



Return Material Authorisation (“RMA”) Process

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1. Introduction

Complicated higher-level assemblies can sometimes fail to meet their expected performance levels. Often, they are made up of multiple sub-assemblies or components from different suppliers and determining which of these sub-assemblies or components are the cause of the decreased performance can be difficult.

Filtronic maintains an RMA system to handle all requests for return of product shipped to customers. To support the RMA process, any item a customer wants to return to Filtronic must have been issued with an RMA number by the Filtronic Quality department prior to shipment. The product must be returned to the trading address of the Filtronic legal entity with whom the customer contracted, with the cost of the shipment being borne by the customer. It is the responsibility of the customer to ensure that the product is returned safely and with all the correct documentation.

Filtronic will investigate the reported failure and rectify any defects that are covered by the product warranty. Products that are outside the contractual warranty period will be subject to quotation for any investigation, and a subsequent quotation for the repair or replacement activities.

2. Scope

This document details the procedure to be followed by both the customer and Filtronic when investigating nonconforming or defective product i.e. Customer Returns. The aim of the RMA process is to identify the root causes of failed product so that appropriate corrective and preventative measures can be identified and actioned.

3. RMA Overview

a. Identification of a failing product

Note: Most products manufactured by Filtronic are sensitive to damage from electrostatic discharge (“ESD”) and should be protected at all stages of the removal, transportation, and failure evaluation.

Filtronic product forms part of a higher-level assembly, and it is usually the investigation of a failure of that assembly that points to failure of the Filtronic product. To verify this is the case, the Filtronic product should be removed from the assembly and fitted to a different, but identical, assembly requiring the Filtronic product. Confirmation that the Filtronic product is the root cause of the failure is obtained by a repeat of the same failure mode in the second assembly.

A detailed record of the higher-level assembly operating conditions and tests performed should be recorded for use in subsequent failure modes investigations.



3. RMA Overview (*continued*)

b. Requesting an RMA

The Customer should contact the Filtronic Quality department at the following email address, RMA@filtronic.com, and ask for a copy of the RMA form.

This form should be completed in full including, but not limited to, details of the customer, point of contact, details of the product to be returned and the reported failure modes. On receipt of the completed form, Filtronic will issue an RMA number to the customer and return the form. No item can be accepted by Filtronic without an RMA number. Any parts received at Filtronic without an RMA number may be rejected and returned to sender.

c. Shipping the product to Filtronic

All products returned to Filtronic should have their barcode labels fully preserved to allow the build history of the product to be obtained from the records held at Filtronic.

Shipping of product back to Filtronic requires care to prevent any new damage being added through transportation. This involves packaging the parts in robust carriers that will protect them from ESD, shock or other handling damage. If a number of items are to be returned in a single shipment, then Filtronic recommends that the original packing is used when returning the product. All returned items should be shipped with a copy of the RMA form included in the packaging and the shipping costs must be borne by the customer.

d. Investigation of a failing product

The returned product will be booked into the Filtronic RMA system, be visually inspected for physical damage, and re-tested to establish the electrical performance of the product. If required, any firmware will be restored to the state in which it was shipped prior to any re-test.

If the reported failure is confirmed by electrical testing, then Filtronic will proceed to remove any covers, perform internal visual inspection and root cause & failure mode analysis.

Depending on the nature of the investigation being carried out by Filtronic, supporting data may be requested from the system level tests leading up to the reported failure.

Filtronic will make a reasoned assessment of any defects and failure modes, along with possible root causes, corrective and preventative actions. Filtronic will regularly analyse the returned module statistics for any underlying trends or causes of concern.

If the product passes the standard electrical tests, then further tests and inspection may be proposed by our engineering team before being declared No Fault Found ("NFF") and returned to the customer, if the customer would like it returning.



4. Closing the RMA

All parts identified as being defective due to breach of warranty, and still within the warranty period of the part, will be deemed the liability of Filtronic. These parts will be repaired free of charge, under warranty, and returned to the customer with the shipping cost borne by Filtronic.

All parts that are identified as NFF will be returned to the customer at the customer's expense, if the customer wants the item returning. If not, Filtronic will dispose of the items.

Parts that have been identified as defective, but not the liability of Filtronic, such as physical damage or beyond the part's warranty period, will be quoted for an 'Out of Warranty' repair. Any repairs carried out will be under a new agreement and the customer will need to issue a new purchase order for the corrective action work to proceed. If the customer does not require the items to be repaired, then they will be returned unrepainted at the customer's expense or disposed of at the Filtronic facility if the customer does not want the items returning.

5. Flowchart: Filtronic Customer Return Material Authorisation (“RMA”) Process

