



Agilent Technologies

Vacuum Products Division

TriScroll Purge Kit

*FIELD INSTALLATION
INSTRUCTIONS*

Part Number 699904341

Rev. A

December 2001

Agilent Field Instruction Sheet

TriScroll Purge Kit

Preface

Documentation Standards

This manual uses the following documentation standards:

NOTE Notes contain important information.



CAUTION Cautions appear before instructions, which if not followed, could cause damage to the equipment or data loss.



WARNING Warnings appear for a particular procedure or practice which, if not followed correctly, could lead to serious injury or death.



Hazard and Safety Information

The common international symbols used in this manual and on the equipment are defined below.



OFF Supply (Power)



ON Supply (Power)



AC – Alternating Current



Warning, Risk of danger



Frame or chassis Terminal



Earth (Ground) Terminal



Caution, Hot Surface



Caution, Risk of Electrical Shock



Protective Conductor Terminal

Operators and service personnel must be aware of all hazards associated with this equipment. They must know how to recognize hazardous and potentially hazardous conditions, and know how to avoid them. The consequences of unskilled, improper, or careless operation of the equipment can be serious. Every operator or service person must read and thoroughly understand operation/maintenance manuals and any additional information provided by Agilent. All warning and cautions must be read carefully and strictly observed. Consult local, state, and national agencies regarding specific requirements and regulations. Address any safety, operation, and/or maintenance questions to your nearest Agilent office.

General Information

This instruction manual accompanies the Purge Kit for TriScroll pumps (P/N PTSPURGEKIT).

The TriScroll Purge kit enables safe, proper purging of either the main bearings (through the Bearing Purge Port), or the pump exhaust region (through the Gas Ballast Port) on TriScroll 300 and 600 series pumps.

The kit includes a flowmeter with manual throttle valve, a 5 psig relief valve, necessary tubing and fittings, and instructions.

The flowmeter assembly mounts directly onto the TriScroll pump. A ¼" Swagelok fitting is provided which the user connects to and supplies regulated dry gas (typically Nitrogen) a less than or equal to 5 psig.

The recommended flow rate into either the Bearing Purge Port or Gas Ballast is 5 lpm.

Use of a Bearing Purge is required for the following applications:

- Cryopump Regeneration
- Wet chamber cleanup
- High cycle rate Loadlock Applications
- Pumping organic solvents
- Pumping trace amounts of Bromine or Chlorine
- Pumping residual corrosives

Use of a Gas Ballast purge is indicated for the following applications:

- Leak detection where high ambient helium rejection is required

NOTE



Proper purge use will help prevent corrosion of pump bearings but does not guarantee long pump life in an aggressive application. Pump warranty specifically covers defects in materials and workmanship. It does not cover damage to the pump caused by exposure to corrosives, nor does it cover periodic maintenance such as tip seal replacement.

Installation Procedure

Equipment Required

- 9/16" or 15 mm open ended wrench, or an adjustable wrench
1. Remove the Purge Assembly from its packaging.
 2. Loosen the 2 Swagelok nuts to separate the Purge Assembly into 3 subassemblies as shown in Figure 1: Flowmeter, Tube and Tee Subassemblies.

NOTE



Do not remove the green cap from the relief valve.

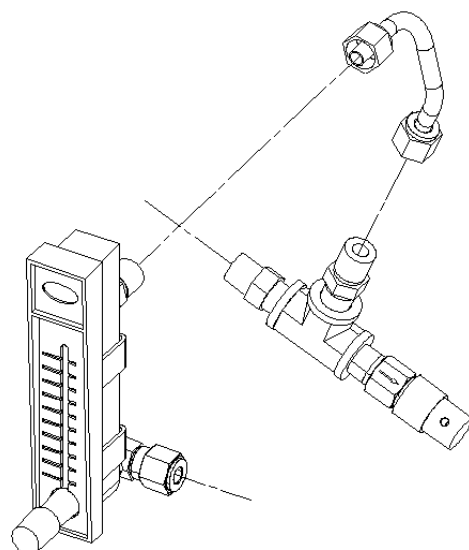


Figure 1: Flowmeter, Tube and Tee Subassemblies

Bearing Purge Installation

1. Remove the ¼" NPT plug from the Bearing Purge Port on the TriScroll pump.
2. Install the Tee Subassembly into the Bearing Purge Port. Tighten moderately until the Swagelok fitting is pointing up as shown in Figure 2: Bearing Purge Installation.
3. Attach the Flowmeter and Tubing Subassemblies to the Tee Subassembly. Tighten the 2 Swagelok nuts.
4. Attach a purge gas line to the ¼" Swagelok fitting at the flowmeter inlet.

