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SHARING EXPERTISE

AQUAboss® nX

Reverse osmosis system

H_2O – a simple chemical formula with profound significance

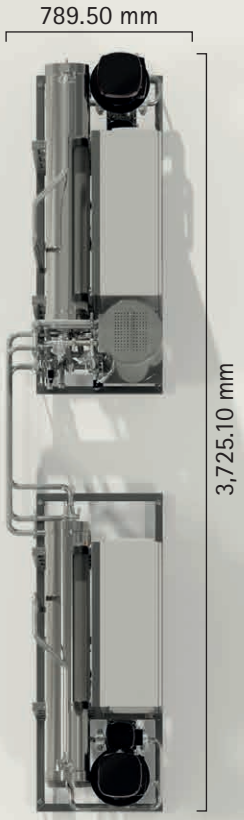
H_2O – water – is a vital component and common denominator for all life on Earth. Water covers about 70% of the Earth's surface, and nearly the same percentage can be found within each of us. Without water, healthy life would be unimaginable.

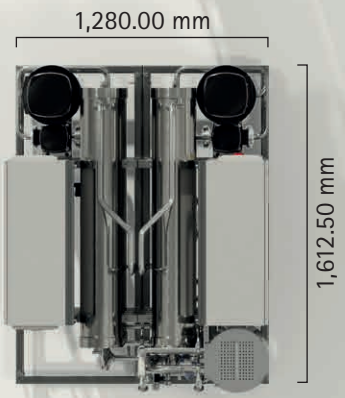
The importance of water quality in dialysis

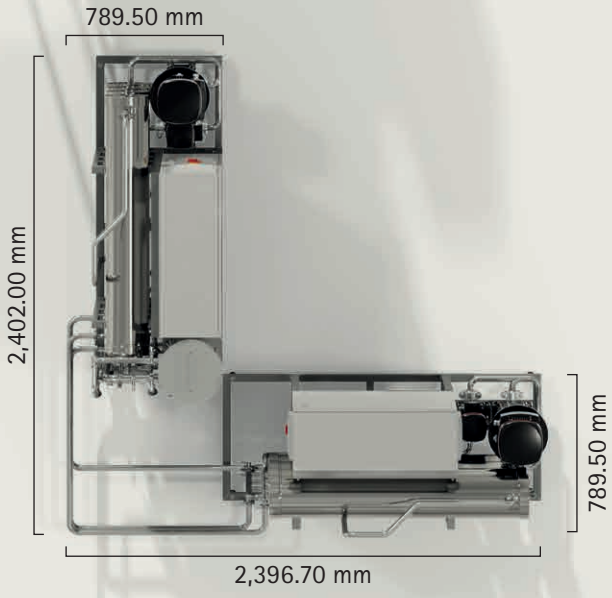
Patients receiving hemodialysis treatment are exposed to large quantities of dialysis fluid, which is composed of more than 99% water. This fluid is separated from the patient's blood solely by a very thin, semipermeable dialyzer membrane.[1]

The quality of water and associated dialysis solutions are critical components for the patients' outcomes: contaminated water can introduce harmful substances into the bloodstream, potentially causing a range of short- and long-term health issues from infections to organ damage.[2,3,4,5]

A variety of clinical studies have revealed that contaminants in dialysis water are relevant contributors to both acute and chronic morbidity, which may lead to serious, sometimes life-threatening complications in hemodialysis patients. Therefore, ensuring a high quality of water is essential in modern dialysis practices.[2,3,4,5]







AQUAboss® nX: Tailored to your needs

AQUAboss nX double stage can be set up in a linear arrangement, as a cube, or as an L-shape.

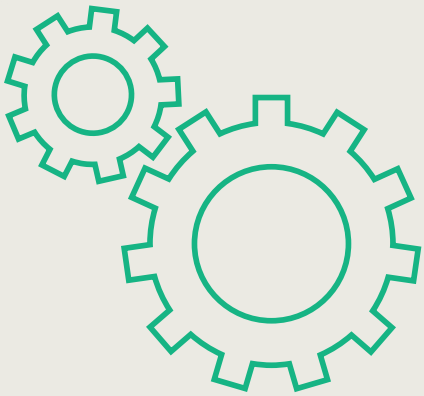
Committed to efficiency

Reducing water and energy consumption

AQUAboss nX helps you to use less of resources such as water and electricity thanks to intelligent and innovative technology.

