

MAINTENANCE INSTRUCTIONS

EN

Translation of the original instructions

ASM 390 - ASM 392

Leak detector

PFEIFFER VACUUM

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1 About this manual

1.1 Validity

This maintenance manual is intended for the customers of the Pfeiffer Vacuum Company. It describes the product maintenance operations which can be performed by the user on the product concerned. **This documentation must be used with the operating manual of the product of the same name**.

The current maintenance manuals are also available on the Internet at www.pfeiffer-vacuum.com.

This manual covers products with the following part numbers:

Part number	Description
CSGB01GxMM9x	ASM 390
ESGB02GxMM9x	ASM 392

1.1.1 Applicable documents

The document to be used in reference to this maintenance manual is:

	Operating instructions
ASM 390/392 leak detector	Ref. 126348*

*also available at www.pfeiffer-vacuum.com

1.2 Conventions

1.2.1 Safety instructions

Operating manual safety instructions Pfeiffer Vacuum are based on the UL, CSA, ANSI Z-535, SEMI S2, ISO 3864 and DIN 4844 certification standards. This document describes the following information and danger levels:

DANGER

Imminent danger

Indicates an imminent hazardous situation that will result in death or serious injury.

WARNING

Possibly imminent danger

Indicates an imminent hazardous situation that can result in death or serious injury.

CAUTION

Possibly imminent danger

Indicates an imminent hazardous situation that can result in minor or moderate injury.

NOTICE

Command or note

Command to perform an action or information about properties, the disregarding of which may result in damage to the product.

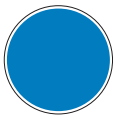
1.2.2 Pictographs



Prohibition of an action to avoid any risk of accidents, the disregarding of which may result in serious accidents



Warning of a displayed source of danger in connection with operation of the unit or equipment



Command to perform an action or task associated with a source of danger, the disregarding of which may result in serious accidents



Important information about the product or this document

1.2.3 Instructions/Abbreviations used

⇨ or ➔	Work instruction: you must perform an operation here.
[XXXX]	You must press the **XXXX** key on the control panel.
I/O	Inputs/Outputs
^{4}He	Helium 4
^{3}He	Helium 3
H_2	Hydrogen

1.2.4 Labels



Indicates an electrical shock hazard in case of contact:
⇨ disconnect the electrical power supply before removing the cover and working on the product.



Locate a grounding point on the product.



Product subject to the treatment of waste electronic and electrical equipment in accordance with directive 2002/95/EC.

Other labels: see Operating Instructions.

2 Safety and maintenance information

2.1 Safety precautions



Duty to inform

Every person who is involved in maintenance and servicing work on the pump must read and follow the safety-relevant parts of all associated documents.



NOTICE

Exclusion of liability

Pfeiffer Vacuum accepts no responsibility concerning equipment damage, disrupted service or physical injury resulting from maintenance carried out by technicians who have not been trained in safety rules (EMC, electrical hazards, chemical pollution). Liability and warranty claims shall be inadmissible in this case.





WARNING

Risk of electric shock

Voltage and current can cause electric shock. Only skilled, authorized people may carry out maintenance work.

➔ Isolate and lock the power supply circuit by positioning the circuit breaker on **O**.

➔ Disconnect the power cable from all power sources before doing any work on the product and/or removing the covers.



WARNING

Other localized hazardous energies

Electrical circuit and other pressurized circuits as nitrogen are potential hazards:

➔ Always lock out these energy sources before working on the product.



NOTICE

Work/Handling the detector

The operator must not work on the product to move it or carry out maintenance until it has come to a complete shutdown! When the circuit breaker is set at **O**, you must:

➔ Unplug the power cable.

➔ Wait for the control panel screen to turn off completely before working on the product and/or removing the covers.

WARNING

Risk linked to installation tightness

The products are factory tested to ensure they will not leak in normal operating conditions.

➔ Perform a tightness test after all maintenance operations.

- Wait 5 minutes after switch-off before working on the product.
- When you order spare parts, you must mention everything featured on the product nameplate.
- Comply with all safety and risk prevention instructions in accordance with local safety standards.
- Regularly check compliance with all precautionary measures.
- Do not switch on the product if the covers are not in place.
- To return the product to one of our Pfeiffer Vacuum service centers, read the after-sales Service procedure and complete the declaration of contamination available on our website.

- Use the original packaging to return the product to a Pfeiffer Vacuum service center: the manufacturer shall not be held liable for any damage resulting from transport in unsuitable packaging.

2.2 Protective equipment

In some situations, personal protective equipment must be worn when handling the detector and its components. Customers must provide operators with the necessary equipment. This equipment must be checked regularly and used in accordance with the supplier's recommendations.




WARNING

Risk of injury due to falling objects

When transporting parts/components and during maintenance there is a danger of loads slipping and falling down.

➔ Carry small and medium-size parts/components with both hands.
➔ Carry parts/components > 20 kg with a suitable lifting device.
➔ Wear safety shoes with a steel toe in accordance with directive EN 347.




WARNING

Risk of injury through hot surfaces

The products are designed so as not to present a thermal risk for the operator's safety. However, specific operating conditions may exist that require extra caution from users due to the high temperatures (surfaces > 70 °C for parts inside the covers).

➔ Leave the part to cool before working on the product.
➔ If necessary wear protective gloves according to directive EN 420.



CAUTION

Risk of pinching

When handling the storage tank cover, there is a risk of fingers becoming pinched.

2.3 Maintenance preparation



NOTICE

Work/Handling the detector

The operator must not work on the product to move it or carry out maintenance until it has come to a complete shutdown! When the circuit breaker is set at **O**, you must:

➔ Unplug the power cable.
➔ Wait for the control panel screen to turn off completely before working on the product and/or removing the covers.

➔ Disconnect the detector from the part/installation to be tested: install the blanked-off flange on the detector's inlet (accessory supplied with the product or available upon request *(see **Accessories** chapter of the Operating instructions).*

➔ Handle the detector so it can be moved in the maintenance area (see ***Handling*** chapter of the Operating instructions).
- clean, dust-free and ventilated room,
- appropriate protective equipment.

2.4 Tools and spare parts

The tools necessary for the maintenance of the detector are available in the maintenance kit supplied with the product. Depending on the maintenance operation, other tools may be needed, at the customer’s expense.



Spare parts

Replacing defective components with parts that are not genuine jeopardizes the product's initial safety conditions.

➔ Use only spare parts available for order from Pfeiffer Vacuum Service.

➔ Parts numbers are available in the ***Spare Parts*** chapter.

➔ To identify the product and communicate with Pfeiffer Vacuum look at the product's nameplate.

3 Maintenance intervals and responsibilities

Level 1 and 2 maintenance operations of the service frequency table are described in this manual.
Level 3 overhaul operations require the intervention of a technician from the Pfeiffer Vacuum Service networkPfeiffer Vacuum.

Description	Number of hours in use	Level (1)	Site (2)
Analyser cell			
Filament replacement	If necessary	I	OS
Inlet vent filter			
Replacement of the inlet vent filter	According to usage conditions	II	OS
Pirani gauge			
Setting	According to usage conditions Every 4,300 hours (recommended)	I	OS
Replacement	If necessary	II	OS
Fans			
Replacement of fans	If necessary	II	OS
Calibrated leak			
Recalibration or exchange	Every 2 years	II	WS
Leak detector			
Service	According to usage conditions Every 4 years (recommended)	III	OS/WS

(1) Level:
I = Operator
II = Technical or trained operator
III = In service centre

(2) Site:
OS = On site
WS = En centre de service Pfeiffer Vacuum.

Pump maintenance is carried out during leak detector overhaul.

