

Technical Service Bulletin 110

Customer Claim and Complaint Procedure

This procedure is for customers whom LG Water Solutions ("Manufacturer") have advised to return their purchased product for evaluation in support of a warranty claim ("Return Merchandise").

Before returning the Return Merchandise, customers are required to complete the 'Request for Return Merchandise Authorization Form (see a copy at the end of this bulletin, or download from our website www.LGwatersolutions.com) and email the completed form to the email corresponding to your region listed below:

Region	E-mail
Americas	nasales@lgchem.com
Europe, Africa	eumanasales@lgchem.com
Middle East, Egypt	mesales@lgchem.com
Korea	krsales@lgchem.com
China	cnsales@lgchem.com
India	insales@lgchem.com
Southeast Asia	seasales@lgchem.com

Customers will receive a Return Merchandise Authorization (RMA) number by email within 48 hours after submitting the Request for Return Merchandise Authorization form. The RMA number MUST appear on all shipping documents accompanying Return Merchandise to ensure that Return Merchandise is identified, accepted, and routed to the proper department for processing and evaluation. Any Return Merchandise received without an identifiable RMA number will be refused at the expense of delivery charges to the sender.

Please ship all Return Merchandise corresponding to the RMA claim to the Manufacturer immediately upon confirmation of your RMA number by the Manufacturer. Immediate shipping allows for a more accurate analysis of Return Merchandise claims. The Manufacturer must receive the Return Merchandise within 30 days for domestic shipments and 60 days for international shipments from when the RMA number is issued. Failure to comply with this requirement may void your warranty claim, and the Manufacturer will not be liable for any incurred costs (i.e., shipping).

Shipping of Return Merchandise to Manufacturer does not mean that the Manufacturer accepts all responsibility of a warranty claim. The sole purpose of returning the Return Merchandise to the Manufacturer is to carefully inspect the Return Merchandise to determine whether it falls within or outside of the warranty terms. Before any conclusions are determined through analysis of the Return Merchandise, all expenses will be the customer's responsibility.

Merchandise should be prepared for shipment and packaged per the Packing and Shipping Requirements detailed below :

**DO NOT RETURN MERCHANDISE UNTIL YOU HAVE
RECEIVED A WRITTEN AUTHORIZATION AND A VALID
RMA NUMBER FROM LG WATER SOLUTIONS**

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Packing and Shipping Requirements:

- Flush membrane elements with RO permeate for a minimum of 30-minutes at pH 6-8 to ensure that any hazardous liquids contained in the Return Merchandise are flushed out and for safe handling of the Return Merchandise.

LIQUIDS CONTAINING A STRONG ACID OR AN ALKALI CLEANING SOLUTION ARE CONSIDERED TO BE HAZARDOUS FOR TRANSPORT AND MUST BE FLUSHED OUT BEFORE SHIPMENT.

- Before shipping, please follow the Manufacturers' Membrane Element Storage Procedure (see " Receipt of Elements, Short-Term Storage, and Disposal of Used Elements – TSB 101") to preserve the Return Merchandise
- Before shipping, the Return Merchandise must be vacuum-sealed in a leak-proof polyethylene bag and securely packaged in a cardboard box to keep the RO element hydrated and protect it from physical damage during shipment

DURING SHIPMENT, TAKE PRECAUTIONS TO ENSURE THAT MEMBRANE ELEMENTS ARE PROTECTED FROM FREEZING OR PROLONGED EXPOSURE TO TEMPERATURES EXCEEDING 35°C (95°F).

Please ship Return Merchandise to the following address :

LG Chem / LG Water Solutions Cheongju Plant

RO Filter QA Team 39, Baekbong-ro, Heungdeok-gu, Cheongju-si,
Chungcheongbuk-do, 28441, Republic of Korea.

Attention : YunBum Chung, QA Manager

Phone : +82 043 261 9973

Email : ybchung@lgchem.com

RMA# : _____.

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Warranty Claim Validation Procedure

Return Merchandise submitted under a warranty claim are evaluated according to the following procedure:

1. Initial Element Inspection

- Visual inspection of the core tube, anti-telescoping device (ATD), and element's fiberglass outer wrap – to determine if the Return Merchandise components sustained damage due to improper handling, installation, or operation.
- The Return Merchandise will be weighed to determine any variances in weight, indicating fouling or scaling.
- If the Return Merchandise fails to pass either of the initial inspections stated above, the warranty replacement will not be approved. The customer will be billed for any expenses incurred for analysis of the Return Merchandise.
- A vacuum or air leak test will be performed to determine if the Return Merchandise has a mechanical leak. Return Merchandise failing the vacuum or air leak test will be autopsied to determine whether the leak is covered under the Material and Workmanship Warranty, or was caused by improper use, operation, or handling of the Return Merchandise.
- Elements passing the initial inspection will be wet tested to determine current membrane performance.

