

Delayed Vent Device

Model

X3505-68000

X3505-68001

Manuale di Istruzioni **User Manual**

87-901-035-01 (A)

07/ 2013



Agilent Technologies

Notices

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ITALY

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CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

Delayed Vent Device



Delayed Vent Device

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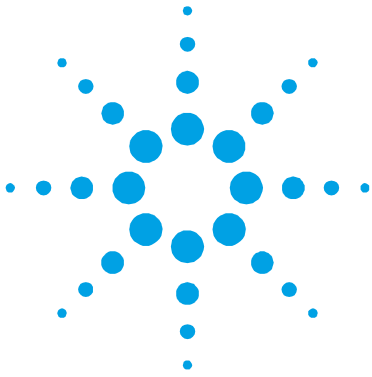
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Procedura per l'installazione

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Traduzione delle istruzioni originali



Generalità

Questa apparecchiatura è destinata ad uso professionale. L'utilizzatore deve leggere attentamente il presente manuale di istruzioni ed ogni altra informazione addizionale fornita dalla Agilent prima dell'utilizzo dell'apparecchiatura. La Agilent si ritiene sollevata da eventuali responsabilità dovute all'inosservanza totale o parziale delle istruzioni, ad uso improprio da parte di personale non addestrato, ad interventi non autorizzati o ad uso contrario alle normative nazionali specifiche.

Nei paragrafi seguenti sono riportate tutte le informazioni necessarie a garantire la sicurezza dell'operatore durante l'utilizzo dell'apparecchiatura.

Il Turbo-V "Vent Device" comprende un'unità di controllo ed una valvola, che realizzano un sistema completo per la ventilazione automatica della pompa Turbo-V nella fase di spegnimento o nel caso si verifichi una caduta di tensione. La valvola in condizioni di riposo (senza alimentazione) è normalmente aperta. L'attivazione avviene in modo elettromagnetico, mentre il fissaggio (Viton-sealed) viene realizzato tramite un adattatore di tipo M8 o M5 con relativo O-ring sul foro per alto vuoto della pompa. L'aria di ingresso nella valvola, viene filtrata tramite un opportuno filtro o un adattatore da 1/4" presente sull'ingresso aria della valvola stessa.

L'unità di controllo viene attivata con un ritardo, che dipende dalla tensione di alimentazione, per evitare ventilazioni inopportune durante una caduta di tensione temporanea e per permettere la chiusura delle valvole di sistema prima della ventilazione.

Caratteristiche tecniche

Unità di controllo

Tensione di ingresso	100 ÷ 240 Vac ($\pm 10\%$)
- frequenza	da 50 a 60 Hz
- potenza	50 VA
Tensione di uscita	24 Vcc $\pm 5\%$
- potenza (max)	11 W
Ritardo	circa 2 secondi (120Vac) – circa 8 secondi (230Vac) [vedi figura 1]
Funzionamento	da 0 a 40 °C 0 – 90 %
Immagazzinamento	da -20 a 50 °C 0 – 95 %

