



MPPF

For crystal clear pond water

CONSUMER BROCHURE

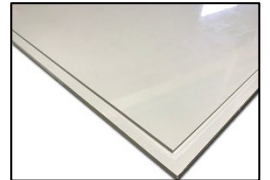


MPF FILTERSYSTEMS FOR PONDS, KOIPONDS EN SWIMMINGPONDS

MPF or 'Makoi Pond Filtration' is a specialist in drum filters for koi ponds and swimming ponds. Our systems guarantee a crystal clear pond or swimming pond.

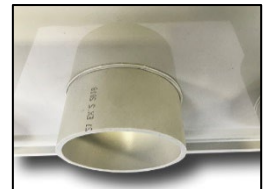
"Our knowledge, passion and love for koi and pond technology come together in an MPF filter."

From our own passion for koi and koi ponds, we know all the ins and outs of a healthy water system. We have translated our many years of knowledge into our own drum filters and combi-drum filters. This has resulted in an innovative, durable and reliable filter system for ponds, swimming ponds and koi ponds. Clear and healthy water with the right values forms the basis for a healthy ecosystem. This results in a crystal-clear swimming pond or a koi pond in which koi can grow up in the most ideal conditions.



- Why choose an MPF filter?
- Very clear pond without having to clean the filter daily.
- Strong and durable motor (210Nm) especially suitable for MPF filters.
- Assembly takes place in our factory in the Netherlands.
- High-quality components such as industrial electronics, industrial components and stainless steel 316 materials.
- Extra strong connection in and out due to unique welding connection.
- MPF filters are designed, tested, and manufactured in-house.
- We know the product very well and continue to develop and innovate our filters.

All plates are milled with our Biesse Skill milling machine. The 110mm inputs and outputs are plastered. This ensures that the connection becomes much stronger compared to a welded pipe. Pipes that are welded to a polypropylene (PP) plate can burst more easily, with all the consequences that entails. Two bypass feedthroughs in the drum wall ensure that the filter continues to work in case of calamities and that the biological part at the Biodrum is killed.



The filter comes standard with a 2-year warranty (excl. filterscreen).

CUSTOMIZATION

MPF produces and assembles all its filter systems in-house. This makes customization possible in almost any shape. All PP material is milled with our own CNC milling machine.

All our filter systems are invented and designed by ourselves. This allows us to easily deliver custom work in almost any desired size and shape. Several customers have already preceded you who have had a specially designed drum filter, multi-chamber filters, filter chamber, etc. custom made by us.

Do you have an idea for a filter system, or does one of our filters not fit in your situation? Make an appointment with us to discuss your wishes and ideas.

MPF offers the best value for money on the market.

Does your customer have special wishes? Customization is possible.

Also available as a private label product for our dealers.

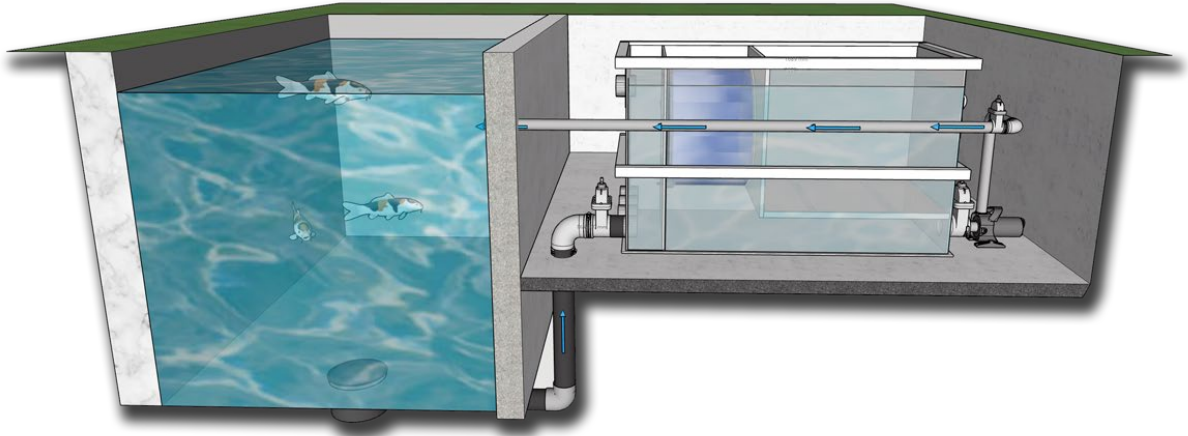


FILTER PLACEMENT

The MPF filters can be placed both gravity and pump fed

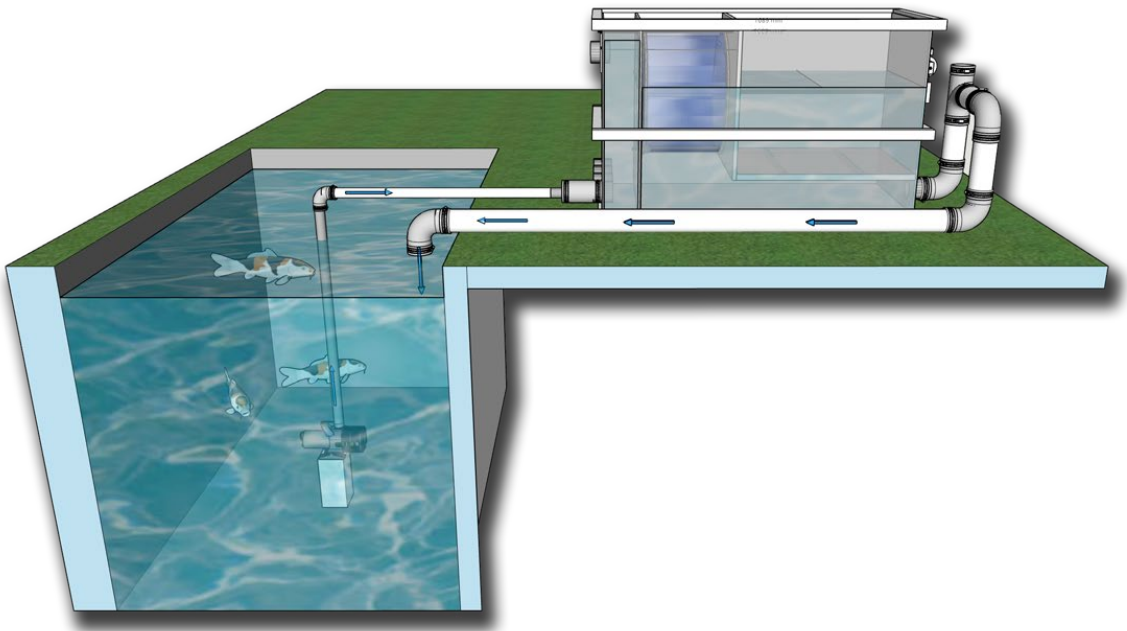
Gravity:

We always advise to set up the filter in gravity. The filter is placed at water level and will then protrude approximately 11-14 cm above the water level. Because of gravity, your filter fills up with water. A pond pump moves the water from your filter back to the pond.



Pump fed

If a pump-fed system is chosen, there are a few things to consider. First, pump fed systems have less capacity. Take into account a loss of at least 30%. For example, a Biodrum 100 can handle a maximum of 50m³ per hour in gravity setup, and a pump fed system a maximum of 35m³. The biological part will also not be completely filled with water, so less biological material will be able to enter. Our advice is to always go for a gravity system.



CONTROL PANEL

Through years of testing and innovation, we have developed 2 types of controls for our drum and combi filters. The industrial MPF controller and the MPF professional drum control.



MPF CONTROLLER:

Supplied as standard with every Drumfilter or Biodrum.

- The pond pump stops when the water level is too low and switches on again when the water level in the pond is raised.
- Provides automatic rinses
- Industrial Relays
- Industrial electronics cabinet in a compact housing
- Manual rinsing by push button
- Digital display

DRUM UV CONNECTIONS.

Each MPF filter is equipped with one or two Drum-UV inputs. This makes it easy to place an MPF Drum UV by means of a rubber coupling.



