

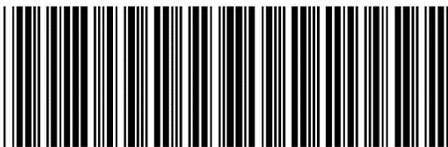


**Agilent Technologies**

*Vacuum Products Division*

***IDP 7 / IDP 10  
Tip Seal  
Replacement Kit***

*INSTRUCTION MANUAL*



\*X3807-90010\*

Manual No. X3807-90010

Rev. A

January 2017

# Preface

## Documentation Conventions

This manual uses the following documentation conventions:

**WARNING**



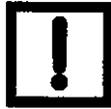
*Warnings indicate a procedure or practice, which if not followed correctly, could lead to serious injury.*

**CAUTION**



*Cautions indicate a procedure or practice, which if not followed, could cause damage to the equipment.*

**NOTE**



*Notes contain important information.*

Before operating or servicing equipment, read and thoroughly understand all operation/maintenance manuals provided by Agilent. Be aware of the hazards associated with this equipment, know how to recognize potentially hazardous conditions, and how to avoid them. Read carefully and strictly observe all cautions and warnings. The consequences of unskilled, improper, or careless operation of the equipment can be serious.

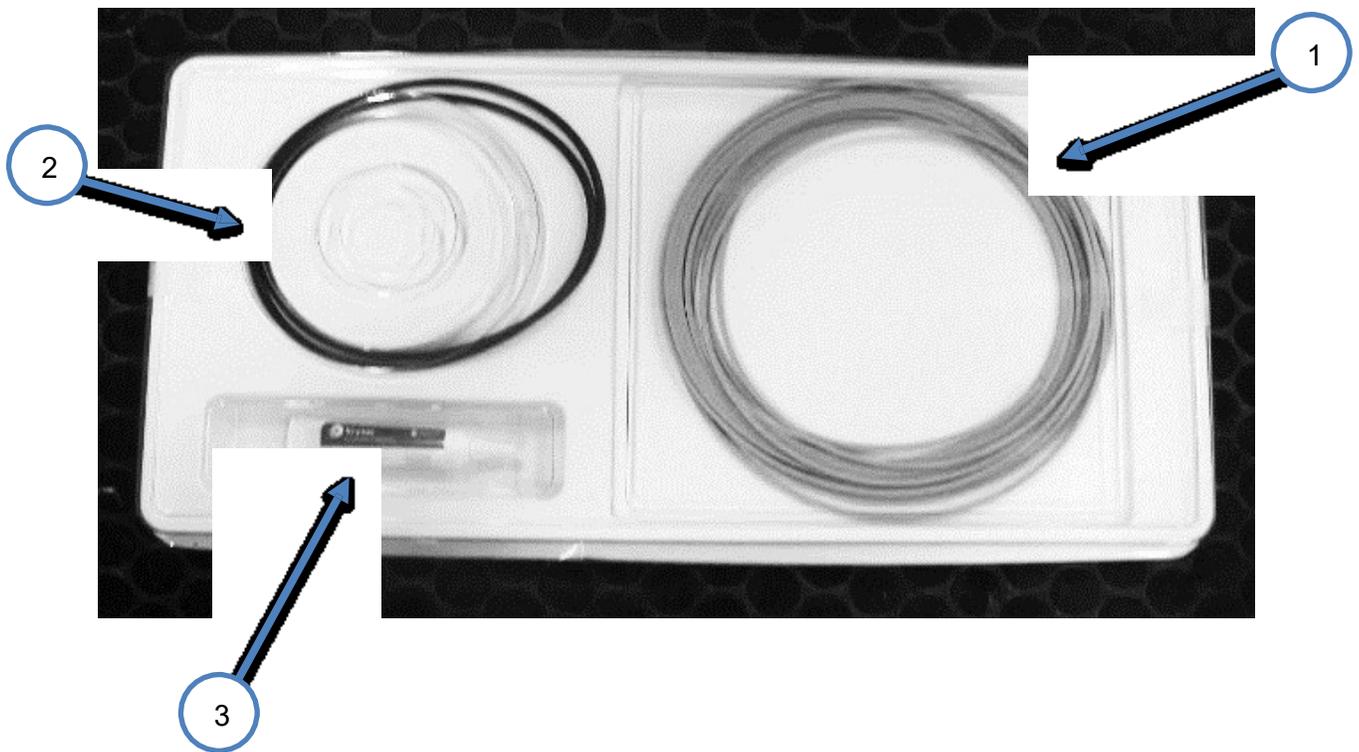
In addition, consult local, state, and national agencies regarding specific requirements and regulations. Address any safety, operation, and/or maintenance questions to your nearest Agilent office.