3.1 Maintenance time monitoring

The cycle counters on the primary pump and the turbomolecular pump alert the operator that a maintenance operation must be performed *(see **Maintenance Menu** of the Operating Instructions*).

4 Maintenance / replacement

4.1 Cleaning

➔ Clean the cover(s) with a soft, lint-free cloth and a product that will not damage the painting, silk-screened surfaces or the labels.

4.2 Leak test of an internal component of the detector

➔ Perform a leak test on the internal component to be checked (*see Operating Instructions*).

4.3 Dismantling/reassembling the work surface and front cover

4.3.1 Work surface

Dismantling

➔ Immobilise the leak detector by setting the brakes on the rear wheels.

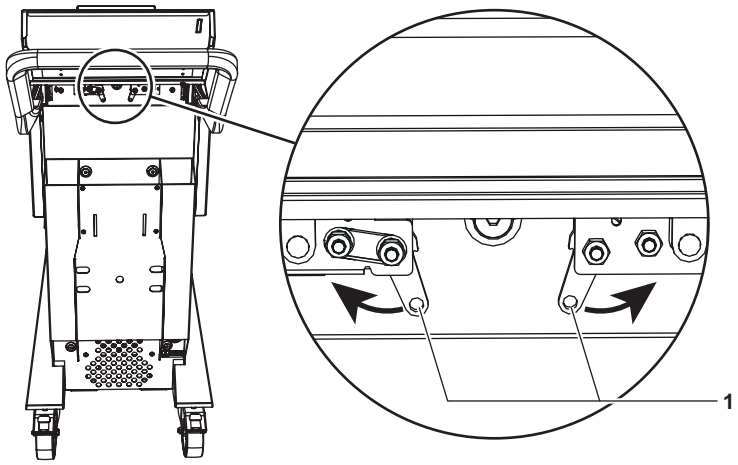
CAUTION
Risk of pinching The front wheels are equipped with brakes. ➔ Always engage the brakes with your foot; never use your hands.

➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

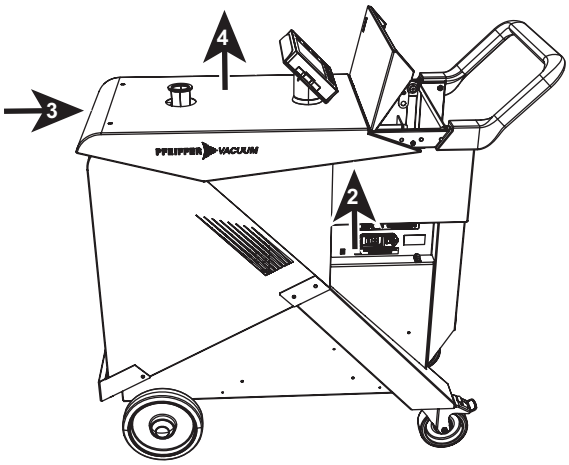
➔ Remove the flange around the inlet port.

➔ Lift the cover of the storage tank.

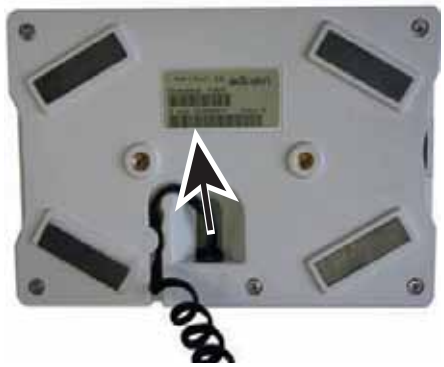
➔ Operate each latch (1) to unlock the work surface.



➔ Slightly lift the work surface (2). Push it towards the back of the detector (3) then remove it (4).



The work surface can be removed without disconnecting the control panel as the cable is sufficiently long.



Control panel disconnection (Optional)

When the work surface has been removed from the detector, the operator must never perform mechanical actions on the calibrated leak or any other of the detector's internal sub-assemblies

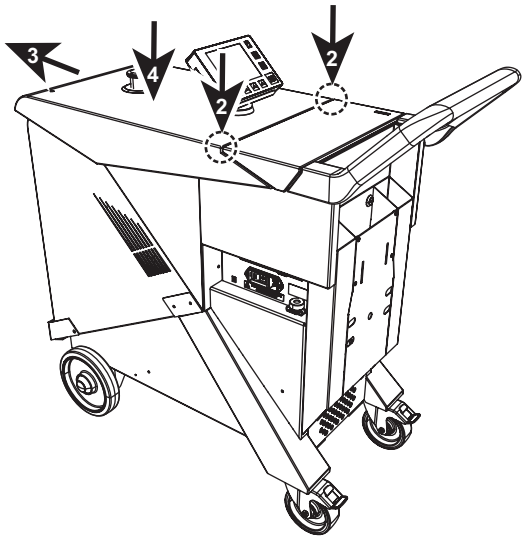
Reassembly

➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Place the work surface vertically on the frame (4).

➔ Check that the control panel cable is clear: the control panel must be able to move at least 1 m from its support.

➔ Pull the work surface towards the front of the detector (3) then clip it on (2).



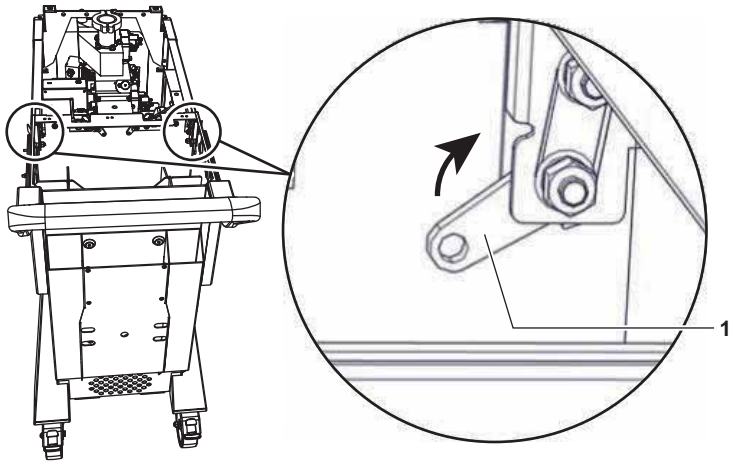
➔ Refit the flange around the inlet port.

4.3.2 Front cover

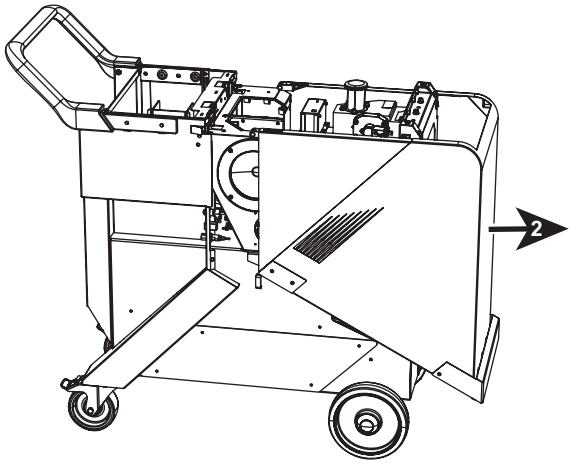
Dismantling

➔ Dismantle the work surface beforehand *(see 4.3.1)*.

➔ Operate each latch (1) to unlock the cover.