TYPE	ART.NR
Flexible rubber reducer 32x25 * For Drum UV	90210-32x25
Flexible rubber endkap 32mm * For Drum UV	90220-32

WASTE CHUTE AUTO FLUSHING SYSTEM.

A built-in waste chute flush ensures that the chute is cleared of the dirt lying in the waste chute. Sometimes, for example, leaves or twigs remain in the waste chute and the spray nozzles do not spray this away properly.

We have devised a system that makes it easy to flush away this contamination. By means of a tap, you can easily flush away the fill lying in the gutter. The tap is connected to the built-in flushing pump. You can flush the drum manually by keeping the button pressed on the MPF controller or by pressing the green button of MPF Professional Drum control once. If you open the tap, the gutter will be flushed. You can also choose to always open the tap so that the gutter is automatically flushed when the drum filter is cleaned (automatic flushing cycle).



OPTIONS



MPF PROFESSIONAL DRUM CONTROL +€350,-

This electronics with Siemens Logo 8 control is a new generation logic module that is suitable for every customer requirement with a PLC control.

- Provides automatic rinses
- You can read the data via the internet
- You can control the Siemens Logo 8 via an app
- Change the rinses yourself if you want to rinse longer or shorter
- A day counter is integrated so that you can read the total number of flushes and day flushes
- A signal is emitted when the drum has been in dry-running protection
- Possibility to flush your waste chute by connecting an extra flushing pump
- Many possibilities to expand to control the drum according to your wishes
- Rinses once per hour to prevent the cloth from drying out (winter mode)

WIDE WASTE CHUTE

A wide gutter may not seem like such a big difference, but it can have many advantages for your pond. It is a small difference that can solve many problems, if you have to deal with a lot of filamentous algae and/or a lot of leaf fall. This can often cause a normal gutter to become clogged up. Hence our solution: the wide gutter! With this, a clogged gutter is a thing of the past.

* The dirt runs away better, because the gutter more sloping than the standard, a drain of 19cm instead of 5 cm.

* the gutter is wider, and can transport more waste than the standard gutter. The wide trough is 300mm wide at the back versus 150mm on the standard version.

* The gutter better flushes out the waste, by transporting more water to a narrower point.

* Sewer has a faster flow, so less likely to clog the sewer.

STANDARD:



OPTION:



OPTIE: BREDE AFVALGOOT
OPTION: BREITER RINNE
OPTION: WIDER WASTE CHUTE

Please note, the water level will drop 3 cm compared to a standard Waste Chute



HIGH CAPACITY SPRAY NOZZLES +€75

These black nozzles have a higher water release than the standard blue ones. The black nozzles exert a higher water force on the cloth. As a result, the filter cloth is rinsed clean better. The gutter will also stay cleaner because more water is delivered by the nozzles. Less dirt will be left in the gutter.

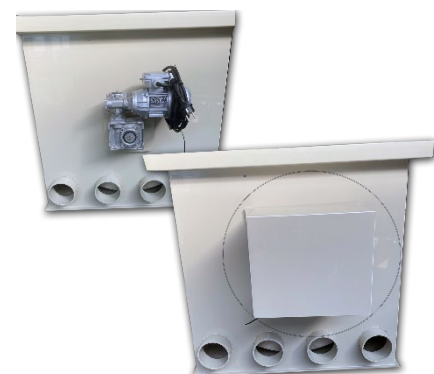
Black nozzle: water output at 5 bar 9.96l/min per nozzle

Standard blue nozzle water delivery at 5 bar 4.98l/min per nozzle

ENGINE COVER +€ 195,00

To protect your engine from rain and weather. A customized engine cover made of PP material.

Approx. dimensions: 320x220x300mm / 460x220x400mm (L x W x H).



DRUMFILTERS

A drum filter is a pre-filter that can easily filter very fine pollution from a water stream.

A drum filter guides the dirty water through a drum sieve/screen. The screen is fitted on a drum that can rotate, similar to a washing machine. If the screen is dirty, it is sprayed clean with a few pressure sprayers, whereby the dirty water runs out of the system.

The filter continuously measures the water level on the "clean" side of the drum with a float switch. At a certain point, the screen is polluted and will let less water through. This lowers the water level on the other side of the drum. As soon as it is too low, the float switch detects that and the drum will rotate one or more circles. A pressure pump and a number of nozzles spray will clean the screen. The dirt runs out of the filter through a waste chute.

It is advisable to let this drain flow into a container, after which it overflows into the sewer. Connecting directly to the sewer can lead to clogging. After all, in the spring we can filter large plugs of filamentous algae out of the water.

The water consumption of the drum filter is low due to the high pressure used for cleaning. However, it is advisable to always top up the pond with a float valve. The water that is refreshed with this can be considered negligible. It is therefore not wise to include this in the weekly refresh. However, it depends on the settings whether you rinse the drum at a height difference of 1 cm or at 10 cm. The smaller the allowed difference, the more often it will flush and therefore the more water is consumed.



DRUM 30



CODE: Group 3

Measurements L x B x H	1020 x 570 x 507 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3x110mm
Outlet (mm)	3x110mm
Koipond max	60 m ³
Swimming Pond max	90 m ³
Motor	Industrial 210Nm
Flushing pump	External
Control Panel	MPF Controller
Art. Nr	T30



DRUM 50



CODE: Group 3

Measurements L x B x H	1017 x 836 x 786 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	4 x 110 mm
Koipond max.	100 m ³
Swimming pond.	150 m ³
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	Intern
Art. Nr	T50



DRUM 50 PRO



CODE: Group 3

Measurements L x B x H	1017 x 836 x 786 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	4 x 110 mm
Koipond max.	100 m ³
Swimming pond.	150 m ³
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	Intern
Art. Nr	T50



DRUM 100



CODE: Group 3

Measurements L x B x H	1450 x 840 x 786 mm
Panel measurements L x Ø	800 x 650 mm
Max. Flow	100 m ³ /hour
Inlet (mm)	8 x 110 mm
Outlet (mm)	4 x 110 mm
Koipond max.	200 m ³
Swimming pond.	300 m ³
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	extern
Art. Nr	T100



DRUM 100 Pro



CODE: Group 3

Measurements L x B x H	1450 x 840 x 786 mm
Panel measurements L x Ø	800 x 650 mm
Max. Flow	100 m ³ /hour
Inlet (mm)	8 x 110 mm
Outlet (mm)	4 x 110 mm
Koipond max.	200 m ³
Swimming pond.	300 m ³
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	intern
Art.Nr	T100P



DRUM 200



CODE: Group 3

Measurements L x B x H	1450 x 1105 x 925 mm
Panel measurements L x Ø	800 x 650 mm
Max. Flow	200 m ³ /hour
Inlet (mm)	10x110 mm
Outlet (mm)	5x110 mm
Koipond max.	300 m ³
Swimming pond.	400 m ³
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	Intern 2x
Art.Nr	T200



BIDDRUM / COMBI FILTERS

Our Biodrum/combi filters are equipped with an ingenious drum filter technology, and a moving bed system for optimal water movement and filtration. These filters combine a drum and moving bed filter in a compact housing.

The polluted pond water first flows into the collection chamber. The second chamber houses a drum filter and provides mechanical filtration. An air saucer / stone is installed at the bottom of the third chamber to be connected to an external air pump. This ensures that there is movement in the third chamber. This chamber will have to be filled to a maximum of 70% of the content with moving bed material (for example Helix). After a few weeks, bacteria will settle on this moving bed material to filter the water biologically. Because the material is constantly in motion, no dirt will accumulate, the material stays clean and requires no more maintenance!

The filter consists of high-quality materials such as stainless steel and PP and aims to guarantee perfect water quality in a simple and reliable way.

An internal flushing pump is standard on the MPF Biodrum 50, 80, 100, 120, 100XL, 120, Rotator filters and the Drum 200.

The MPF drum filters (Drum 30/50/100) come with an external flushing pump from Dase with a 3-year warranty. There is the option to have an internal flushing pump built into the Drum 50 and 100.



