

EFFECTIVE SOLUTION FOR REUSE OF WASTEWATER

**Membrane
Bioreactor
MBR**



**Hidro
Water**

GLOBAL WATER TREATMENT EQUIPMENT PROVIDER



OVERVIEW

Membrane process in activated sludge

OUR EXPERIENCE



The latest developments of a new generation of membranes MEMPURE more productive and less costly with advances in developing of membrane bioreactors by **HIDRO-WATER** has enabled us to implement the **MBR** in a **wide range of applications for the treatment of wastewater.**

Our valuable experience gained in recent years is an **added value for our customers** in the design of new plants as well as modifying existing ones to improve the capacity and meet increasing performance demands.



ADVANTAGES OF MBR OVER CONVENTIONAL ACTIVATED SLUDGE SYSTEM

MBR technology improves the efficiency of wastewater treatment:

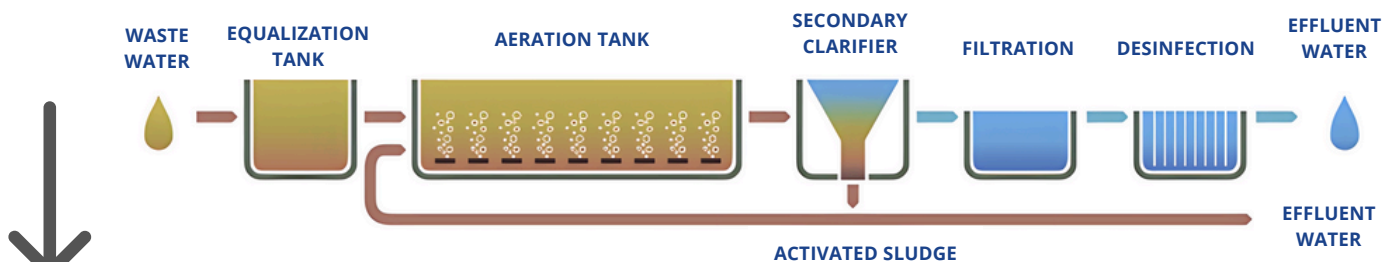
By the **separation of activated sludge** through membrane, ensures a higher quality of treated water, free of suspended solids.

Thanks to the membrane retention, allows to obtain **high concentrations of sludge**, thus obtaining higher purification yields.

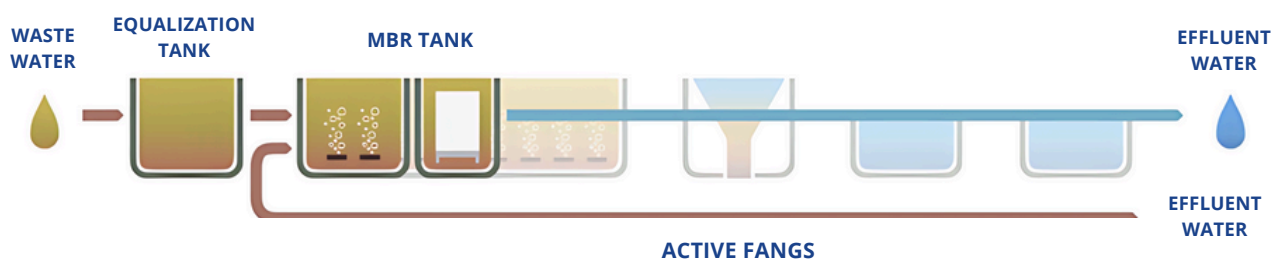
Due to the **uniform distribution of pores** in the membrane, a high quality of permeate is obtained as well as high stability to high pollutant discharges.



