

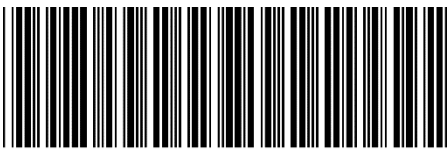


Agilent Technologies

Vacuum Products Division

***IDP 7 / IDP 10
VPI Valve Major
Replacement
Kit***

INSTRUCTION MANUAL



X3807-90014

Manual No. X3807-90014
Rev. A
February 2017

Preface

Documentation Conventions

This manual uses the following documentation conventions:

WARNING

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



CAUTION

Cautions indicate a particular 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 VPI Valve Major Replacement Kit

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Part Name	Qty
Solenoid valve	1
Rubber thermal protector	1
Orifice	1
Diaphragm retainer plate	1
Piston	1
O-RING 2-151	1
O-ring 2-121	1
O-ring 2-008	5
Screw	8

Table 1-1

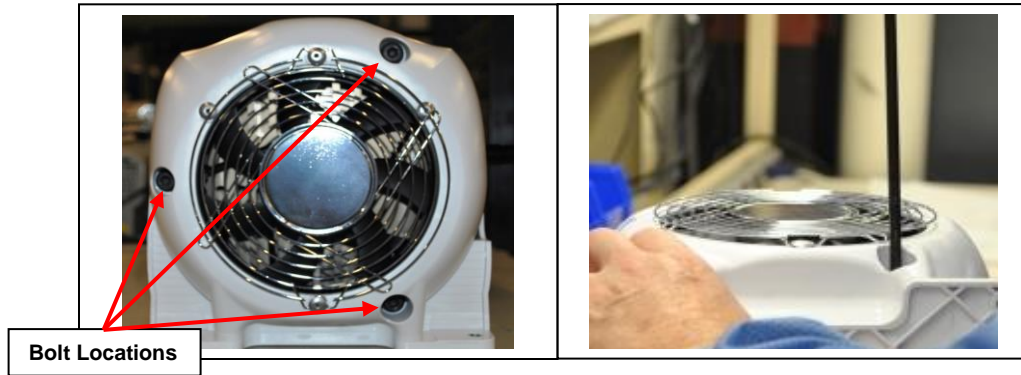
Installation :



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

IDP 7 / IDP 10 VPI Valve Major Replacement Kit

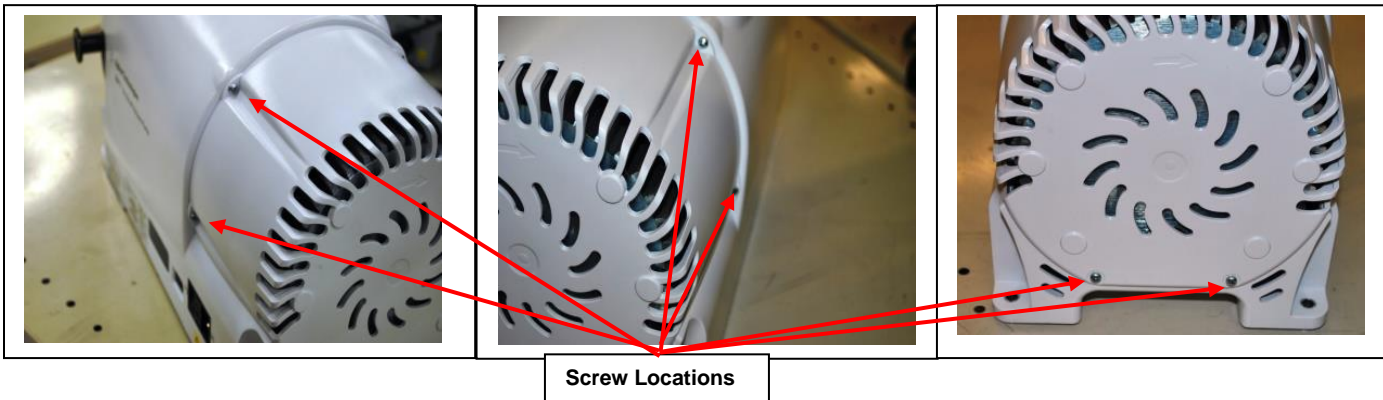
1. Detach the front cowling from the front of the pump by removing three M8x20mm flange bolts using a 6mm T handled hex key.