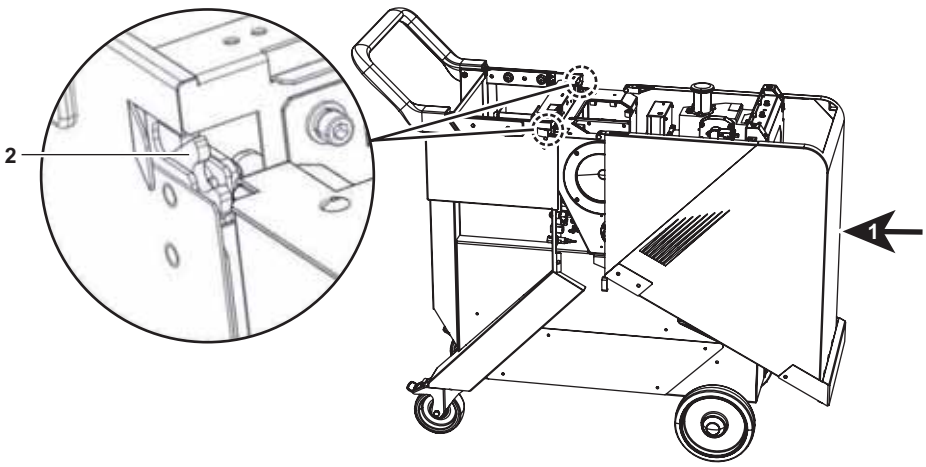
➔ Pull the cover forwards (2).



Reassembly

➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Position the front cover on the frame and push it towards the front (1) of the detector to clip it into the housing (2) of each latch.



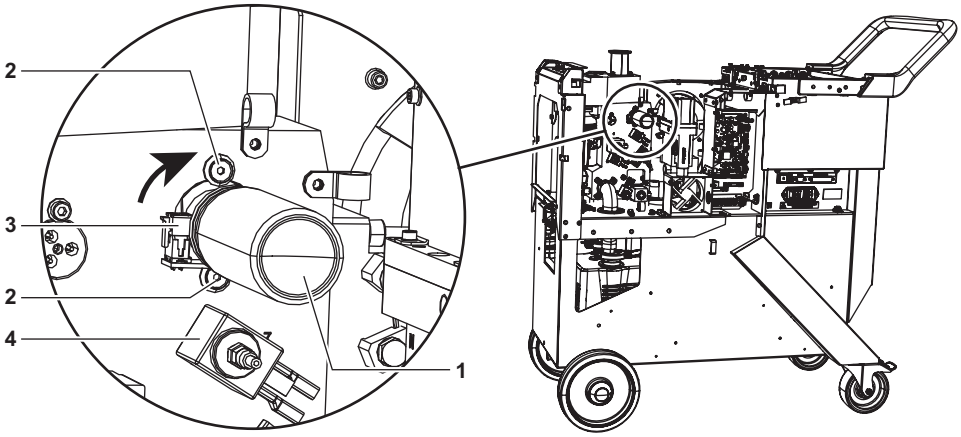
➔ Refit the work surface *(see 4.3.1)*.

4.4 Maintenance of the internal calibrated leak

NOTICE

Change the internal calibrated leak if it has significant impact marks.

Handle the calibrated leak with care.



➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Remove the work plan *(see 4.3.1)* and the front cover *(see 4.3.2)*.

➔ Disconnect the temperature sensor (3) from the calibrated leak. **Never separate the temperature sensor from the calibrated leak.**

➔ Unscrew the 2 fixing screws (2) without removing them.

➔ Turn the calibrated leak (1) 90° to remove it.

➔ Replace the calibrated leak.

➔ Rotate the calibrated leak by 90° so that the temperature sensor (3) is positioned above the valve (4) as shown in the illustration.

➔ Connect the temperature sensor (3).

➔ Update the settings of the calibrated leak *(see **Spectro Menu** in the Operating Instructions) (see 4.4.1)*.

➔ Perform a detector autocalibration.

4.4.1 Setting

➔ The setting of the calibrated leak must be updated every time a calibrated leak is replaced *(see **Spectro Menu** in the Operating Instructions)*.

This operation can be carried out with the information featured on the calibrated leak identification label or the certificate supplied with the calibrated leak.

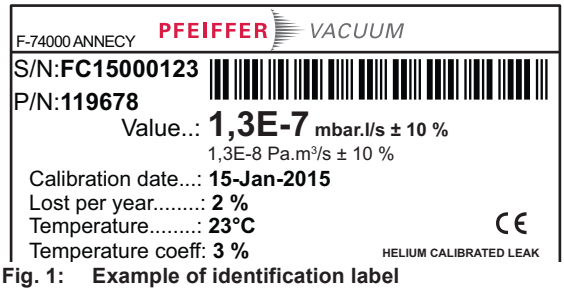


Fig. 1: Example of identification label

4.5 Analyzer cell maintenance



NOTICE

Cleanliness guarantee

During vacuum component maintenance operations, avoid any contamination which could subsequently result in the degassing of the parts. To avoid this:

➔ perform the maintenance in an appropriate area (clear, dust-free and ventilated)
➔ use non-woven materials
➔ dust the parts with filtered dry air
➔ wear unpowdered vinyl gloves (clean room gloves)

4.5.1 Dismantling



WARNING

Risk of burning associated with hot surfaces

When in operation, certain mechanical parts can reach high temperatures. If the detector was used recently:

➔ Let it cool down for at least 15 minutes before working on the analyzer cell.
➔ When relevant, use protective gloves in accordance with the EN 420 standard.

➔ Create an air inlet in the cell via the Maintenance menu *(see **Operating Instructions**)*.
➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).
➔ Remove the work surface *(see 4.3.1)* and the front cover *(see 4.3.2)*.
➔ Disconnect the harness (1) from the cell.
➔ Loosen the cell's 6 fixing screws (2).
➔ Free the analyser cell manually and vertically (3)

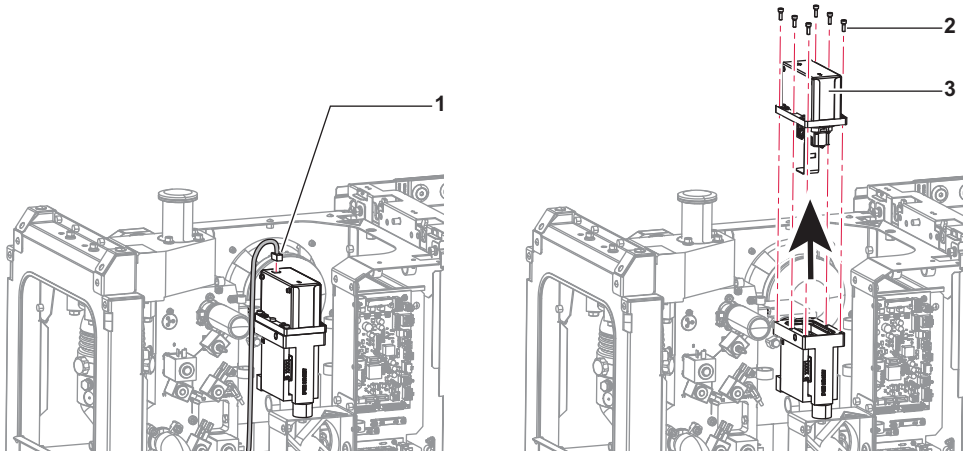


Fig. 2: Analyser cell dismantling

4.5.2 Seals replacement

➔ Check the condition of the seals every time you work on the analyzer cell (filament replacement for example): change them if necessary.

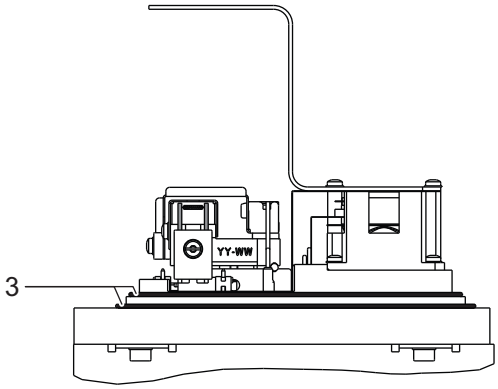


Fig. 3: Replacement of the seals

➔ Remove the analyzer cell from the detector *(see 4.5.1)*.

