

Projection Tool for Submerged PVDF Flat-Sheet Membrane Module “Toray MBR”

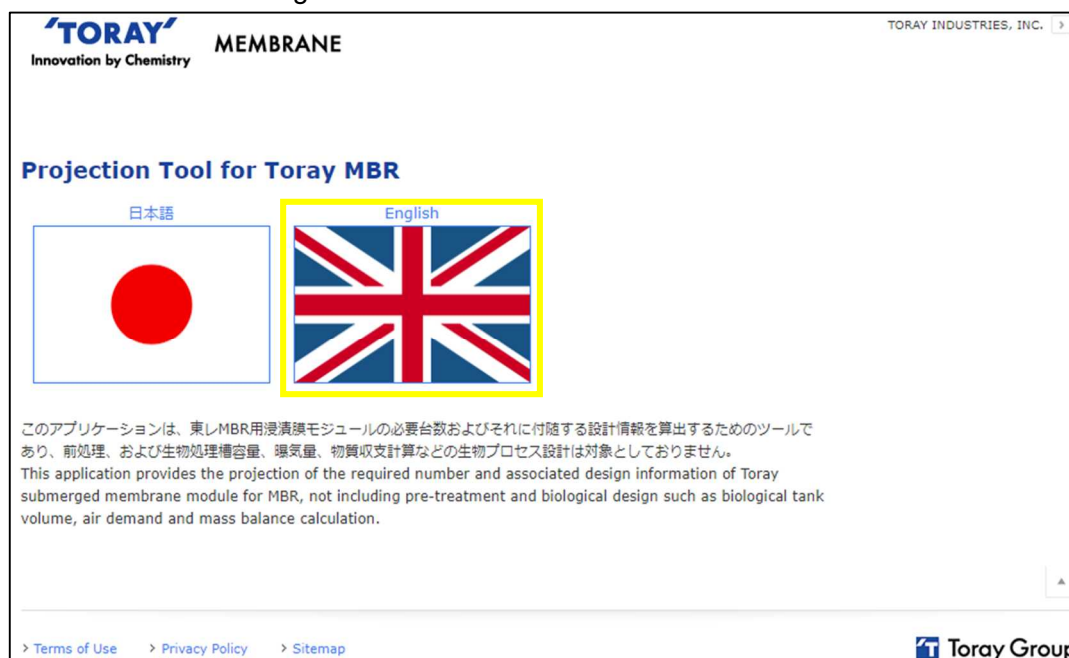
User Manual

URL: https://tdsuf.toraywater.net/cgi-bin/mbr_userinfo.pl

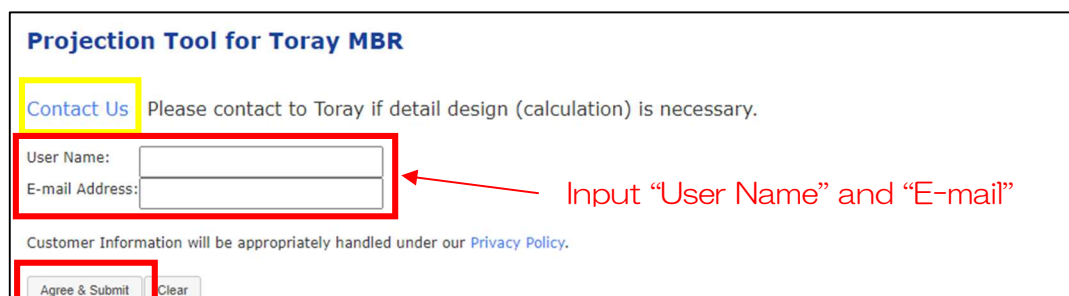


This application provides the projection of the required number and associated design information of Toray submerged membrane module for MBR, not including pre-treatment and biological design such as biological tank volume, air demand and mass balance calculation.

1. Please access above URL.
2. Please choose English.



3. Please Input “User Name” and “E-mail Address”. And then, click “Agree & Submit”. If you have any question, please click “Contact Us”.



4. Please input "Project Name" and "Sludge minimum Temperature"
And select "Water Category".
Unit can be changed by clicking on "Change Unit" button.

Projection Tool for Toray MBR

[Contact Us](#) Please contact to Toray if detail design (calculation) is necessary.

