



OVIVO

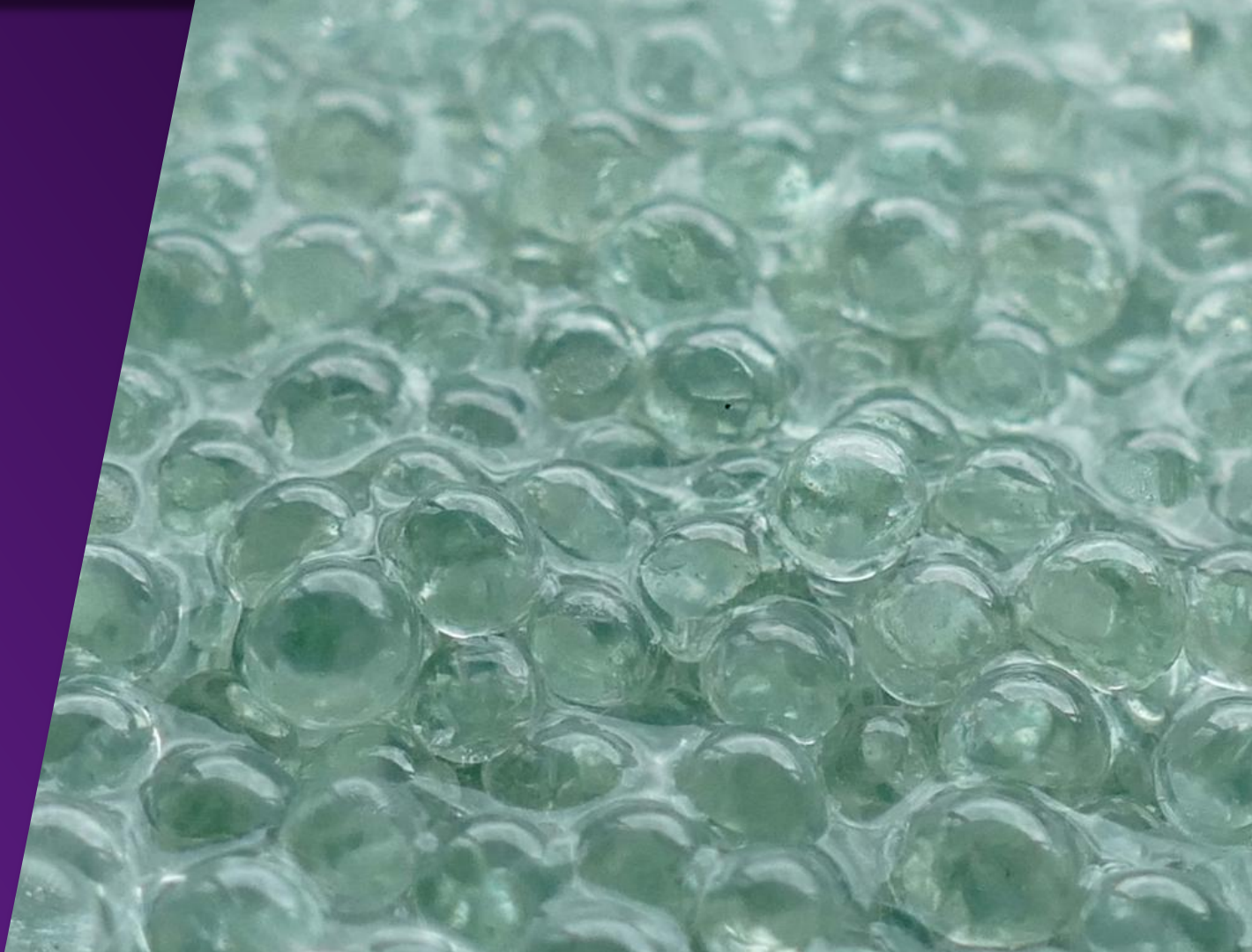
# OVIVO GB

## Glass Beads Filters



**OVIVO GB**

**Glass  
Beads  
Filter**



## ▶ **OVIVO – Glass Beads – Media Filter** **The replacement for classic Sand or Multimedia Filters**

Ovivo has developed a new filtration media line of calibrated Glass Beads called

### **OVIVO – GB**

The media is available in 4 different sizes

<b>OVIVO – GB – Grade 01</b>	<b>0.25 – 0.50 mm</b>
<b>OVIVO – GB – Grade 02</b>	<b>0.40 – 1.00 mm</b>
<b>OVIVO – GB – Grade 03</b>	<b>1.50 – 2.10 mm</b>
<b>OVIVO – GB – Grade 04</b>	<b>2.80 – 4.00 mm</b>