BIODRUM 30



CODE: Group 3

Measurements L x B x H	930 x 1040 x 765 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	1 x 110 mm
Koipond	30 m ³
Swimming pond/bad	60 m ³
Bewegendbed inhoud	130 liter
Motor	Industrial 210Nm
Control box	MPF Controller
Flushing pump	Intern
Art.Nr	B30



BIODRUM 40



CODE: Group 3

Measurements L x B x H	1335 x 1040 x 765 mm
Panel measurements L x Ø	400 x 380 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	40 m ³
Swimming pond.	80 m ³
Bewegendbed inhoud	260 liter
Motor	Industrial 210Nm
Flushing pump	Intern
Control box	MPF Controller
Art.Nr	B40

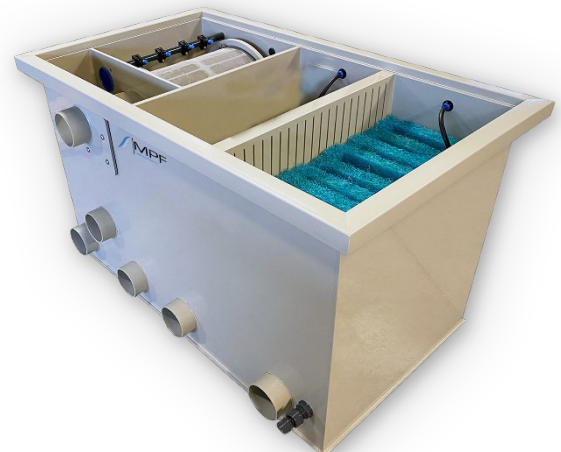


BIODRUM 40 + Matting chamber



CODE: Group 3

Measurements L x B x H	1335 x 1040 x 765 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	40 m ³
Swimming pond.	80 m ³
Bewegendbed inhoud	130 liter
Motor	Industrial 210Nm
Flushing pump	Intern
Control box	MPF Controller
Art.Nr	B40M



BIODRUM 50 small



CODE: Group 3

Measurements L x B x H	1440 x 570 x 1083 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	40 m ³
Swimming pond.	80 m ³
Bewegendbed inhoud	225 liter
Motor:	Industrial 210Nm
Flushing pump:	Intern
Control box	MPF Controller
Art.Nr	B5DS



BIODRUM 50



CODE: Group 3

Measurements L x B x H	1941 x 686 x 947 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	50 m ³
Swimming pond.	100 m ³
Bewegendbed inhoud	320 liter
Motor:	Industrial 210Nm
Flushing pump:	Intern
Control box	MPF Controller
Art.Nr	B5D



BIODRUM 50 + Matting chamber



CODE: Group 3

Measurements L x B x H	1941 x 686 x 947 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	50 m ³
Swimming pond.	100 m ³
Bewegendbed inhoud	190 liter
Motor:	Industrial 210Nm
Flushing pump:	Intern
Control box	MPF Controller
Art.Nr	B5DM



BIDDRUM 80



CODE: Group 3

Measurements L x B x H	1750 x 930 x 765 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110mm
Outlet (mm)	2 x 110mm
Koi pond max.	80 m ³
Swimming pond.	150 m ³
Bewegendbed inhoud	315 liter
Motor:	Industrial 210Nm
Flushing pump:	Intern
Control box	MPF Controller
Art.Nr	880



BIDDRUM 100



CODE: Group 3

Measurements L x B x H	1941 x 836 x 973 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	2 x 110 mm
Koi pond	100 m ³
Swimming pond/bad	200 m ³
Bewegendbed inhoud	420 liter
Motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	8100



BIDDRUM 100 PRO



CODE: Group 3

Abmessungen L x B x H	1941 x 836 x 973 mm
Paneel-Abmessungen L x Ø	400 x 650 mm
Max. Flow	60m ³ /uur
Einlass (mm)	6 x 110 mm
Auslass (mm)	4 x 110 mm
Koi-Teich	100 m ³
Schwimmteich/Pool	200 m ³
Inhalt Moving Bed	420 liter
Motor:	Industrieel 210Nm
Spülpumpe	intern
Steuerung	MPF Controller
Art.Nr	8100pro



BIODRUM 100 + Matting chamber



CODE: Group 3

Measurements L x B x H	1941 x 836 x 973 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond	100 m ³
Swimming pond/bad	200 m ³
Bewegendbed inhoud	25 liter
Motor:	Industrial ZIONm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	B100M



BIODRUM 100XXL



CODE: Group 3

Measurements L x B x H	2450 x 1100 x 1025 mm
Panel measurements L x Ø	400 x 715 mm
Max. Flow	80 m ³ /hour
Inlet (mm)	8 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond	150 m ³
Swimming pond/bad	250 m ³
Bewegendbed inhoud	930 liter
Motor:	Industrial ZIONm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	B100XXL



BIODRUM 120



CODE: Group 3

Measurements L x B x H	1745 x 1330 x 765 mm
Panel measurements L x Ø	800 x 650 mm
Max. Flow	100 m ³ /hour
Inlet (mm)	8 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond	120 m ³
Swimming pond/bad	240 m ³
Bewegendbed inhoud	520 liter
Motor:	Industrial ZIONm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	B120



BIODRUM 200



CODE: Group 3

Measurements L x B x H	2380 x 840 x 980 mm
Panel measurements L x Ø	800 x 650 mm
Max. Flow	100 m ³ /hour
Inlet (mm)	8 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond max.	100 m ³
Swimming pond.	150 m ³
Bewegendbed inhoud	420 liter
Motor:	Industrial 210Nm
Flushing pump:	intern 2x
Control box	MPF Controller
Art.Nr	8200

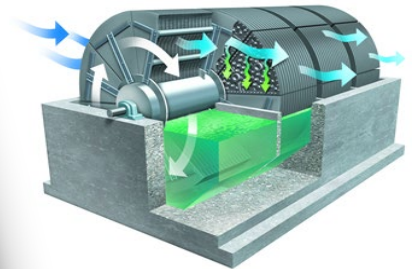


BIODRUMROTATOR

The MPF Biodrum Rotator is our top model among the Biodrum filters! This model is a major upgrade over a standard Biodrum. The moving bed has been replaced here by Japanese mats and a Rotating Biological Drum (RBC). The RBC is standard filled with Helix as a biologist, with a cassette of Japanese mats underneath! This can also be filled with other biological material if desired.

The RBC is a rotating trickle / drip filter concept that requires no head from the pump! The RBC is 40% under water, and 60% above water for maximum oxygen saturation. The big secret of this design is that oxygen can contain up to 4%* in water and 20% in air. This gives the pond bacteria the best conditions to perform their work efficiently.

The rotating movement of the RBC ensures that a trickle / drop filter is created without a lift head. The industrial motor of 250nM of 60 watts turns the RBC.



Ammonia and nitrite removal:

Scientific studies in fish farming have shown that an RBC guarantees a very high ammonia and nitrite removal, 50% better than trickle filters and many times better than moving bed filters!

**A ROTATOR CAN FEED 4X MORE THAN A MOVING BED WITH THE SAME AMOUNT OF BIOMEDIUM!
THERE ARE 100 LITERS IN A MOVING BED? THIS IS COMPARED TO 25 LITERS IN A ROTATOR!**

ADVANTAGES:

- Better biological effect
- No more head compared to a trickle filter
- 2x as efficient as a moving bed
- Faster start-up than a moving bed
- No cooling in winter compared to trickle filters
- No noise
- More stable bacterial culture with use of medication and changing water values
- No need for an air pump anymore
- water is of better quality
- You can feed more

TAN values research*:
Rotator 1.21g/m²/day
Trickle filter 0.64g/m²/day (=50% less efficient)
Fixed bed 0.46g/m²/day (=62% less efficient)
Moving bed 0.27g/m²/day (=78% less efficient)

* A COMPARATIVE ANALYSIS OF THREE BIOFILTER TYPES TREATING WASTEWATER PRODUCED IN RECIRCULATING AQUACULTURE SYSTEMS By Anwar Gumbel Hail
*Ammonia Removal in Selected Aquaculture Water Reuse Biofilters Gary L. Rogers, University of Hawaii, Hawaii Institute of Marine Biology, PO Box 1348, Kaneohe,
Hawaii 96741, USA; 1992 and 4 November 2010. #Biodrum

