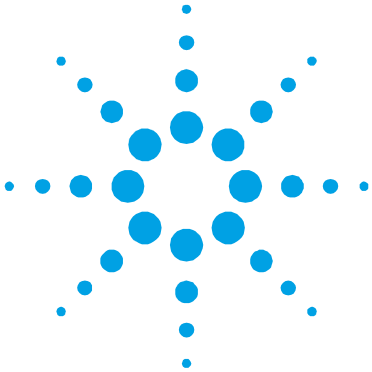

Delayed Vent Device

Model
X3505-68000
X3505-68001

Manuale di Istruzioni
User Manual

87-901-035-01
02/ 2013

Agilent Technologies

Notices

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Agilent Technologies Italia S.p.A.

Vacuum Products Division

Via F.lli Varian, 54

10040 Leini (TO)

ITALY

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Safety Notices

CAUTION

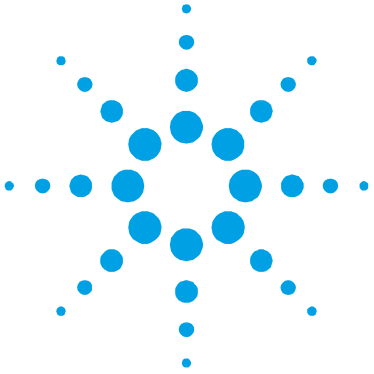
A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully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

Contents



1
Procedura per l'installazione

Traduzione delle istruzioni originali

Generalità

Il Turbo-V "Delayed 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 (±10 %)
- frequenza	da 50 a 60 Hz
- potenza	5 A
Tensione di uscita	24 Vcc ± 5%
- potenza (max)	11 W
Ritardo	circa 2 secondi (120Vac) – circa 8 secondi (230Vac) [vedi figura 1]
Temperatura operativa	da 0 a 40 °C
Temperatura di immagazzinamento	da -20 a 50 °C

Ritardo

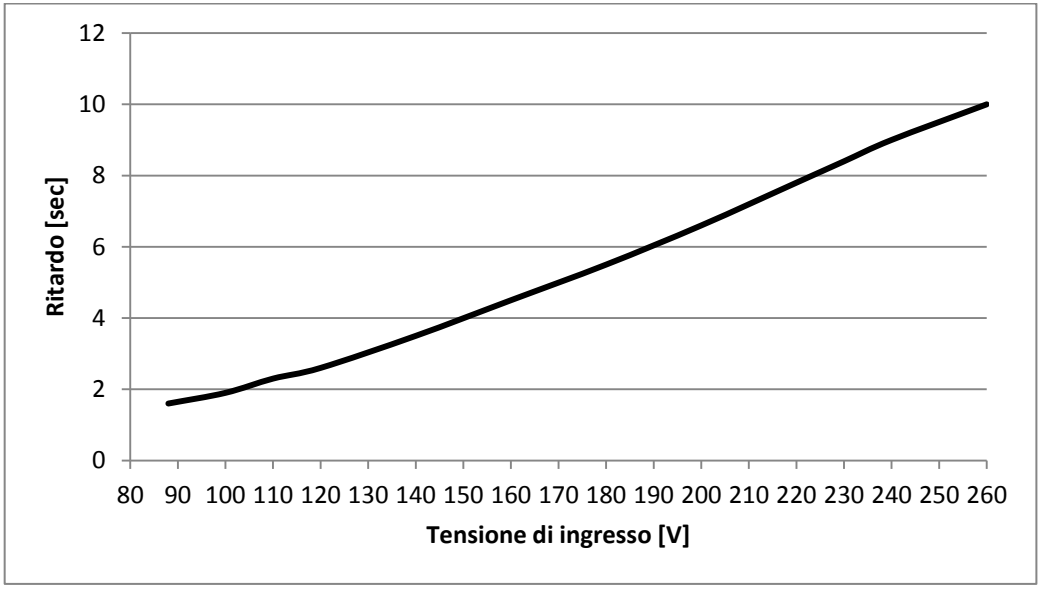


Figura 1 Ritardo valvola

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 (da10^{-7} Torr a atm)
Leak rate	≤ 1x10^{-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 Delayed Vent Device.