2. Element Wet Test:

- The Return Merchandise will be wet tested to determine the current salt rejection and permeate flux under Manufacturer's standard test conditions.
- The wet test data will be compared with performance data at initial release of the merchandise (ex-works LG Chem CJ plant) and warranted performance values.
- Based on the wet test data results, the Manufacturer will proceed with further analysis as decided by the customer.

3. Determination

- Return Merchandise found to comply with warranted performance values will be returned to the customer at the customer's expense ("freight collect"). The customer will be billed the evaluation fee for each Return Merchandise evaluated.
- Return Merchandise found to be defective based on the Material and Workmanship Warranty will be replaced or credited to the customer according to the applicable warranty terms and conditions.
- Return Merchandise performing below warranted performance values regarding salt rejection, permeate flow, or both, will be replaced or credited to the customer according to the applicable warranty terms and conditions.

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General Conditions

The customer is responsible for prepaying the shipping charges of the Return Merchandise. The Manufacturer will not accept any Return Merchandise unless it is prepaid. The Manufacturer may request that the customer issue a valid purchase order covering all work related to the warranty inspection, such as analytical work.

When inspection of the Return Merchandise by the Manufacturer concludes that a defect did not cause the warranty claim in material and workmanship:

- The Return Merchandise shall be returned to the customer at the expense of the customer (freight collect); and
- The customer will be billed for the Return Merchandise evaluated including autopsy and house analysis.

When inspection of the Return Merchandise by the Manufacturer concludes that a defect caused the warranty claim in material and workmanship:

- The Return Merchandise will be shipped to the customer free of charge. Please review your warranty for the terms and conditions applicable to your purchase order.

All terms, conditions, and specific remedies outlined in the customer's applicable warranty shall apply in processing all warranty claims. Please contact LG Water Solutions through the email address corresponding to your region listed above for further questions.

The customer is responsible for returning the Return Merchandise to the Manufacturer for membrane analysis. The warranty claim will not be accepted unless the membrane analysis is complete.

The Manufacturer advises the customer to complete the Request for Return Merchandise Authorization Form, including "The option for prior compensation request" on the form if replacement RO membrane elements are required to prevent the shutdown of your RO system while the Manufacturer conducts the warranty claim inspection.

When the customer receives replacement membrane elements by prior compensation request, the Return Merchandise must be shipped immediately to the Manufacturer following membrane replacement. If the Return Merchandise is not returned within two months, the customer is responsible for the compensation membrane elements at current pricing plus shipping charges.

The membrane elements delivered under prior compensation will be billed to the customer at their recent purchase price if the conclusion of the analysis of the used membrane elements is that the problem has not been caused by the membrane supplier.

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH2O is the Trademark of LG Chem. All rights reserved. © LG Chem, Ltd.

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RO Element RMA Request Form

New or Used Elements Removed from Original Packaging

Section 1				
TO BE FILLED OUT BY REQUESTOR				
Name of Requestor		Date of Request		
CUSTOMER INFORMATION				
Company Name				
Address/ Region				
Contact Person				
Phone/ Mobile		Email		
REPORTED PROBLEM				
<input type="checkbox"/> Low Flow (High Feed Pressure)		<input type="checkbox"/> High Permeate Conductivity (Low Rejection)		
<input type="checkbox"/> High Differential Pressure		<input type="checkbox"/> Visual Product Defect		
<input type="checkbox"/> Other:				
TIME WHEN PROBLEM FIRST OCCURRED				
<input type="checkbox"/> Before Element Installation				
<input type="checkbox"/> At Startup (Less than 24 hours of continuous operation)				
<input type="checkbox"/> After Startup (2 to 14 days)				
<input type="checkbox"/> Other: Months After Startup				
ELEMENT INFORMATION				
Element Model				
No. Returned Element(s)		No. Elements Affected		
Please note the element serial number and location within the system (e.g. 140XXXXX- Vessel B7- Position 1-8)				
1.	Serial (FRP) No.		Position/PV	
2.	Serial (FRP) No.		Position/PV	
3.	Serial (FRP) No.		Position/PV	
4.	Serial (FRP) No.		Position/PV	
NOTES				
Has the element(s) to be returned been exposed to Hazardous Materials? <input type="checkbox"/> Yes <input type="checkbox"/> No				
If Yes , Please provide details below (or attach to this document) and advise customer that MSDS sheets for all hazardous materials have to be submitted along with this RMA request. If approved, the same MSDS sheets are to be included with the returned elements.				
COMMERCIAL CLASSIFICATION				
<input type="checkbox"/> Warranty Claim		<input type="checkbox"/> Non Warranty Replacement		
<input type="checkbox"/> Non Warranty Credit		<input type="checkbox"/> Billable Technical Service Evaluation		
<input type="checkbox"/> No Charge Technical Service Evaluation		<input type="checkbox"/> Application Engineering		