2. Detach the fan cable from the front cowling and remove the cowling from the pump.

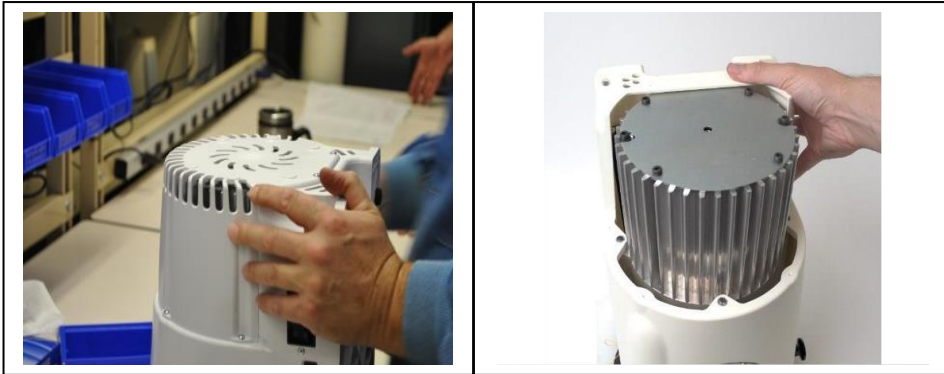


3. Disassemble the rear cowling by remove the six self-tapping screws and two washers that hold the rear cowling to the chassis and front cowling using a Philips head screwdriver.

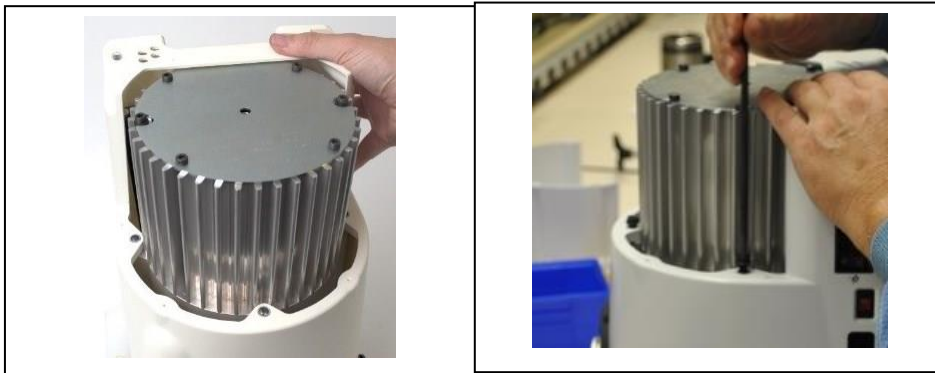


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4. Remove the Rear Cowling from the pump assembly.



5. Loosen the three M6x20mm that secure the top part of the base to the Pump Head.

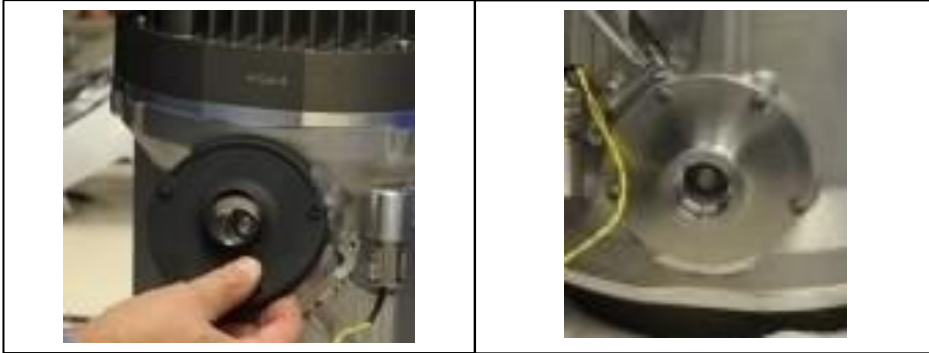


6. Loosen and remove the two M6x16 mm bolts on the bottom of the base to the pump module using a 5mm hex key. Move the base assembly up enough to facilitate removal of the Rubber Thermal Protector.

