



Agilent Technologies

Vacuum Products Division

531 Thermocouple Gauge with Adapter for VS Series Leak Detectors

FIELD INSTRUCTION SHEET

Manual No. 699910007

Revision A

June 2008

Agilent Field Instruction Sheet

531 Thermocouple Gauge with Adapter for VS Series Leak Detectors

Equipment Required

- Extended Length M5 Allen Wrench
- Metric Allen Wrench Set

WARNING



Disconnect power from the unit before performing any maintenance procedure that requires physically disconnecting any part of the system.

NOTE



Some early versions of this instrument used one assembly that incorporated a TC Gauge and cable. If you need to replace one of these early assemblies, you must replace the cable assembly (VSFLDOC).

1. Turn off the power switch located on the back of the unit and unplug.
2. Wait 30 seconds for the high voltage to dissipate.
3. Using an extended length M5 Allen wrench, remove the four screws holding the rear plastic cover and detach the rear plastic cover from the unit.
4. If replacing cable, remove the four screws holding the front plastic cover and detach the cover from the unit. Two screws are situated at the lower front of the unit and two screws are positioned inside near top.
5. Disconnect the fan cable and remove the fan assembly by unfastening two wing nuts and one M4 socket head cap screw.
6. Replace the TC Gauge by:
 - a. Disconnecting the octal connector from the TC gauge.
 - b. Using an M4 Allen wrench to remove the TC gauge from the valve block. Retain both screws and the two washers, and discard the old TC Gauge and O-ring.
 - c. Place the new O-ring onto the TC adapter.
 - d. Install the TC adapter to the valve block with the existing hardware using an M4 Allen wrench.
 - e. Install TC washer onto 531 TC then slide pre-lubricated o-ring up against washer.
 - f. Insert TC into adapter.
 - g. Reconnect the octal connector to the TC Gauge.
 - h. If an Octal cable installation is required then proceed to step 7, otherwise proceed to step 8.
7. Replace the octal cable (VSFLDOC) by:
 - a. Detach the cable plug from the motherboard PCB and disconnect the ground cable from the stud.
 - b. Remove the assembly from the cable ties and discard.
 - c. Route the replacement octal cable back through the assembly in the same position as the removed cable.
 - d. Attach the cable plug to the PCB and the ground wire to the stud.
 - e. Install the ground lug from octal connector on stud on chassis.
 - f. Attach the octal connector to the TC gauge.



8. Attach the fan assembly by fastening the two wing nuts and one M4 socket head cap screw. Then connect the fan cable to the unit.
 9. Attach the front cover and secure to the frame using existing hardware.
 10. Leak test the TC gauge to ensure a leak free joint.
 11. Attach the rear cover and secure to the frame using existing hardware.
 12. Connect the power cord and power up the unit.
 13. Watch the home screen to verify that the *Spectrometer Pressure Wait* message progresses to *Stabilization Wait* and *System Ready* within ten minutes. Refer to the operator's manual if the system fails to reach the *System Ready* mode.
- Refer to the TC gauge calibration section of the user's manual for the correct calibration procedure for the TC gauge. Agilent recommends a full calibration of the unit prior to leak test operations.
- For future replacement TC Gauges order F0472301.

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 care@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>



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

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: ☐ Taxable ☐ 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
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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
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SCROLL AND ROTARY VANE PUMPS

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

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