➔ Replace the 2 seals (3). **Never lubricate the seals.**

4.5.3 Filament replacement

The oxidation of the iridium filament is normal: do not touch the filament with your fingers.

➔ Remove the analyzer cell from the detector *(see 4.5.1)*.

➔ Remove the fixing screw (4) and the washer of the defective filament.

➔ Remove the 2 fastening clips (5) using flat pliers (2 new clips are supplied with the spare filament).

➔ Replace the filament.

➔ Reset the counter of the new filament *(see **Maintenance Menu** in the Operating instructions)*.

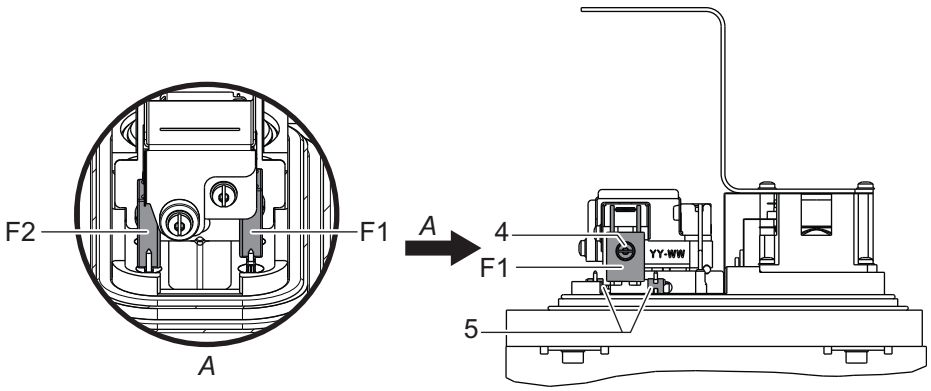


Fig. 4: Dismantling the filament

F1	Filament 1 in the menu
F2	Filament 2 in the menu

➔ Make sure that the filament connectors (6) are perpendicular to the supporting surface and parallel to each other.

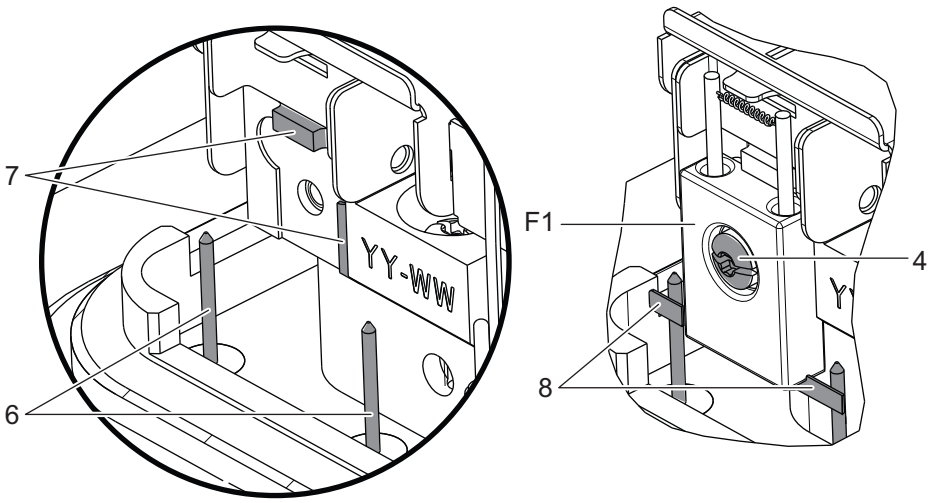


Fig. 5: Positioning the filament

➔ Fit the new filament in its housing against the 2 centring stops (7). Attach it with the screw (4) and washer supplied with the filament, using the Torx® screwdriver.

➔ Take a fastening clip (5) with the flat pliers: this clip will ensure electrical contact between the filament and the cell (see figure: Fitting the fastening clip, index A).

➔ Fit the clip on the connector (6) and the strip of the filament (8) (see figure: Fitting the fastening clip, index B).

➔ Push in the clip (5) with the pliers until it stops (see figure: Fitting the fastening clip, index C).

➔ Repeat the last 3 operations for the second connector.

➔ Reset the counter of the new filament *(see **Maintenance Menu** in the Operating instructions)*.

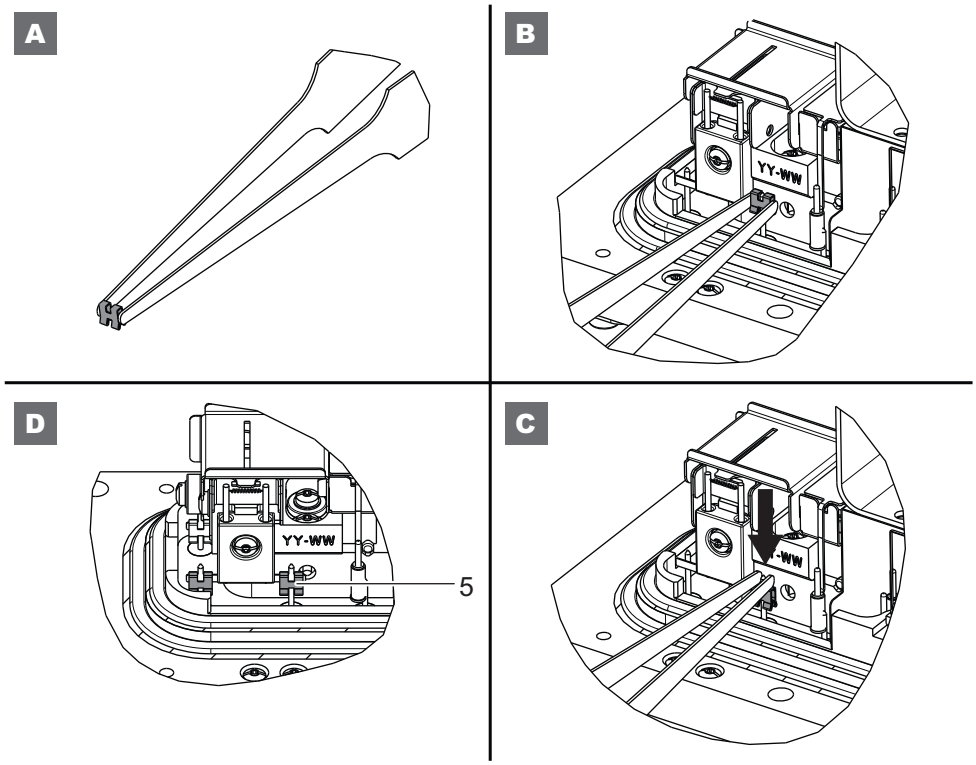


Fig. 6: Fitting of the fastening clip

4.6 Maintenance fans

4.6.1 Localization

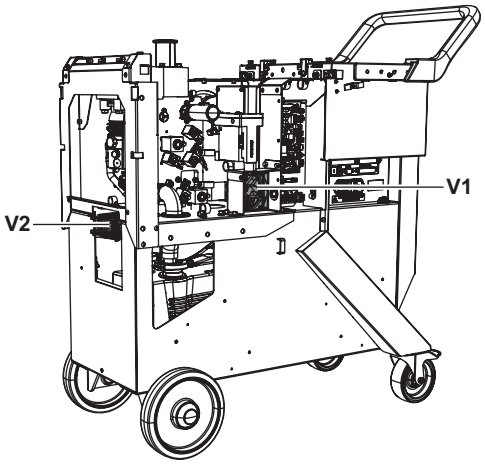


Fig. 7: Fan location

V1	Air inlet fan
V2	Air exhaust fan

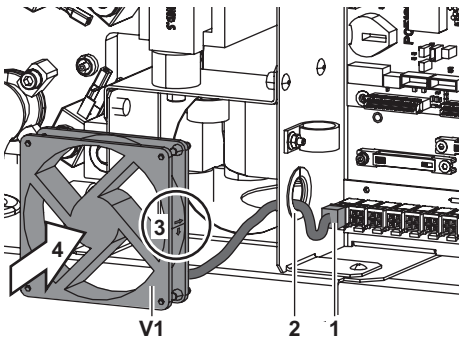
4.6.2 Replacement of the air inlet fan (V1)

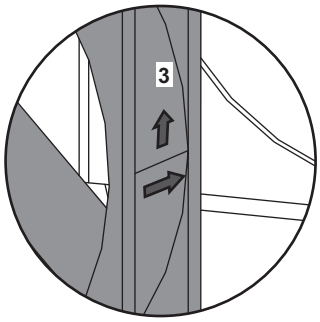
➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Remove the work plan *(see 4.3.1)* and the front cover *(see 4.3.2)*.