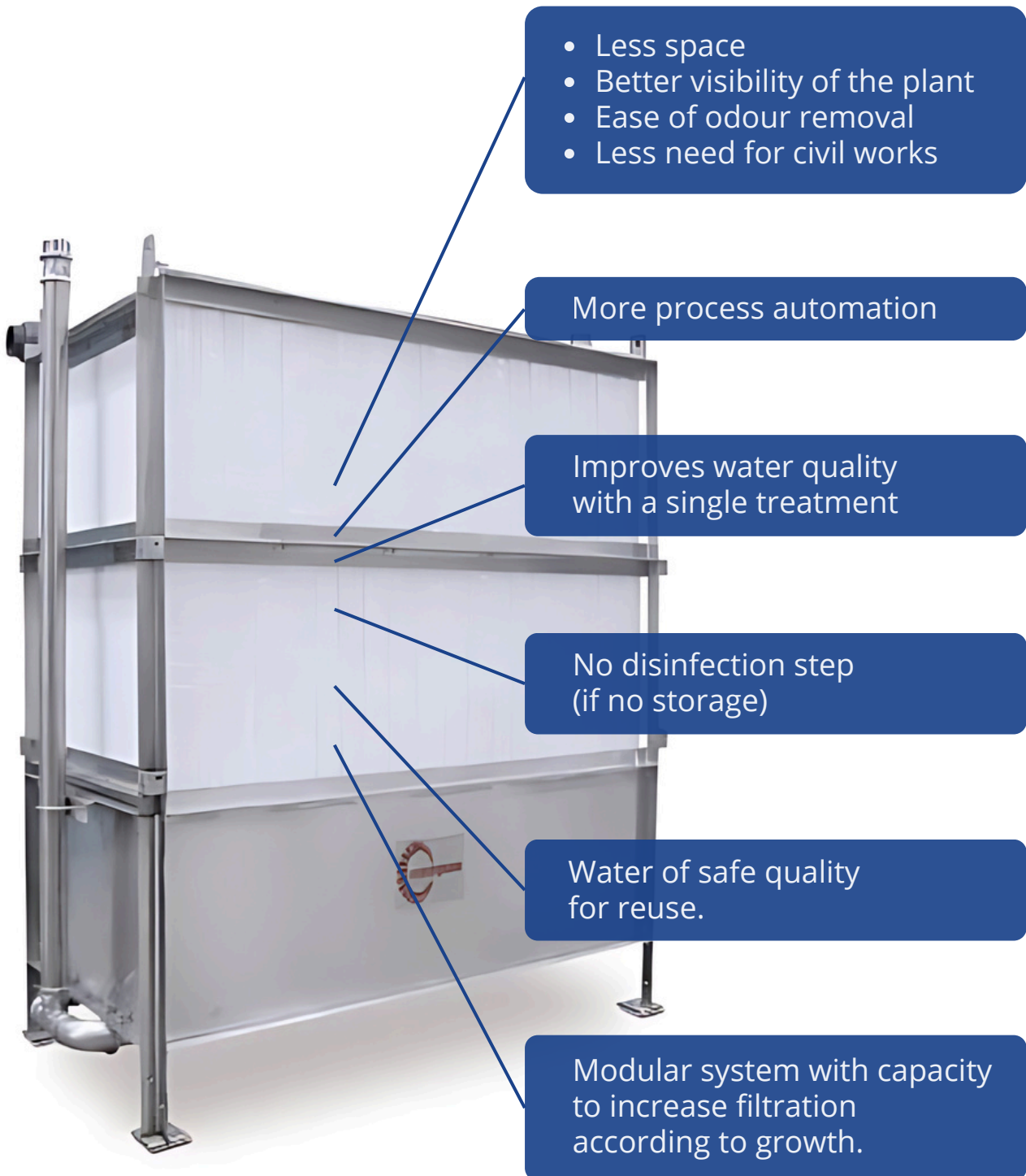
ACTIVATED SLUDGE



MBR

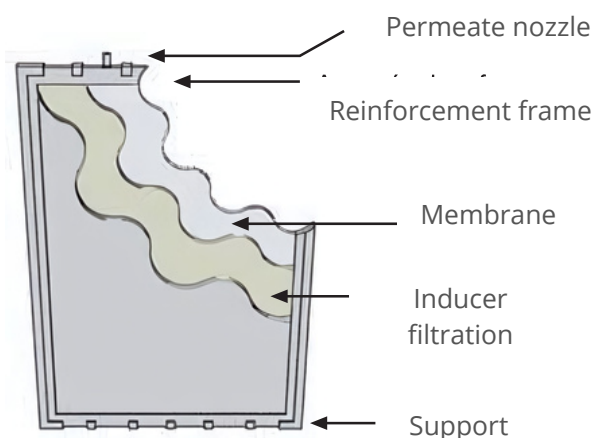


ADVANTAGES OF MBR OVER CONVENTIONAL ACTIVATED SLUDGE SYSTEM



FLAT MEMBRANE CARTRIDGES

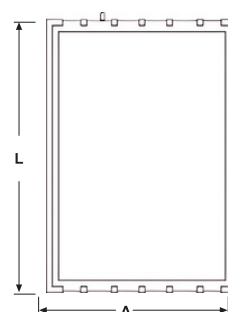
Simple replacement of the membrane, facilitating maintenance and therefore **low cost**.