Ritardo

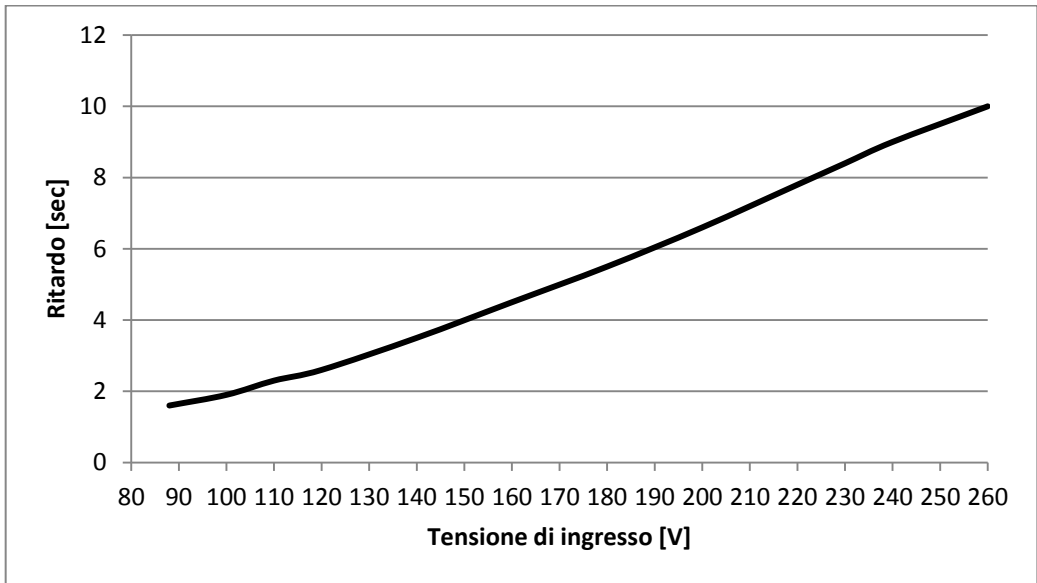


Figura 1 Ritardo valvola

Cavi di connessione

Uscita alla valvola	lungo 5 metri, 3 fili
Peso (con cavo):	0,5 Kg (1,1 lbs)

Vent valve

Stato valvola	Normalmente aperta (chiusa quando viene alimentata)
Connessione di alto vuoto	Adattatore M8/M5
Ingresso aria	Filtro bronzo sinterizzato o un adattatore da 1/4"
Dimensione foro	1,2 mm (0,05") [X3505-68000] 0,5 mm (0,02") [X3505-68001]
Gamma di pressioni	da 10^{-6} mbar a 1 bar (da 10^{-7} Torr a atm)
Leak rate	$\leq 1 \times 10^{-7}$ mbar l/s
Vita	1 milione di cicli
Tensione di ingresso	24 Vcc +10% -5%
- potenza	2 W
Temperatura di bakeout	60 °C
Peso (senza cavo)	0,1 Kg (0,24 lb)

La figura seguente riporta le dimensioni di ingombro del Turbo-V Vent Device.

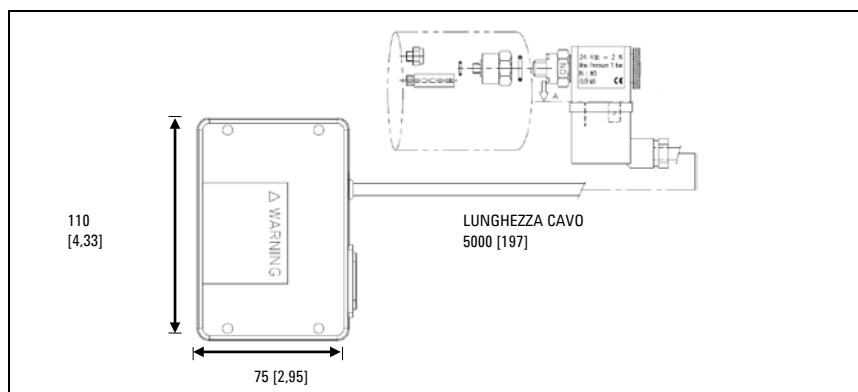


Figura 2 Dimensioni in mm [pollici]

Installazione

In figura sono riportati i vari componenti presenti nel Kit Turbo-V Delayed Vent Device. Tali componenti sono forniti disassemblati; sarà quindi cura del cliente provvedere all'assemblaggio del Kit.

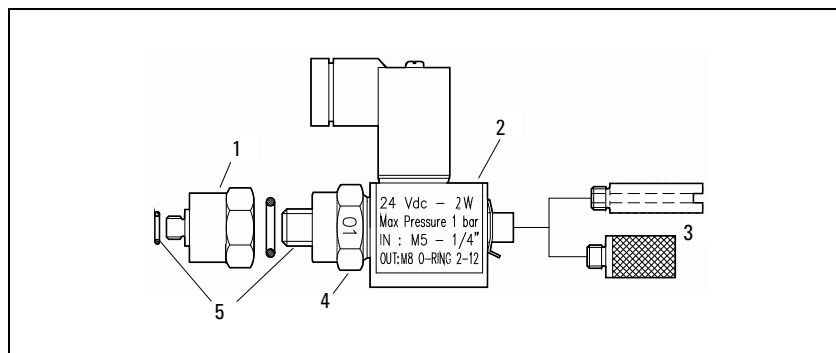


Figura 3 Kit Turbo-V Delayed Vent Valve

1	Adattatore M8 - M5
2	Valvola
3	Filtro/Adattatore da 1/4"
4	Dado di fissaggio bobina
5	O-ring

Il kit contiene due adattatori femmina/maschio, uno M8 ed uno M5. Sarà cura del cliente utilizzare quello specifico per le proprie esigenze.