## IDP 7 / IDP 10 Tip Seal Replacement Kit

### Parts Included:

Table 1 - Parts List

ITEM	QTY.	PART/MATERIAL DESCRIPTION
1	2	Replacement Tip Seals
2	1	Main O-Ring
3	1	Krytox LVP



## IDP 7 / IDP 10 Tip Seal Replacement Kit



Figure 1 - Recommended Tools

Table 2 - Recommended Tools Required

4 mm T-Handle Allen wrench
6 mm T-Handle Allen wrench
Nonmetallic pry tool (used to remove O-ring from Outboard Housing and Tip Seals from scroll sets)
Scour Pad
Low lint wipes
Low lint cleaning swabs
Nitrile gloves
Dust mask (to prevent any dust inhalation, Agilent recommends a dust mask be used during maintenance)
Isopropyl alcohol



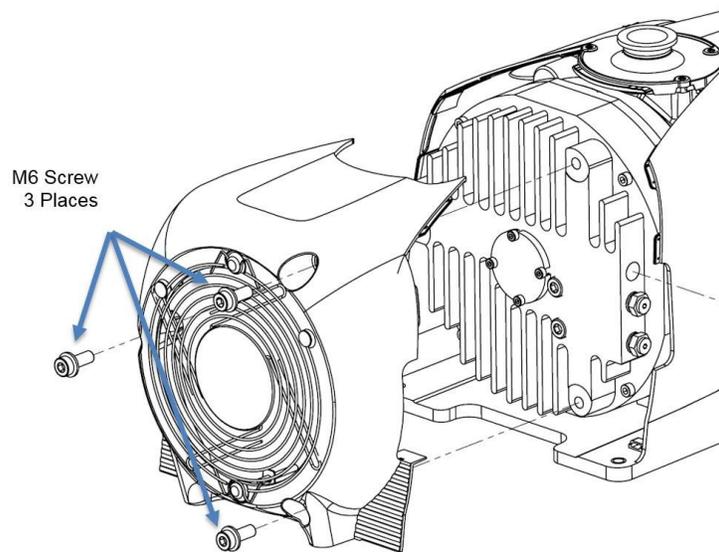
**WARNING:** If dangerous gases were being pumped, ensure the pump is clear of all dangerous materials prior to disassembly.

## Installation:

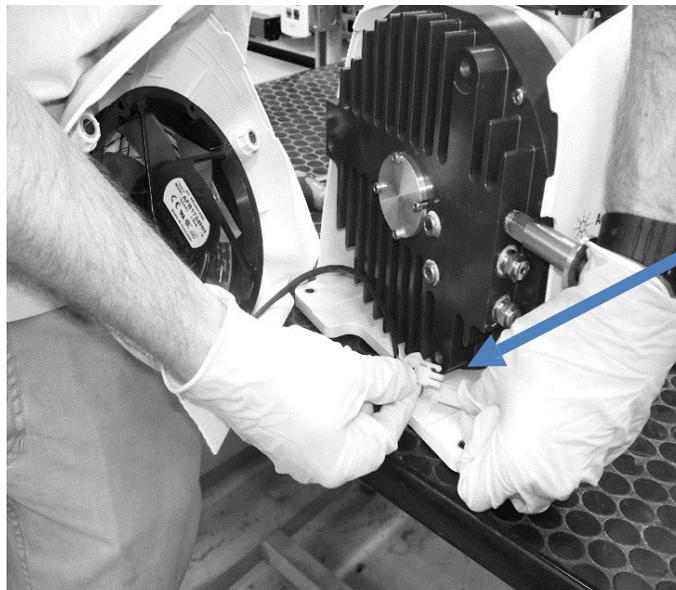


**NOTE:** To ensure proper operation, and to prevent damage, the kit must be installed and operated only as specified.

1. **Disconnect the power cord.**
2. Detach the front cowling from the front of the pump by removing three M8x20mm flange bolts using a 6mm T handled hex key.