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Section 2

SYSTEM INFORMATION

Plant Location:				
<input type="checkbox"/> New	<input type="checkbox"/> Replacement			
Plant Configuration / Array				
System Recovery (%)				
Start-Up Date				
Project Capacity				
Total Number of Elements				
Application				
CIP conditions/ Period				
Pretreatment				
Feed Water Source:	<input type="checkbox"/> Well	<input type="checkbox"/> Surface Intake	<input type="checkbox"/> Seawater	<input type="checkbox"/> Municipal Waste
	<input type="checkbox"/> Municipal Supply	<input type="checkbox"/> Industrial Waste	<input type="checkbox"/> Other ()	
Permeate Use:	<input type="checkbox"/> Drinking	<input type="checkbox"/> Reclamation	<input type="checkbox"/> 2 nd Pass RO Feed	
	<input type="checkbox"/> Ion Exchange Feed	<input type="checkbox"/> Other		

OPERATING DATA INFORMATION

Data Collection frequency	<input type="checkbox"/> Daily	<input type="checkbox"/> Per Shift	<input type="checkbox"/> Other	
Data Format	<input type="checkbox"/> Hand Written	<input type="checkbox"/> Excel Spreadsheet	<input type="checkbox"/> Normalization	<input type="checkbox"/> SCADA
Normalization Used	<input type="checkbox"/> LG NanoH2O	<input type="checkbox"/> DOW	<input type="checkbox"/> TorayTrak	<input type="checkbox"/> Hydranautics

Section 3

TO BE FILLED OUT

REQUIRED TEST

<input type="checkbox"/> As Received Visual Inspection
<input type="checkbox"/> Re-Wet Test
<input type="checkbox"/> Autopsy
<input type="checkbox"/> Dye Test- Rhodamine B (Pink)
<input type="checkbox"/> Other:

Section 4

INFORMATION FOR CUSTOMER SERVICE

No of Elements to be Returned:			
Serial Numbers or Customer PO:			
Commercial Classification:	<input type="checkbox"/> Credit	<input type="checkbox"/> Replacement	
Further Instructions:			
RMA NUMBER			

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Commercial Invoice

Sender :			Recipient :			
Email Address :			LG Chem Cheongju Plant, RO Filter QA Team 39,			
Phone Number :			Baekbong-ro, Heungdeok-gu, Cheongju-si, Chung cheong			
			buk-do, 28441, Republic of Korea			
			Attn: YunBum Chung			
			Email : Address : ybchung@lgchem.com			
			Phone Number : +82-43-261-9973			
			Tax ID/VAT/EIN Number : 107-81-98139			
Invoice Date :			Invoice Number :			
Waybill Number :			Sender's Reference :			
Carrier :			Recipient's Reference :			
Quantity	Country of Origin	Description of Contents	Harmonized Code	Unit Weight	Unit Value	Sub Total
Total Net Weight:			Total Declared Value: (USD)			
Total Gross Weight			Freight & Insurance Charges: (USD)			
Total Shipment Pieces:			Other Charges: (USD)			
Currency Code:			Total Invoice Amount: (USD)			
Type of Export :			Terms of Trade :			
Reason for Export :						
General Notes :						

The exporter of the products covered by this document declares that, except where otherwise clearly indicated, these products are of Korea, Republic Of preferential origin.

I/We hereby certify that the information on this invoice is true and correct and that the contents of this shipment are as stated above.

Name :	Company Stamp
Position in Company :	
Signature :	
_____.	

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