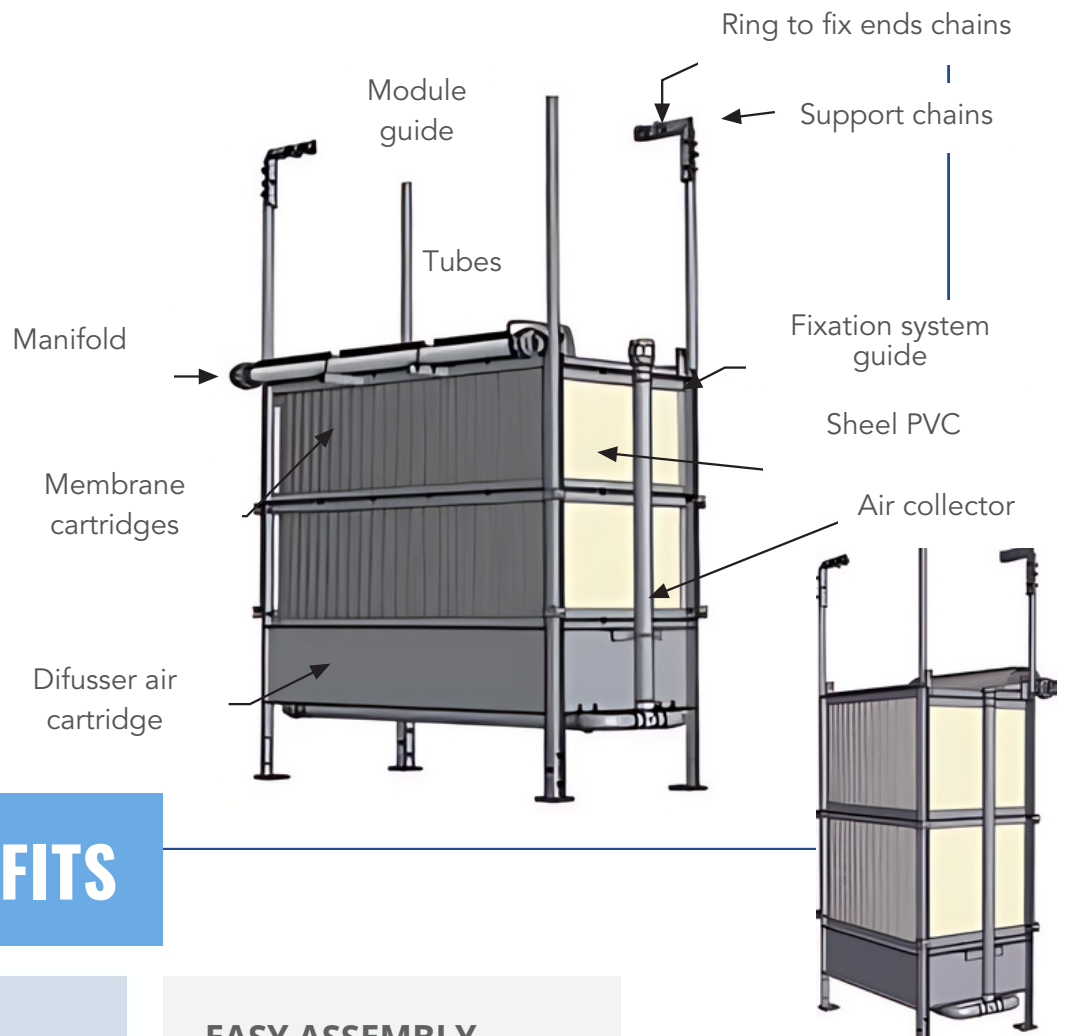
Wide range of membrane models, being able **special design models on request**.