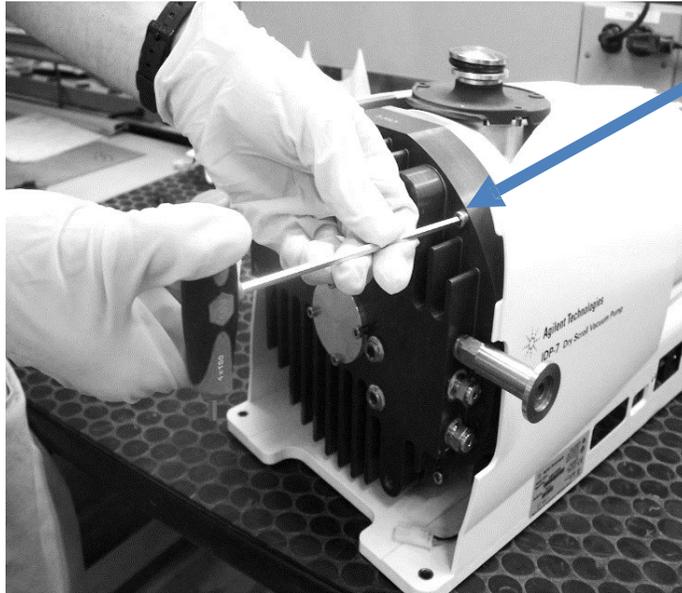
3. Disconnect the fan cable assembly.



## **IDP 7 / IDP 10 Tip Seal Replacement Kit**

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4. Remove four screws in the outboard housing using 4 mm Allen wrench.



5. Remove the outboard housing.



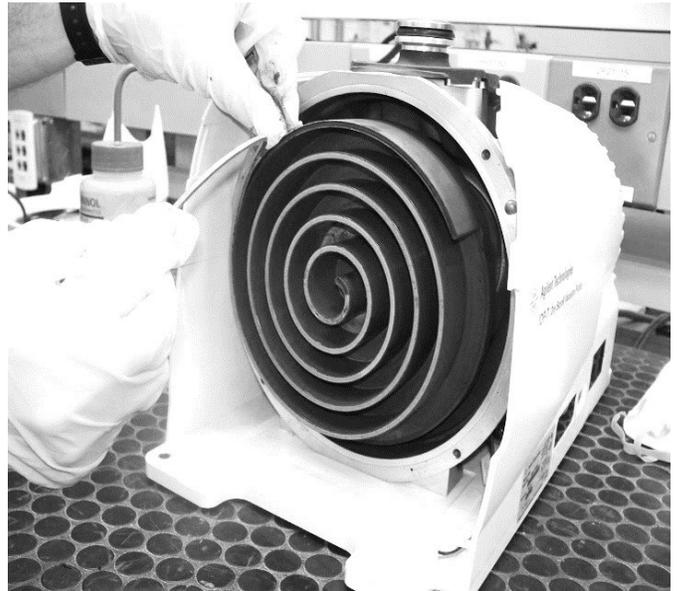
## ***IDP 7 / IDP 10 Tip Seal Replacement Kit***

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6. Remove Main O-Ring form the outboard housing with a "non-metallic" pick and discard.