ATTENZIONE!

Durante la fase di assemblaggio del kit, fare attenzione a non svitare la ghiera ed il dado di fissaggio della bobina interna alla valvola..

1 Procedura per l'installazione Installazione

Completato l'assemblaggio, procedere con l'installazione sulla pompa.

Per pompe dotate di tappo a vite, dopo aver rimosso il tappo stesso, utilizzare l'adattatore appropriato per fissare la valvola alla pompa.

La seguente figura riporta un'installazione tipica su una pompa dotata di tappo.

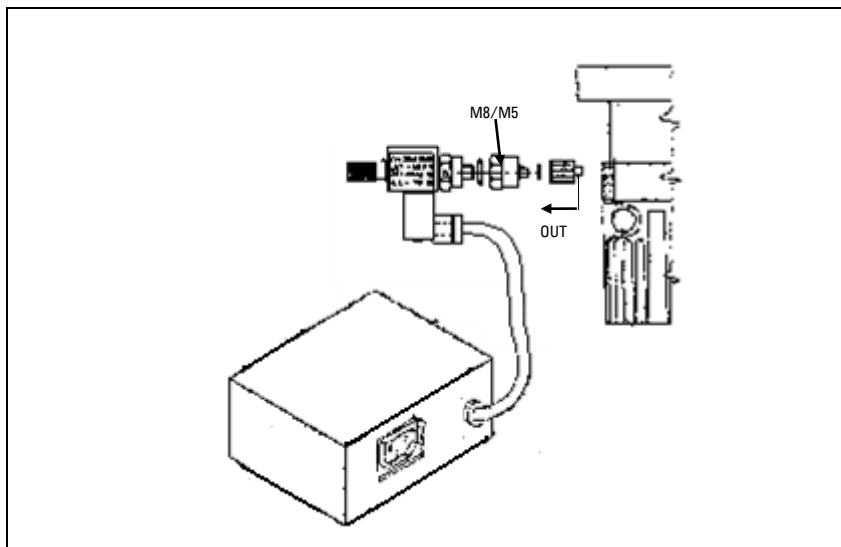


Figura 4 Installazione su pompa con tappo a vite

Dopo aver completato l'installazione meccanica, collegare il cavo di alimentazione dell'unità di controllo del Turbo-V vent device.

Per l'installazione su pompe non dotate di tappo a vite, occorre utilizzare il sistema di flange in dotazione alla pompa, come riportato in figura.