Up to 95% Water recovery rate

Up to 95% of the input water is converted to permeate after removing impurities through a reverse osmosis system.[6]
The higher the recovery rate, the lower the volume of water that is discarded during the process.



Impulse washing is now standard

This method improves the cleanliness and long-lasting durability of membrane modules.

Up to

65%

Energy savings

Lower consumption, more sustainability

AQUAboss nX is a demand-driven reverse osmosis system featuring frequency-controlled pumps designed specifically for dialysis water production.

Thanks to multiple pending patents*, AQUAboss nX delivers a guaranteed minimum of 25% and up to 65% energy savings compared to AQUAboss, along with reduced water consumption.[6]

Eco heat-on-demand disinfection

Smart heat disinfection

The system offers the option of fully automated heat disinfection via Hot Rinse Smart, providing a complete heat-on-demand disinfection for efficiency and convenience.

By calculating the A0 value, AQUAboss nX helps to ensure reliable success control of the disinfection procedure. Once the A0 value is reached, no additional hot water is needed for disinfection, reducing hot water consumption.

* Patent application pending at least in Germany

AQUAboss® nX

The more reliable and user-friendly system designed to enhance performance, usability, and sustainability.*

Improved usability

AQUAboss nX helps to reduce work volumes and simplifies usability through more automated functions and a 15" touchscreen.

Efficient heat disinfection

Efficient heat-on-demand disinfection is a patent-pending technology*. During heat disinfection, AQUAboss nX operates in combination with a hot cleaning unit and uses the A0 value (a measure of sterilization efficacy) and a combination of temperature and time. You set the target, AQUAboss nX reaches it the efficient way.

Enhanced flow chart

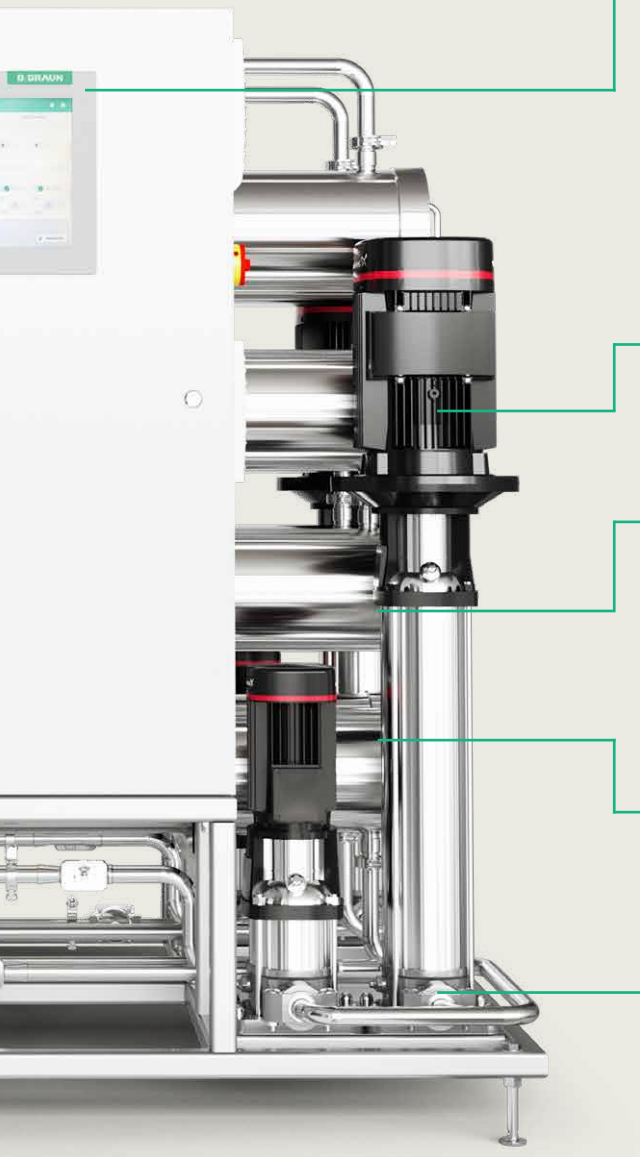
Increased durability and robustness of the system due to pressure and volume flow limitation.**

Multiple design setups

AQUAboss nX adapts flexibly to the conditions of your water room.