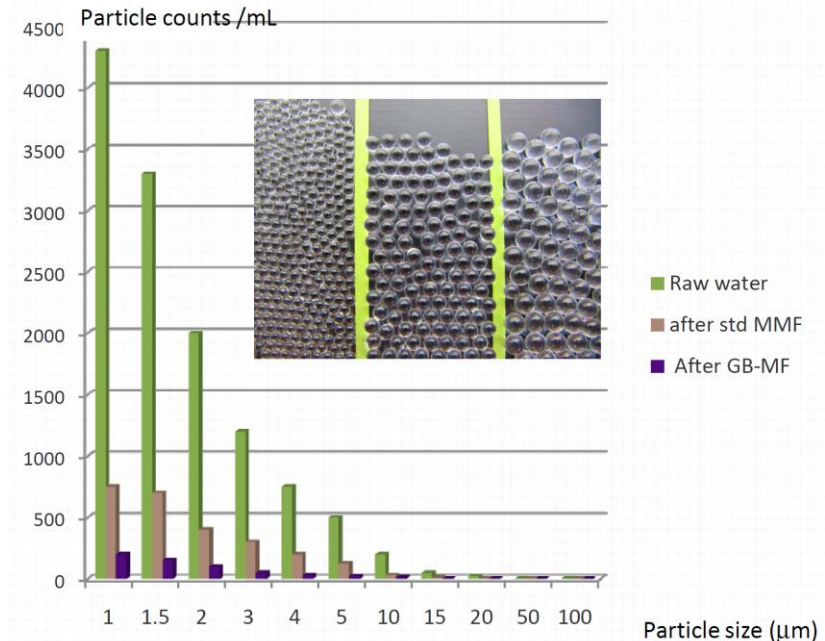
## ► OVIVO – Glass Beads – Media Filter The replacement for classic Sand or Multimedia Filters

Ovivo GB filtration offers large benefits starting by significant improvement of filtration

- **90-95% rejection down to 1µm particles**
- **50-100% higher filtration velocity at same  $\Delta P$**
- **Excellent backwash efficiency**
- **Excellent organics removal**

Ovivo GB filtration is an innovative and economical solution

- **30-40% less foot print (uniform bed permeability)**
- **30-40% increase of filtration time between cycles**
- **10' to 15' backwash time instead of nearly an hour**
- **20-30% less backwash water (higher expansion)**
- **Substantial investment & running cost reduction**
- **Excellent media life time**



► **Comparison of filter media: Geometry**

**Sand**



- Amorphous, uneven shape
- Porous to very porous surface
- Low material hardness and surface quality
- High abrasion, excessive wear
- High dust content (undersize, zero gain)

**Glass Beads**

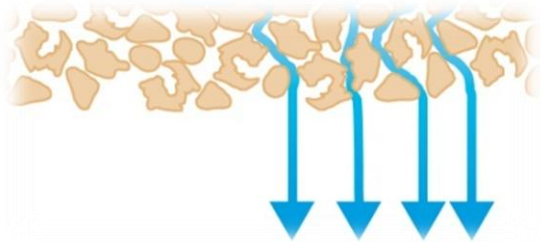


- Even, geometric shape
- Calibrated
- Smooth, closed surface
- High material hardness and surface quality
- Minimal abrasion and lowest wear
- Absolutely no dust content



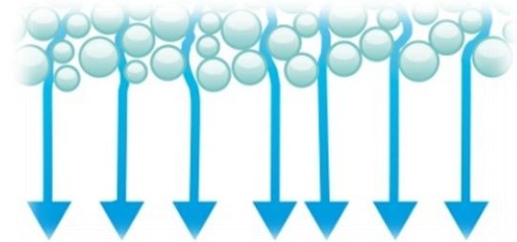
## ► Comparison of filter media: Permeability

Sand



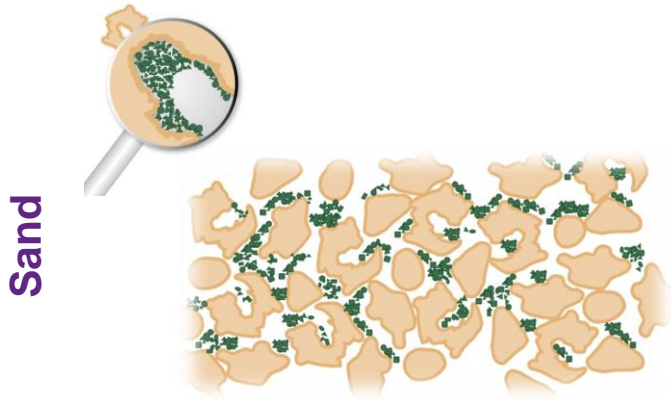
- Amorphous, Chaotic arrangement
- Inhomogeneous hydraulic conditions
- Long retention time of pore water
- High risk of contamination and infection
- Limited usage of filter bed

