PRODUCT DATA SHEET

Inn Mobile Wastewater Treatment (RBC-SBR-MBR)

microsoll
Water Technologies Solutions

OVERVIEW

Domestic wastewaters are treated regarding to biological treatment principles in mobile treatment units like;

-RBC (Rotating Biological Contactor)
-SBR (Sequence Batch Reactor)
-MBR (Membrane Bioreactor)

which meets local effluent wastewater treatment standards.

Treated water can be used for irrigational purposes. For other purposes advanced treatment units like UV, Ultrafiltration (UF) etc. can be added to mobile units.

Containerized WWTP

ADDITIONAL FLOW RATES AND CUSTOMISED SOLUTIONS ARE AVAILABLE. JUST ASK US.

DESIGN PARAMETERS

Design Parameters	Units	RBC	SBR	MBR
Flow Rate	m^3/d	0-150	0-150	0-150
COD	mg/L	500-750	500-750	500-750
BOD_5	mg/L	200-400	200-400	200-400
TSS	mg/L	300-1000	300-1000	300-1000
pH	-	6-9	6-9	6-9

ROTATIONAL BIOLOGICAL CONTACTOR(RBC)

Waterland's Rotating Biological Contactor (RBC) plants are designed to treat wastewater, RBCs can achieve a high removal of biodegradable organic pollutants from domestic black- or greywater. A unique feature allows the disks connected to a shaft to rotate at a very low speed by means of a motor which is equipped with a reduction gear. The rotating disks are submerged in the wastewater as 40%. The disks wihch first submerge in the wastewater are then contacted with air. As a result of this repetitive process, organisms accumulate on the disk and constitute a biofilm. These organisms take the necessary oxygen from air duuring the rotation of disks, consume pollutants existing in wastewater and convert them to carbon dioxide. Regarding to the beneficial use; Sand filter,Ultrafiltration, Activated Carbon Filter, Ultraviolet Disinfection units can be added

RBC system

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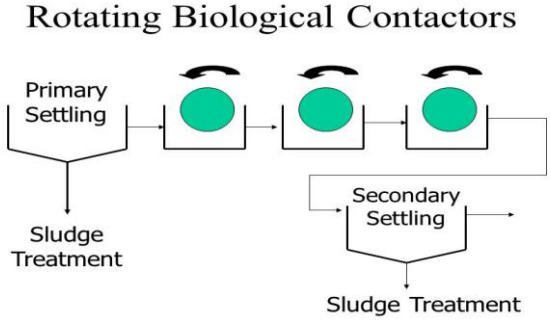
STANDARD SPECIFICATIONS

Equivalent Population(Person)	Treatment Capacity(m^3/d)	Energy Consumption	Width(cm)	Length(cm)	Height(cm)	Weight(kg)
250	50	0,37kW	190	217	246	850
500	100	0,74kW	190	434	246	1700
750	150	1,11kW	190	651	246	2550
1000	200	1,48kW	190	868	246	3400
1250	250	1,85kW	190	1085	246	4250
1500	300	2,22kW	190	1302	246	5100



- Low energy consumption
- Low maintenance cost
- Material:Composite(GRP)
- High water quality
- High process stability, resistant to shock hydraulic or organic loading
- Low space requirement
- Low sludge production

SEQUENCE BATCH REACTOR(SBR)

As opposed to the conventional activated sludge process in which wastewater treatment takes place in various, linearly arranged tanks, the SBR process (Sequencing Batch Reactor)occurs sequentially in the same tank. The resulting typical process step sequence is as follows:

- Filling and mixing or aeration
- Aeration
- Sedimentation
- Withdrawal of the treated water

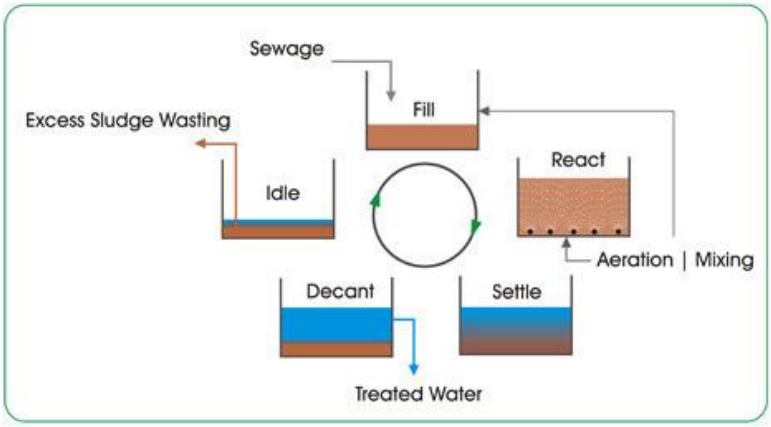
Due to the batch charging of the tanks, continuous wastewater treatment demands that an SBR plant consists of various SBRs and/or of an equalisation tank.