BIODRUM ROTATOR 20



CODE: Group 3

Measurements L x B x H	1435 x 570 x 507 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond max.	20 m ³
Swimming pond.	40 m ³
Inhoud Rotator	50 liter
Motor:	Industrial 210Nm
Flushing pump:	extern
Art.Nr	BR20



BIODRUM ROTATOR 20 IS



CODE: Group 3

Measurements L x B x H	1435 x 690 x 507 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond max.	20 m ³
Swimming pond.	40 m ³
Inhoud Rotator	50 liter
Motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	BR20IS

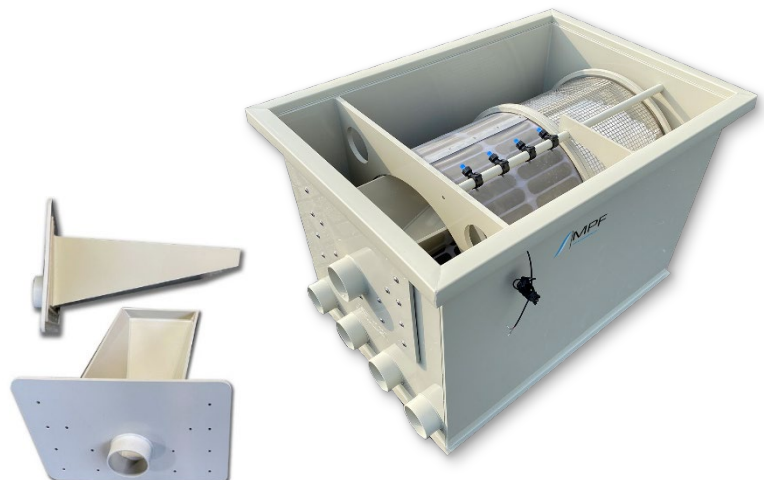


BIODRUM ROTATOR 40



CODE: Group 3

Measurements L x B x H	1450 x 840 x 786 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	30-55 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	4 x 110 mm
Koipond max.	40 m ³
Swimming pond.	100 m ³
Inhoud Rotator	100 liter helix
Motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	BR40



BIODRUM ROTATOR 50



CODE: Group 3

Measurements L x B x H	1535 x 1045 x 980 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	50 m ³
Swimming pond.	100 m ³
Inhoud Rotator	180 liter
Inhoud extra kamer	85 liter
Motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	BR50

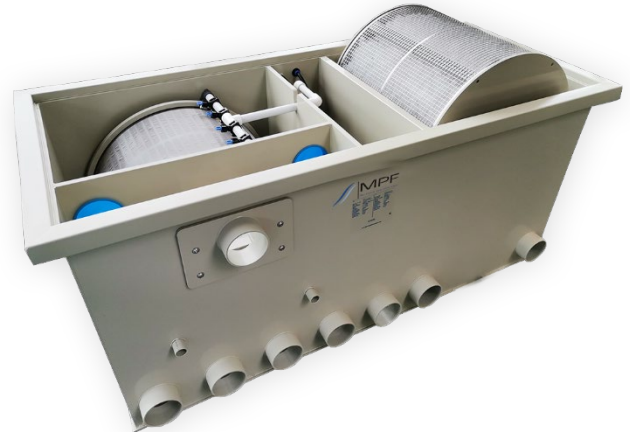


BIODRUM ROTATOR 80



CODE: Group 3

Measurements L x B x H	1750 x 930 x 900 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond max.	80 m ³
Swimming pond.	150 m ³
Inhoud Rotator	180 liter
Inhoud extra kamer	85 liter
motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	BR80



BIODRUM ROTATOR 100



CODE: Group 3

Measurements L x B x H	2200 x 916 x 1150 mm
Panel measurements L x Ø	400 x 650 mm
Max. Flow	50 m ³ /hour
Inlet (mm)	4 x 110 mm
Outlet (mm)	3 x 110 mm
Koipond max.	100 m ³
Swimming pond.	150 m ³
Inhoud Rotator	180 liter
Inhoud extra kamer	300 liter
Motor:	Industrial 210Nm
Flushing pump:	intern
Control box	MPF Controller
Art.Nr	BR100



BIDDRUM GRAVITY TRICKLE

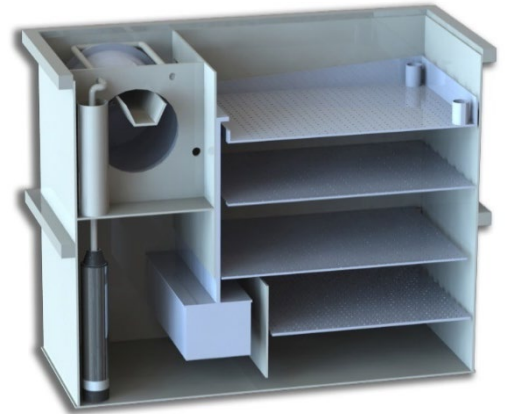
After the development of the Biodrum Rotator, MPF has again developed a unique and innovative design for the pond market. The Biodrum Gravity Trickle!

A combination of a drum filter as a pre-filter with a tricklefilter /bakki shower behind it that can be set up in gravity.

The unique concept of the Biodrum Gravity Trickle is the gravity setup. All trickle filters must be installed above water level, which is often an aesthetic problem and is not energy saving!

With a special designed water level regulator, the water flows on the upper drip plate. As a result, the water is optimally distributed over the underlying material. This water level controller ensures that the water level remains regardless of the capacity of the pond pump.

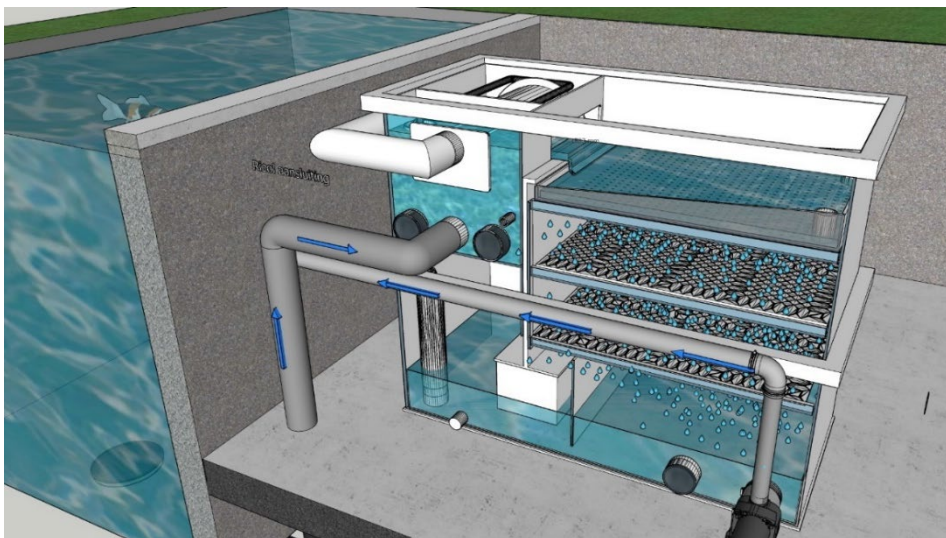
This design creates the best pre-filtration through the drum filter and the best biological cleaning through the trickle section. The water breaks continuously and at a high rate, which means that the oxygen uptake in the water is enormous. As a result, there is continuous outgassing of ammonium and CO_2 . And so the Biodrum Gravity Trickle produces better water quality and healthy koi.