WARNING

The purge gas pressure must be regulated to 5 psig or less.



NOTE

The flowmeter must be positioned vertically to read accurately.



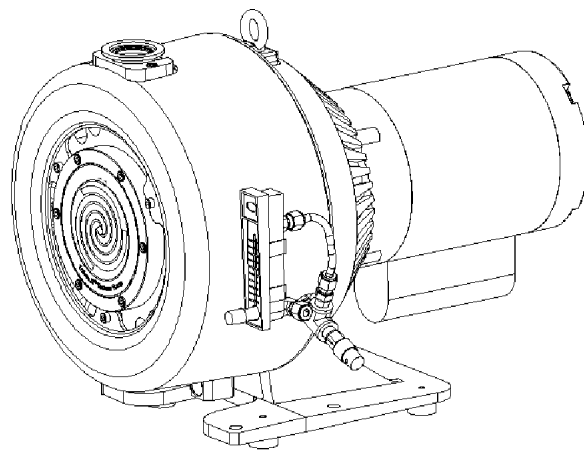


Figure 2: Bearing Purge Installation

Gas Ballast Installation

1. Remove the ¼" NPT fitting from the Gas Ballast Port on the TriScroll pump.
2. Install the Tee Subassembly into the Gas Ballast Port. Tighten moderately until the Swagelok fitting is pointing down as shown in Figure 3: Gas Ballast Purge Installation.
3. Attach the Flowmeter and Tubing Subassemblies to the Tee Subassembly. Tighten the 2 Swagelok nuts.
4. Attach a purge gas line to the ¼" Swagelok fitting at the flowmeter inlet.

WARNING

The purge gas pressure must be regulated to 5 psig or less.



NOTE

The flowmeter must be positioned vertically to read accurately.

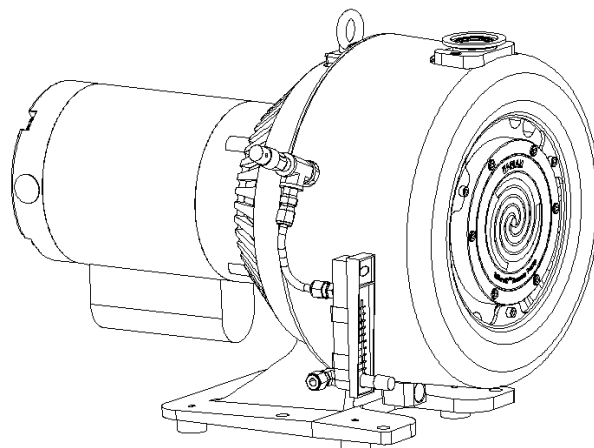


Figure 3: Gas Ballast Purge Installation

Operation

1. Start the TriScroll pump.
2. Adjust the valve at the base of the flowmeter so that the ball floats at the 5 lpm mark.

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:**
 - Remove all accessories from the core product (e.g. inlet screens, vent valves).
 - Prior to shipment, drain any oils or other liquids, purge or flush all gasses, and wipe off any excess residue.
 - If ordering an Advance Exchange product, **please use the packaging from the Advance Exchange to return the defective product.**
 - 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.
 - Agilent Technologies is not responsible for returning customer provided packaging or containers.
 - **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: 00 39 011 9979 330
Fax Free: 00 800 345 345 00
Toll Free: 00 800 234 234 00
vpt-customer@agilent.com

NORTH AMERICA:
Fax: 1 781 860 9252
Toll Free: 800 882 7426, Option 3
vpl-ra@agilent.com

PACIFIC RIM:
please visit our website for individual
office information
<http://www.agilent.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. Check boxes 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:	Power: Rotational Speed: Current: Inlet Pressure: Temp 1: Foreline Pressure: Temp 2: Purge flow: OPERATING TIME:

ION PUMPS/CONTROLLERS

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

VALVES/COMPONENTS

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

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

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

SCROLL AND ROTARY VANE PUMPS

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

DIFFUSION PUMPS

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

- 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.
- 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.
- 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.
- 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.
- A Special Cleaning fee will apply to all exposed products per Section 4 of this document.
- If requesting a calibration service, units must be functionally capable of being calibrated.

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