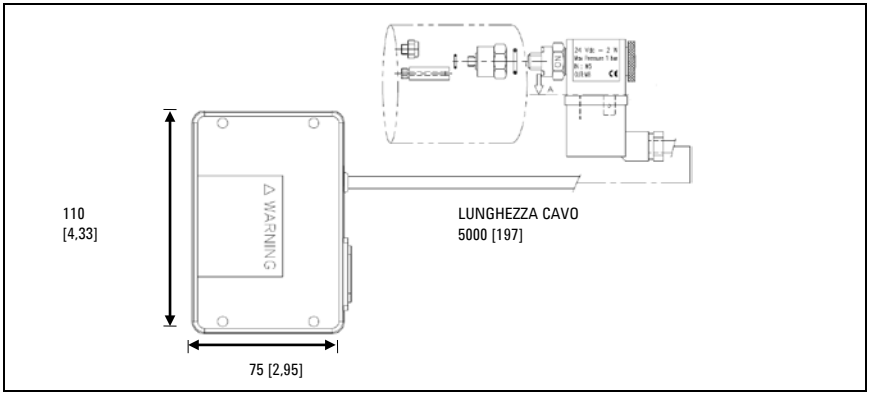


Figura 2 Dimensioni in mm [pollici]

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.

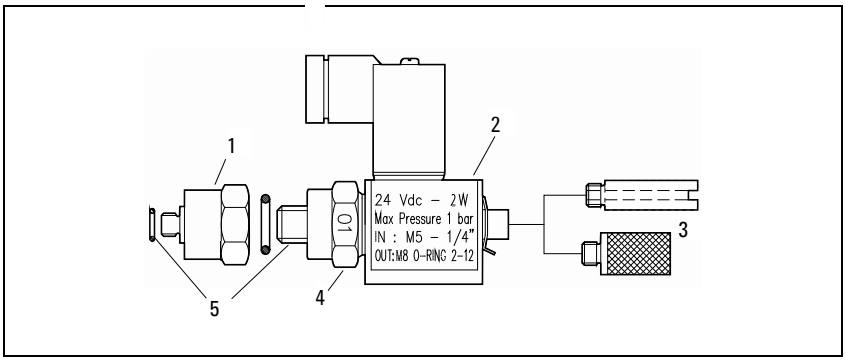


Figura 3 Kit Turbo-V Delayed Vent Valve

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..

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.

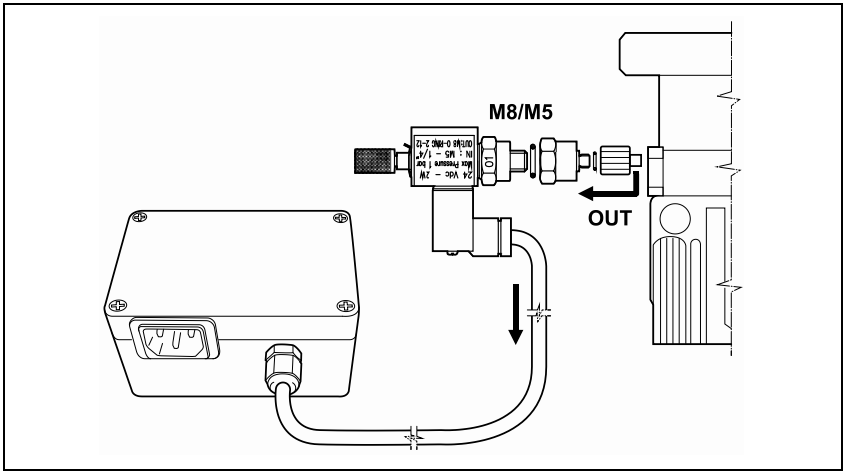


Figura 4 Installazione su pompa con tappo a vite

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

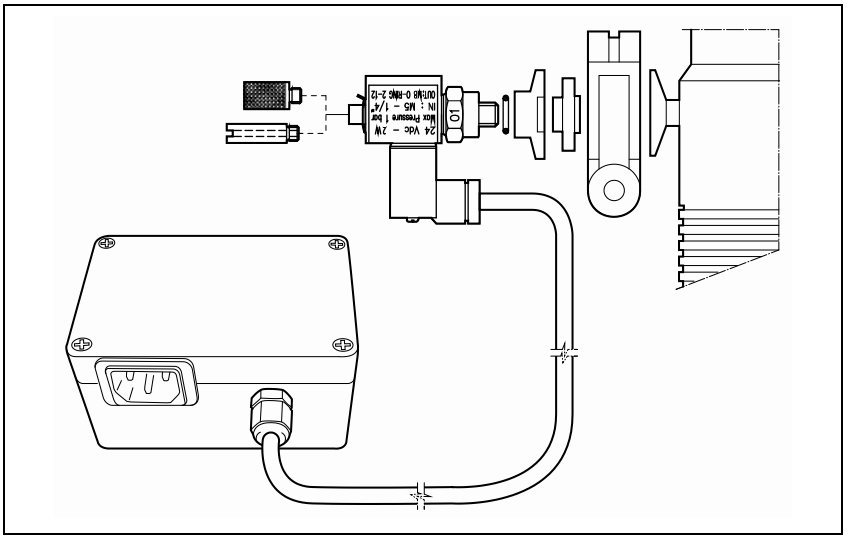
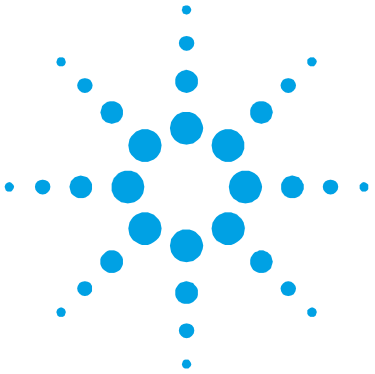