**'A BIDDRUM GRAVITY TRICKLE CAN PROCESS
2.5X AS MUCH FEED THEN A MOVING BED WITH THE SAME AMOUNT OF BIOMEDIUM!'**

ADVANTAGES :

- Better biological effect
- ENERGY SAVING!
- Can be placed GRAVITY
- Rapid startup of biology
- Clear water
- Stable bacterial culture
- No more air pump needed
- Very oxygen-rich way of filtering
- Outgassing of ammonia by large amounts of oxygen and splashing water
- Little to no maintenance
- Can process 2.5x as much feed as a moving bed

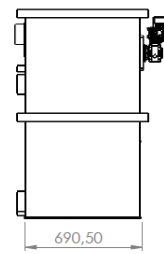
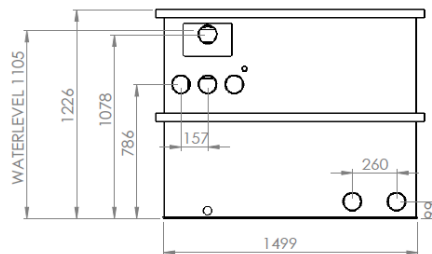
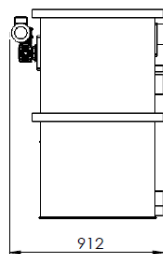
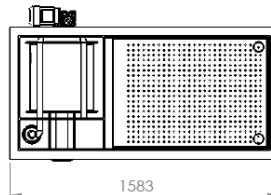


BIODRUM GRAVITY TRICKLE 30



CODE: Group 3

Measurements L x B x H	1583 x 912 x 1226 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	25 m ³ /hour
Inlet (mm)	3 x 110 mm
Outlet (mm)	2 x 110 mm
Koipond max.	50 m ³
Inhoud trickle	300 liter*
Motor:	Industrial 210Nm
Flushing pump:	Intern
Control box	MPF Controller
Art.Nr	BGT30

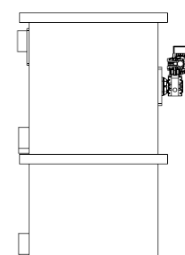
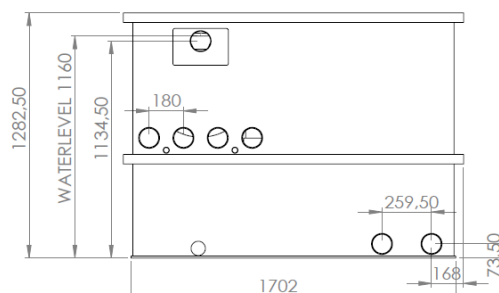
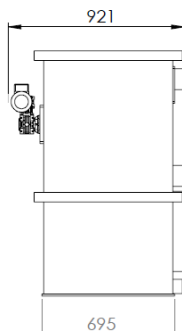
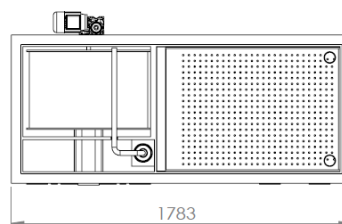


BIODRUM GRAVITY TRICKLE 50



CODE: Gruppe 3

Measurements L x B x H	1785x925x1285 mm
Panel measurements L x H	650 x 430 mm
Max. Flow	40 m ³ /hour
Inlet (mm)	4x110 mm
Outlet (mm)	2x110 mm
Koipond max.	100 m ³
Volume trickle	300 Liter
Motor	Industriell 210Nm
Control Box	MPF Controller
Flushing pump	Intern eingebaut
Art.Nr	BGT50



TRICKLE FILTERS

Trickle filters effectively convert harmful, dissolved waste products (such as proteins, ammonium, nitrite, etc.) in the pond water into harmless compounds.

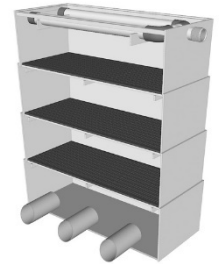
The water enters the top of the inflow tray where it is distributed over 1 spray tube. Below that, the segments are placed, which have a perforated bottom through which the water flows easily.

A trickle filter consists of several floors, provided with filter medium (not included) of possibly different types. These are often stacked trays, each with a layer of medium. The water is pumped up to the top floor with a pond pump. There the water sprays out of a tube with perforated holes, so that the water is evenly distributed over the top layer.

The drip units are filled by you with a filter material of your choice. An optimum oxygen saturation of the water is thus achieved. Due to the excess of oxygen, there is hardly any oxygen deficiency in the pond, even during the warm periods of the year.

To facilitate the use of a trickle filter in combination with our Biodrums, we have precisely tailored the trickle filters to connect seamlessly to our Biodrums.

Thanks to the customization that we provide, you can also choose any desired size in consultation.



TRICKLE LARGE (for Biodrum 50/100/200)



CODE: Groep 2

Measurements L x B x H	920 x 380 x 1215 mm
Max. Flow	30 m ³ /hour
Inlaat buis (mm)	1 x 63 mm
Outlet	Open
Hoeveelheid segmenten	4
Inhoud per segment	65 liter
Incl. Lid	
Art.Nr	TR01



TRICKLE MEDIUM (for Biodrum 40)



CODE: Groep 2

Measurements L x B x H	730x410x120 mm
Max. Flow	30 m ³ /hour
Inlaat buis (mm)	1 x 63 mm
Outlet	Open
Hoeveelheid segmenten	4
Inhoud per segment	50 liter
Incl. Lid	
Art.Nr	TR02



TRICKLE SMALL (for Biodrum 20/30)



CODE: Groep 2

Measurements L x B x H	530 x 330 x 910 mm
Max. Flow	15 m ³ /hour
Inlaat buis (mm)	1 x 63 mm
Outlet	Open
Hoeveelheid segmenten	3
Inhoud per segment	35 liter
Incl. Lid	
Art.Nr	TR03



OPTIONS FOR TRICKLE FILTERS



CODE: Groep 1



Optionally, the spouts can also be ordered with a 110 mm outlet or with a waterfall out. This allows you to easily place the filter next to your pond.

TYPE	ART.NR.
110mm out extra +	EW110
WATERVAL out 60CM	WUG0

PLUG AND PLAY FILTERPUTTEN

Our fully assembled filter chamber offer great ease of installation and you immediately know what a complete system costs, including pond pump, UV lamp and possibly air pump.

The construction of ponds and water features becomes a lot easier with a fully prepared filter unit, all components are assembled and fully coordinated.

Connecting pipes, digging the well carefully, and the work is!

Supply and discharge pipes as well as all couplings, taps, pipes and wall sockets are always pre-assembled. The filter pit is delivered "plug & play", so that only connections for supply and discharge pipes need to be made.

All filter pits can also be arranged as desired in consultation.



FILTERCHAMBER 1 Drum 50



CODE: Group 3

Measurements L x B x H 2320 x 955 x 850mm
Filter integrated: Drum 50
Pondpump Oase Titanium 5l/m³
UV lamp: 1 x 55 watt Amalgaam

Max. Flow 50 m³/hour
Inlaat 3 x 110 mm
Outlet 1 x 110 mm
Afvoer 1 x 110 mm

Koipond max. 50 m³
Swimming pond. 150m³
Art.Nr PAPI



FILTERCHAMBER 2 Drum 100

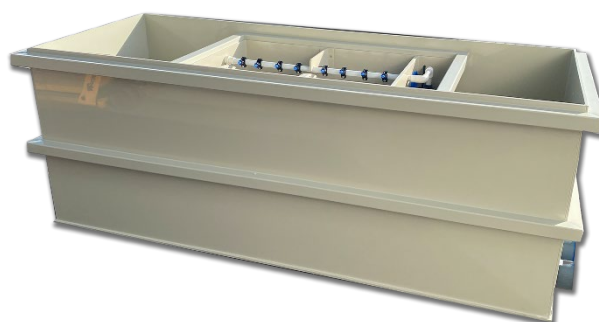


CODE: Group 3

Measurements L x B x H 2320 x 955 x 850mm
Filter integrated: Drum 100
Pondpump Oase Titanium 5l/m³
UV lamp: 2 x 55 watt Amalgaam
Airpomp: Optional

Max. Flow 50 m³/hour
Inlaat 4 x 110 mm
Outlet 1 x 110 mm
Afvoer 1 x 110 mm

Koipond max. 100 m³
Swimming pond. 300 m³
Art.Nr PAP2



FILTERCHAMBER 3 Rotator 40



CODE: Group 3

Measurements L x B x H 2320 x 955 x 850mm
Filter integrated: Rotator 40
Pondpump Oase Titanium 51m³
UV lamp: 2 x 55 watt Amalgaam

