

# AXEON MEMBRANE ELEMENT WARRANTY

## REVERSE OSMOSIS, NANOFILTRATION AND ULTRAFILTRATION ELEMENT ONE-YEAR PRORATED LIMITED WARRANTY

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AXEON Water Technologies ("hereinafter AXEON") warrants to the original purchaser (hereafter the "Customer") that the materials, workmanship of its spiral-wound reverse osmosis, nanofiltration and ultrafiltration elements, when installed and operated in accordance with AXEON's recommended design and operating specifications as set forth herein below, are free from defects for a limited one-year warranty period.

This Warranty does not extend to equipment or components manufactured by others and distributed by AXEON, nor to equipment or components manufactured by others into which an AXEON product has been incorporated. If allowable, AXEON hereby assigns, without warranty, to the Customer its interest, if any, under any warranty made by the manufacturer of such equipment or component.

### MATERIALS AND WORKMANSHIP LIMITED WARRANTY

AXEON's obligation under this limited warranty covers a period not to exceed 12 months from date of receipt by Customer, provided that such elements are operated and maintained in accordance with AXEON's published specifications and good engineering practices. AXEON's obligation under this limited warranty is limited to the repair or, at AXEON's discretion, replacement of any element which, when examined by AXEON, appears to be defective under this provision of the limited warranty.

### PRORATED PERFORMANCE LIMITED WARRANTY

AXEON Water Technologies warrants the performance of its elements for one-year from whichever of the following events occurs first:

#### **ELEMENT SHIPPED WET**

- a. First use in system;
- b. Three (3) months following date of shipment from Temecula, CA to a location in the United States, Puerto Rico, Canada, and Mexico; or
- c. Six (6) months following date of shipment to any other destination.

#### **ELEMENTS SHIPPED DRY**

- a. First use in system; or
- b. Twelve (12) months following date of shipment.

### INITIAL PERFORMANCE

AXEON warrants that the elements herein offered have the initial minimum permeate flow and initial minimum salt rejection as specified in the product specification sheets. These parameters are established under standard test conditions specified by AXEON.

Should any element(s) not meet performance specifications, and Customer notifies AXEON of such deficiency, AXEON will, upon confirmation of faulty performance, repair, replace or issue credit on customer account for the defective element(s). Shipping costs, in such case, will be paid by AXEON.

## PERFORMANCE DURING ONE-YEAR LIMITED WARRANTY PERIOD

During the first year of operation of the element(s), AXEON warrants that minimum permeate flow, when operated under standard conditions published by AXEON, shall be at least 70 percent of the specified initial average flow. AXEON further warrants that maximum salt passage, when an element is operated under standard test conditions published by AXEON and pressure required to give the initial rated flow, will not exceed 1.35 x the specified maximum value. AXEON will, on confirmation of loss of performance during the warranty period, credit 1/12 of the original purchase price of the element for each unused month of the warranty period toward the purchase of a replacement element at the current prevailing price.

## CONDITIONS OF PRORATED PERFORMANCE LIMITED WARRANTY

The performance limited warranty described in the previous section, Performance During One-Year Limited Warranty Period, shall be null and void if any of the following conditions are not met:

- a. The design parameters (array, recovery, etc.) plus instrumentation and other components of the system in which the element(s) are employed shall be consistent with sound engineering practice. AXEON reserves the right to review system design.
- b. Feedwater temperature shall be less than 113°F (45°C).
- c. Feedwater SDI (15 min., 30 psi) shall be less than 5.0.
- d. Feedwater shall contain no ozone, permanganate, or other strong oxidizing agents.
- e. The element(s) shall not be exposed to pressure greater than 400 psi for brackish water, tap water, and nanofiltration elements, unless otherwise stated in the product specification.
- f. Backpressure (where permeate static pressure exceeds reject static pressure) shall not exceed 5 psi at any time.
- g. The element(s) shall be operationally protected against hydraulic transients (water hammer).
- h. The element(s) shall be maintained in a clean condition, unfouled by particulate matter or precipitates or biological growth; If scaling or fouling should occur, or normalized element flow decline 10 percent, cleaning procedures must be employed in accordance with the procedures as published in the literature pieces entitled "Cleaning Procedures for AXEON Water Technologies Membrane Elements".
- i. During continuous operation the pH shall be no less than 2.0 nor greater than 11.0 for reverse osmosis elements and no less than 3.0 nor greater than 10.0 for nanofiltration and ultrafiltration elements.
- j. There shall be no membrane fouling by colloidal or precipitated solids.
- k. Adequate provisions against microbiological contamination shall be incorporated into the system design, as well as into all operating and maintenance procedures.
- l. The reverse osmosis or NF4 element(s) shall not be exposed during cleaning, or in shutdown periods, to a pH less than 1 nor greater than 13. All other nanofiltration element(s) shall not be exposed during cleaning, or in shutdown periods, to a pH less than 1 nor greater than 12.
- m. Neither nonionic nor cationic surfactants should be used for membrane cleaning or come in contact with AXEON elements. The Customer is fully responsible for the effects of non-compatible chemicals on AXEON elements; their use will void the warranty.
- n. Customer is responsible for providing the user with adequate system operating and maintenance manuals, operator and supervisor training; ensuring user's ability to perform cleaning and other performance restoration and diagnostic procedures.
- o. Customer shall ensure that frequent, adequate system and subsystem normalized performance data are routinely recorded in a systematic format and reviewed. Such information to be available to AXEON on a reasonable basis in the event a claim is made against AXEON pursuant to this performance warranty.
- p. Element(s) must be stored in accordance with AXEON published guidelines as published in the literature piece "Handling, Preservation, and Storage for AXEON Water Technologies Membrane Elements".
- q. Customer must keep Element(s) moist at all times after initial wetting and dry elements must be kept in a room temperature environment not exceeding 110°F.
- r. Permeate and concentrate obtained from first hour of operation should be discharged.

## REPAIR OR REPLACEMENT

Customer's sole remedy for any breach of warranty is limited to and shall be fully discharged by AXEON repairing any defective element or, at AXEON's discretion, replacing same at the then selling price F.O.B. AXEON's plant. AXEON reserves the right to test the alleged defective elements and the reverse osmosis systems on user's or Customer's premises or to request Customer to perform such inspections or tests and forward the results thereof to AXEON. If the element failure is determined to be from cause other than breach of warranty as set forth above, Customer shall pay to AXEON a fee of \$1000 per day, plus direct travel expenses incurred by AXEON's employees, in connection with any inspection and testing of such elements and system on Customer's premises. Elements shipped to AXEON for warranty examination must be shipped freight prepaid and stored and packaged per the guidelines outlined in literature piece "Handling, Preservation, and Storage for AXEON Water Technologies Membranes Elements". Elements examined as part of a warranty claim which are found to be performing as warranted will be returned to the Customer freight collect.

## WARRANTY NOTICE

Before returning any element(s) to AXEON for warranty examination, request a Return Goods Authorization (RGA) number and complete AXEON'S Merchandise Return Form.

Failure or refusal to fully disclose to AXEON the use and operating parameters of AXEON® membrane elements shall render all warranties other than that covering materials and workmanship null and void.

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*THIS WARRANTY GIVES THE CUSTOMER SPECIFIC LEGAL RIGHTS AND THE CUSTOMER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. THE PARTIES RECOGNIZE AND AGREE, THAT IN ALL RESPECTS THE LAWS OF THE STATE OF CALIFORNIA SHALL APPLY TO AND SHALL GOVERN ANY INTERPRETATION OR LEGAL SIGNIFICANCE OF THIS DOCUMENT.*

*NO WARRANTY OR OTHER LIABILITY OF AXEON TO CUSTOMER UNDER THIS AGREEMENT OR OTHERWISE WILL IN ANY EVENT EXCEED THE COST OF REPLACEMENT OF THE APPLICABLE AXEON PRODUCT, PART, OR ACCESSORY THAT IS SUBJECT TO ANY BREACH OF AXEON'S WARRANTY. AXEON WILL NOT BE LIABLE FOR ANY DAMAGE TO ANY PROPERTY OF CUSTOMER OR TO CUSTOMER'S CUSTOMERS FOR ANY CONSEQUENTIAL, INCIDENTAL, OR ECONOMIC LOSS OR COMMERCIAL DAMAGE WHATSOEVER. REMEDIES HEREIN PROVIDED ARE EXPRESSLY MADE THE SOLE AND EXCLUSIVE REMEDIES FOR BREACH OF ANY WARRANTY OR OTHER OBLIGATION HEREUNDER EXPRESS OR IMPLIED OR FROM THE OPERATION OF LAW. THE USE OF THIS PRODUCT DOES NOT GUARANTEE THE REMOVAL OF CYSTS AND PATHOGENS FROM WATER.*

**For more information about AXEON Water Technologies® Membrane Elements, please contact us at the following:**

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