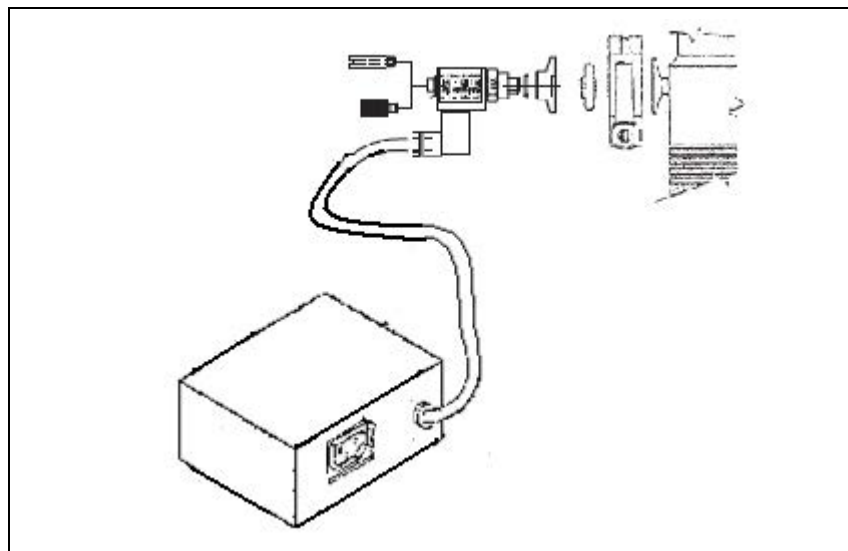


Figura 5 Installazione su pompa senza tappo a vite

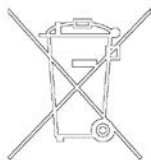
AVVERTENZA!

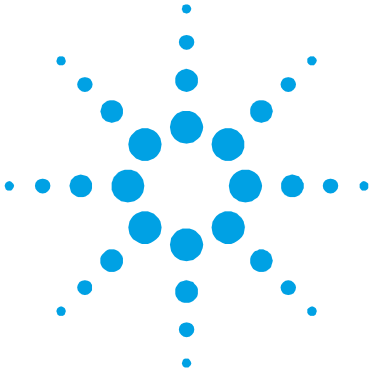


Il dispositivo è progettato solo per uso interno e deve essere alimentato mediante un cavo di alimentazione a tre fili (vedere tabella delle parti ordinabili) con una spina di tipo approvato a livello internazionale ai fini della sicurezza dell'utente. Utilizzare sempre questo cavo di alimentazione ed inserire la spina in una presa con un adeguato collegamento di terra onde evitare scariche elettriche e per rispettare le specifiche CE. All'interno del dispositivo si sviluppano alte tensioni che possono recare gravi danni o la morte. Prima di eseguire qualsiasi operazione di installazione o manutenzione del dispositivo scollegarlo dalla presa di alimentazione.

Smaltimento

Significato del logo "WEEE" presente sulle etichette. Il simbolo qui sotto riportato è applicato in ottemperanza alla direttiva CE denominata "WEEE". Questo simbolo (**valido solo per i paesi della Comunità Europea**) indica che il prodotto sul quale è applicato, NON deve essere smaltito insieme ai comuni rifiuti domestici o industriali, ma deve essere avviato ad un sistema di raccolta differenziata. Si invita pertanto l'utente finale a contattare il fornitore del dispositivo, sia esso la casa madre o un rivenditore, per avviare il processo di raccolta e smaltimento, dopo opportuna verifica dei termini e condizioni contrattuali di vendita.





2 Installation procedure

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Original Instructions



Overview

This equipment is destined for use by professionals. The user should read this instruction manual and any other additional information supplied by Agilent before operating the equipment. Agilent will not be held responsible for any events occurring due to non-compliance, even partial, with these instructions, improper use by untrained persons, non-authorized interference with the equipment or any action contrary to that provided for by specific national standards.

The following paragraphs contain all the information necessary to guarantee the safety of the operator when using the equipment.

The Turbo-V “Vent Device”, consisting of a control unit and a valve, is a complete unit for automatic venting of the Turbo-V vent pump when it is switched off or during a power failure. The valve is a normally-open (power off) valve, electro-magnetically-actuated and Viton-sealed with an M8 and M5 thread with O-ring on the high vacuum port and a filter or tube 1/4” adapter on the air inlet.

The control unit is activated with a delay, depending on power supply, to avoid inappropriate venting in the case of temporary power drops, and to permit the system valves to be closed before venting starts.

Technical characteristics

Control unit

Input voltage	100 ÷ 240 Vac ($\pm 10\%$)
- frequency	50 to 60 Hz
- power	50 VA
Output voltage	24 Vdc $\pm 5\%$
- power (max)	11 W
Delay time	about 2 sec. (120Vac) – about 8 sec. (230Vac) [see Figure 1]
Operating	0 to 40 °C 0 – 90 %
Storage	-20 to 50 °C 0 – 95 %