➔ Disconnect the harness (1) from the fan (V1) and pass it through the bulkhead adapter (2).

➔ Remove the fan (V1).





➔ Position the new fan, ensuring it is the correct way around (3).
  – The arrow (4) shows the air flow direction.

➔ Pass the fan harness through the bulkhead adapter (2).

➔ Clip on the fan.

➔ Connect the harness (1).

4.6.3 Replacement of the exhaust fan (V2)

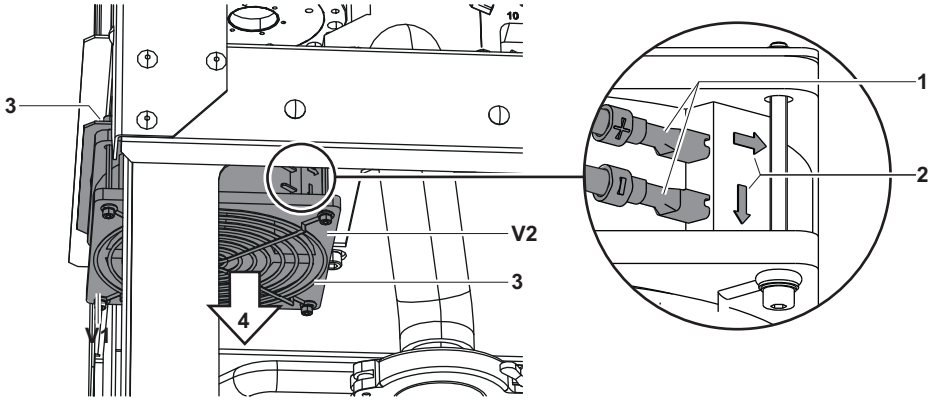
➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Remove the work plan *(see 4.3.1)* and the front cover *(see 4.3.2)*.

➔ Disconnect the harness (1) of the fan (V2).

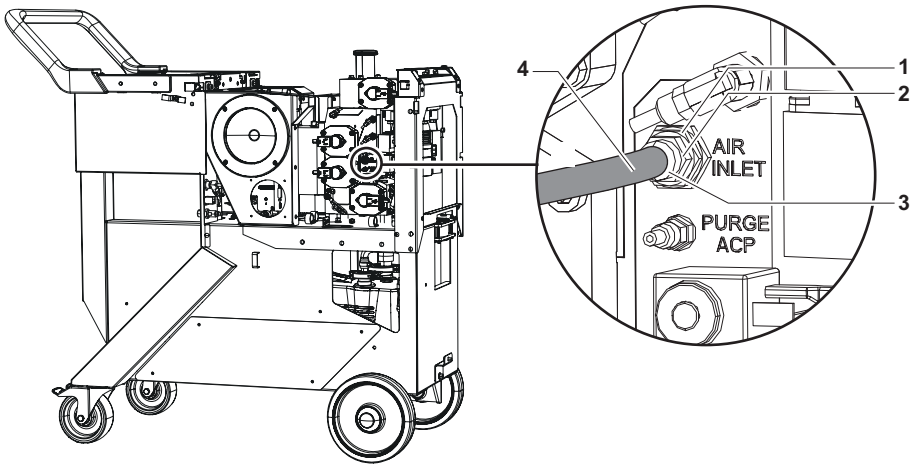
➔ Remove the fan.

➔ Position the new fan, ensuring it is the correct way around (2).
  – Place a protective grill (3) on each side of the fan.
  – The arrow (4) shows the air flow direction.
➔ Attach the fan.
➔ Connect the fan harness (1), respecting the (+) and (-) polarities.



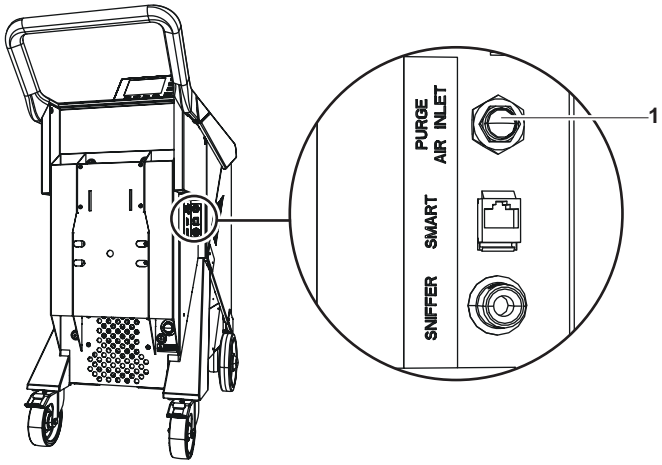
4.7 Filter maintenance

4.7.1 Replacement of the vacuum block air filter



➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).
➔ Remove the work plan *(see 4.3.1)* and the front cover *(see 4.3.2)*.
➔ Loosen the filter connector (3) to free the tube (4).
➔ Loosen the connector (2) and the connector (1).
➔ Install the new filter in reverse dismantling order and tighten the connectors.

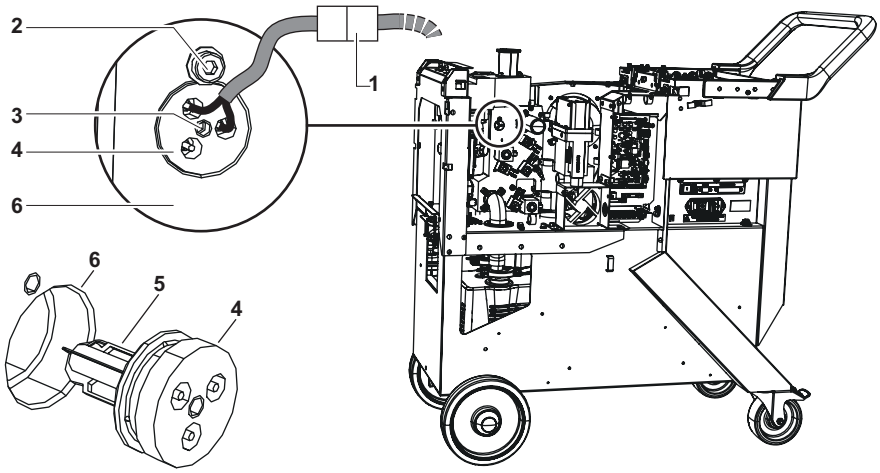
4.7.2 Replacement of the inlet vent filter



➔ Loosen the inlet vent filter (1) and replace it.

NOTICE
Risk of pollution The inlet vent must never remain open to the air. Ensure the filter is on the connector at all times.

4.8 Pirani gauge replacement



➔ Shut down the leak detector (*see chapter**Shutdown the detector**of the operating instructions*).

