

Pool  
Fresh!up

**Vitro**  
**Sphere**

®

pure glass,  
pure water



**VitroSphere**® nano

The unique, DIN tested glass filter pearls.



CE

## The problem

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Conventional filter material such as sand or granules is because of its porous, irregular structure extremely vulnerable to infestation with fungi, bacteria, algae, and calcifications.

Dirt and germs settle in the uneven surfaces as well as in the open pores of the filter material and multiply in warm water uncontrollably and unlimited. These contaminants will never be completely removed during the backwashing process.

That causes an unnecessary use of expensive and sometimes environmentally harmful chemicals.

- Ensures a highly effective filtering process.
- Produces crystal-clear and skin-friendly water.
- Has outstanding self-cleaning properties.
- Provides an shortened duration of back-washing.
- Reduces the need of water and energy.
- Allows a significant reduction of chemical agents.
- Extends the service intervals.
- Has an almost unlimited durability.

# VitroSphere® nano glass filter pearls

- **Highly effective filtering process**

Due to its exact geometrical shape and the resulting homogenous filter bed, **VitroSphere®** nano glass filter pearls have outstanding filtration properties. The suspended particles are completely removed during the backwashing process. The filter material will stay as clean and effective as it was on its first day of use.

- **Crystalclear, hygienic water**

The special surface properties of the refined **VitroSphere®** nano glass pearls, prevent any accumulation of bacteria, fungi, algae and calcifications.

- **Reduces the use of chemical agents**

**VitroSphere®** nano suppresses the formation of biofilm and prevents unwanted contamination of the filter.

The cleaning agents therefore work with greater efficacy where they are needed – in the water and not in the filter.

- **Economics**

Due to its constitution, **VitroSphere®** nano glass pearls reduces the needed amount of filtermaterial by 15%. At the same time, the consumption of water and energy is due to a shortened backwashing period reduced.

The costs for chemical agents are drastically reduced.

# Comparison of water filter

## Material

## Properties

### Sand



- amorphous, uneven shape
- porous to very porous surface
- low material hardness and surface quality
- high abrasion, excessive wear
- high dust content (undersize, zero grain) even in case of new material



### Glas Granules



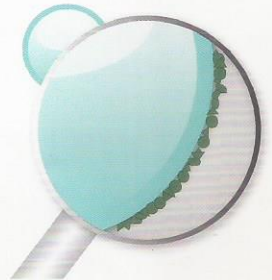
- amorphous, uneven shape
- smooth, sometimes sharp-edged surface
- higher material hardness and surface quality
- abrasion and wear caused by sharp edges
- high dust content (undersize, zero-grain) even in case of new material



### Vitrosphere® nano

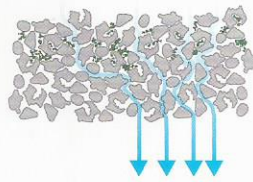


- even, geometric shape
- smooth, closed surface
- high material hardness and surface quality
- minimal abrasion and lowest wear
- absolutely no dust content



## Behavior

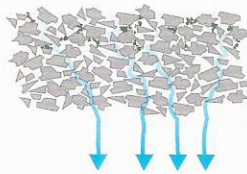
- low self-cleaning during backwashing
- continuous increase of deposits and buildup
- chlorine depletion due to organic residues in the filter bed
- increasing demand for disinfectant chemicals
- risk of rising chloramine levels



## Result

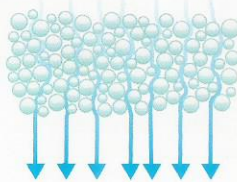
- inhomogeneous, uneven flow conditions in the filter bed
- partial areas of the filter bed are flowed through poorly
- extended water retention times (pore water) in the pore spaces
- higher contamination is caused by prolonged pore water periods
- crusting, adhesive bonding, blocking
- poor filter hygiene and reduced durability of the filter material

- good self-cleaning during backwashing
- lower increase of deposits and buildup in comparison to sand
- slightly increased Chlorine depletion due to organic residues in the filter bed
- usually less need for disinfectants, compared to sand
- lower risk of rising chloramine levels



- partially uneven flow conditions in the filter bed
- partial areas of the filter bed are flown through poorly
- extended water retention times (pore water) in the pore spaces
- possible damages on the inside walls of the filter tank caused by sharp edges of the granulate
- no gluing, clumping or clogging of the filter material
- good filter hygiene and durability of the filter material

- maximum self-cleaning and optimized dirt release during backwashing
- no deposits and clogging
- no remaining dirt, or other organic residues in the filter bed
- no additional chlorine depletion in the filter bed
- significantly reduced need for disinfectants



- perfect, homogeneous flow conditions in the filter bed
- all areas of the filter bed are flown through optimally
- minimized water retention times
- no risk of contamination
- no gluing, clumping, clogging of the filter material
- optimal hygienic conditions in the filter bed
- longest utilization and durability of the filter material

## The awards

Because of its numerous advantages compared to conventional water filter, the innovative **VitroSphere**<sup>®</sup> nano glass filter pearls have been awarded at the „ME Pool&Spa 2012“ in Dubai with the „Best Practice Award“ and has been chosen by „haus&wellness“ Germany's leading pool magazine as the „Product Of The Month“!



## Application Fields



### Private Pools

**VitroSphere**<sup>®</sup> nano:

Thousands of successfully and efficient installations. Worldwide.



### BIO-Pools & Ponds

**VitroSphere**<sup>®</sup> nano:

Serving brilliant water quality in filter systems of Bio-Pools and ponds worldwide.

Chosen by one of the European leading Pool and Pond Builder Associations.

The product

# VitroSphere® nano

## Glass Filter Pearls

Tested according to DIN 19603.

Meets DIN 19643.



Available in following diameters:

**FINE**

Durchmesser | Diameter  
0.4 - 1.2mm

**BIG**

Durchmesser | Diameter  
1.2 - 2.5mm

Different diameters  
(sieve curves) on request.

The unique, DIN-compliant glass filter pearls in a comfortable 12.5kg, 20kg bag or as BigPack!



### Public Pools

**VitroSphere® nano:**

Powering large filter systems of public pools, clinics, schools and therapy baths. Indoor and outdoor:



### Hotel Pools & Spas

**VitroSphere® nano:**

Installed in the Pool Filter Systems of the "World Largest Hotel Chain".

Running in Presidential Palace Filter Systems.

*The German  
spirit of quality  
since 1854*



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