7. Remove the old tip seals from both the outboard housing and orbiting plate.

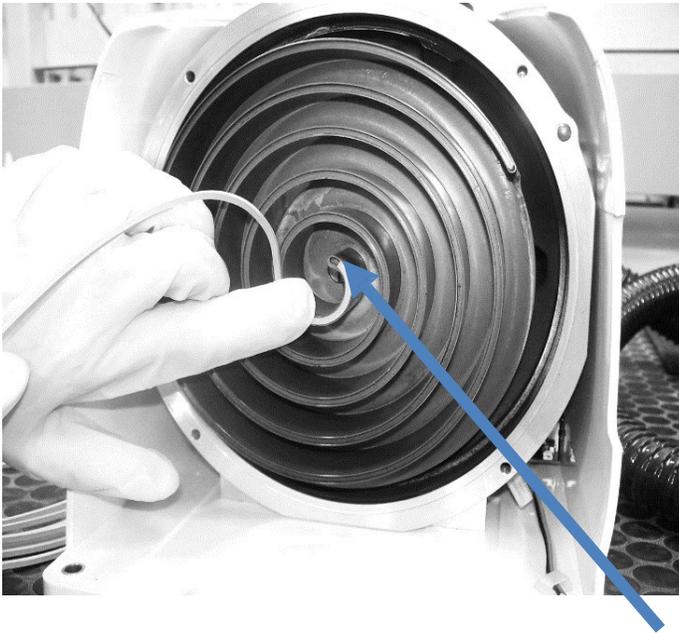


## IDP 7 / IDP 10 Tip Seal Replacement Kit

- Clean all debris from both the outboard housing and orbiting plate surfaces (including the O-ring groove and tip seal grooves). Use isopropyl alcohol and a scour pad (preferably non-scratch) to remove any buildup on all surfaces. Wipe clean with a low-lint or lint-free cloth and cleaning swabs.



- To install the new tip seals, start from the center of the scroll, leaving a 1/8<sup>th</sup> inch or 3 mm gap at the center (as shown).



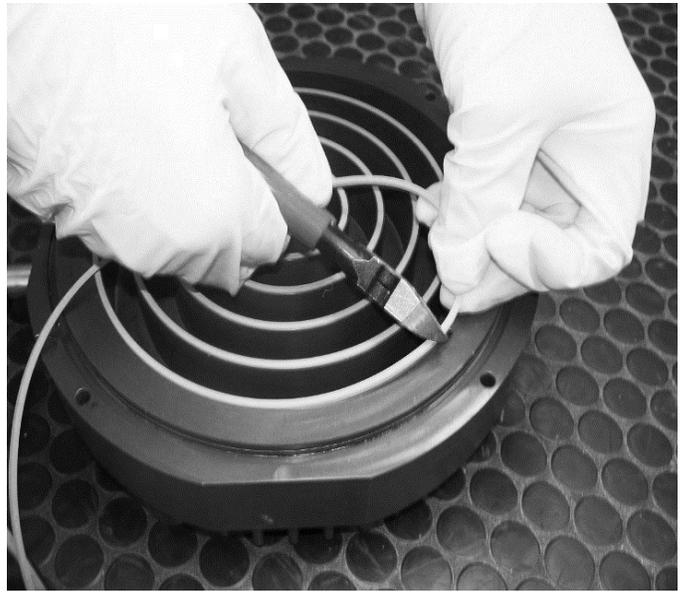
## ***IDP 7 / IDP 10 Tip Seal Replacement Kit***

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10. Approximately 2 and ¼ rotations of the tip seal needs to be pressed into the groove locks using a wooden or plastic tool. Remove any debris created during this step.



11. Finish installing the rest of the tip seal and using a set of cutting pliers, cut the tip seal leaving a 1/8<sup>th</sup>-inch or 3 mm gap from the end of the tip seal groove (as shown).



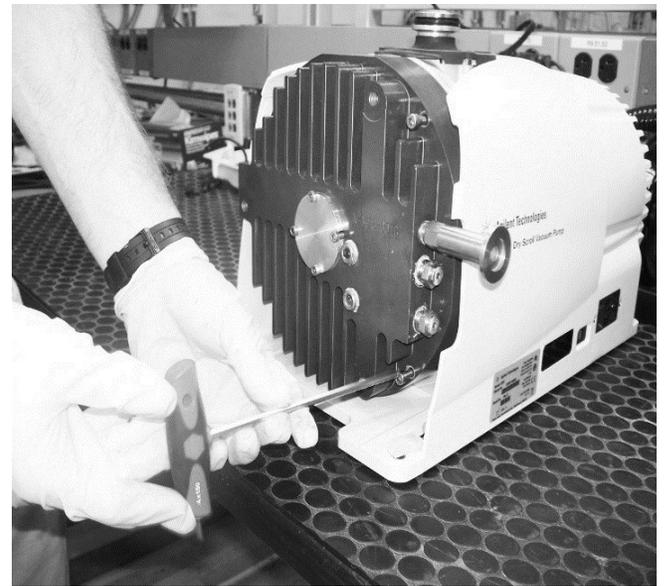
## **IDP 7 / IDP 10 Tip Seal Replacement Kit**

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12. Lightly lubricate the new main O-ring with a trace amount of Krytox LVP grease provided and install into the O-ring groove.