Max. Flow 50 m³/hour
Inlet 3 x 110 mm
Outlet 1 x 110 mm
Afvoer 1 x 110 mm

Koipond max. 40 m³
Swimming pond. 120m³
Art.Nr PAP3



FILTERCHAMBER 4 Biodrum 100 small



CODE: Group 3

Measurements L x B x H 2320 x 955 x 850mm
Filter geïntegreerd: Biodrum100 small
Pondpump Oase Titanium 31m³
UV lamp: 1 x 55 watt Amalgaam
Air pump: 1x Thomas 60

Max. Flow 30 m³/hour
Inlaat 3 x 110 mm
Outlet 1 x 110 mm
Afvoer 1 x 110 mm

Koipond max. 25 m³
Swimming pond. 75m³
Art.Nr PAP4

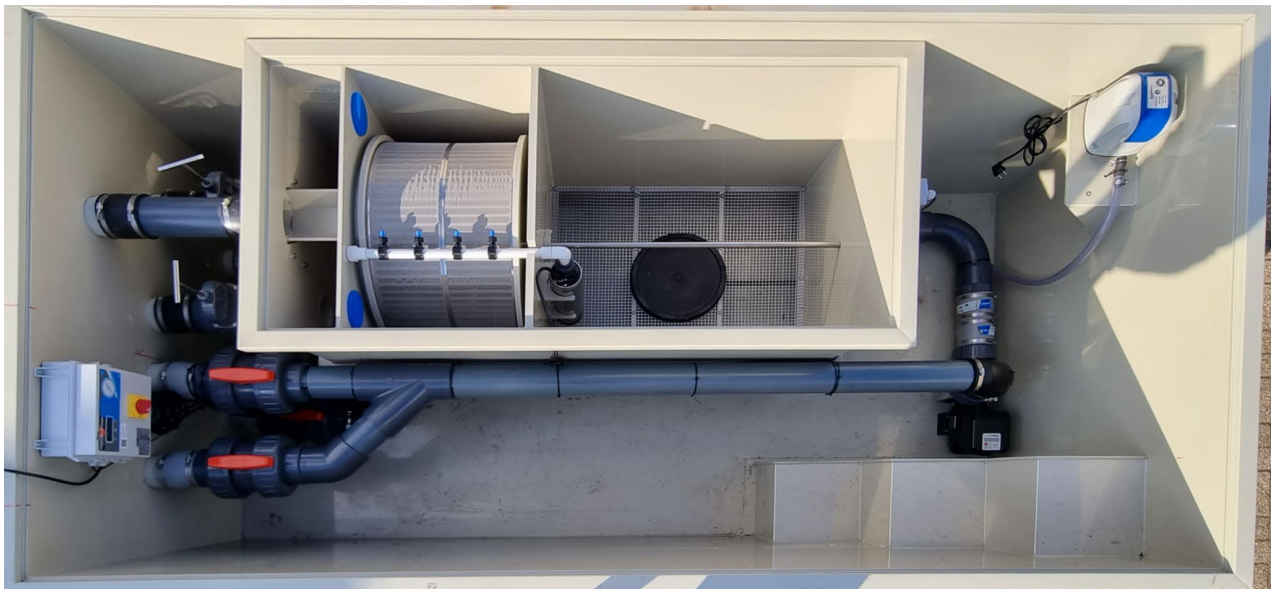


FILTERCHAMBER 5 Biodrum 100



CODE: Group 3

Measurements L x B x H	3000 x 1570 x 1055mm
Filter integrated:	Biodrum 100
Pondpump	Oase Titanium 51m ³
UV lamp:	2 x 55 watt Amalgaam
Air pump:	1x Thomas 80
Max. Flow	50 m ³ /hour
Inlet	4 x 110 mm
Outlet	1 x 110 mm
Afvoer	1 x 110 mm
Koipond max.	100 m ³
Swimming pond.	200m ³
Art.Nr	PAP5





ILEX DRUMFILTER EN BIDDRUM/COMBI FILTERS

Ilex filtration, the little brother of the MPF filter systems.

The Ilex Pond filters are very price competitive and are available in different models. The difference with the MPF filters are the smaller installation dimensions, the motor that rotates the drum is slightly less powerful and the control is simpler.

The Ilex filter systems are for the price-conscious buyer, or when space is limited for the filter system.

All Ilex biodrum filters are supplied incl. Helix moving bed.

The filter comes standard with an external Flushing pump of 3000 litres/hour and approximately 3 bar. The filter comes standard with a 2-year warranty (excl. filter cloth).

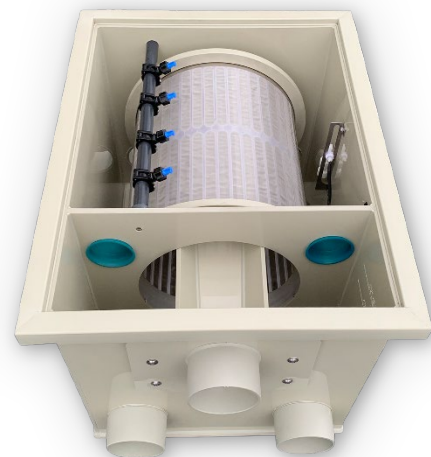


Ilex Drum 20



CODE: Groep 2

Afmeting L x B x H	880 x 570 x 515 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	2x110mm
Outlet (mm)	2x110mm
Koipond	30m ³
Swimming pond/bad	40m ³
Motor	120Nm
Flushing pump	extern
Control box	Ilex
Art.Nr	IT20



Ilex Drum 40



CODE: Groep 2

Afmeting L x B x H	1435 x 570 x 515 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	40 m ³ hour
Inlet (mm)	3x110mm
Outlet (mm)	3x110mm
Koipond	80m ³
Swimming pond/bad	120m ³
Motor	120Nm
Flushing pump	extern
Control box	Ilex
Art.Nr	IT40

Incl. waste chute connection



Ilex Biodrum 20



CODE: Groep 2

Afmeting L x B x H	900 x 850 x 550 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	3x110mm
Outlet (mm)	1x110mm
Koipond	15m ³
Swimming pond/bad	40m ³
Motor	120Nm
Flushing pump	extern
Moving bed	incl. helix 30 liter
Control box	Ilex
Art.Nr	IB20

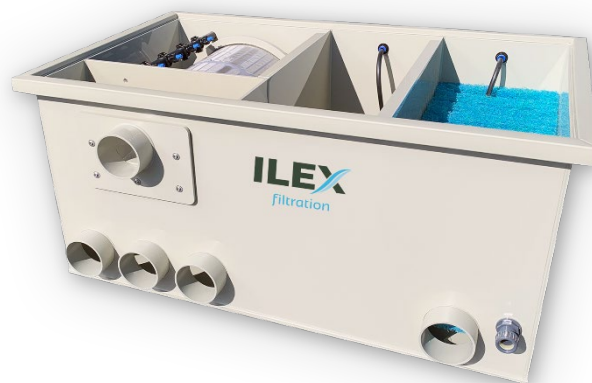


Ilex Biodrum 20 + Matting chamber



CODE: Groep 2

Afmeting L x B x H	1210 x 850 x 550 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	3x110mm
Outlet (mm)	2x110mm
Koipond	20m ³
Swimming pond/bad	50m ³
Motor	120Nm
Flushing pump	extern
Moving bed	incl. helix 30 liter
Japanese matten	incl.
Control box	Ilex
Art.Nr	IB20M



Ilex Biodrum 20 + Matting chamber XL



CODE: Groep 2

Afmeting L x B x H	1210 x 850 x 900 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	20 m ³ /hour
Inlet (mm)	3x110mm
Outlet (mm)	2x110mm
Koipond	30m ³
Swimming pond/bad	50m ³
Motor	120Nm
Flushing pump	intern
Moving bed	incl. helix 50 liter
Japanese matting	incl.
Control box	Ilex
Art.Nr	IB20MXL



Ilex Biodrum 25



CODE: Groep 2

Afmeting L x B x H	1440 x 570 x 760 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	25 m ³ /hour
Inlaat (mm)	3x110mm
Outlet (mm)	2x110mm
Koipond	25m ³
Swimming pond/bad	50m ³
Motor	120Nm
Flushing pump	extern
Moving bed	incl. helix 50 liter
Control box	Ilex
Art.Nr	IB25



Panel

Ilex Biodrum 35



CODE: Groep 2

Afmeting L x B x H	1550 x 910 x 919 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlaat (mm)	3x110mm
Outlet (mm)	2x110mm
Koipond	30m ³
Swimming pond/bad	60m ³
Motor	120Nm
Flushing pump	intern
Control box	Ilex
Moving bed	incl. helix 100 liter
Mattenpakket:	Meerprijs
Art.Nr	IB35



ILEX
filtration

BIODRUM ROTATOR



This unique design, originating from fish farming and water purification, has an integrated Drum filter with a 100 micron Screen Cloth, an additional 50 liter biological chamber and a 160 liter RBC filled with Helix as Biology.



