

Twelve Months Material and Workmanship Warranty with Toray UF Membrane Module

This Material and Workmanship Warranty (“Materials and Workmanship Warranty” or “Warranty”) sets forth the warranties with respect to Toray UF Membrane Modules (“Module(s)”).

1. Definitions

- **BUYER**
“BUYER” - means the legal entity who purchases the Modules directly from TORAY, or through TORAY’s subsidiaries or the trading company which TORAY appoints.
- **Fiber Breakage**
“Fiber Breakage” is defined as one membrane fiber exhibiting large continuous bubbles during a bubble test where pressurized air (lower than 50 kPa / 7.3 psi) is introduced into the feed side of the Module. Bubble tests are to be performed on individual Modules after a failure of LRV/PDT test during normal operation.
- **Module Failure**
“Module Failure” means any item in an unused Module which does not meet the description in the specification in Appendix A or a Fiber Breakage of 0.5% or more in one used Module.
- **Term**
“Term” means Twelve (12) months following the Warranty Start Date, subject to certain expiry conditions for failure of the BUYER to comply with certain terms and conditions set out in Section 3.
- **TORAY**
“TORAY” means Toray Industries, Inc. a corporation duly organized and existing under the laws of Japan and having its principal place of business at 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo, 103-8666, Japan.
- **Warranty Start Date**
For purposes of the effective date for commencement of the claims for the warranty, the “Warranty Start Date” means the date of risk transfer defined by latest version of INCOTERMS in the relevant sales contract.

2. Warranties and Liabilities

2.1. Materials and Workmanship

TORAY warrants to BUYER that its Modules are free from Module Failure. Subject to the applicable mandatory legal regulations, this Materials and Workmanship Warranty is effective for Twelve (12) months from Warranty Start Date.

2.2. TORAY Liability

In full satisfaction of any valid claim hereunder, TORAY, at its sole discretion, shall repair or supply the replacement Module for any Module that is found by TORAY to have Module Failure. And the installation of the replacement Modules and/or its parts shall be made by BUYER at its cost and expense.

All replacement Modules shall be shipped from the FCA TORAY’s factory, factory of TORAY’s subsidiary, or the trading company designated by TORAY. All fees associated with freight, applicable taxes, import duties, brokerage, and other costs are the responsibility of the BUYER.

Notwithstanding the forgoing, BUYER repairs breakage fibers at its own cost and on its own responsibility in case of Fiber Breakage is less than 0.5% in one Module.

2.3. Satisfaction of Claims

TORAY shall have the right to satisfy valid claims under this Warranty in a flexible manner in order to repair. Such flexibility may include the retrofit of newer membrane components or by upgrading failed Modules with newer Module(s) that embody design and efficiency improvements. BUYER acknowledges that, by virtue of ongoing advances in TORAY’s technology and design, fewer compatible replacement Modules may, in the future, be required in a given installation. Provided that all

contractually specified performance levels are met, should TORAY so proscribe, BUYER consents to the replacement of Modules pursuant to this Warranty with a compatible embodiment of TORAY's membrane module technology.

2.4. Maximum Term of Warranty

The maximum term of warranty of Module(s) and any replacement Module shall not exceed the Term of this Warranty.

2.5. Maximum Number of Module(s)

Toray's liability shall be limited to the extent that the total number of Modules(s) supplied for replacement will be less than or equal to the number of initial Module(s) purchased.

3. Conditions of Limited Warranty

3.1. Limitation of Warranty

Occurrence of any of the following as determined by TORAY shall void all warranties hereunder:

- a) Physical abuse or misuse of Modules;
- b) Unauthorized alteration of any parts originally supplied by TORAY with membrane Modules;
- c) Faulty installation of Modules;
- d) Failure to discharge all streams obtained at a feed rate of 40 LMH minimum for a period of 4 hours at startup;
- e) Failure by the BUYER to follow with the specifications, operation, maintenance procedures and schedules set out in the TORAY UF Instruction Manual and other agreements, as updated by TORAY from time to time;
- f) Failure to strictly and exclusively adhere to TORAY specified membrane module cleaning procedures, including the use of anything other than TORAY-approved membrane module cleaning agents;
- g) Failure to remove colloidal or precipitated solids that cause membrane fouling from the backwash supply water.
- h) Failure to protect against microbiological fouling shall be incorporated into the system design, as well as into all operating and maintenance procedures;
- i) Failure to protect against water hammer and abrupt pressure fluctuations.
- j) Failure to adhere to fiber breakage repair procedure authorized by TORAY;
- k) Failure to provide the user with adequate system operating and maintenance manuals, operator and supervisor training and ensuring user's ability to perform cleaning and other performance restoration and diagnostic procedures;
- l) Failure to maintain complete and accurate operating and operating data at all times as described in TORAY UF Instruction Manual; and
- m) Exposure to direct sunlight, freezing temperatures, or temperatures exceeding 40 deg C (104 deg F). Module(s) must be stored in accordance with TORAY's published guidelines and must be kept moist at all times.

3.2. Standard Guidelines

The design parameter plus instrumentation and other components of the system shall be consistent with sound engineering practice. This Warranty is conditional upon the shipping, storage, system design, installation, operation and maintenance of the Modules in strict accordance with the TORAY UF Instruction Manual and other contractually specified maintenance procedures and schedule as updated by TORAY from time to time. BUYER authorizes TORAY to conduct any reasonable review of system design or to inspect facilities where Modules are installed upon reasonable notice to the BUYER. Such reviews and/or inspections are intended to assist TORAY and the BUYER in detection of system faults and to optimize the care and operation of the Modules.