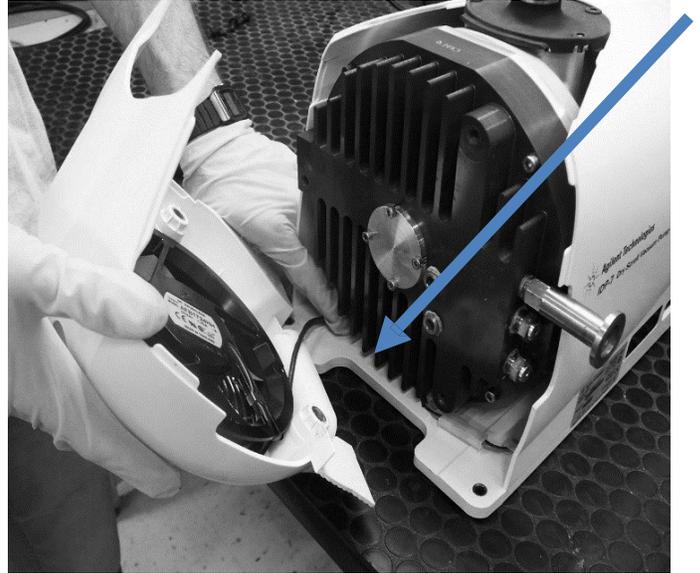


13. Reinstall the outboard housing, making sure the O-ring does not fall out of its groove; secure using the four M4 screws.

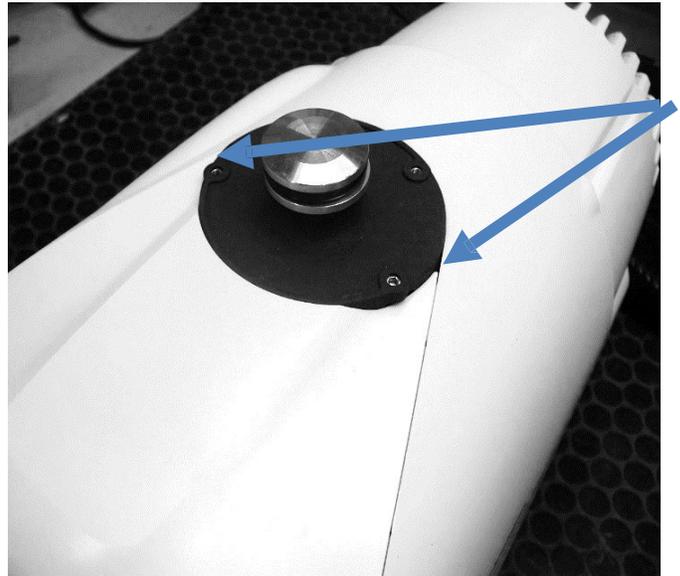
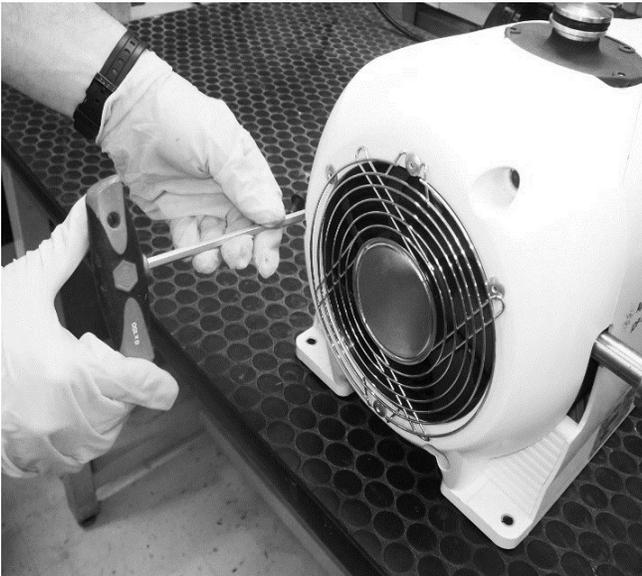


## IDP 7 / IDP 10 Tip Seal Replacement Kit

14. Reconnect the fan cable assembly and route the cable under the outboard housing as shown.



15. Reinstall the fan cowling and the three M6 screws onto the pump. Ensure that the points of the cowling are properly sitting on top of the cover plate tabs.