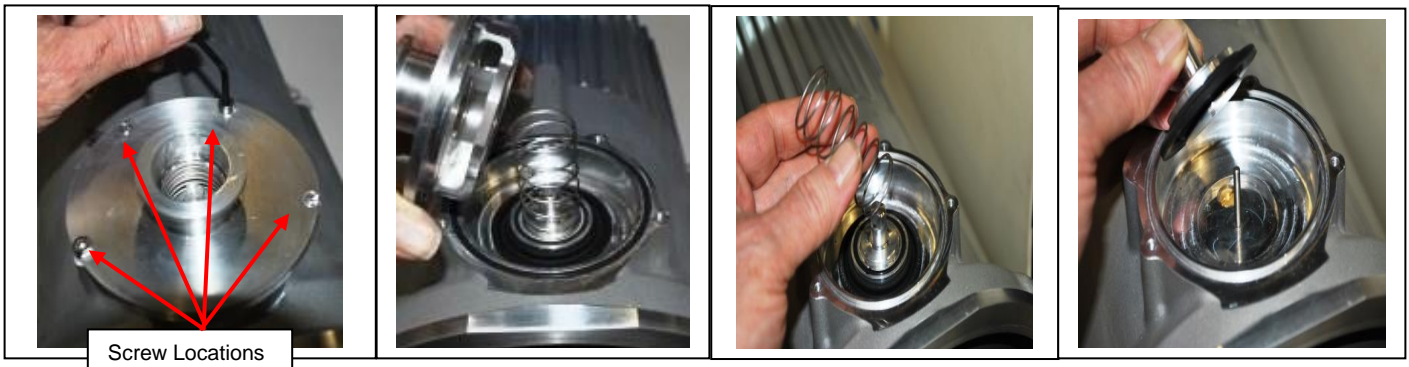


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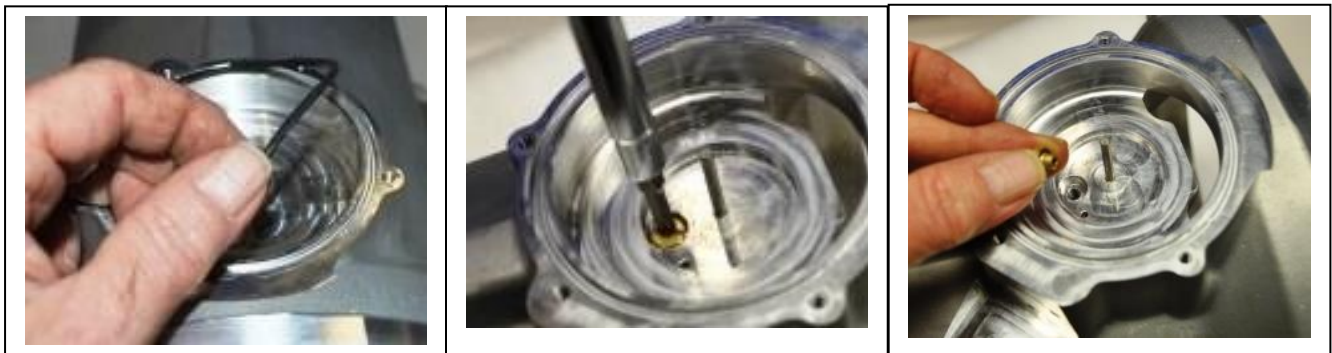
7. Remove the thermal rubber protector from the inlet assembly and discard.



8. Loosen the four M4x10mm screws holding the inlet flange on to the frame. Remove the inlet flange from the top of the frame assembly. Remove the VPI spring and diaphragm/piston from the frame assembly. Discard the piston assembly.