➔ Remove the work plan *(see 4.3.1)* and the front cover *(see 4.3.2)*.

➔ Disconnect the wiring harness (1) from the gauge.

➔ Loosen the retainer screw (2).

➔ Screw the CHc screw (3) in the centre of the gauge (CHc screw in the maintenance kit supplied with the detector).

➔ Pull on the CHc screw (3) to free the gauge.

➔ Position the new gauge (4).

– When inserting the new gauge (4), do not bring the gauge filaments (5) into contact with the vacuum block (6).

➔ Tighten the retainer screw (2).

➔ Connect the gauge wiring harness (1).

➔ Perform a leak test *(see 4.2)*.

➔ Set the gauge: *see chapter **Calibration of the internal Pirani gauge** of the Operating Instructions.*

5 Decommissioning

5.1 Shutting down for longer periods

If the detector must be shut down for an extended period of time, after use it is recommended that you:

➔ apply the prolonged downtime procedure described *in the **Prolonged storage** chapter of the Operating Instructions.*

➔ keep the detector in its original packaging or under its protective cover in a dust-free environment.

➔ for the start-up procedure, *see **Operation** of the Operating Instructions.* If a problem occurs, contact your Pfeiffer Vacuum service center.

5.2 Disposal



WARNING

Environmental protection

The product or its components must be disposed of in accordance with the applicable regulations relating to environmental protection and human health, with a view to reducing natural resource waste and preventing pollution.

Our products contain different materials which must be recycled: iron, steel, stainless steel, cast iron, brass, aluminium, nickel, copper, PTFE, FEP.
Special precautions must be taken for components in contact with the products resulting from potentially contaminated processes.

Before you return a product, please familiarise yourself with the after-sales service procedure, and complete the declaration of contamination available on our website.

For any question, contact the Support Customer service: support.service@pfeiffer-vacuum.fr.

5.2.1 Restriction of Hazardous Substances (R.O.H.S.)

Directive 2011/65/EC establishes the regulations on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) to contribute to the protection of human health and the environment, including the environmentally sound recovery and disposal of EEE waste.

The manufacturer shall ensure that the EEE placed on the market (including cables and spare parts intended for repair, reuse, updating or capacity enhancement) that contain hazardous substances are subject to restriction within the authorised limits.

5.2.2 Electric and electronic equipments (EEE)

Decontamination and recycling of Electrical and Electronic Equipment (EEE) containing polluting materials (electronic cards, battery cells, batteries, screens, capacitors, mercury, etc.) enables the preservation of natural resources, particularly strategic raw materials.



This product carries the identification logo, as it is subject to regulations regarding the management of waste from EEE.

The manufacturer's obligation to recover EEE applies only to "Adixen" or "Pfeiffer Vacuum" branded products sold by Pfeiffer Vacuum:

– EEE is subject to the regulations in force as regards the recycling of end-of-life products

– complete EEE that has been neither modified nor retrofitted, and has used only spare parts from Pfeiffer Vacuum, including their assemblies and sub-assemblies, but excluding the batteries.

Product on sale on French soil

In the absence of any specific contract and pursuant to current applicable legislation (and articles R543-172 and subsequent of the Environment Code in particular), all EEEs sold by Pfeiffer Vacuum on French soil are covered by the organisation and financing of removal and treatment of waste from EEEs provided by Pfeiffer Vacuum

To fulfil its obligations, Pfeiffer Vacuum finances the collection and recycling of the waste from EEEs by subscribing to **Récylum**. This voluntary arrangement enables owners of EEEs on French soil to benefit from easy, free solutions to ensure that EEEs subject to the regulations are recycled.

To find out more about the collection solutions, contact Récylum who will inform you of the best collection solution for your needs: www.recylum.com.

For further details, consult the General Conditions of Sale available in French on the website Pfeiffer Vacuum.

Product sold outside French territory

In the absence of any specific contract, and according to the Directive 2012/19/UE concerning the waste treatment stemming from EEE, in the case of a sale by Pfeiffer Vacuum outside France (European Union and third country) of EEE subject to applicable regulations, the owner of EEE will undertake full responsibility of organizing and financing the pickup and treatment of waste of EEE sold by Pfeiffer Vacuum.

The owner will undertake full responsibility namely the collection (gathering, sorting and storage of wastes for the purpose of transportation to a processing installation), recycling, recovery and/or disposal, except in the case of contrary overriding legislative provisions in the country where the owner is located, which must be brought to the attention of Pfeiffer Vacuum by the owner.

6 Malfunctions

6.1 What happens in the event of a defect



Fig. 8: Standard screen with warning [i Next]

6.1.1 Warning fault display

Press the key to display the fault.

1	Level 1: Warning Press the **[i Next]** key to display the maintenance information		
2	Level 2: Major fault: erroneous measurement Press the **[i Next]** or **[!]** key to display the fault.		
3	Level 3: Critical fault: test impossible Press the **[i Next]** or **[!]** key to display the fault.		
4	Level 4: Service fault: temporary fault Fault only registered in the fault history: no display on the screen		
5	Level 5: Warning The detector is not in normal operating condition. Press the **[i Next]** or **[i]** key to display the fault.		

6.1.2 Warning / fault window

Description

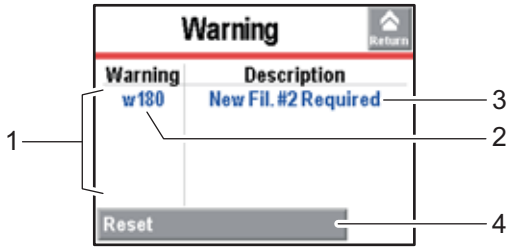


Fig. 9: Warning window

1	Fault list: 5 maxi.
2	RS-232 fault code.
3	Fault description.
4	Warning and faults deletion: faults requiring the operator's intervention remain displayed as long as the cause of the fault has not been corrected.

6.1.3 List of warnings / faults

Description of the levels 1 to 5 *(see 6.1.1)*

Level	RS-232 Code	Information
1	e40	Rough. Pump Failure
	e59	loss of cal test mode
	e93	Dynamic calib. failure
	w60	Sensor Type/Connector
	w145	maintenance requested
	w150	primary pump service
	w155	Roughing Pump Maint.
	w160	secondary pump service
	w180	2A wire change
	w181	1A wire change
	w182	No output on wire 2
	w183	No output on wire 1
	w202	Press Zero& Spray He
	w211	Select manual calib.
	w235	Autocal request
	w240	Autocal Request
	w242	Internal Pirani to set
	w245	Temp. too high
	w249	Check Lithium batt.
	w250	Adjust Date and Time
2	e50	zero cell. unstable
	e56	residual problem
	e57	sensitivity low
	e58	sensitivity too high
	e65	residual too high
	e70	poor PIC
	e80	calibrated leak year Er.
	e85	Temp. too high
	e89	loss of power
	e95	cell zero limits
	e96	Fault in Autocal +2nd code
	e97	temperature too high
	e98	temperature too low
	e160	LDS probe clogged
	w220	Filament not active
3	w215	Background too high for test
	w241	Autocal requested
	w244	VHS not calibrated
	e188	speed cell pump
	e192	power fault wire
	e194	short-circuit wire 2
	e195	short-circuit wire 1
	e205	fault primary pump
	e206	ACP temp. too high
	e210	primary pump fault
	e220	no V AC power
	e224	- 15V cell problems
	e230	HS filaments
	e231	No output on wire 1 and 2
	e235	cell pressure > 1e-03 Mbar
	e238	No cell com.
	e239	no pump cell com.
	e241	cell own speed
	e243	EEPROM fault
	e244	Sec. pump #2 Fail.
	e245	cell pump fault
	e247	Check ATH connection
	e251	+15V cell problems
	e252	24V cell problems
	e253	ram timekeeper hs
	e255	Critical fault +2nd code
4	e180	no electrical current;
	e185	triode SECU active
	e75	PIC not found
	e99	24 V DC problems
	w203	calibrated leak External
	w205	shutdown of Autocal

Level	RS-232 Code	Information
5	W97	temperature too high
	W98	temperature too low
	W230	Autocal request
	W255	Outside start-up conditions

6.2 Troubleshooting guide

The troubleshooting guide helps correct the malfunctions reported on the detector's control panel or affecting the detector.
It can be consulted from an interactive application specifically developed for the technical documentation.