Figura 5 Installazione su pompa senza tappo a vite

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

Original Instructions

Overview

The Turbo-V “Delayed 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 (±10 %)
- frequency	50 to 60 Hz
- power	5 A
Output voltage	24 Vdc ± 5%
- power (max)	11 W
Delay time	about 2 sec. (120Vac) – about 8 sec. (230Vac) [see Figure 1]
Operating temperature	0 to 40 °C
Storage temperature	-20 to 50 °C

Delay

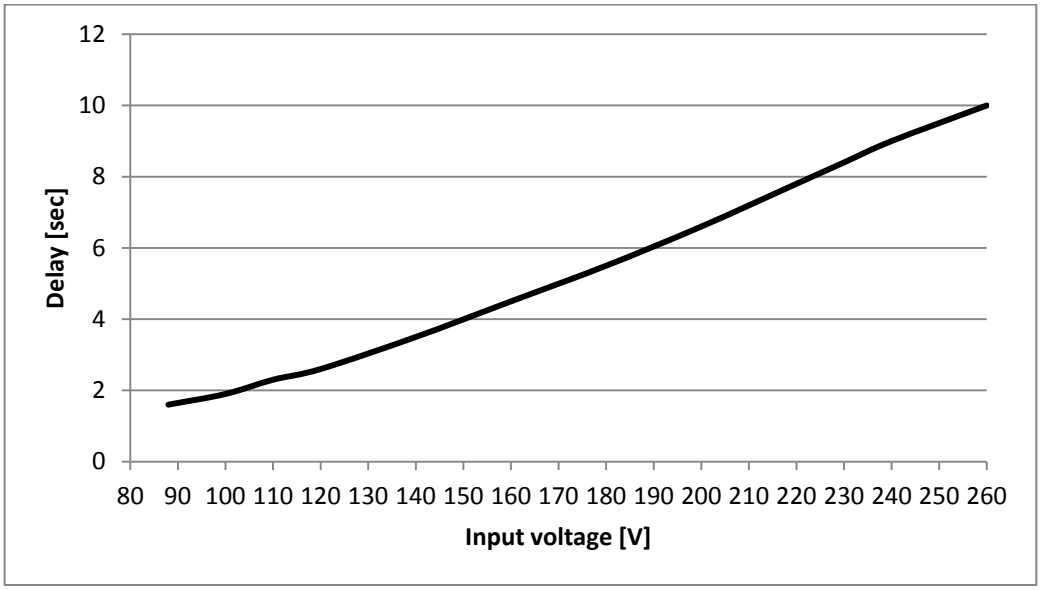


Figure 1 Vent delay

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	≤ 1x10^{-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 Delayed Vent Device.

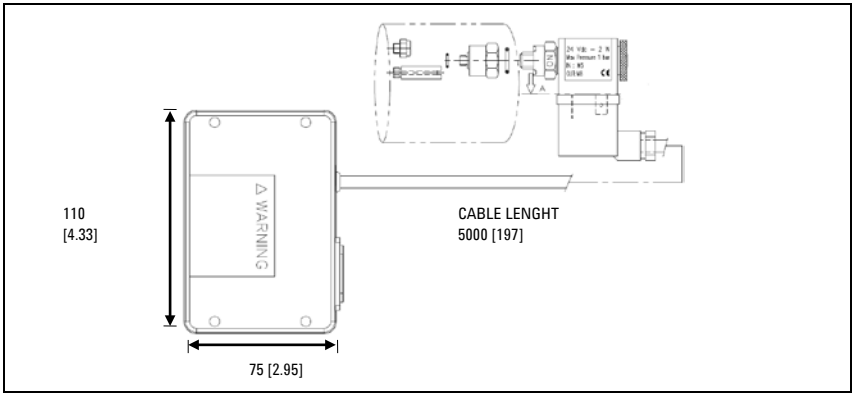


Figure 2 Dimensions in mm [inches]

Installation

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

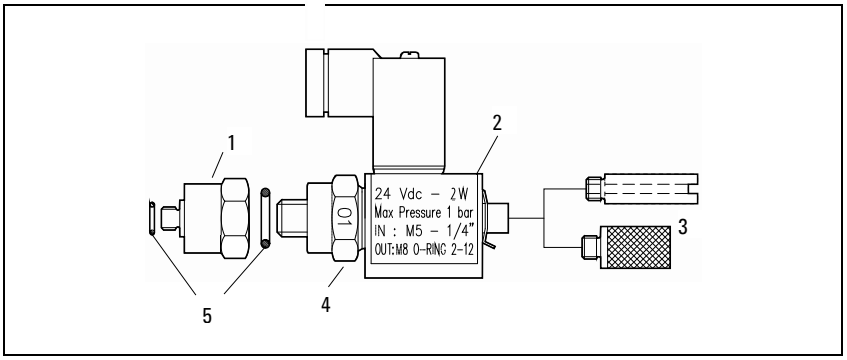


Figure 3 Turbo-V Delayed Vent Valve Kit

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.