Glass Beads

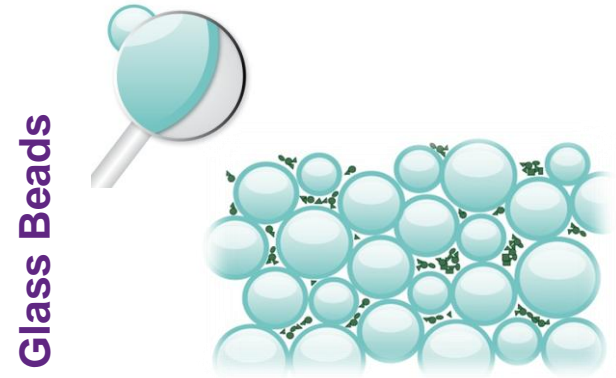


- Regular equal sphere packing
- Homogeneous hydraulic conditions
- Short retention of pore water
- Uniform permeability and low risk of contamination and infection
- Complete utilization of filter bed

► **Comparison of filter media:**      **Dirt adhesion before backwashing**

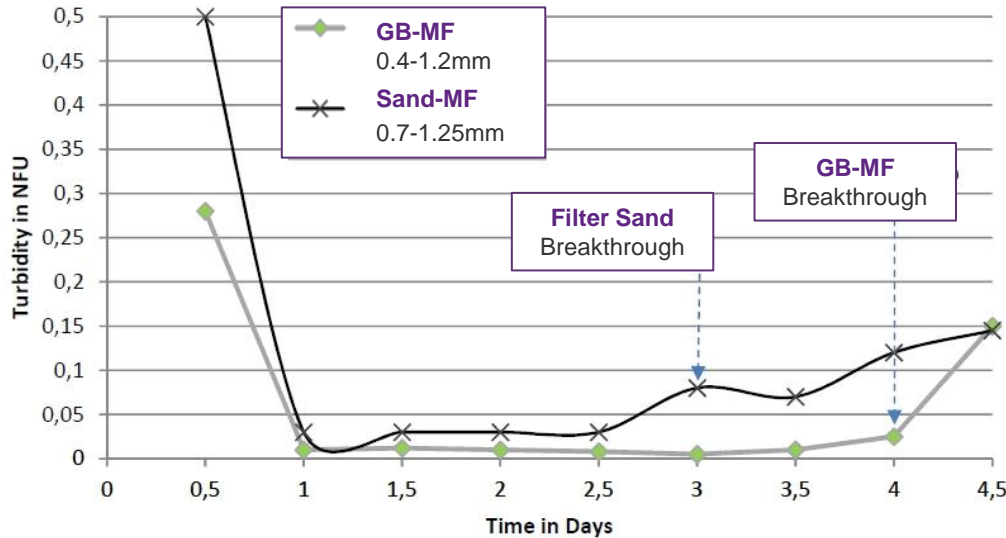


- Continuous increase of deposits and adhesions
- Porous surface
- High risk of clogging



- Trapping of the contaminants within the pore space
- Optimum sphere packing
- No deposit or clogging, no adhesion

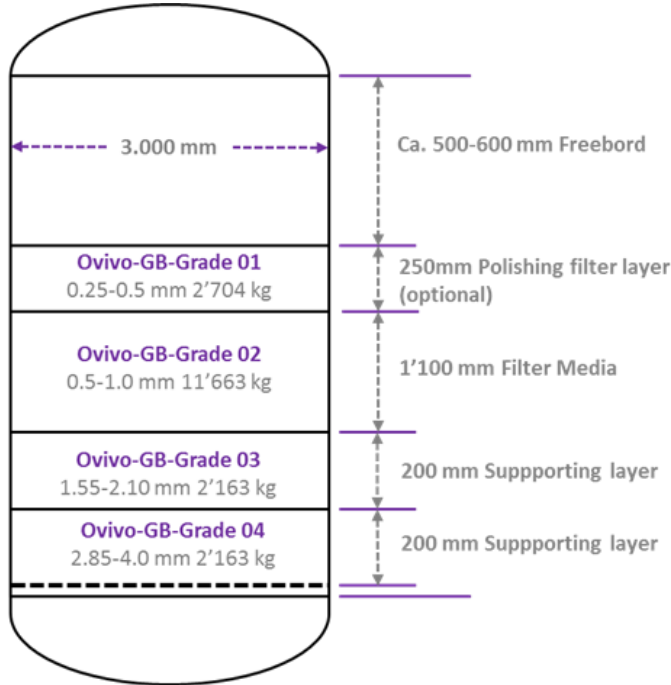
## ► Comparison in performance: Endurance time between Backwash cycles



Compared to sand filters, GB-MF offers 25-30% longer operation time between backwash cycles with a significantly lower turbidity.



