity also depends on the concentration of solids. The gross estimate for MP-BF-3.6M with a porosity of 150 µm is a maximum of 80 m^3/h while with a porosity of 5,000 µm a maximum of 800 m^3/h.



MP-BF sítopásový filtr		1.3C	2.1C	2.1D	3.6D	3.6M
length	[mm]	1300	2100	2100	3600	3600
belt width	[mm]	300	300	500	500	1000
built-up width	[mm]	410	410	610	610	1110
available sieve porosity	[µm]	40 - 5000	40 - 5000	40 - 5000	40 - 5000	60 - 5000
maximum capacity for mechanical filtration	[m^3/h]	2 - 35	6 - 100	10 - 170	20 - 400	60 - 800
	[US gal/min]	*9 - 155*	*25 - 440*	*45 - 750*	*90 - 1760*	*260 - 3500*
maximum capacity for chemical/mechanical filtration	[m^3/h]	0.5 - 1.5	1 - 2	2 - 4	3 - 6	6 - 12
	[US gal/min]	*2 - 6*	*4 - 8*	*8 - 17*	*13 - 26*	*26 - 52*

Filtering sieves

The type of sieve with regard to the mesh size is selected based on the filtration requirements. The available mesh sizes range from 40 µm to 5,000 µm. High-quality polyester fibres are used to manufacture the filtering sieves. The sieves are woven in various patterns which, along with the mesh size, determine the filtration efficiency and flow capacity. This combination ensures important features, such as dimensional stability, chemical resistance and long durability.



Optional accessories

Belt wiper
In order to ensure proper sludge outflow and the removal of solids from the sieve, MP-BF sieve-belt filters are provided with a static wiper or an optional rotary wiper/shaker. The selection of the wiper depends on the specific application and sieve porosity. The rotary wiper has been designed with a drum motor in order to maintain the compactness of the sieve-belt filter.

Sieve spray washing
Correct cleaning of the filtering sieve is crucial for continuous filtration efficiency. The best way to achieve that is by spray washing the sieve with filtered or clean water. Quick-exchange nozzles are installed for easy maintenance. Sieve-belt filters are supplied with one spray washing bar and are predisposed for the installation of an additional one.
The separate outflow of the sprayed water prevents dry sludge matter from being thinned down. In addition, spray washing is environmentally friendly thanks to the low power consumption – compared to compressed air blowing. The sprayed water also traps minor particles, thus creating a healthier work environment than if particles are whirled by compressed air.