16. Run pump for about 5 seconds. Verify that the front fan is running. If you here loud noises or observe labored operation, this indicates that the Tip Seal or main O-ring are possibly out of place.

17. Disassemble and repair as necessary, otherwise the pump is ready to return to service.



**NOTE: Pumps with newly installed tip seals can be put immediately back into service and should provide adequate vacuum performance to meet most application requirements. Pumps with newly installed tip seals may require several days of operation to seat properly and achieve the published base pressure and pumping speed specifications.**



## **Vacuum Products Division Instructions for returning products**

Dear Customer:

Please follow these instructions whenever one of our products needs to be returned.

- 1) Complete the attached Request for Return form and send it to Agilent Technologies (see below), taking particular care to identify all products that have pumped or been exposed to any toxic or hazardous materials.
- 2) After evaluating the information, Agilent Technologies will provide you with a Return Authorization (RA) number via email or fax, as requested.  
Note: Depending on the type of return, a Purchase Order may be required at the time the Request for Return is submitted. We will quote any necessary services (evaluation, repair, special cleaning, etc.).
- 3) Important steps for the shipment of returning product:
  - x Remove all accessories from the core product (e.g. inlet screens, vent valves).
  - x Prior to shipment, drain any oils or other liquids, purge or flush all gasses, and wipe off any excess residue.
  - x If ordering an Advance Exchange product, please use the packaging from the Advance Exchange to return the defective product.
  - x Seal the product in a plastic bag, and package product carefully to avoid damage in transit. You are responsible for loss or damage in transit.
  - x Agilent Technologies is not responsible for returning customer-provided packaging or containers.
  - x Clearly label package with RA number. Using the shipping label provided will ensure the proper address and RA number are on the package. Packages shipped to Agilent without an RA clearly written on the outside cannot be accepted and will be returned.
- 4) Return only products for which the RA was issued.
- 5) Product being returned under an RA must be received within 15 business days.
- 6) Ship to the location specified on the printable label, which will be sent, along with the RA number, as soon as we have received all of the required information. Customer is responsible for freight charges on returning product.
- 7) Return shipments must comply with all applicable Shipping Regulations (IATA, DOT, etc.) and carrier requirements.

RETURN THE COMPLETED REQUEST FOR RETURN FORM TO YOUR NEAREST LOCATION:

**EUROPE:**

Fax: 00390119979330  
Fax Free: 0080034534500  
Toll Free: 080023423400  
[vpt-customer@agilent.com](mailto:vpt-customer@agilent.com)

**NORTH AMERICA:**

Fax: 17818609252  
Toll Free: 8008827426, Option 3  
[vpl-ra@agilent.com](mailto:vpl-ra@agilent.com)

**PACIFIC RIM:**

Please visit our website for individual office information  
<http://www.DJLOHQW.com>



Please read important policy information on Page 3 that applies to all returns.

**1) CUSTOMER INFORMATION**

<b>Company Name:</b>		<b>Contact Name:</b>	
<b>Tel:</b>	<b>Email:</b>	<b>Fax:</b>	
<b>Customer Ship To:</b>		<b>Customer Bill To:</b>	
<b>Europe only: VAT reg. Number:</b>		USA/Canada only: <input type="checkbox"/> <b>Taxable</b> <input type="checkbox"/> <b>Non-taxable</b>	

**2) PRODUCT IDENTIFICATION**

Product Description	Agilent P/N	Agilent S/N	Original Purchasing Reference

**3) TYPE OF RETURN (Choose one from each row and supply Purchase Order if requesting a billable service)**

- 3A.  Non-Billable     Billable    **➔ New PO#(hard copy must be submitted with this form):**
- 3B.  Exchange     Repair     Upgrade     Consignment/Demo     Calibration     Evaluation     Return for Credit

**4) HEALTH and SAFETY CERTIFICATION**

**AGILENT TECHNOLOGIES CANNOT ACCEPT ANY PRODUCTS CONTAMINATED WITH BIOLOGICAL OR EXPLOSIVE HAZARDS, RADIOACTIVE MATERIAL, OR MERCURY AT ITS FACILITY.**  
**Call Agilent Technologies to discuss alternatives if this requirement presents a problem.**