Delay

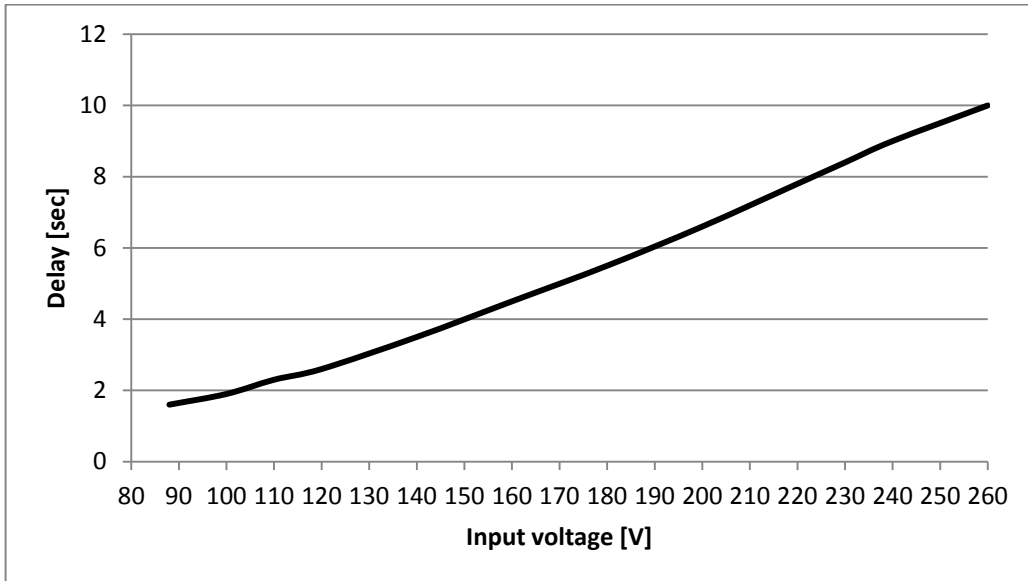


Figure 1 Vent delay

Connection Cables

Output to valve	5 meters long, 3 wire
Weight (with cable)	0.5 Kg (1.1 lbs)

Vent Valve

Valve status	Normally open (closed when power is applied)
High vacuum connection	M8/M5 thread
Air intake	sintered bronze filter or tube 1/4" adapter
Orifice size	1.2 mm (0.05") [X3505-68000] 0.5 mm (0.02") [X3505-68001]
Pressure range	10^{-6} mbar to 1 bar (10^{-7} Torr to atm)
Leak rate	$\leq 1 \times 10^{-7}$ mbar l/s
Life cycle	one million cycles
Input voltage	24 Vdc +10% -5%
- power	2 W
Bakeout temperature	60 °C
Weight (w/o cable)	0.1 Kg (0.24 lb)

The following figure gives the overall dimensions of the Turbo-V Vent Device.

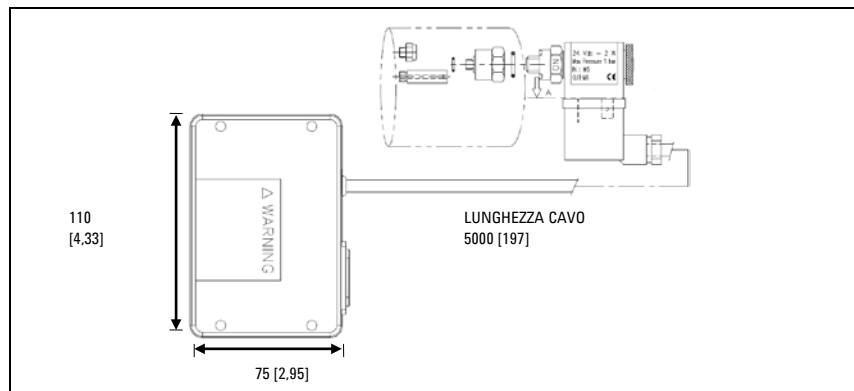


Figure 2 Dimensions in mm [inches]

Installation

The following figure shows the different components of the Turbo-V Delayed Vent Valve kit. These will be supplied to the client disassembled.