Technical data:

	AQUAboss nX I (HT)						
Permeate flow (l/h)	1000	1500	2000	2500	3000	3500	4000
Number of stations***	28/20	42/30	56/40	70/50	84/60	98/70	112/80
Number of membranes	1	2	2	3	3	4	4
Width (mm)	1612.5						
Depth (mm)	640						
Height (mm)	1723						
Weight (kg)	335	380	383	428	428	483	506



Component test and automatic emergency operation

The component test of AQUAboss nX thoroughly checks each solenoid valve on demand or after every restart, helps to ensure that your system operates flawlessly. In the unlikely event of an error, AQUAboss nX can easily detect and diagnose the issue.

Automatic emergency operation in multistage membrane filtration systems is a patent-pending technology* that can relieve nurses of the burden of taking care of the permeate supply in the event of an alarm. The system automatically switches to emergency mode and helps to ensure a fully automated permeate supply for the treatment of your patients.

Frequency-controlled pumps

AQUAboss nX is a demand-driven reverse osmosis system that is designed to improve energy and water management, enhancing system longevity.**

Horizontal membranes

Horizontally placed membranes help to ensure a shorter service time. Technicians can easily open the pressure pipes and remove the membrane for replacement without the need to dismantle the membrane housing first. In addition, the maintenance interval for AQUAboss nX has been extended to 24 months.

Eased upgradeability

AQUAboss nX is designed for quick and hassle-free upgrades. With a modular structure, its capacity can be easily adjusted.

Impulse washing

Impulse washing becomes standard. By generating regular impulses, AQUAboss nX helps to keep the membrane free of particles and thus helps to improve the cleanliness and longevity of the membrane modules.

	AQUAboss nX II (HT)							
Permeate flow (l/h)	500	1000	1500	2000	2500	3000	3500	4000
Number of stations***	14/10	28/20	42/30	56/40	70/50	84/60	98/70	112/80
Number of membranes	2	2	4	4	6	6	8	8
Width (mm)	1612.5							
Depth (mm)	1280							
Height (mm)	1723							
Weight (kg)	579	579	669	672	765	765	874	898

* Patent application pending at least in Germany
** Compared to legacy device
*** Compared to legacy device at a continuous HD flow of 500/800 ml/min. Some dialysis machines require higher flow rates during flushing.

[1] Murdeshwar HN, Anjum F. Hemodialysis. 2023 Apr 27. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan -. PMID: 33085443.
[2] Calderaro RV, Heller L. Outbreak of hemolytic reactions associated with chlorine and chloramine residuals in hemodialysis water. Rev Saude Publica 35:481–486, 2001.
[3] Yamagami S, Adachi T, Sugimura T, Wada S, Kishimoto T, Maekawa M, Yoshimura R, Niwa M, Terano Y, Shaldon S. Detection of endotoxin antibody in long-term dialysis patients. Int J Artif Organs 13:205–210, 1990.
[4] Usuda K, Kono K, Yoshida Y. The effect of hemodialysis upon serum levels of fluoride. Nephron. 1997;75(2):175-8. doi: 10.1159/000189528. PMID: 9041538.
[5] Cannata-Andía JB, Fernández-Martín JL. The clinical impact of aluminium overload in renal failure. Nephrol Dial Transplant. 2002;17 Suppl 2:9-12. doi: 10.1093/ndt/17.suppl_2.9. PMID: 11904351.
[6] Data on file: Internal Test Report.

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