3.3. Additional Equipment

TORAY assumes no liability for any additional equipment not authorized by TORAY that may be installed in or connected to the plant after operation has begun.

3.4. Warranty Maintenance

To maintain this Warranty described herein, plant operating records from initial start-up date until claim must be maintained and made available to TORAY upon request. Such documentation must be provided in detail as specified in 3.5 below in order to: a) verify uninterrupted compliance with Section 3.2 hereof; and b) establish liability for Module(s) replaced or repaired under this Warranty. **IT IS AGREED AND UNDERSTOOD THAT THE BUYER SHALL NOT BE ENTITLED TO MAKE ANY CLAIMS UNDER THIS WARRANTY IF THE MODULES HAVE NOT BEEN OPERATED IN STRICT ACCORDANCE WITH THE TORAY UF INSTRUCTION MANUAL, TORAY UF MEMBRANE MODULE OPERATIONS AND MAINTENANCE GUIDELINES AS UPDATED BY TORAY FROM TIME TO TIME.** BUYER must measure and maintain the data and items set forth in TORAY UF Instruction Manual and other technical documents which may be issued for the BUYER to establish that the Module(s) have been operated in accordance with such instruction manuals, failing which all warranties and rights of the BUYER shall be null and void.

3.5. Notification of Module Failure

All claims filed hereunder shall be made in writing within thirty (30) days of identifying a Module Failure and shall present a detailed analysis of the system and individual Module data showing the Module Failure, and must include: The serial number(s) of the Module(s) involved, and the individual Module(s) operating and maintenance data, system operating and maintenance data or Module Failure upon which the claim is based. Operating data must include regular information on: flow, trans-membrane pressure, contractually specified feed and filtrate water quality parameters, temperature, and elapsed time since start-up (days). TORAY reserves the right to require additional data as necessary to validate claims filed. The Module Failure Date shall be the date that written notification of the alleged Module Failure(s) is received by TORAY.

3.6. Verification of Module Failure

After receipt of notice, TORAY will promptly undertake such investigations as, in TORAY's opinion are necessary to verify whether Module Failure exists and to establish liability for remedy of any Module Failure. BUYER may, in course of these investigations, be requested to return Module(s) to TORAY for examination. TORAY may also conduct reasonable tests and inspections that are standard in the industry (hereinafter referred to as "**Tests**") at end-user's or at BUYER 's premises. If, following the performance of such Tests, it is determined that the Modules do not have Module Failure and/or there is a problem or deficiency whose remedy is not the responsibility of TORAY, BUYER shall reimburse TORAY for all reasonable costs and expenses associated with said inspections and Tests, including applicable travel expenses.

3.7. Return Procedure

In the event that the return of a Module(s) is required pursuant to this Warranty, BUYER shall first obtain a Return Goods Authorization (hereinafter referred to as "RGA") number from TORAY. Module(s) to be shipped to TORAY for warranty examination must be shipped freight prepaid. If BUYER desires temporary replacement Module(s) to replace those alleged to have Module Failure and returned to TORAY for warranty examination, BUYER is responsible for the cost associated with any such replacements until examination of the returned Modules pursuant to this Warranty is complete. Module(s) examined as part of a warranty claim which are subsequently found by TORAY to be performing as warranted will be returned to BUYER, freight collect.

4. Disclaimer

NO WARRANTIES, EXPRESSED OR IMPLIED, ARE GIVEN EXCEPT AS EXPRESSLY PROVIDED ABOVE. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE NOT PROVIDED AND ARE EXPRESSLY DISCLAIMED AND EXCLUDED.

TORAY IS NOT LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL EXEMPLARY AND PUNITIVE DAMAGES, LOSS OF PROFITS, PLANT SHUT DOWN TIME OR SUITS BY THIRD PARTIES AGAINST BUYER, DUE TO A PERFORMANCE FAILURE OR DEFECT OF THE MODULE(S). ALL LIMITATIONS ON LIABILITY SHALL SURVIVE THE EXPIRATION, TERMINATION OR CANCELLATION OF THIS WARRANTY.

FAILURE OR REFUSAL TO FULLY DISCLOSE THE USE AND OPERATING PARAMETERS OF THE MODULES TO TORAY SHALL RENDER ALL WARRANTIES NULL AND VOID.

Appendix A: UF Module Specification:

Inspection Item	Inspection Procedure	Criterion
1.Appearance	Visual Check	No injury and no stain
2.Dimension	Measure up by the measuring instrument. (25 deg C)	HFUG-2020AN; Overall length; 2,160±2 mm HFUG-2020HN; Overall length; 2,160±2 mm HFUG-B2315AN; Overall length; 2,332±2 mm* ¹ HFUG-L1720AN; Overall length; 1,734±2 mm
3.Membrane Integrity	With module wet, drain the feed side of fibers (module casing), and pressurize the module to 100 kPa.	No remarkable water and air leakage from the ends of fibers.
4.Initial product flow	Feed water; pure water Feed water flow rate; 60 L/min	HFUG-2020AN; 2.5 m ³ /hr and over HFUG-2020HN; 2.5 m ³ /hr and over HFUG-B2315AN; 1.95 m ³ /hr and over HFUG-L1720AN; 2.4 m ³ /hr and over in transmembrane pressure 10 kPa and feed water temperature 25 deg C conversion.
5.Leak check	A module is pressurized by hydraulic pressure on 500 kPa with filtrate side closed.	No Water leakage from the module casing.

*1 : The length is for TYPE A. In case of TYPE B, 2,372 mm, In case of TYPE C, 2,336 mm