- ✓ *Biologisch het beste filter op de markt!*
- ✓ *Geen opvoerhoogte!*
- ✓ *2x zo efficiënt als trickle filters!*
- ✓ *Beste uit de test!*
- ✓ *Snellere opstart!*
- ✓ *Geen afkoeling in de winter tov trickle!*

The RBC is a rotating trickle filter/drip filter concept that requires no head of the pump! The RBC is approximately 40% underwater, and therefore 60% above water for maximum oxygen saturation.

The rotating movement of the RBC ensures that a trickle/drip filter is created without head. The industrial motor of 250Nm of 60 watts rotates the RBC.

Ammonia and nitrite removal:

Various studies at home and abroad have shown that an RBC guarantees very high ammonia and nitrite removal, even better than Trickle filters and many times better than moving bed filters!

As standard, this RBC is equipped with Helix with a biological surface of 720m²/m³ (if desired, it can also be filled with, for example, Siporax, Helix II, etc.).

* Incl. external Flushing pump and DRUM-UV connections for easy installation of a UVC.

* Incl. ILEX Control box to rinse the drum automatically!

Filter comes standard with lid.

300mm above water level in gravity setup. The filter comes with a 2-year warranty as standard

**A ROTATOR CAN FEED 4X MORE THAN A MOVING BED WITH THE SAME AMOUNT OF BIOMEDIUM!
THERE ARE 100 LITERS IN A MOVING BED? THIS IS COMPARED TO 25 LITERS IN A ROTATOR!**

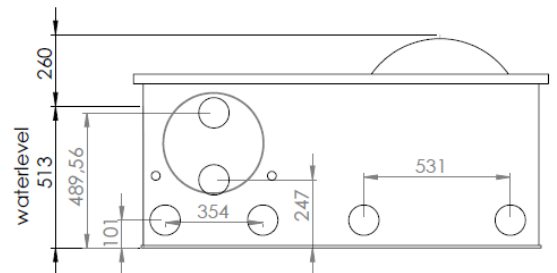
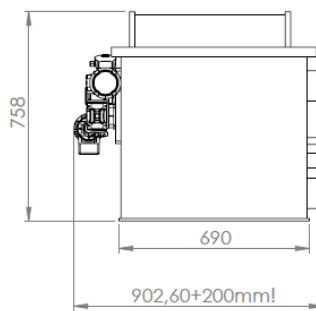
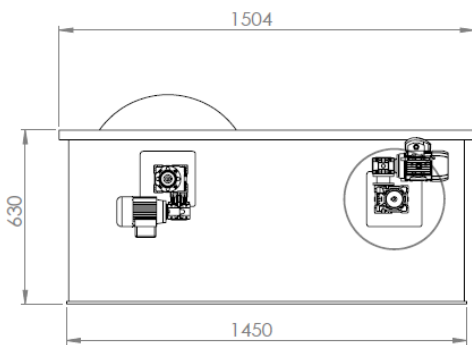
ADVANTAGES:

- ✓ Better biological effect
- ✓ No more head compared to a trickle filter
- ✓ 2x as efficient as a moving bed
- ✓ Faster start-up than a moving bed
- ✓ No cooling in winter compared to trickle filters
- ✓ No noise
- ✓ More stable bacterial culture with use of medication and changing water values
- ✓ No need for an air pump anymore
- ✓ water is of better quality
- ✓ You can feed more

TAN values research*:
 Rotator 1.21g/m²/day
 Trickle filter 0.64g/m²/day (=50% less efficient)
 Fixed bed 0.46g/m²/day (=62% less efficient)
 Moving bed 0.27g/m²/day (=78% less efficient)

* A COMPARATIVE ANALYSIS OF THREE BIOPURIFIER TYPES TREATING WASTEWATER PRODUCED IN RECIRCULATING AQUACULTURE SYSTEMS By Artur Szambel-Piel
 *Ammonia Removal in Selected Aquaculture Water Reuse Systems Gary S. Rogers, University of Florida, Florida Institute of Marine Biology, PO Box 1046, Gainesville,
 Florida 32610-1046, USA and S. Stoeberl, J. Eisenmann

Measurements L x B x H	1504 x 902.6 x 760 mm
Panel measurements L x Ø	400 x 430 mm
Max. Flow	30 m ³ /hour
Inlet (mm)	3x110mm
Outlet (mm)	2x110mm
Koipond	45m ³
Swimming pond/bad	90m ³
Volume Rotator	180 liter
Volume extra chamber	85 liter
Motor	120Nm
Flushing pump	extern
Extra price internal flushing pump	€ 300,- (artnr/ IBR45IS)
Control box	Ilex
Art.Nr	IBR45



OTHER PRODUCTS

MPF DRUM-UV AMALGAM



CODE: Group 3



The MPF -DRUM UVs are specially made for the MPF and Ilex filter systems. By means of a rubber adapter (not included) you can easily integrate this immersion UV in the filter system. The ballast can be used on all replacement units.

Very high efficiency
13.000 burning hours
clear water
UV radiation power decreases less quickly during lifetime
More resistant to switching the lamp on and off
Cable length: 5 m

TYPE	ART.NR.
BALLAST 40-105W	DUB
40W AMALGAM REPLACE UNIT	DU40
55W AMALGAM REPLACE UNIT	DU55
75W AMALGAM REPLACE UNIT	DU75
105W AMALGAM REPLACE UNIT	DU105

MPF SCREENS



CODE: Group 1



New generation of screens for drum filters. Screens made of PP material. The stainless steel mesh is fused to the PP material.

Extremely strong and durable.

Dimensions 114cm x 40cm x 5mm (L x W x D) for 30m³/hour drum filters.
Dimensions 189cm x 40cm x 5mm (L x W x D) for 50m³/hour drum filters.

Our 100m³/hour filter systems have 2 sieve cloths of 189cm. The 200m³ has 4x 114cm screens

TYPE	ART.NR.
114cm x 40cm PP standard	ZD114S
189.5cm x 40cm PP standard	ZD189S
114cm x 40cm High Flow iso standard	ZD114HF/ST
189.5cm x 40cm High Flow ipv standard	ZD189HF/ST
114cm x 40cm High Flow 70Mu ipv standard	ZD114HF70/ST
189.5cm x 40cm High Flow 70Mu los ipv standard	ZD189HF70/ST
114cm x 40cm PP High Flow standard	ZD114HF
189.5cm x 40cm PP High Flow standard	ZD189HF
114cm x 40cm PP High Flow 70 micron	ZD114HF70
189.5cm x 40cm PP High Flow 70 micron	ZD189HF70

MPF SCREENCLEANER



CODE: Group 4



For effective removal of brown (greasy) deposits on your drum filter, sieve element or drum filter screen. Clean your screen cloth regularly with MPF Screen Cleaner + to maintain a good flow, so that you flush away less water and your filter can do its job better.

Spray the screen cloth, let it work for a few minutes and then brush it off with a washing-up brush and water and rinse your filter manually several times.

Repeat this cleaning procedure at least monthly or whenever you notice it is necessary for the best flow through your sieve filter or drum filter.