User Name:
E-mail Address:

Calculation Download Upload **Change Unit**

Project

Project Name	<input type="text"/>
Water Category	Municipal / Domestic Wastewater
Sludge min. Temp. (5-40)	deg C <input type="text"/>

Water category
 -Municipal / Domestic Wastewater
 -Industrial A; Easy Biodegradable (e.g. Food Processing, Dairy)
 -Industrial B; Hard Biodegradable (e.g. Chemical, Petrochemical)

5. Please input about Flow Rate Info.
- Attention 1) "Average (m³/day)" is calculated automatically.
- Attention 2) "Peak Hourly", "Peak Daily", "Peak Weekly", "Peak Monthly" can be considered only for "Municipal / Domestic Wastewater".
- * "Average": average influent flow in one day without storm water
 - * "Peak Hourly": several hourly peaks are allowed within one day, as long as the average flow of that period is smaller than or equal to the daily peak
 - * "Peak Daily": several daily peaks are allowed within one week as long as the average flow of that period is smaller than or equal to the weekly peak
 - * "Peak Weekly": several weekly peaks are allowed during 30 days, as long as the average flow of that period is smaller than or equal to the monthly peak
 - * "Peak Monthly": several monthly peaks are allowed during one year, as long as the average flow of that period is smaller than or equal to the yearly average

Flow Rate Info

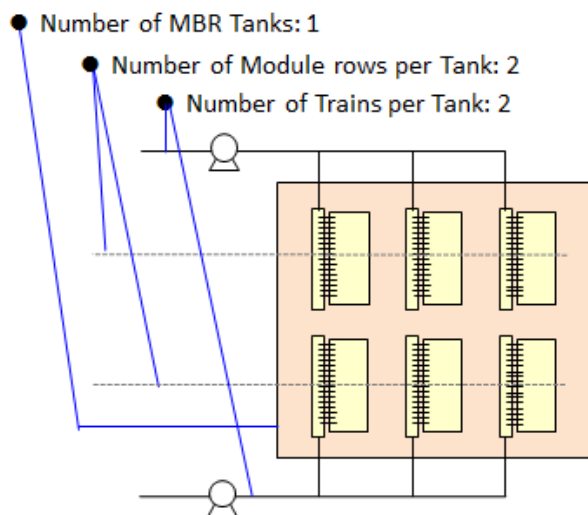
Average	m ³ /hr	<input type="text"/>
Average (m ³ /day)	m ³ /day	<input type="text" value="0"/>
Peak Hourly (<1 hr)	m ³ /hr	<input type="text"/>
Peak Daily (<24 hrs)	m ³ /hr	<input type="text"/>
Peak Weekly (<1 week)	m ³ /hr	<input type="text"/>
Peak Monthly (<30 days)	m ³ /hr	<input type="text"/>

6. Please select “Module Type” and input configuration info.
After input all items, please click “Calculation” button (“Calculation” button is also located in the upper region.).

Module Info			
Module Type		NHP210-300S ▼	
Membrane Area	m ²	210	
Number of Membrane Elements		300	
Module Length	mm	1460	
Module Width	mm	565	
Module Height	mm	2090	

Configuration Info			
Number of MBR tanks		1	
Number of Module Rows per Tank		1	
Number of Trains per Tank		1	
<input type="button" value="Calculation"/> <input type="button" value="Download"/> <input type="button" value="Upload"/> <input type="button" value="Change Unit"/>			

Reference of Configuration Info



7. Tank and Module Layout", "Design Flux", "Duration", "Air Flow Rate", and "MBR Tank Dimension" are calculated.

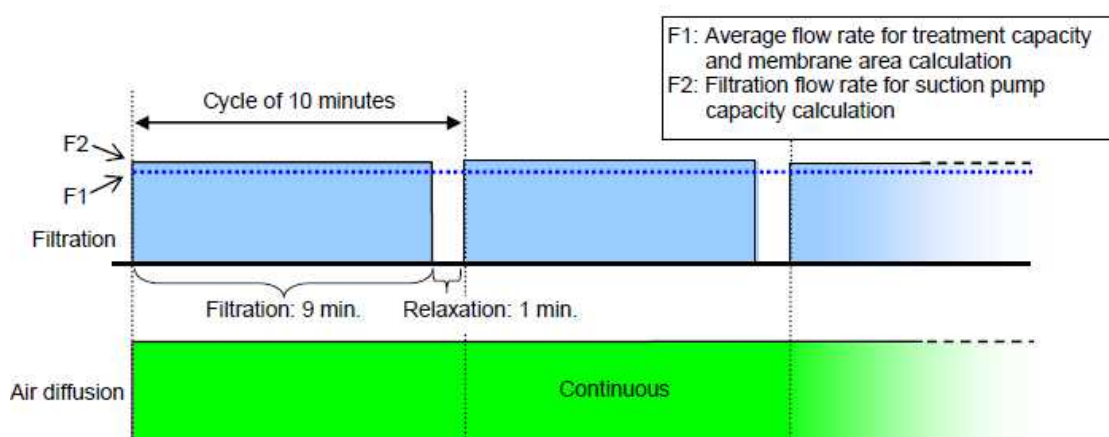
When the input condition or the unit is changed after the calculation, please click "Calculation" button again.