SBR System

STANDARD SPECIFICATIONS

Equivalent Population(Person)	Treatment Capacity(m^3/d)	Equalisation Tank	Aeration Tank	Feed Pump	Discharge Pump
250	50	W:2,2m H:2m L:3,9m	W: 2,2m H:2m L:5m	17 m^3/d 8mwc	17 m^3/d 6mwc
500	100	W:2,2m H:2,8m L:5,7m	W: 2,2m H:2,8m L:7,9m	34 m^3/d 8mwc	34 m^3/d 8mwc
750	150	W:2,2m H:3m L:7,6m	W:2,2m H:3m L:9,9m	150m^3/d 8mwc	50m^3/d 8mwc

SBR Operating Principle



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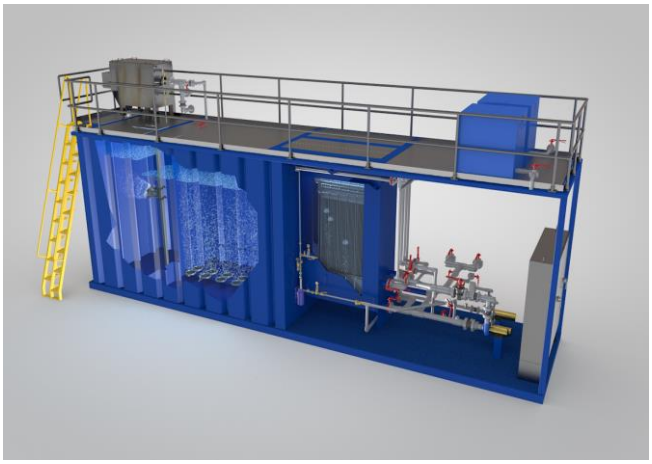
MEMBRANE BIOREACTOR(MBR)

Microsoll Inn Membrane Bioreactor (MBR) waste water treatment plants are designed to treat domestic strength sewage, to achieve high quality treated effluent suitable for reuse in non-potable (risk category high) applications.

The standard treatment process involves influent screening, biological degradation (aerobic/anaerobic treatment), Ultrafiltration (UF), with automated chemical cleaning system, and effluent sterilization (chlorination). Additional treatment steps for nutrient removal (T-N & T-P), secondary effluent sterilization (UV), and sludge de-watering systems may be added as required to suit influent quality and/or treated effluent quality requirements. Inn MBR plants are containerised systems for easy deployment to remote locations.



MBR System

STANDARD SPECIFICATIONS

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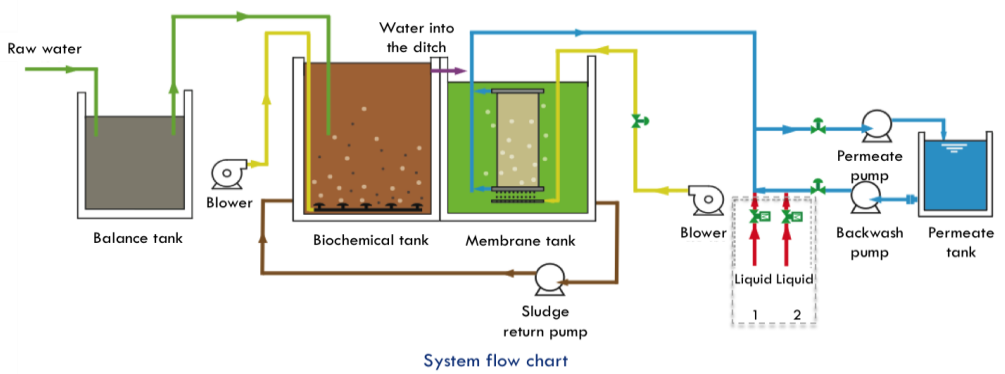
Parameter	Units	InnMBR-50	InnMBR-100	InnMBR-150
Treatment Capacity	m^3/day	50	100	150
Sludge Production(WAS)	m^3/day	1,5	3	4,5
WAS MLSS	mg/L	8000-10000		
Dewatered Sludge(optional)	% solids	15-20%		
Ambient Design Temperature	°C	5-45		
Power Supply	-	AC 380-450 V, 3 Phase 50/60Hz		
Power Consumption	kW	15	30	40
No. Containers	-	1 x 20″	1 x 40″	2 x 40″



System flow chart