## ► Typical Example of Packing Bed for GB-MF

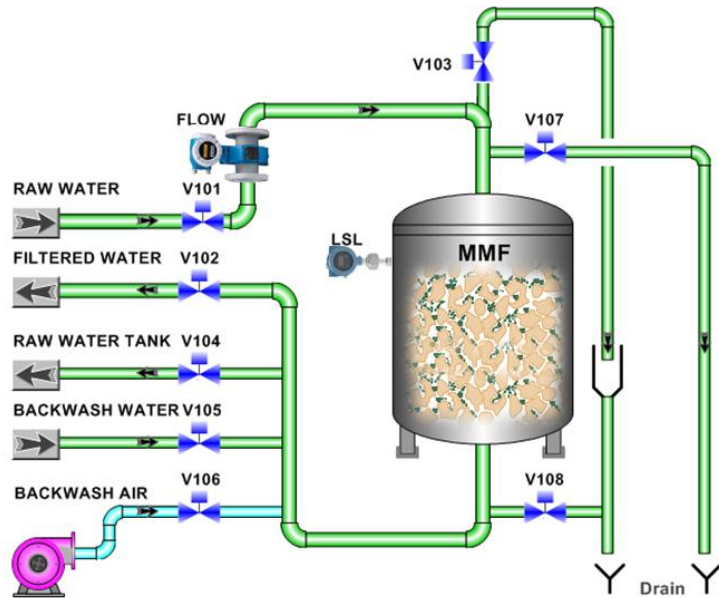


**MEDIA: Ovivo – GB – Grade 01-04**

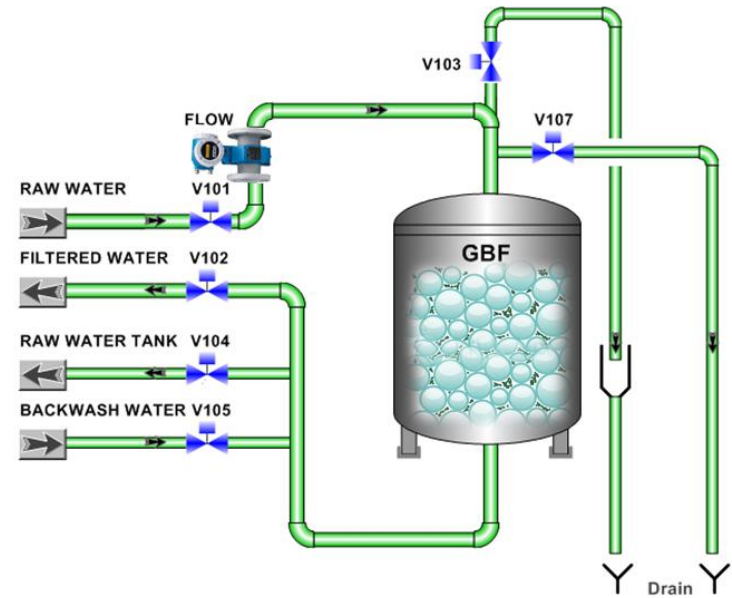
Media can be handled for filling up  
as Ion Exchange resins