Tank and Module Layout			
Minimum Number of Modules per Row(1-30)			6
Total Number of Modules			6
Total Membrane Area	m ²		1260

Design Flux			
Average	L/m ² /hr		23.81
Peak hourly (<1 hr)	L/m ² /hr		27.78
Peak daily (<24 hrs)	L/m ² /hr		
Peak weekly (<1 week)	L/m ² /hr		
Peak monthly (<30 days)	L/m ² /hr		

Duration (Intermittent Filtration)			
Filtration Time	min		9
Relaxation Time	min		1
Cycle Time	min		10
Air Diffusion			Continuous

Reference of Duration (Intermittent Filtration)

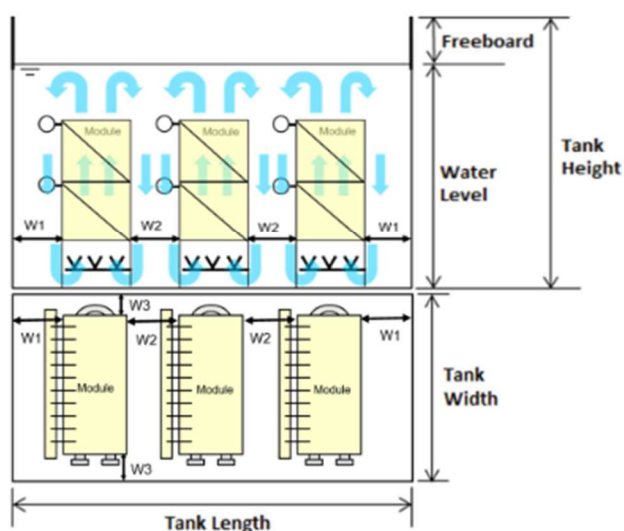


Air Flow Rate

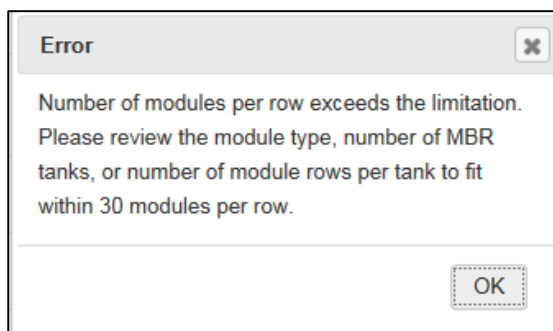
Recommended	Nm ³ /min	9.0
Max	Nm ³ /min	12.0
Please note that the air flow rate shown above is just for the membrane operation without considering of total air demand for biological treatment.		

MBR Tank Dimension

Tank Length	m	8.4
Tank Width	m	2.3
Water Level	m	2.6
Freeboard	m	0.5
Tank Height	m	3.1
MBR Tank Volume per Tank(Without Freeboard)	m ³	51
Total MBR Tank Volume	m ³	51
W1...Distance Module to Wall	m	0.68
W2...Distance Module to Module	m	0.73
W3... Distance Module to Wall	m	0.40
Biological treatment capacity is not considered in the tank dimension shown above. Toray is not responsible for the biological process.		



★If you get the error message, please recheck input items. For more detail, please contact us.



Tank and Module Layout

Minimum Number of Modules per Row(1-30)	<input type="text" value="33"/>
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1 - 30

In case of number of modules exceeds the limitation. Please review the module type, number of MBR tanks, or number of module rows and calculate again.

- The results can be saved by clicking "Download" button.
The "Download" buttons appear when you click "Calculation" button.
The saved results can be reused by clicking "Upload" button.

Calculation	Download	Upload	Change Unit
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Project

Configuration Info

Number of MBR tanks	<input type="text" value="1"/>
Number of Module Rows per Tank	<input type="text" value="1"/>
Number of Trains per Tank	<input type="text" value="1"/>

Calculation	Download	Upload	Change Unit
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Disclaimer :

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This projection software manual is subject to revision from time to time.
Unauthorized use or reproduction of this manual is forbidden.
If you should require any further information, please don't hesitate to contact us.

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https://www.toray.com/global/contact/contact_e090.html



<https://www.water.toray/products/mbr/>