9. Remove the O-ring from the assembly and discard. Remove the 10-32 threaded orifice and discard.

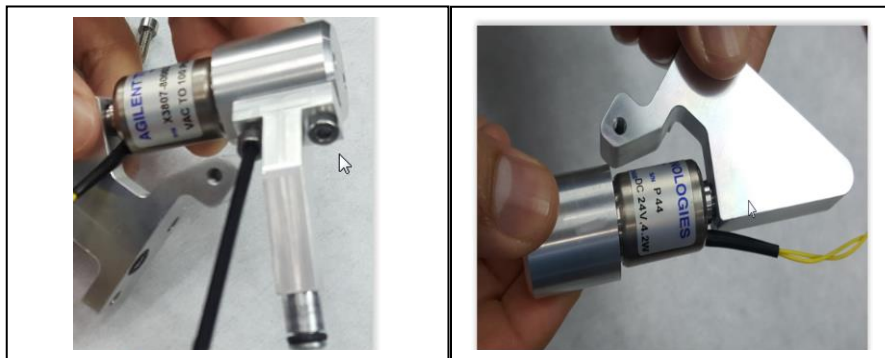


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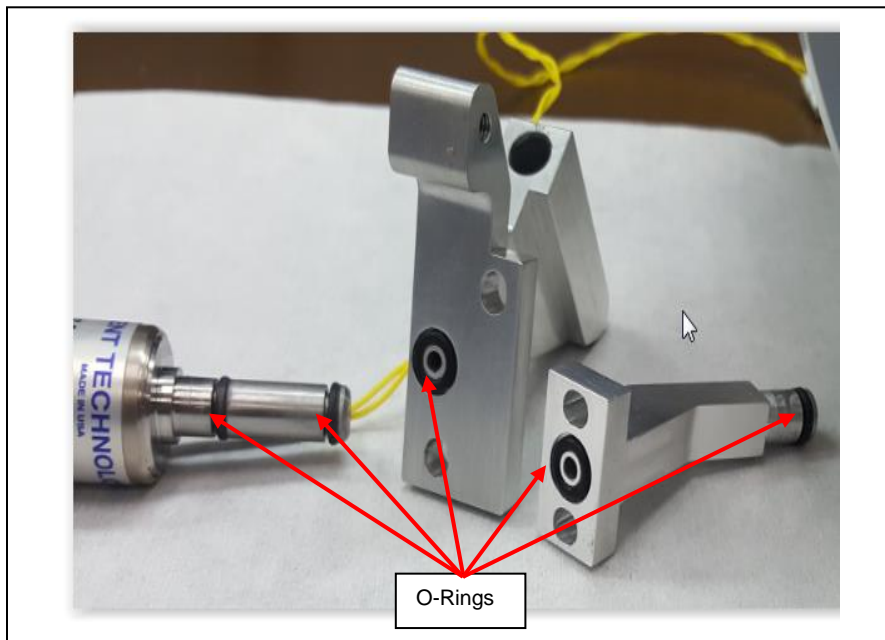
10. Remove the solenoid assembly from the frame by removing the two M4 screws.



11. Remove the solenoid from the mounting brackets.

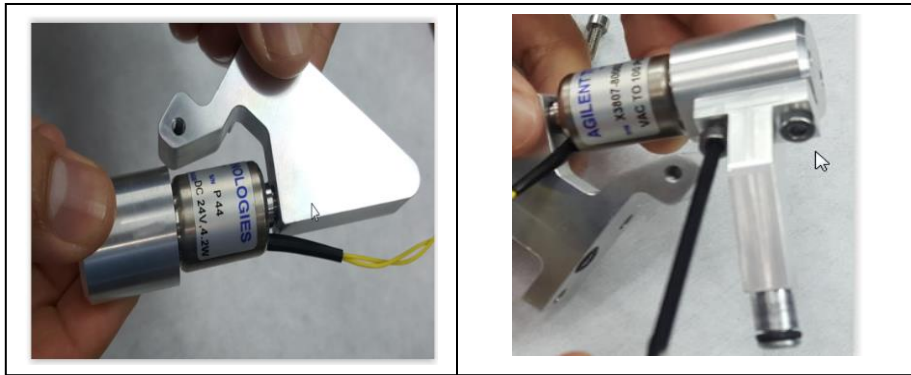


12. Replace the solenoid with the one included in the kit. Remove and replace the five O-rings in the assembly with the new O-Rings included with the kit.



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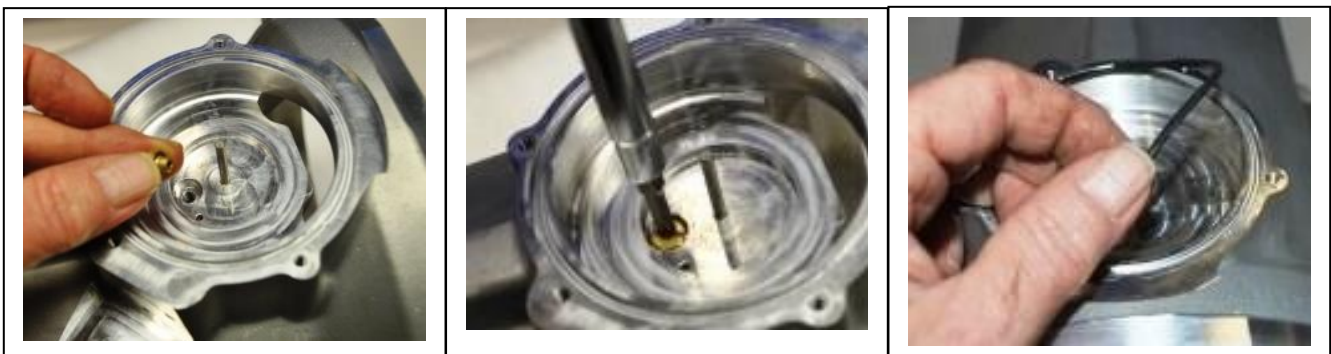
13. Reassemble the new solenoid into the mounting fixtures.