Configuration	Ø Nominal Pore	Membrane Material	Support Material
Flat	0,3 µm	PVDF	ABS

	TYPE-2	TYPE-3	TYPE-5B	TYPE-6B
L (mm)	500	930	1180	1600
A (mm)	350	610	610	610
Thickness (mm)	12.3	12.3	16	16
Effective surface (m2)	0.278	/	1.29	1.76



MEMBRANE MODULE CASSETTE MBR



KEY BENEFITS

SIMPLE CHEMICAL CLEANING

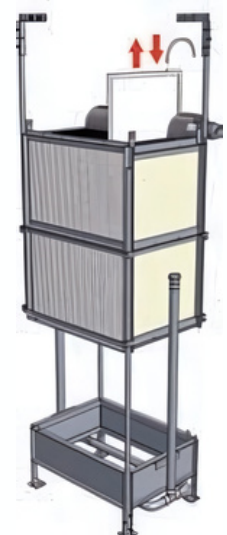
Chemical cleaning of the membrane is made simple in-situ, without need of removing the membranes of the module or move the cassette reactor

EASY ASSEMBLY SYSTEM

Using guides and chain system ensures easy installation inside the reactor safe.

EASY INSPECTION AND MAINTENANCE

Each membrane element is easily removable from the module for inspection or replacement.



CASSETTE MBR SPECIFICATIONS

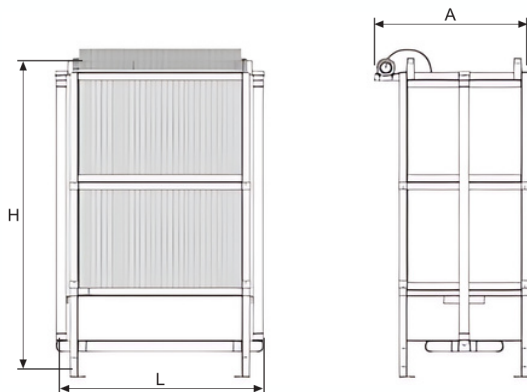


Parameter	Operation range
Temperature range	5 - 45°
pH Liquid	between 2-11
Solids range	8.000 - 12.000 mg/L
Trans-membrane pressure	Lower 0,2 bar
Backwash pressure	Not higher than 0,1 bar
Chemical cleaning agents	Sodium hypochlorite
	Caustic soda
	Oxalic acid
	Citric acid
Airation per m2 membrane	12 L/m

Cassette	MBR-30	MBR-50	MBR-70	MBR-100	MBR-120	MBR-200	MBR-350	MBR-400
Effective area	30	50	70	100	120	200	352	400
N° membranes	23	33	54	77	93	154	200	400
Membrane model	Type-5B	Type-5B	Type-5B	Type-5B	Type-5B	Type-5B	Type-5B	Type-5B
Air connection	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Permeate connection (mm)	DN 40	DN 40	DN 40	DN 50	DN 50	DN 65	DN 65	DN 80
Estimated air flor for membrane cleaning (m3/h)	21.6	36	50.4	72	86	144	252	288
Average production (m3/day)	12	20	28	40	48	80	140	160

*Production guidance for urban wastewater.

Note: Specifications subject to change due to technical modifications. Note: Other models consult