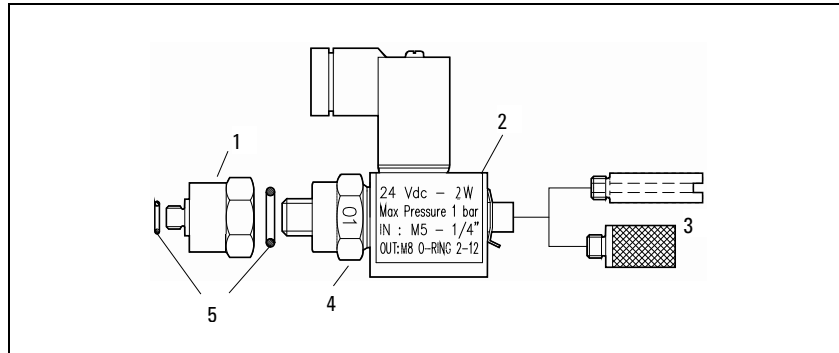


Figure 3 Turbo-V Delayed Vent Valve Kit

1	M8 - M5 adapter
2	Valve
3	Filter/ Tube 1/4" adapter
4	Coil securing nut
5	O-ring

The kit contains an M8 and M5 female/male adapter. It is up to the client to decide which adapter to use.

CAUTION!

When assembling the kit, be careful not to unscrew the coil securing ring and nut inside the valve.

Once the kit is assembled, install it on the pump.

For pumps equipped with a screw cap, once the screw cap is removed use the appropriate adapter to secure the valve to the pump.

The following figure shows a typical installation on a pump equipped with a screw cap.

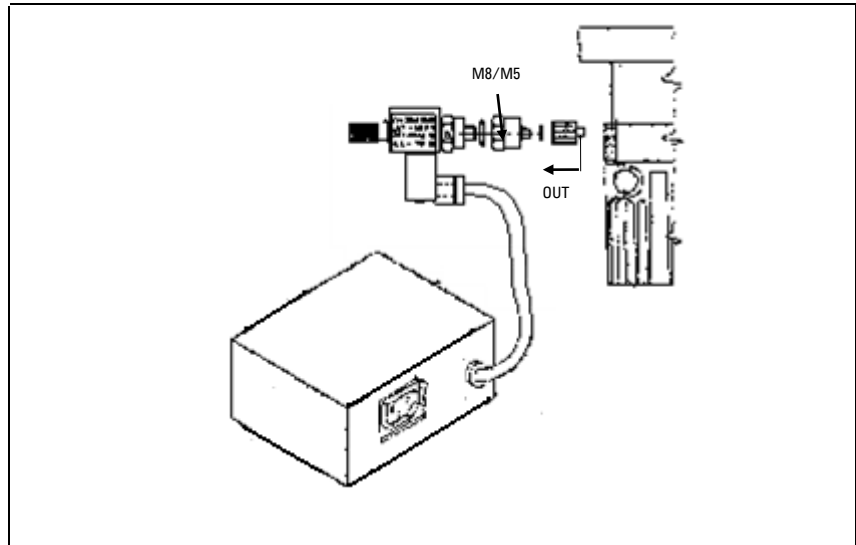


Figure 4 Installation on a Pump Equipped with a Screw Cap

Upon completion of the mechanical installation, attach the Turbo-V vent device.

For installation on pumps that are not equipped with a screw cap, use the flange system provided with the pump as shown in the following figure.

