Pool Fresh!up

Vitro Sphere®

pure glass, pure water

VitroSphere® nano

The unique, DIN tested glass filter pearls.

REUSE · RECYCLE · REDUCE · REUSE · RECYCLE · REDUCE ·

Geprüft nach DIN 19603 & KSW-Richtlinie

DIN 19603

HACCP TÜV SÜD TÜV MS Standard

NSF Certified to NSF/ANSI 61

CE

The problem

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.

The solution

VitroSphere® nano glass filter pearls

- **Highly effective filtering process**

  Due to it's exact geometrical shape and the resulting homogenous filter bed, **Vitro**Sphere® 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 it's first day of use.

- **Cristalclear, hygenic water**

  The special surface properties of the refined **Vitro**Sphere® 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.

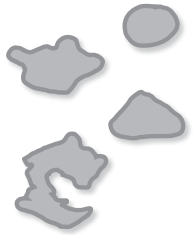
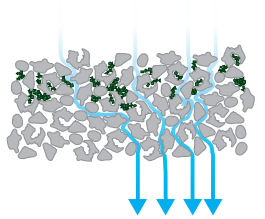
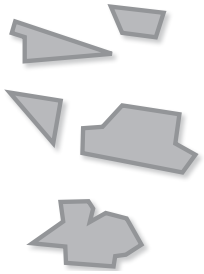
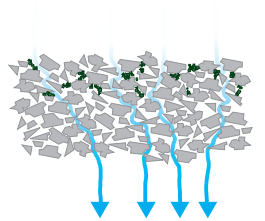
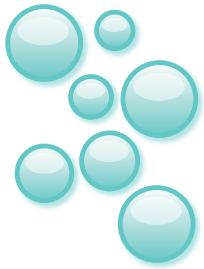
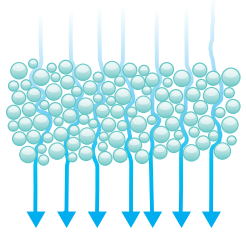
  The cleaning agents therefore work with greater efficacy where they are needed – in the water and not in the filter.

- **Economics**

  Due to it's constitution, **Vitro**Sphere® 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	Behavior	Result
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	 • 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	 • 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
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	 • good self-cleaning during backwashing • lower increase of deposits and buildup in comparison to sand • slightly increased Chlorine depletion due too 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
VitroSphere® nano	 • even, geometric shape • smooth, closed surface • high material hardness and surface quality • minimal abrasion and lowest wear • absolutely no dust content	 • 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 **Vitro**Sphere® nano glass filter pearls have been awarded at the „ME Pool&Spa 2012“ in Dubai with the „Best Practice Award“ and has been choosen by „haus&wellness“ Germany‘s leading pool magazine as the „Product Of The Month“!

The product

VitroSphere® nano

Glass Filter Pearls
Tested according to DIN 19603.
Meets DIN 19643.

Available in following diameters:

FINE	BIG
Durchmesser | Diameter 0.4 - 1.2 mm	Durchmesser | Diameter 1.2 - 2.5 mm

Different diameters (sieve curves) on request.

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

Application Fields

Private Pools
VitroSphere® nano:
Thousands of successfully and efficient installations. Worldwide.

BIO-Pools & Ponds
VitroSphere® nano:
Serving brilliant water quality in filter systems of Bio-Pools and ponds worldwide.

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

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

SiLi® SIGMUND LINDNER

Vitro Sphere® pure glass, pure water

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Tested according to DIN 19603. Meets DIN 19643.