



Water Park Bambados

Water Park Bambados opened in 2011 and is located in Bamberg, a listed UNESCO world heritage site

Water Park Bambados is the first indoor swimming facility built in Europe according to the Passive House Standards and the promotion of Energy-Optimized Building (ENOB).

The bath area includes 7 pools with a total water surface of 1796 m², connected to 5 ultrafiltration units which purify peak volumes from 56 m³/h to 231 m³/h resulting in a combined total UF flow rate of 692 m³/h.

Building owners and designers attached great importance to energy efficiency with optimal effectiveness resulting in correspondingly low consumption of water and heat.

Due to this energy savings it was no coincidence that the ultrafiltration process combination was chosen for water treatment of a bath built in passive house construction.

For the water treatment the process-combination with “flocculation-ultrafiltration-chlorination-UV” is selected in accordance with DIN draft 19643-4. Accordingly the calculation of volume flows for each UF water treated basin was done using half the flow rate of the multi-layer filter. All pumps for filtration and rinsing of the modules are fitted with frequency modulators. Due to the 3-row set-up of all UF-plants it was not necessary to install rinsing water containers and associated pumps. The rinsing effluent of all UF plants is collected in a storage tank and after treatment with a separate ultrafiltration unit and downstream reverse osmosis system plus chlorination according to DIN 19645, type 1, it is returned as fill water to the corresponding circulation plants.

To reduce evaporation losses while open, newly developed and optimized gutter systems were used. During closed hours, the return water is extracted below the water surface. For this purpose, an additional draining system was installed.

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Plant characteristics

5 ultrafiltration circulation plants

Circulating a total of **692 m³/h**
Pool area total **1796 m²**

Circulation plant 1

Swimming pool 50 m, 1050 m²

UF plant volume flow: 231 m³ / h

Circulation plant 2

Recreational pool 355 m²

UF plant volume flow: 187 m³ / h

Parents-child pool 55 m²

Volume flow: 28 m³ / h

UF plant volume flow: 215 m³ / h

Circulation plant 3

Learn to swim pool 1
with integrated movable floor 133 m²

UF plant Volume flow: 50 m³ / h

Learn to swim pool 2: 133 m²

UF plant Volume flow: 50 m³ / h

Total plant volume flow: 100 m³ / h

Circulation plant 4

Slide area *

1 Aqua River (Whitewater River) 720 m³ / h

2 Rafting slide (tire slide) 360 m³ / h

1 Turbo slide, option 90 m³ / h

UF plant volume flow: 90 m³ / h

* All slides were equipped with flat outlets. The water from all slides flows in a shared storage tank and from there into the filter plant - capacity 90 m³ / h. During operation downtimes of slides and landing pools the water is emptied into the shared storage tank (110 m³)

Circulation plant 5

Plunge pools and a Kneipp pool
with conventional multi-layer fiberglass filters.

Total plant volume flow: 8,5 m³ / h

Circulation plant 6

Leisure outdoor pool, 70 m²

Total plant volume flow: 56 m³ / h

Rinsing effluent plant 7

Rinse water treatment in accordance with DIN 19645, type 1
using ultrafiltration and reverse osmosis,

Raw water UF plant 4 m³ / h

Reverse osmosis from above UF plant permeate 3 m³ / h



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