

Projection Tool for PVDF Hollow Fiber Membrane Module “Toray UF”

User Manual

URL: <https://tdsuf.toraywater.net/cgi-bin/userinfo.pl>



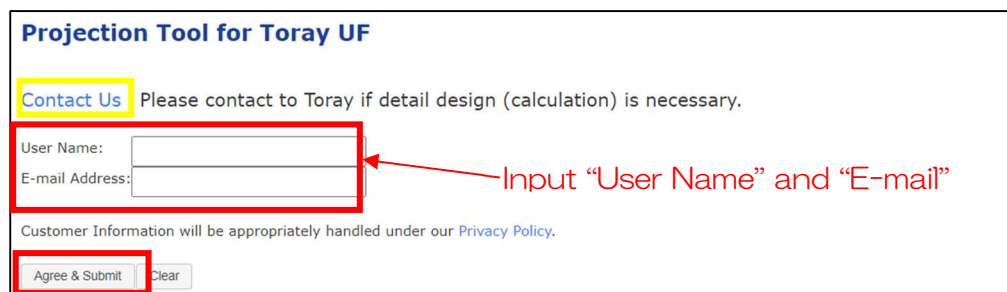
This application can calculate how many modules is required and how high flux can be applied in your project.

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



The screenshot shows the homepage of the 'Projection Tool for Toray UF'. At the top, there is the TORAY logo with the tagline 'Innovation by Chemistry' and the word 'MEMBRANE'. Below this, the title 'Projection Tool for Toray UF' is displayed. There are two language selection buttons: '日本語' (Japanese) with a red circle icon, and 'English' with the Union Jack flag icon. The 'English' button is highlighted with a yellow border. At the bottom, there are links for 'Terms of Use', 'Privacy Policy', and 'Sitemap', along with the 'Toray Group' logo and copyright information for 2024.

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



The screenshot shows the user registration form. At the top, there is a 'Contact Us' link and a message: 'Please contact to Toray if detail design (calculation) is necessary.' Below this, there are two input fields: 'User Name:' and 'E-mail Address:'. A red box highlights these two fields, and a red arrow points to them with the text 'Input “User Name” and “E-mail”'. Below the input fields, there is a line of text: 'Customer Information will be appropriately handled under our Privacy Policy.' At the bottom, there are two buttons: 'Agree & Submit' and 'Clear'. The 'Agree & Submit' button is highlighted with a red box.

4. Please input about Project (Project Name & Product Water).
Unit can be changed by clicking on “Change Unit” button.
And select “Water category”, “With or Without Coagulant” and “With or Without TMC”.

Projection Tool for Toray UF

[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		test
Product Water	m ³ /day	1000
Water Category		Sea Water
Coagulant		With Coagulant
Toray Maintenance Cleaning (TMC)		Without TMC

Water category (Sea, Waste, Surface)

With or Without Coagulant

With or Without TMC

5. Please input UF Feed Info (Feed water quality).

Attention 1) All of default values are "0".

Attention 2) Please Input value of each item correctly. UF design may be varied with each input value.

Attention 3) Gray cells (e.g. "Water Cleanness") are determined automatically after calculation.

UF Feed Info			
Feed nominal max. Turbidity (0-30)	NTU	<input type="text" value="0.000"/>	
Feed peak max. Turbidity (0-100)	NTU	<input type="text" value="0.000"/>	
Feed nominal max. TSS (0-30)	mg/L	<input type="text" value="0.000"/>	
Feed peak max. TSS (0-100)	mg/L	<input type="text" value="0.000"/>	
Feed max. Color	deg	<input type="text" value="0.000"/>	
Feed max. Fe	mg/L	<input type="text" value="0.000"/>	
Feed max. Mn (0-0.05)	mg/L	<input type="text" value="0.000"/>	
Feed max. TOC	mg/L	<input type="text" value="0.000"/>	
Feed max. COD	mg/L	<input type="text" value="0.000"/>	
Feed max. UV260 (0-0.075)	abs/cm	<input type="text" value="0.000"/>	
Feed max. NH ₄ ⁺	mg/L	<input type="text" value="0.000"/>	
Feed max. Oil & Grease (0-1)	mg/L	<input type="text" value="0.000"/>	
Feed Water min. Temp. (0-40)	deg C	<input type="text" value="0.00"/>	
Water Cleanness		<input type="text" value="Normal"/>	<div style="background-color: yellow; padding: 5px; border: 1px solid black;"> <p>"Water Cleanness" is determined automatically after calculation.</p> </div>

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.).