14. Mount the solenoid onto the pump frame. Secure to the frame using two M4 screws.

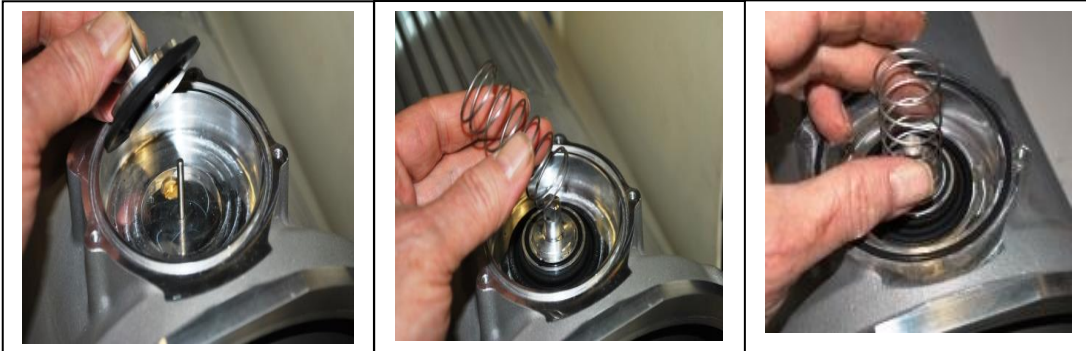


15. Install a new 10-32 threaded orifice. Apply LVP grease to a new O-ring and install it into the O-ring groove.



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16. Install the new diaphragm/piston assembly from the kit. Install the spring onto the diaphragm/piston assembly.