6.2.1 Installation of the application

➔ Insert the Operating manual CDRom (oder USB key) into the computer.
➔ CDRom: launch the "ASMxxx" or "ASIxx" application.
➔ USB key: double click on the file "ASMxxx.html".
➔ Select the language.
➔ Select the interactive application **"Troubleshooting"**.
➔ Install the application on your computer.

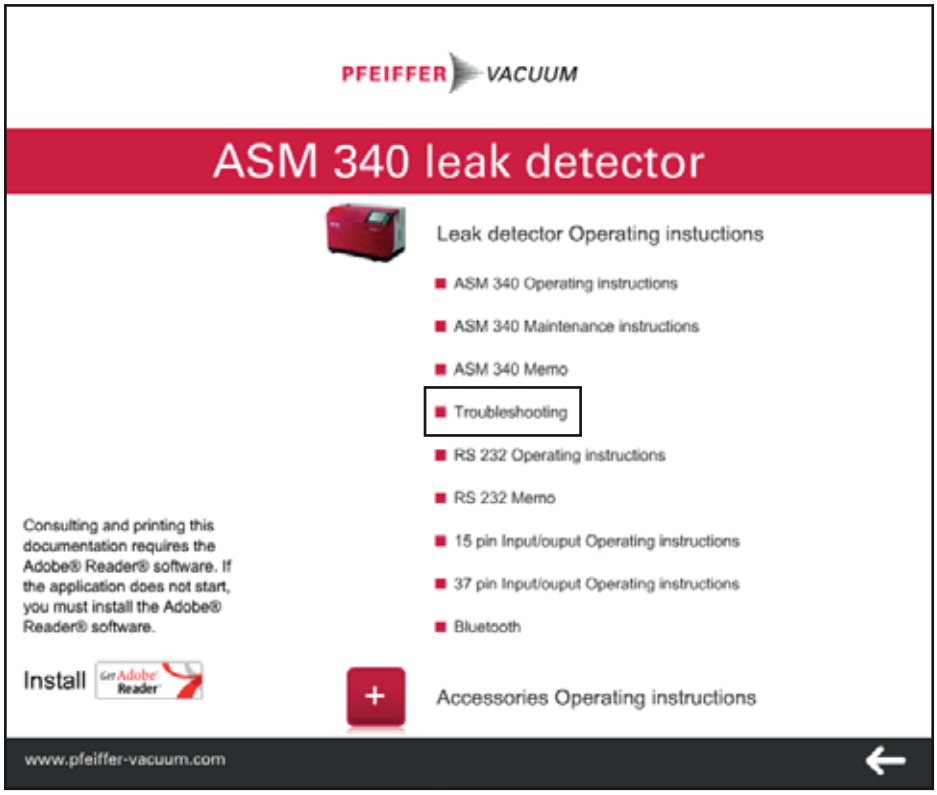


Fig. 10: Example: ASM 340 - Selection of the interactive application

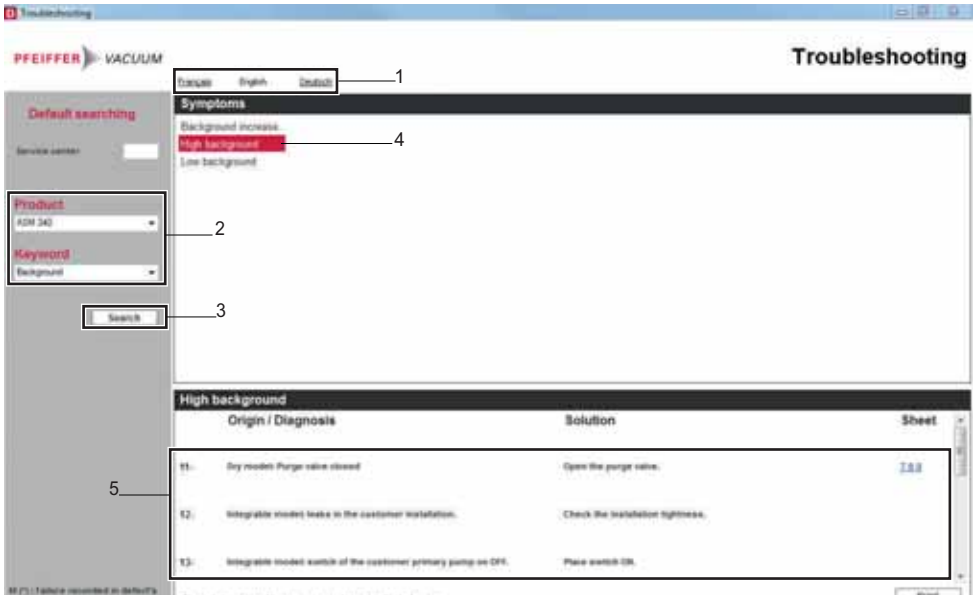
6.2.2 Consultation of the application

Create a shortcut on the computer desktop for direct access to the "Troubleshooting" application.

➔ Launch the **"Troubleshooting"** application.
➔ Select the navigation language (1).
➔ Select the product and the appropriate key word (2).

➔ Launch the search (3).

➔ Select a symptom (4): the origin and diagnosis of this symptom are displayed (5).



7 Service

Pfeiffer Vacuum offers first-class customer service!

- On-Site maintenance for many products
- Overhaul/repair at the nearby Service Location
- Fast replacement with refurbished exchange products in mint condition
- Advice on the most cost-efficient and quickest solution

Detailed information, addresses and forms at: **www.pfeiffer-vacuum.com (Service)**.

Overhaul and repair at the Pfeiffer Vacuum Service Center

The following general recommendations will ensure a fast, smooth servicing process:

➔ Fill out the "Service Request/Product Return" form and send it to your local Pfeiffer Vacuum Service contact.

➔ Include the confirmation on the service request from Pfeiffer Vacuum with your shipment.

➔ Fill out the declaration of contamination and include it in the shipment (mandatory!). The Declaration of contamination is valid for any product/device including a part exposed to vacuum.

➔ Dismantle all accessories and keep them.

➔ Close all the flange opening ports by using the original protective covers or metallic airtight blank flanges for contaminated devices.

➔ If possible, send the pump or unit in its original packaging.

Sending contaminated pumps or devices

No devices will be accepted if they are contaminated with micro-biological, explosive, or radioactive substances. "Hazardous substances" are substances and compounds in accordance with the hazardous goods regulations (current version).

➔ Neutralize the pump by flushing it with nitrogen or dry air.

➔ Close all openings airtight.

➔ Seal the pump or device in suitable protective film.

➔ Return the pump/device only in a suitable and sturdy transport container and send it in while following applicable transport conditions.

Pump or device returned without declaration of contamination form fully completed and/or not secured in suitable packaging will be decontaminated and/or returned at the shipper’s expense.

Exchange or repair

The factory operating parameters are always pre-set with exchange or repaired devices. If you use specific parameters for your application, you have to set these again.

Service orders

All service orders are carried out exclusively according to our general terms and conditions for the repair and maintenance, available on our website.