► **Typical P+ID**

Multimedia Filter



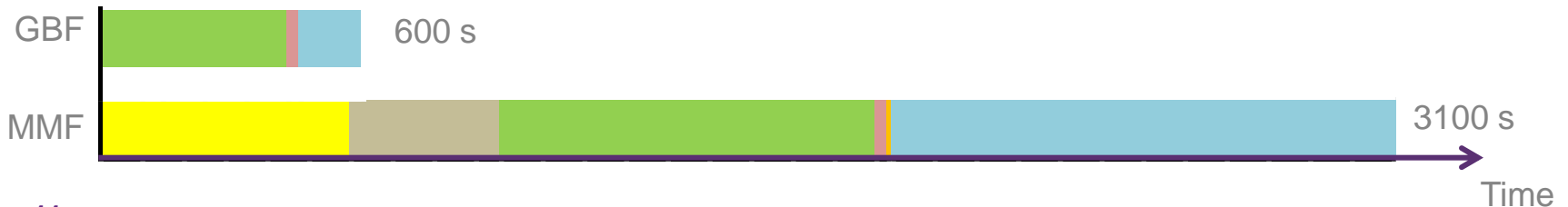
Glass Beads Filter



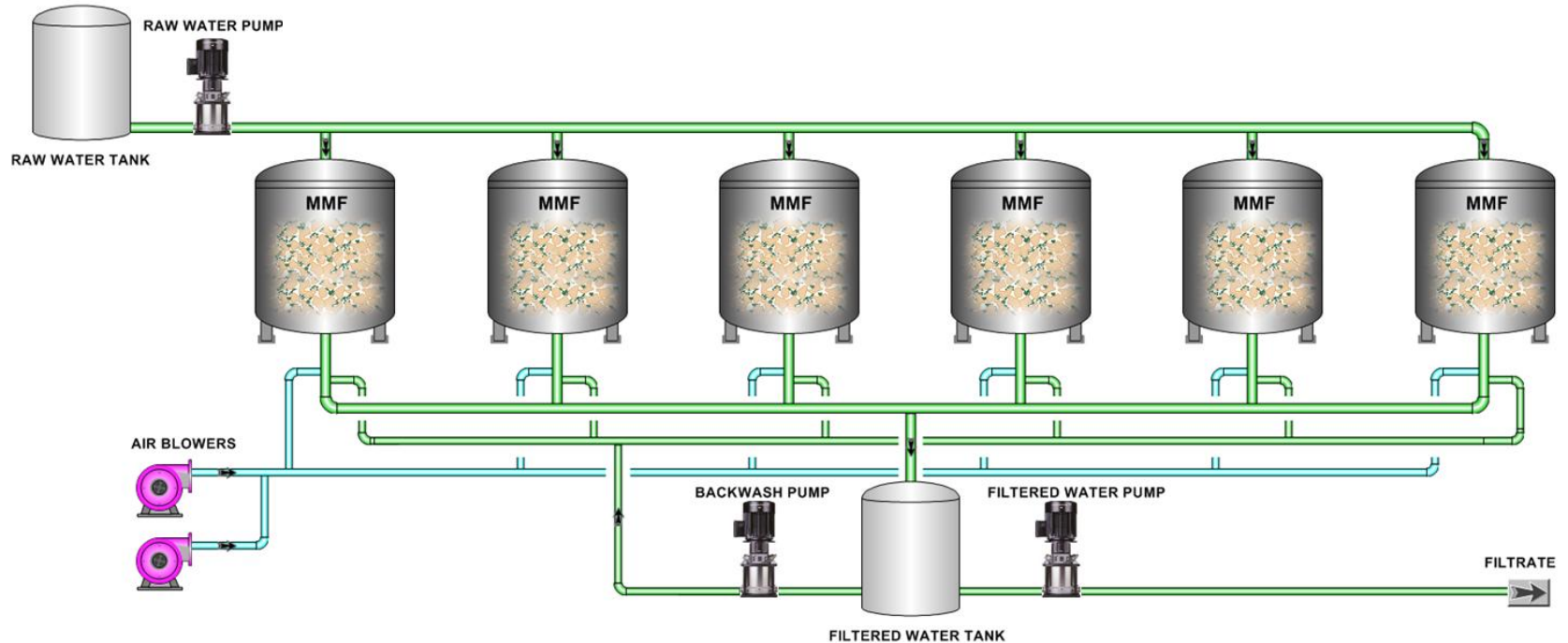
## ► Process steps and backwash sequence

		Multimedia Filters MMF										
		Time (s)	V101	V102	V103	V104	V105	V106	V107	V108	BW pmp	Blower
Backwash steps	Filtration		X	X								
	Lowering	600			X					X		
	Backwash Air	360			X			X				X
	Backwash water	900					X		X		X	
	Wait	30										
	Refilling	10			X		X				X	
	Infiltration	1200	X			X						

		Glass Beads Filters GBF						
		Time (s)	V101	V102	V104	V105	V107	BW pmp
BW Steps	Filtration		X	X				
	Backwash water	450				X	X	X
	Wait	30						
	Infiltration	120	X		X			



► Typical configuration: **Classic Multimedia Filter Plant**



► Typical configuration: **Glass Beads Filter Plant**  
(with same treatment capacity)

