Softazur M

decarbonation by membrane filtration

- **nanofiltration / low pressure reverse osmosis membranes**
- **drinking water**

a physical barrier to ensure the retention of undesirable elements

description

Decarbonation by membrane filtration Softazur M, uses nanofiltration or low pressure reverse osmosis membranes to retain different materials (salts, ions, viruses, bacteria...) without adding any reagent.

They are particularly suitable for so-called "difficult" waters presenting several specific parameters to correct (hardness, pesticides, nitrates, etc.).

They are also the only technology capable of retaining sulphates, selenium, and some of the chlorides.

the membrane technology...

Nanofiltration membranes (or low pressure reverse osmosis membranes) are thin, semi-permeable solid media, which retain solids larger than a nanometer in size, bacteria & viruses as well as multivalent ions (including calcium and magnesium responsible for hardness).

Wrapped with support sheets (legends 4 to 7) around a perforated central collector (9), they form spiral filtration modules (A). These are arranged in series in rigid tubes called case (B) by interlocking the central collectors. To allow the raw water to pass through the successive modules, the supply is made under pressure from one end of the case to the other. The compact configuration of the modules reduces pressure losses, thus limiting the energy required.

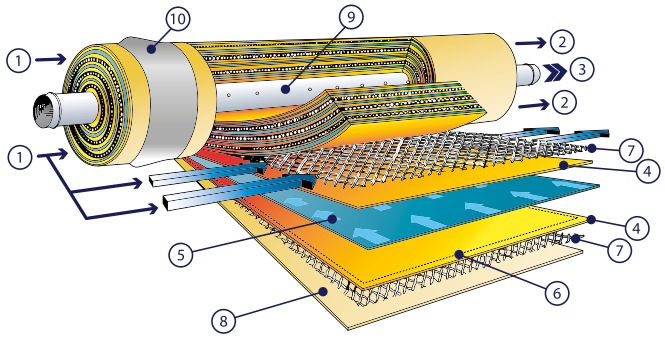
In the modules, the raw water flows under pressure parallel to the surface of the membranes (1) in the spacer (7). This is known as tangential filtration. In this case, the particles clog the pores considerably less quickly, as the passage of the water creates a sweeping phenomenon. On contact with the membranes, part of the water is filtered (permeate) and the other part is loaded with pollutants (concentrate). This filtration is applied at pressures ranging from 8 to20 bar.

The permeate is drained through the intermediate collectors to the central collectors (3) and the concentrate is collected at the opposite end of the raw water supply (2).

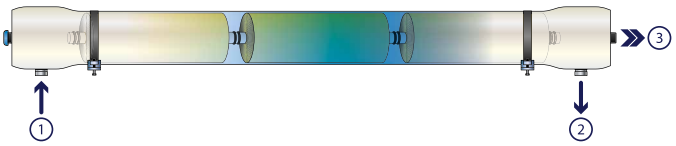
Depending on the expected production capacity, the cases are arranged in series and/or in parallel on stainless steel frames to form filter skids mounted on simple concrete slabs.

operating scheme

A filtration module



B pressure case



1. raw water inlet
2. concentrate outlet
3. permeate outlet
4. membrane
5. intermediate permeate collector
6. welding line of two membranes
7. spacer
8. protective material
9. perforated central permeate collector
10. seal between module and case

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Softazur M, it is...

a multi-parameter treatment

Nanofiltration membranes have some of the highest cut-off levels (between 0.01 and 0.001 microns approx.). They are therefore able to retain all the pollutants potentially present in water (including hardness, perchlorates, sulphates, selenium, and nickel).

a limited consumption of reagents

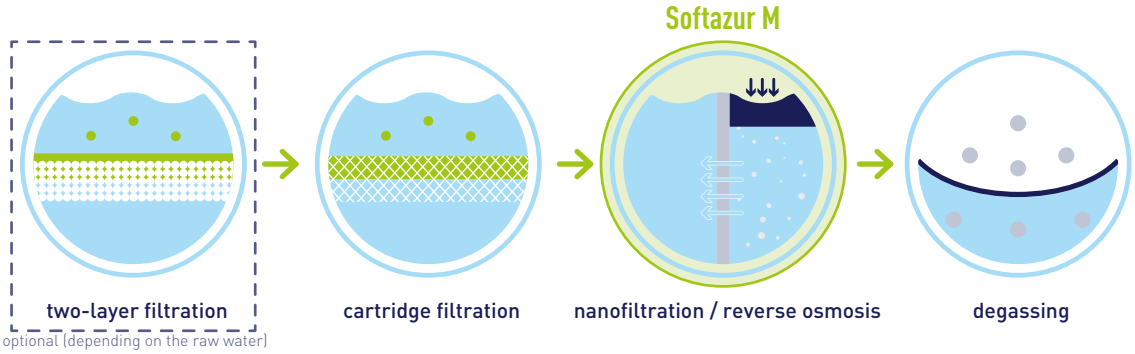
Water treatment by nanofiltration does not require any chemical reagents in the operational phase, apart from the washing reagents used to prevent irreversible clogging of the membranes.

simplicity and modularity

Membrane filtration systems are fully automated, do not require adjustment in response to changing water quality and are easily expandable (module addition).

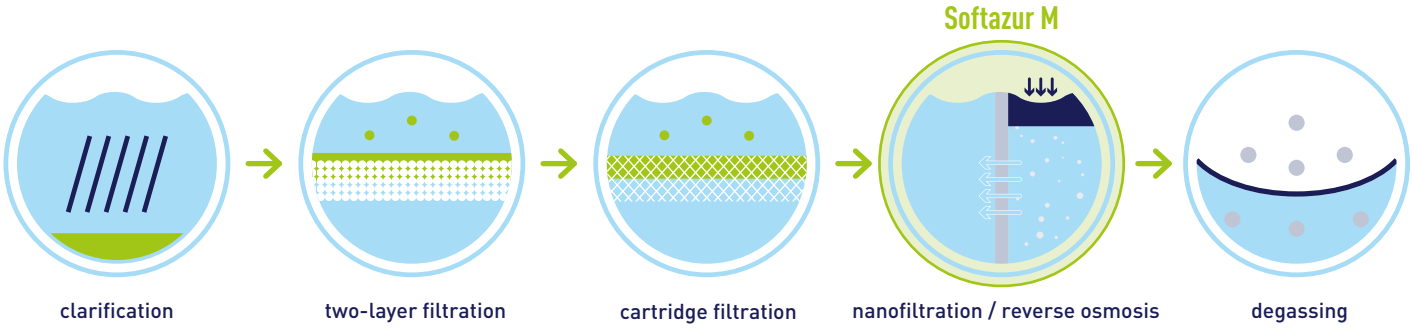
positioning of Softazur M in the treatment line

→ groundwater supply (direct)



→ surface water supply

(in extension/rehabilitation for example)



among our references

Eupen plant - la Vesdre, Belgium
2 700 m³/h

Stembert plant - la Gileppe, Belgium
2 500 m³/h

Treatment of dam water containing organic matter of a humic nature:

- generating Trihalomethanes (THMs) in the network (by-products of the chemical reaction of chlorine with organic matter)
- and forming, by degradation, a biofilm in the network which causes inconveniences for the final consumers (filaments, deposits...).

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