**The equipment listed above (check one):**

**HAS NOT** pumped or been exposed to any toxic or hazardous materials. OR

**HAS** pumped or been exposed to the following toxic or hazardous materials. If this box is checked, the following information must also be filled out. Check boxes for all material(s) to which product(s) pumped or was exposed:

Toxic     Corrosive     Reactive     Flammable     Explosive     Biological     Radioactive

**List all toxic/hazardous materials. Include product name, chemical name, and chemical symbol or formula:**

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NOTE: If a product is received at Agilent which is contaminated with a toxic or hazardous material that was not disclosed, the customer will be held responsible for all costs incurred to ensure the safe handling of the product, and is liable for any harm or injury to Agilent employees as well as to any third party occurring as a result of exposure to toxic or hazardous materials present in the product.

**Print Name:** \_\_\_\_\_ **Authorized Signature:** ..... **Date:** \_\_\_\_\_

**5) FAILURE INFORMATION:**

Failure Mode (REQUIRED FIELD. See next page for suggestions of failure terms):
Detailed Description of Malfunction: (Please provide the error message)
Application (system and model):

<b>I understand and agree to the terms of Section 6, Page 3/3.</b>	<b>Date:</b>
<b>Print Name:</b> _____	<b>Authorized Signature:</b> .....



**Vacuum Products Division  
Request for Return Form  
(Health and Safety Certification)**

Please use these Failure Mode to describe the concern about the product on Page 2.

**TURBO PUMPS and TURBO CONTROLLERS**

APPARENT DEFECT/MALFUNCTION	POSITION	PARAMETERS
- Does not start - Does not spin freely - Does not reach full speed - Mechanical Contact - Cooling defective	- Noise - Vibrations - Leak - Overtemperature - Clogging	- Vertical - Horizontal - Upside-down - Other: ..... Power:                      Rotational Speed: Current:                    Inlet Pressure: Temp 1:                    Foreline Pressure: Temp 2:                    Purge flow: OPERATING TIME:

**ON PUMPS/CONTROLLERS**

- Bad feedthrough	- Poor vacuum
- Vacuum leak	- High voltage problem
- Error code on display	- Other

**VALVES/COMPONENTS**

- Main seal leak	- Bellows leak
- Solenoid failure	- Damaged flange
- Damaged sealing area	- Other

**LEAK DETECTORS**

- Cannot calibrate	- No zero/high background
- Vacuum system unstable	- Cannot reach test mode
- Failed to start	- Other

**INSTRUMENTS**

- Gauge tube not working	- Display problem
- Communication failure	- Degassing not working
- Error code on display	- Other

**SCROLL AND ROTARY VANE PUMPS**

- Pump doesn't start	- Noisy pump (describe)
- Doesn't reach vacuum	- Over temperature
- Pump seized	- Other

**DIFFUSION PUMPS**

- Heater failure	- Electrical problem
- Doesn't reach vacuum	- Cooling coil damage
- Vacuum leak	- Other

Section 6) *ADDITIONAL TERMS*

**Please read the terms and conditions below as they apply to all returns and are in addition to the Agilent Technologies Vacuum Product Division – Products and Services Terms of Sale.**

- x Customer is responsible for the freight charges for the returning product. Return shipments must comply with all applicable **Shipping Regulations** (IATA, DOT, etc.) and carrier requirements.
- x Customers receiving an Advance Exchange product agree to return the defective, rebuildable part to Agilent Technologies **within 15 business days. Failure to do so, or returning a non-rebuildable part (crashed), will result in an invoice for the non-returned/non-rebuildable part.**
- x Returns for credit toward the purchase of new or refurbished Products are subject to prior Agilent approval and may incur a restocking fee. Please reference the original purchase order number.
- x Units returned for evaluation will be evaluated, and a quote for repair will be issued. If you choose to have the unit repaired, the cost of the evaluation will be deducted from the final repair pricing. A Purchase Order for the final repair price should be issued within 3 weeks of quotation date. Units without a Purchase Order for repair will be returned to the customer, and the evaluation fee will be invoiced.
- x A Special Cleaning fee will apply to all exposed products per Section 4 of this document.
- x If requesting a calibration service, units must be functionally capable of being calibrated.

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