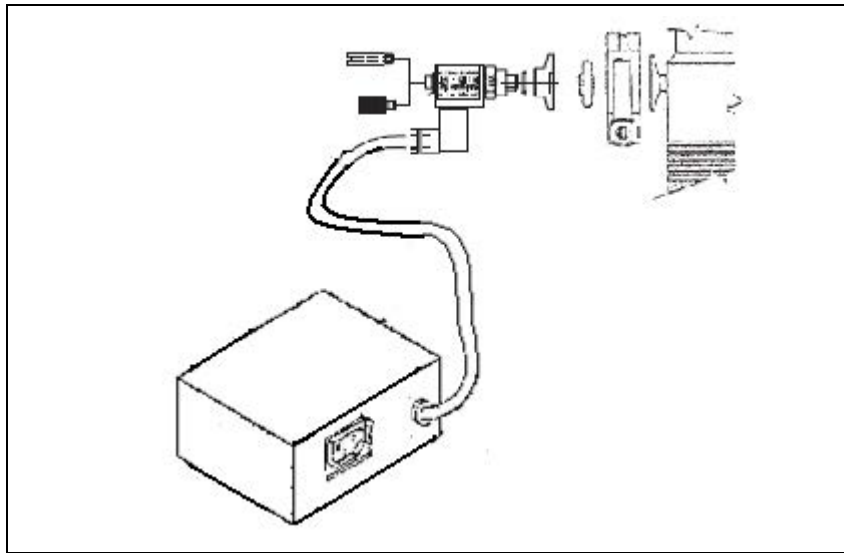


Figure 5 Installation on a Pump not Equipped with a Screw Cap

WARNING!

The device is designed for indoor use only and must be powered with 3-wire power cord (see orderable parts table) and plug (internationally approved) for user's safety. Use this power cord and plug in conjunction with a properly grounded power socket to avoid electrical shock and to satisfy CE requirements. High voltage developed in the device can cause severe injury or death. Before servicing the unit, disconnect the input power cable.

Disposal

Meaning of the "WEEE" logo found in labels

The following symbol is applied in accordance with the EC WEEE (Waste Electrical and Electronic Equipment) Directive.

This symbol (**valid only in countries of the European Community**) indicates that the product it applies to must NOT be disposed of together with ordinary domestic or industrial waste but must be sent to a differentiated waste collection system.

The end user is therefore invited to contact the supplier of the device, whether the Parent Company or a retailer, to initiate the collection and disposal process after checking the contractual terms and conditions of sale.

Orderable Parts

Description	Part number
Mains cable NEMA plug (3 m)	969-9958
Mains cable european plug (3 m)	969-9957



Agilent Technologies

Vacuum Products Division

Dear Customer,

Thank you for purchasing an Agilent vacuum product. At Agilent Vacuum Products Division we make every effort to ensure that you will be satisfied with the product and/or service you have purchased.

As part of our Continuous Improvement effort, we ask that you report to us any problem you may have had with the purchase or operation of our products. On the back side you find a Corrective Action request form that you may fill out in the first part and return to us.

This form is intended to supplement normal lines of communications and to resolve problems that existing systems are not addressing in an adequate or timely manner.

Upon receipt of your Corrective Action Request we will determine the Root Cause of the problem and take the necessary actions to eliminate it. You will be contacted by one of our employees who will review the problem with you and update you, with the second part of the same form, on our actions.

Your business is very important to us. Please, take the time and let us know how we can improve.

Sincerely,

Giampaolo LEVI

*Vice President and General Manager
Agilent Vacuum Products Division*

CUSTOMER REQUEST FOR CORRECTIVE / PREVENTIVE / IMPROVEMENT ACTION

TO: AGILENT VACUUM PRODUCTS DIVISION TORINO – QUALITY ASSURANCE

FAX N°: XXXX-011-9979350

ADDRESS: AGILENT TECHNOLOGIES ITALIA S.p.A. – Vacuum Products Division –

Via F.Ili Varian, 54 – 10040 Leini (TO) – Italy

E-MAIL: vpd-qualityassurance_pdl-ext@agilent.com

NAME _____	COMPANY _____	FUNCTION _____
ADDRESS: _____		
TEL. N° : _____ FAX N° : _____		
E-MAIL: _____		
PROBLEM / SUGGESTION : _____ _____ _____ _____		
REFERENCE INFORMATION (model n°, serial n°, ordering information, time to failure after installation, etc.): _____ _____ _____		
		DATE _____
CORRECTIVE ACTION PLAN / ACTUATION (by AGILENT VPD) _____ _____ _____ _____ _____		LOG N° _____

XXX = Code for dialing Italy from your country (es. 01139 from USA; 00139 from Japan, etc.)



**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>

**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: <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:



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
--	---

LEAK DETECTORS

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

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.

Sales and Service Offices

United States

**Agilent Technologies
Vacuum Products Division**
121 Hartwell Avenue
Lexington, MA 02421 - USA
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Toll-Free: +1 800 882 7426

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Fax: +31 118 671569
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