MemCor™

MemCor™ MBR system

Designed for operators.

Efficient, Effective, Established.

MemCor™ MBR system

The DuPont™ MemCor™ MBR system employs an advanced wastewater treatment process that combines activated sludge treatment with MemPulse™ MBR membrane filtration resulting in superior effluent quality at a reduced life-cycle cost. The system provides a stable membrane environment, operational flexibility, and reduced maintenance requirements, which can result in significant cost savings.

Benefits of upgrading to a MemCor™ MBR system:

- High-quality effluent
- Drastically reduces system footprint
- Fewer process steps
- Eliminates sludge settleability issues
- Modular expansion capacity
- Low energy

The MemCor™ MBR system provides:

- Flexible modular rack design – fits in most tank arrangements
- Pulsed, plug flow aeration for channeling & solids build up prevention
- Dedicated, focused air scour delivered to each membrane module
- Pulsed air scour with continuous flow to each tank
- Market leading low energy consumption. Reduces aeration by up to 50% or <0.08 kWh/m^3.
- Reduction of operation & maintenance costs with no moving parts in the aeration process
- Easy to handle modules and racks

Benefits

Why MemCor™ MBR systems?

Solutions for your installation

The MemCor™ MBR system combines a compact modular rack design and the MemPulse™ B40N module to provide greater filtration performance with reduced aeration flow.

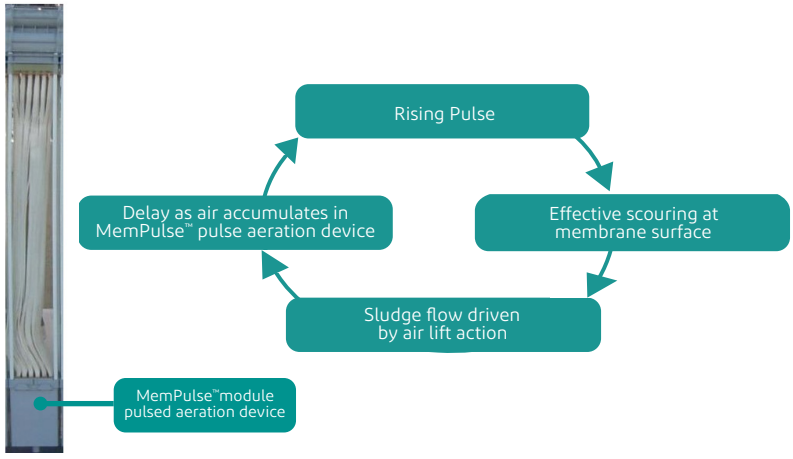
The MemCor™ MBR system has a proven track record of achieving high-quality effluent quality in a reduced footprint and at a low life-cycle cost than many other MBR systems in the most challenging environments. The system is successfully operating in global applications ranging from municipal wastewater plants to difficult industrial applications such as oil refineries.

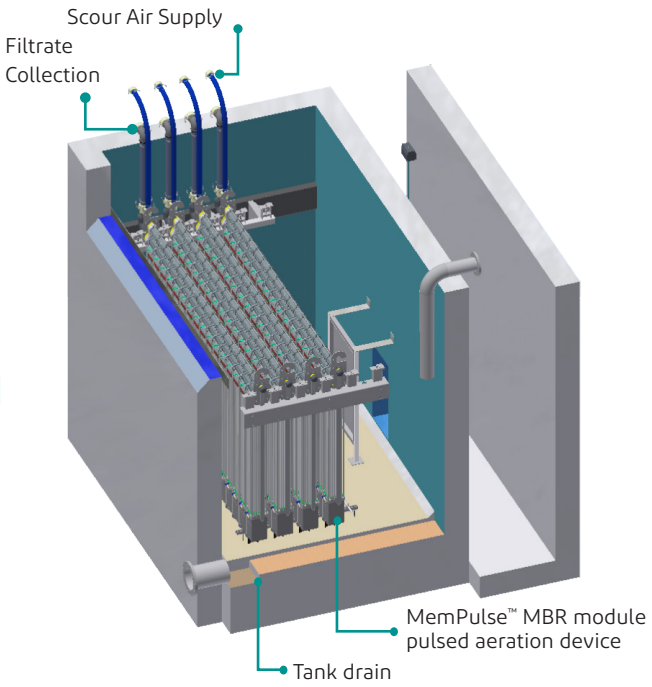
MemPulse™ MBR modules with N membrane fibers