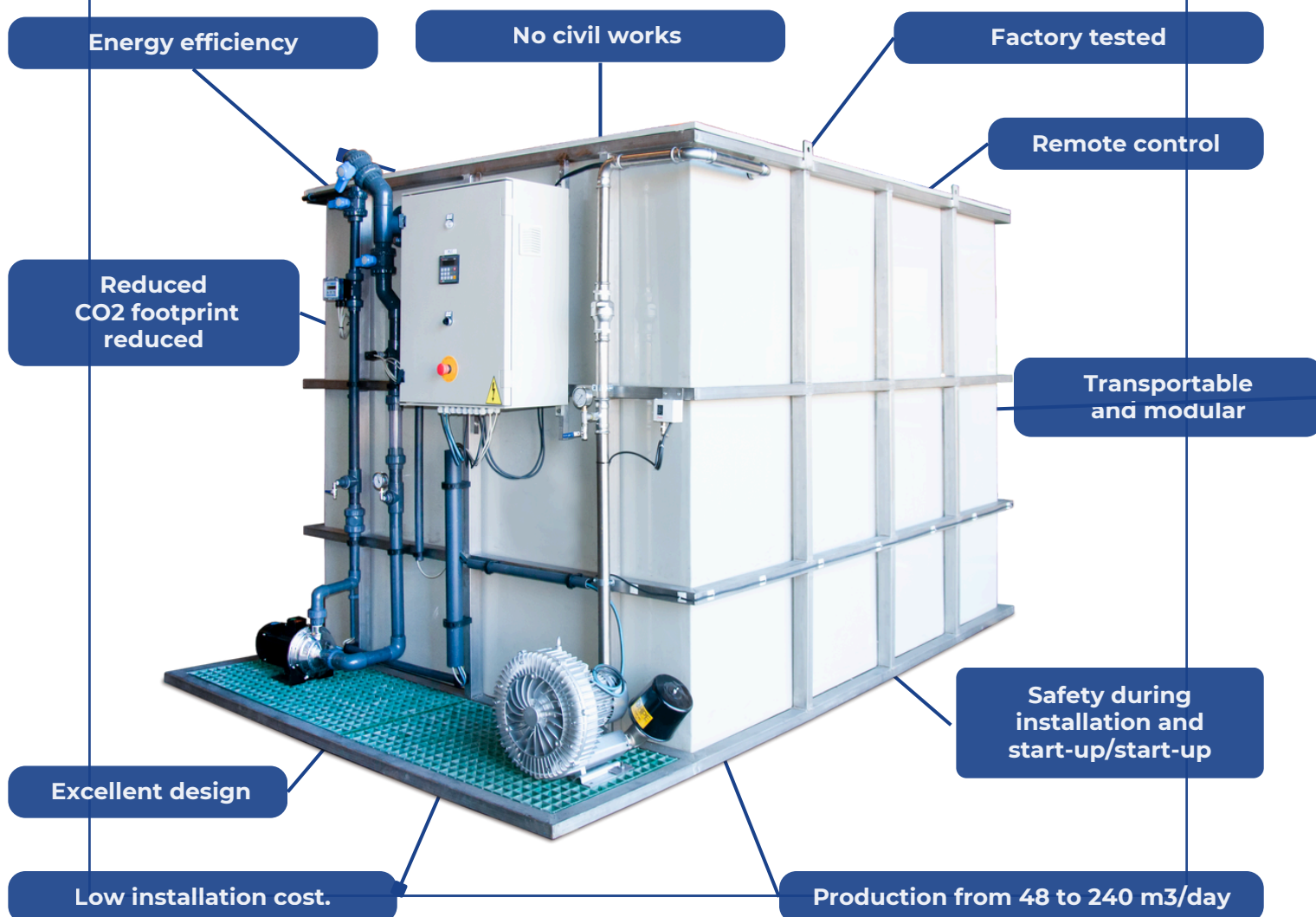
Model	A (mm)	L (mm)	H (mm)
MBR-30	835	653	1570
MBR-50	835	895	1570
MBR-70	835	1140	1570
MBR-100	835	1510	1570
MBR-120	835	1770	1570
MBR-200	835	2755	1570
MBR-350	835	3500	2110
MBR-400	-	-	-

*Figure corresponding to model MBR-50
Technical variations can be made without prior notice.

MEMBRANE REACTOR MBR-K

ADVANTATGES OF MBR-K

- **Compact plant** fully assembled transportable to newly built sewage treatment plants and/or modifying and improving existing ones.
- Expandability for being a **modular** system.
- Increasing the **concentration of biomass** optimizing the capacity of the plant.
- **Simple** operation.
- **Elimination of the setting process** as well as conventional tertiary treatment.
- **Process reliability.**
- **High quality of the effluent** through an effective solid / liquid separation, obtaining an effluent free of viruses and bacteria.



MEMBRANE REACTOR MBR-K

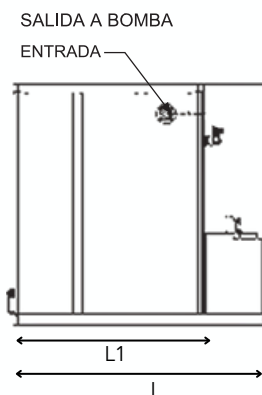
TECHNICAL FEATURES OF MBR-K

Parameter	MBR-K1	MBR-K2	MBR-K3	MBR-K4	MBR-K5
N° Cassettes	1	2	3	4	5
Filtration Surface (m2)	120	240	360	480	600
Average production (m3/day)	48	96	144	192	240
Installed Power (Kw)	1.80	2.65	3.60	6.50	9.30
Air connection Ø	DN50	DN65	DN80	DN80	DN100
Permeate connection Ø (mm)	DN50	DN50	DN50	DN80	86

*Production guidance for urban wastewater



Model	L1 (mm)	L (mm)
MBR-K1	1700	2300
MBR-K2	2650	3250
MBR-K3	3600	4200
MBR-K4	4550	5150
MBR-K5	5500	6100





**ANY
QUESTIONS?**

ASK US

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