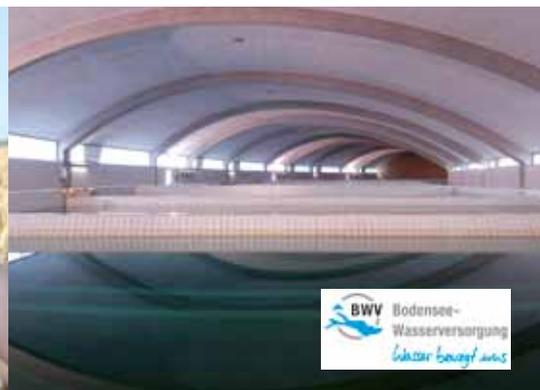




# DRINKING WATER TREATMENT with EVERZIT® N





## Drinking Water the most valuable resource

Water is the irreplaceable source of our life. The average consumption per capita is up to 200 litres of drinking water per day. EVERS domiciled in the Münsterland has been developing innovative filtration processes for more than 40 years to treat this valuable resource.

EVERZIT® N is being used globally in multi-layer filtration. The most important filter material is a natural product mined at a depth

of 1.500 metres: Anthracite EVERZIT® N cleans water in filter systems of a capacity up to 70.000 cubic metres per hour. Thus 22,8 billion litres of raw water are being treated to pure drinking water every day in the whole world.

The quality of our filter materials is crucial. Because only products of an outstanding quality guarantee a sustainable handling of drinking water.

## Clean water for four million people

### *Lake Constance water supply*

Every year Lake Constance water supply takes more than 130 million cubic metre of water from a depth of 60 metres. EVERZIT® N plays an important role that this valuable commodity from Europe's biggest drinking water reservoir is brought in clear and pure quality to four million people.

For many years the Sewage Board Unteres Schussental has been relying on EVERZIT® N for the tertiary treatment in the waste water treatment plant Eriskirch. And now the filtration material made of the purest anthracite is being used at Lake Constance for the filtration of drinking water.

In a first step microstrainers retain turbidity in the treatment plant Sipplinger Berg, pure oxygen eliminates micro-organisms in the ozone generator thus detriments to odour and taste are avoided.





In the filter hall 27 multi-layer filters with a total surface of approx. 3000 square metres retain turbidity completely and guarantee microbiological protection. The rapid multi-layer filters consist of 40 centimetres of EVERZIT® N and 60 centimetres of quartz sand.

Thus the coarse EVERZIT® N guarantees a high filtration efficiency. At the same time the holding times of the filters are extended by optimized volume filtration which results in a cost reduction for rinsing water and energy.

The EVERZIT® N multi-layer filters are cleaned in a rinsing sequence of air and water.

**Filter layout:**

EVERZIT® N 0,8 - 1,6 mm:	400 mm
Quartz sand 0,3 - 0,7 mm:	600 mm
Support layer:	400 mm

**Technical Data:**

Capacity:	15.000 m <sup>3</sup> /h
Number of multi-layer filters:	27
Total surface:	3.000 m <sup>2</sup>
Filter velocity:	approx. 5 m/h



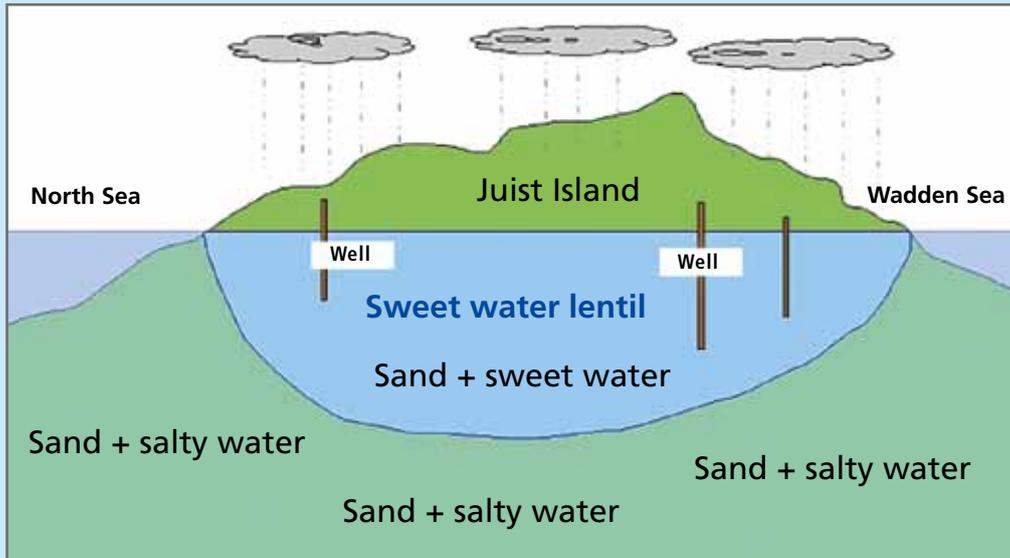
## A Natural Phenomenon in the North Sea

### *Juist Water Work*

The groundwater of the islands in the midst of the North Sea is very salty. A natural phenomenon enables the Juist Water Work to provide drinking water for more than 100.000 tourists and 1.700 islanders independent from the mainland. So-called „sweet water lentils“ guarantee rich reservoirs. That is the raw material for a clean and natural product treated with EVERZIT® N.

The sweet water lentils are formed by the rain water that meets salty water in the ground. Due to its lower specific weight it settles above the salt water and can be drawn up. And that is the reason for its characteristic yellow colour. Humic matters dissolved by the water from peaty humus layers are the reason for this colour. Only iron and manganese are removed by filtration.





The Juist Water Work rely on EVERZIT® N made of pure anthracite. Thus the drinking water remains a real natural product that doesn't need any chemical treatment. Three closed filters designed as multi-layer filters and with a capacity of 150 cubic metres per hour in total are being operated. The upper layer of EVERZIT® N guarantees iron removal, in another layer consisting of quartz sand manganese is removed. Then the water is gushed in a cascade so that a balance between calcium carbonate and carbon dioxide is achieved. Additionally, open sand filters are being operated to remove possible residues of manganese.

**Filter layout:**

EVERZIT® N 1,4 - 2,5 mm:	500 mm
Quartz sand 0,71 - 1,25 mm:	1.000 mm
Support layer 2,0 - 8,0 mm:	300 mm

**Technical Data:**

Capacity:	max. 150 m <sup>3</sup> /h
Number of multi-layer filters:	3
Filter diameter:	2.000 mm
Filter velocity:	approx. 15 m/h



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At present approx. 22,8 billion litres of raw water are daily treated with EVERZIT® N to valuable drinking water worldwide.