NB! Switch off your drum filter first before carrying out any work. This is to prevent injury. Avoid overuse

Content: 500 ml

TYPE	ART.NR.
Screencleaner 500ml	SCI000
Screenbcleaner 12x 500ML incl display	SCI000I2

MPF AIR PUMPS



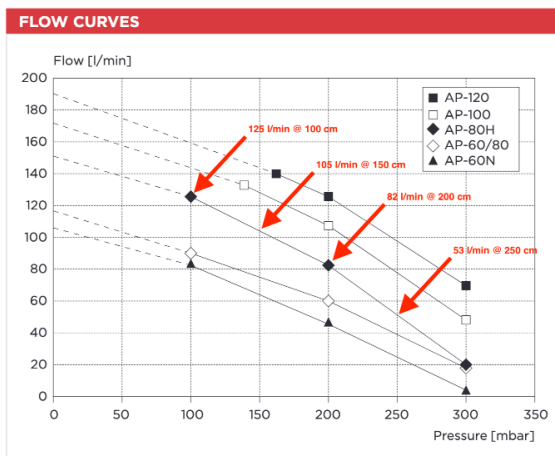
CODE: Group 3



Thomas is part of Gardner Denver, a global US company with offices in more than 30 countries. The Thomas Air pumps are of high industrial quality and are distinguished by their high efficiency and whisper-quiet operation.

TYPE	ART.NR.	WATT	OUTLET
Thomas/Yasunaga AP-40	TL40	29W @ 120 mbar	18mm
Thomas/Yasunaga AP-60N	TL60	31W @ 200 mbar	18mm
Thomas/Yasunaga AP-60/80	TL6080	31W @ 200 mbar	18mm
Thomas/Yasunaga AP-80H	TL80	73W @ 200 mbar	18mm
Thomas/Yasunaga AP-100	TL100	99W @ 200 mbar	18mm

**Currently the most economical Air pump on the pond market:*



	L/m @ 1,5 meter	L/m @ 2 meter	Verbruik (W)	Geluid (dB)
Hi-Blow type HP80	75	63	71	39
AquaForte AP80	ca. 70*	53	55	*
Thomas AP60/80	75	60	41	34
Oase AquaOxy 5000	70	ca. 60*	75	*
Alita AL80	85	65	85	39
FujiMac 80RII	80	50	47	36
Evolution Aqua AP95	66	55	61	<48

* fabrikant heeft de (precieze) technische data niet beschikbaar

MPF KOI VITAAL



CODE: Groep 4



The combination of the balanced composition including Aloe-Vera, Povidon, Aspirin powder and Vitamin C can strengthen the natural defence system and immune system of the fish. The resistance to pathogens and the healing of wounds can improve, which may lead to skin recovery.

An ideal product to protect your fish in 'stress' circumstances, such as during or after transport, after taking medication, when catching the fish or introducing new fish into the pond.

An ideal product for use before and after a Koi show. And if the fish are a bit drowsy in the pond, adding Koi Vital will condition the water and make it possible for the fish to become active again.

Furthermore, Koi Vital is extremely suitable as an emergency remedy for a Potassium Permanganate treatment. If things go wrong during such a treatment, you can immediately cancel the treatment with Koi Vitaal.

Shake well before use
1 liter for 20,000

TYPE	ART.NR.
Koi Vitaal 1 liter	KV1000
Koi Vitaal 2.5 liter	KV2500

MPF GREEN CLEANER POND



CODE: Groep 4



Green Cleaner Pond is a natural product against Blanket weed and Combating harmful micro-organisms. Accelerates the breakdown of waste in the pond. Positive influence on the digestion and metabolism of your fish. Promoted recovery from bacterial infections.

Use: Weekly 20 ml per 1000 liters of pond water UV lamp, Ozone installation can be switched off for 24 hours.

When used in the feeding, it has a positive effect on the digestion and metabolism of your fish. Weekly 10 ml on 5 grams of feed. Use the prepared feed on the same day.

Contains H₂O and lactic acid bacteria.

Optimal operation from 10°C water temperature.

1 liter is good for 50,000 liters of pond water

TYPE	ART.NR.
Green Cleaner pond 1 liter	GC1000

MPF MOVING BED TURBO BACTERIA



CODE: Groep 4



Specially developed for Moving Bed filters and Biological filters that start up slowly.

Multiplication of the bacteria from 5°C. Six carefully selected bacterial strains compete against harmful bacteria and (pathogenic) fungi. The Turbo Start bacteria secrete various enzymes and EPS. The EPS deposits, among other things, on the carrier material in the biological filter and on the pond walls. The bacteria release antibodies against harmful organisms and are immune to certain chemical substances, for example potassium permanganate. The bacteria also ensure faster breakdown of ammonium and nitrite. The Enzyme Peroxidase helps to break down thread algae and ensures clear and healthy pond water and reduced stress in fish.

In our opinion the best start-up bacteria available on the market! Also the best product to remove nitrite!

Verry high concentrated! 6 times as much as MPF micro bacteria

1 kg good for 50,000 liters of pond water

TYPE	ART.NR.
Moving bed turbo bacteria 1kg	TB1000

MPF MICRO BACTERIA



CODE: Groep 4



For starting up moving bed filters behind high-quality drum filters in combination with MPF Pond Booster and MPF Enzyme booster.

Operation:

The cysts of the Micro Bacteria burst open releasing the spores. The spores consist of a cortex shell containing genetic material. When the cortex breaks open, the genetic material comes out in the form of heterotrophic bacteria. These heterotrophic bacteria (*Bacillus Subtilis* sp.p.) start to grow. The growth rate depends on the nutrient medium present and the ambient temperature. The bacteria then secrete various enzymes and EPS. The EPS deposits, among other things, on the carrier material in the biological filter and on the pond walls. Specially selected bacterial strains to make moving bed filters start faster.

Usage advice:

Dosage per 10,000 liters of pond water: 100 grams of Micro Bacteria, 100 ml of Pond Booster and 100 ml of Enzyme Booster

Inhoud: 1 kg

1 kg goed voor 50.000 liter Vijverwater

TYPE	ART.NR.
Micro bacteria 1kg	MB1000

MPF POND BOOSTER



CODE: Groep 4



For starting up moving bed filters behind high-quality drum filters in combination with MPF Micro bacteria and MPF Enzyme booster

MPF Pond Booster is a high-quality start-up and maintenance product for all types of pond/filters. After adding the Pond Booster, the micro-organisms do their useful work. The necessary minerals and enzymes ensure that the bacteria can develop more easily. The different strains of bacteria combat organic slip and break down ammonia and nitrite. With this product, the living environment for your Koi is guaranteed to be optimized with beautiful, clear and healthy pond water.

DOSAGE:

30ml per 1,000 liters of pond water. Divide the Pond Booster over the water or available filter medium. This smart product then integrates into the filter material.

Store the product in a cool and dark place.

Usage advice:

Dosage per 10,000 liters of pond water: 100 grams of Micro Bacteria, 100 ml of Pond Booster and 100 ml of Enzyme Booster.

Content: 1 litre

1 liter good for 35m³

TYPE	ART.NR.
Pond Booster 1liter	PB1000

MPF ENZYM FEED



CODE: Groep 4



For starting up moving bed filters behind drum filters in combination with MPF Micro bacteria and MPF Pond Booster

In practice, it appears that various drum filters do their job so well that, despite this, nitrification does not get off to a good start in the next step of the filter line. Phour and only because in the beginning the drum holds back too many nutrients for the bacteria. By necessity, bypasses are often made so that the filter still has to process some coarse dirt. And that is why the high-quality drum is not used optimally. Especially for this problem, we have developed MPF Enzyme Booster in collaboration with a bacteria supplier. These ensure rapid housing of the autotrophic bacteria and also ensure healthy and clear water. If you combine this Enzyme Booster with Pond Booster and Micro Bacteria, nothing stands in the way of starting and maintaining your pond and filter in a healthy way. In this way you can enjoy your healthy fish and pond water. Of course, the Enzyme Booster can also be used for regular filters.

Usage advice:

Dosage per 10,000 liters of pond water: 100 grams of Micro Bacteria, 100 ml of Pond Booster and 100 ml of Enzyme Booster.

Divide this over the available filter medium. These products then integrate into the filter material. Store the product in a cool place.

Content: 1 litre

1 liter good for 400m³

TYPE	ART.NR.
Enzym Feed 1 liter	EF1000

MPF
Duurzaamheidstraat 19A
8094SC Hattenerbroek
info@mp-f.com

Telefoonnummer: +31382001556 / +31384447366

Website: <https://www.mp-f.com>
Emailadres: info@mp-f.com