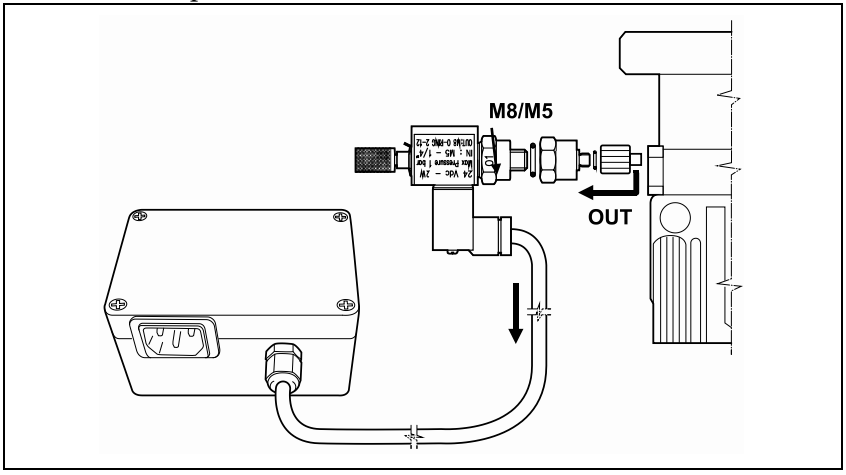


Figure 4 Installation on a Pump Equipped with a Screw Cap

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

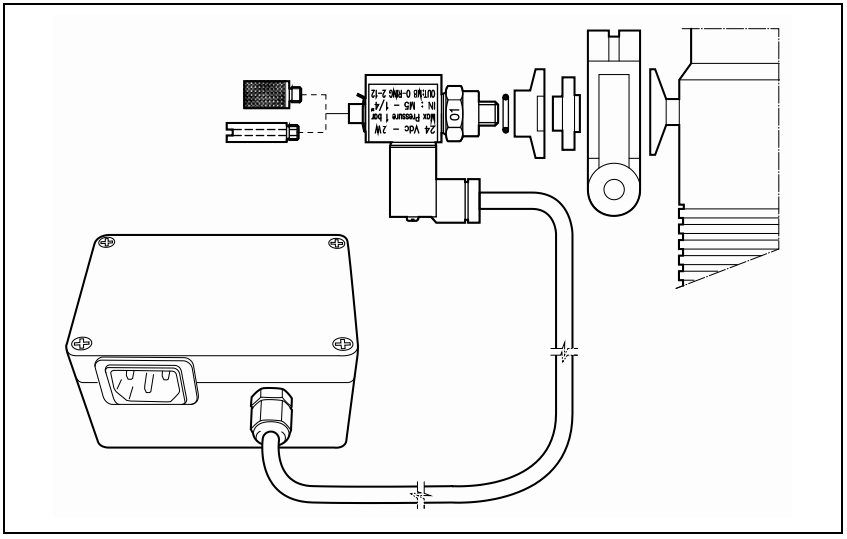


Figure 5 Installation on a Pump not Equipped with a Screw Cap

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.

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

Note: Fax or mail the Customer Request for Action (see backside page) to Agilent Vacuum Products Division (Torino) – Quality Assurance or to your nearest Agilent representative for onward transmission to the same address.

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.lli Varian, 54 – 10040 Leinì (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.)

Agilent Technologies

Agilent Technologies

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:	**NORTH AMERICA:**	**PACIFIC RIM:**
Fax: 00 39 011 9979 330 Fax Free: 00 800 345 345 00 Toll Free: 00 800 234 234 00 vpt-customercare@agilent.com	Fax: 1 781 860 9252 Toll Free: 800 882 7426, Option 3 vpl-ra@agilent.com	please visit our website for individual office information http://www.agilent.com

Agilent Technologies

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:**

Agilent Technologies

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

ION 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 backround
- Vacuum system unstable	- Cannot reach test mode
- Failed to start	- Other

INSTRUMENTS

- Gauge tube not working	- Display problem
- Communication failure	- Degas 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.

- 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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Fax: +1 781 860 5437
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Andheri (East), Mumbai – 400 099.India
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