17. Install the new Inlet Flange assembly into the frame assembly and secure with four M4x10 mm screws.



18. Install a new Thermal Rubber Protector onto the inlet assembly.

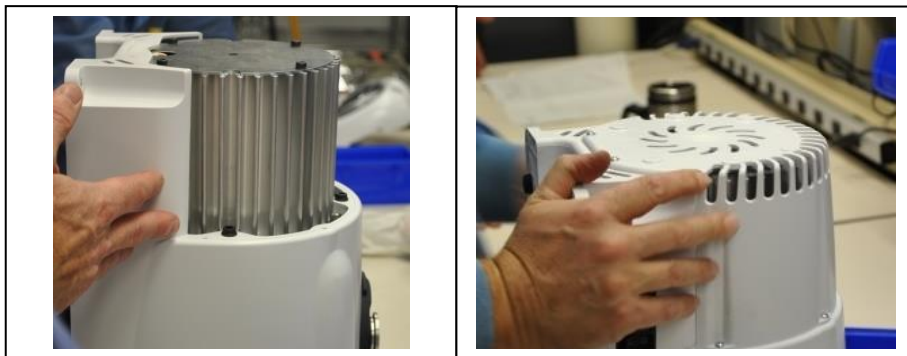


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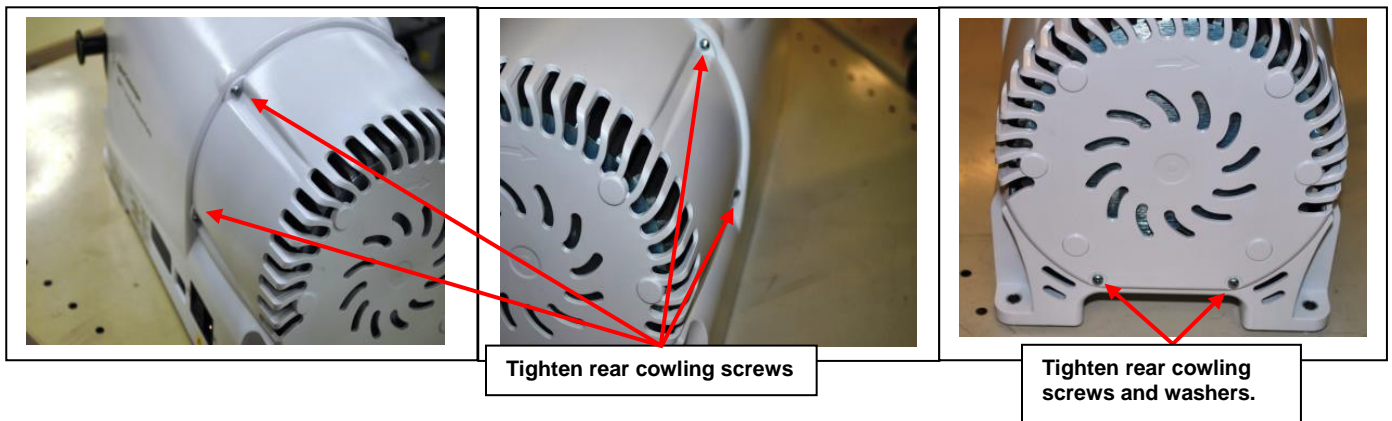
19. Reseat the base assembly. Verify that all connections are in place and that there are no pinched wires. Tighten the five screws that hold the base assembly in place.



20. Reinstall the rear cowling on to the pump assembly.

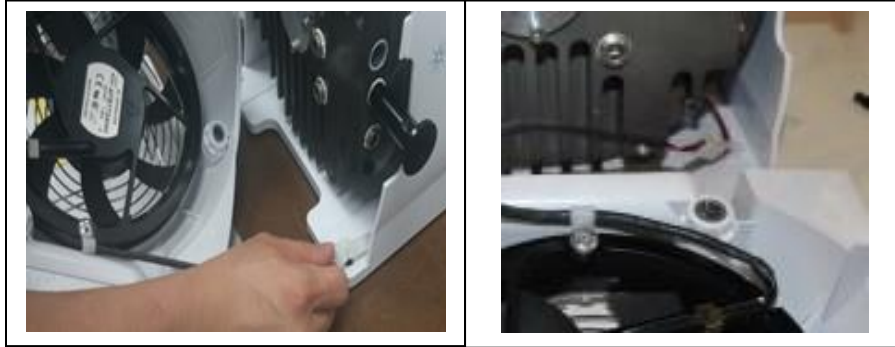


21. Install the six self-tapping screws and two washers that hold the rear cowling to the chassis and front cowling.

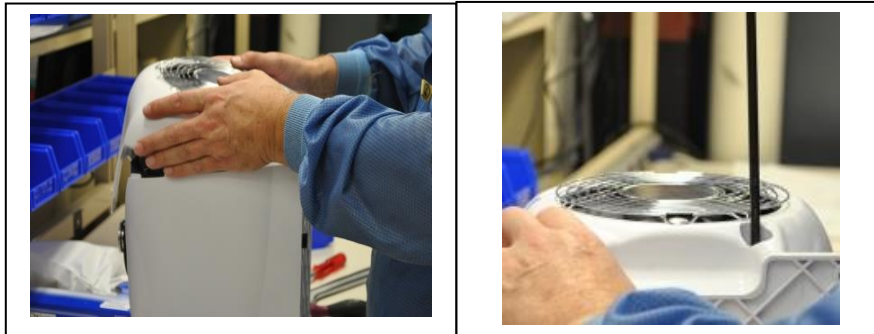


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22. Attach the fan cable from the front cowling to the motor.



23. Attach the front cowling to the pump using three M8x20mm flange bolts. Tighten with 6mm Hex Key. Torque screws to 11.3 Nm if a torque wrench is available.



24. Power the pump up to insure it is functioning correctly.





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, eg).
- 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 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 a 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 a 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: 00390119979
330
Fax Free: 00 800 345 345
00

Toll Free:
0080023423400

[vpt-
customer@agilent.com](mailto:vpt-customer@agilent.com)

NORTH AMERICA:

Fax: 17818609252
Toll Free: 800 882 7426, Option 3
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

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

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. Checkboxes for all materials 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:

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):

I understand and agree to the terms of Section 6, Page 3/3.

Print Name: _____ **Authorized Signature:** **Date:** _____



**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: 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	- Degass 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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Agilent Technologies