Configuration Info			
Module Type		HFUG-2020 series	
Membrane Area	m ²	90	
Total Number of Trains (Without Standby Trains for CIP)		1	
Filtration (15-60)	min	30.00	
CIP Frequency Factor (0.5-2.0)		1.000	

Calculation
Download
Upload
Change Unit

Recommendation: 30 minutes. Input between 15 and 60.

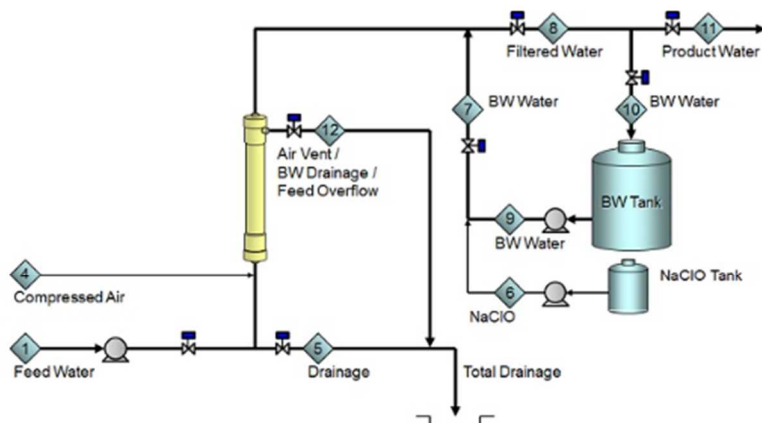
Standard: 1. If need to be, input between 0.5 and 2.0.

“Operation Conditions”, “Duration”, “Capacity” and “Flow Diagram” are calculated.

Operation Conditions			
Instantaneous Filtration Flux	m ³ /m ² /day		1.291
Filtration Flowrate per one Module	m ³ /day		116.219
Backwash Flux	m ³ /m ² /day		1.420
Scrubbing Air Flow Rate per one Module	NL/min		100
Backwash Chlorine	mg/L as Cl ₂		0
TMC Chlorine	mg/L as Cl ₂		300

Duration			
Filtration	min		30.00
Backwash with Air	min		0.00
Backwash	min		0.50
Air Scrubbing	min		0.50
Drain	min		0.75
Refill	min		0.94
Control Loss	min		0.75
Total	min		33.44
TMC Time	min		30.00
TMC Pre-backwash	min		0.37
TMC Backwash	min		1.07
Filtration Cycle	cycles/day		42.16
CIP Frequency	times/year		6

Flow Diagram



8: Filtrated Water	m ³ /day	1020.88
7a: Backwash Water	m ³ /day	18.72
7b: TMC Water	m ³ /day	2.16
5: Drainage	m ³ /day	28.23
12: BW Drainage + Feed Overflow	m ³ /day	24.67
5+12: Total Drainage	m ³ /day	52.90
1: Feed Water	m ³ /day	1052.90
11: Product Water	m ³ /day	1000.00
Recovery	%	94.98

***If you get the error message, please recheck input items. If input of feed water quality exceeds our design guideline, the calculation is not performed (See drawing below). Some water category has more strict quality limits. For more detail, please contact us.**

Error

✕

Calculation is not available.

OK

UF Feed Info

Feed max. Mn
(0-0.05)

mg/L

0.1
0 - 0.05

In case of Mn concentration exceeds our design guidelines.

8. 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

Project

Configuration Info

Module Type		HFUG-2020 series ▾
Membrane Area	m ²	90
Total Number of Trains (Without Standby Trains for CIP)		1
Filtration (15-60)	min	30.00
CIP Frequency Factor (0.5-2.0)		1.000

Calculation
Download
Upload
Change Unit

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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/con_e090.html



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