Product Name	Key Features
MemPulse™ B50N Module	The MemPulse™ B50N MBR module is the next step in MemPulse™ MBR with high-quality effluent & low energy. The B50N module provides 25% more flow per module and additional aeration energy savings with the same modular footprint.
MemPulse™ B40N Module	The MemPulse™ B40N MBR modules are a unique slack adjust free module system with a compact modular rack system. High quality re-use ready with integrity testing capable membranes, receive high-quality effluent with this MBR system.
MemPulse™ B15N Module	All the benefits of MBR module in a smaller package the B15 N is the ideal module for pilot trials or to apply for low height applications such as replacement of flat sheet modules.

MemCor™ MBR system in operation

The graphic below depicts air scouring efficiencies achieved by introducing a plug flow of air at the base of each module.





Delivering reliability & operational simplicity

The MemCor™ MBR filtration system is designed to increase reliability, decrease operating and maintenance costs and dramatically reduce energy usage. A continuous air flow is evenly distributed to each pulsed aeration device located directly at the base of each MemPulse™ MBR module. The system introduces air at the base of the membrane module in the form of large bubbles or slugs that increase in size as they move up the membrane modules. The size and the focused nature of the large slugs of air prevent trash and solids build up by pushing debris away from the membrane fibre surfaces.

At the same time the large aeration pulse creates an airlift flow that draws mixed liquor into the bottom of each membrane module through an airlift tube. The air bubbles then blend with the mixed liquor and rise between the individual membrane fibers. This creates a unique crossflow pattern, providing an even distribution of mixed liquor and a reduction of solids concentration on the membrane surface.

The cross flow combined with focused, slug aeration prevents channeling and solids accumulation on the membrane surface resulting in greater system efficiency and reduced air scour requirement.

In addition; the up-flow pattern in the tank creates a flotation effect that moves grease, scum and other floatable constituents to the surface for removal.

Proven and reliable

MemCor™ systems have been a leader in the membrane industry for over 40 years and has had a dedicated MBR team since 1995. The membranes used in the MemCor™ MBR system have been proven in the field since 2007.

The efficiencies achieved with the MemCor™ MBR filtration system coupled with a proven installation base of hundreds of plants and the experience of the DuPont Water Solutions team make this technology ideally suited for a wide range of municipal and industrial applications.

A legacy of technical leadership

The MemCor™ MBR systems modular rack allows flexibility in plant design, as well as compatibility with nearly any existing tank or plant footprint.

MemCor™ brand is industry leading with a series of "first to market" advancements that have increased the productivity of MBR systems.

- **Separate Membrane Tank:** Allows easy cleaning of membranes and independent optimization of MOS and bio process.
- **Improved MLSS distribution:** The introduction of the MemJet™ system greatly improved system performance with superior hydraulics within the membrane environment.
- **Removal of Air Release Tanks:** First to use priming educators, now the industry standard.
- **Replaced cyclic with Plug Flow Aeration:** The technology used in the MemPulse™ system was introduced with further enhancements that helped reduce energy consumption by up to half of traditional systems with no moving parts.

Compared to alternative MBR membrane solutions, MemPulse™ MBR modules provides optimum filtrate quality, with lower energy consumption and flexible rack and tank configurations that enables our customers to implement leading MBR solutions.

MemCor™ MBR system – Designed for What Matters

Aeration Like No Other

- The unique efficiency of two phase plug flow pulsed aeration for MemPulse™ MBR module cleaning.
- No need for daily cyclic peak operation.
- Doesn't waste energy – Focused bubbles
- Low chemical use

Keep Membranes in Tank – Where they Belong

- Keep your team productive – No need to adjust slack
- Fully automated membrane cleaning – No need for manual cleaning
- Minimise operator exposure to bacteria and pathogens

Filtration Strong Durability

- Strength where you need it with 100% UF membrane
- Can withstand forces in all directions
- Self-healing with greater membrane elongation membranes
- Reliable effluent quality with proven pathogen rejection for >10 years
- Helps enable re-use – Tier 3 capable

Adaptable and Flexible

- State-of-the-art modular and configurable rack design
- Can fit into any tank geometry
- Can be retrofit into existing membrane system cassette and rack layouts
- Compact MBR footprint, up to 30% smaller

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Form No. 45-D03567-en CDP, Rev. 3
September 2026

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