8 Spare parts

Spare parts available for sales, classified by functions are listed in this chapter.

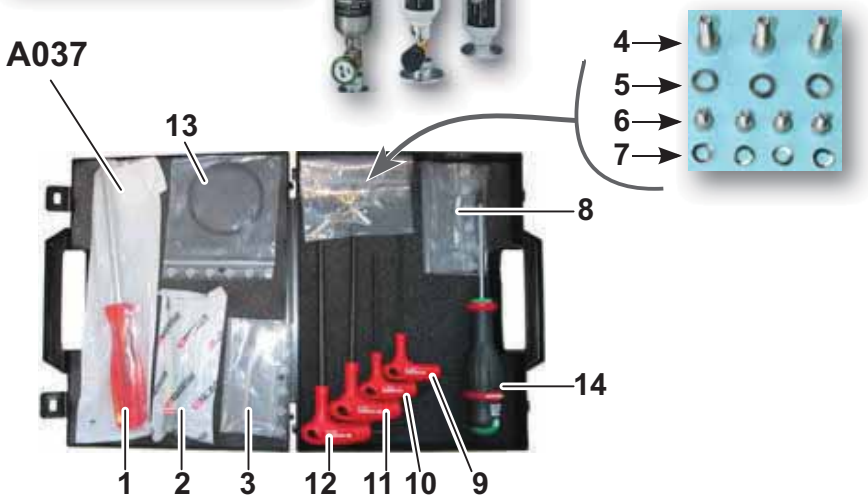
8.1 Tool



Accessoires de raccordement
Connection accessories
Verbindungzubehör



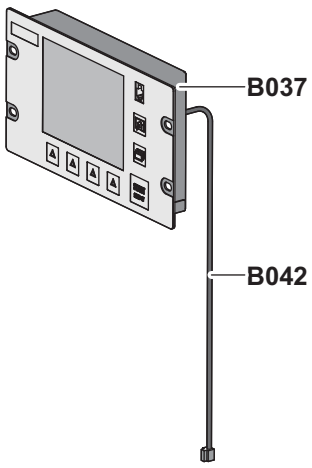
Fuites calibrées Helium
Helium calibrated leaks
Helium Testleck



Rep. Ref. *Teil*	Qté Qty *Menge*	Désignation Designation *Beschreibung*
1	1	**Clé emmanchée** Box-shank nut spinner *Rohrsteckschlüssel mit Heft*
2	1	**Tournevis pour vis TORX® 6X35** Screwdriver for TORX® screw 6x35 *Handschrauben für TORX® Schrauben 6x35*
3	1	**Vis CHc M 4x80** Screw CHc M 4x80 *Edelstahlschraube CHc M 4x80*
4	3	**Vis CHc M 4x12** Screw CHc M 4x12 *Edelstahlschraube CHc M 4x12*
5	3	**Rondelle** Washer *Unterlegscheibe*
6	4	**Vis CHc M 3x6** Screw CHc M 3x6 *Edelstahlschraube CHc M 3x6*
7	4	**Rondelle** Washer *Unterlegscheibe*
8	2	**Fusible 5 x 20 F1 6,3 A** Fuse 5 x 20 F1 6.3 A *Sicherung 5 x 20 F1 6,3 A*
9	1	**Clé six pans mâle de 2,5 mm** ø 2.5 Allen wrench *Innensechskantschlüssel 2,5 mm*
10	1	**Clé six pans mâle de 3 mm** ø 3 Allen wrench *Innensechskantschlüssel 3 mm*
11	1	**Clé six pans mâle de 4 mm** ø 4 Allen wrench *Innensechskantschlüssel 4 mm*
12	1	**Clé six pans mâle de 5 mm** ø 5 Allen wrench *Innensechskantschlüssel 5 mm*
13	2	**Joint cellule d'analyse 3G** 3G Analyser cell O'ring *3G Zelle Dichtung*
14	1	**Tournevis ANXR 20X100** Screwdriver ANXR 20x100 *Handschrauben ANXR 20x100*

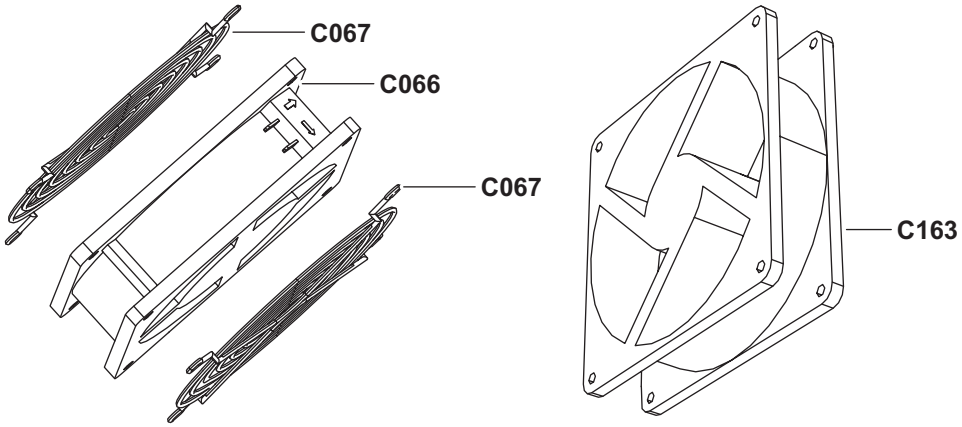
Ref	Description	P/N	Qty	Remarks
A006	DN16KF Calibrated Leak Adaptator Kit	110715	1	
A007	DN25KF Calibrated Leak Adaptator Kit	110716	1	
A013	Tee, Reducing - DN25/25/16KF	068269	1	
A016	Calib. Leak With Valve 1-3.10-6 DN25KF	FV4610	1	
A027	Vacuum Silicon Grease (100 g Box)	064600	1	
A037	3G Detection maintenance Kit	114718	1	
A040	"Brucelles" Tweezers	115396	1	

8.2 Monitoring and display



Ref.	Description	P/N	Qty	Notes
B037	3G control panel	122446S	1	
B042	3G control panel cable - 5 m	123909	1	

8.3 Ventilation



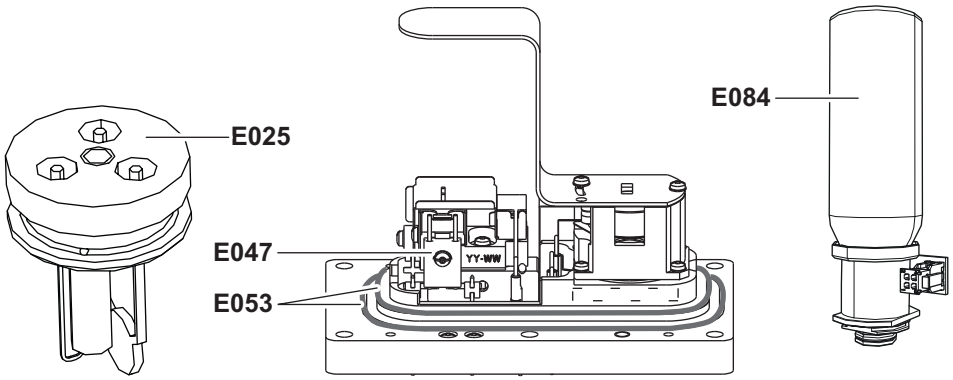
Ref.	Description	P/N	Qty	Notes
C066	Fan	101094	1	
C067	Fan Grill 120x120 mm (101094)	056067	1	Sold individually
C163	Fan	126790	1	

8.4 Power and electrical supply



Ref.	Description	P/N	Qty	Notes
C161	6 m mains cable (15A) - USA	126141	1	
C162	6 m mains cable (16 A) - Europe	126142	1	

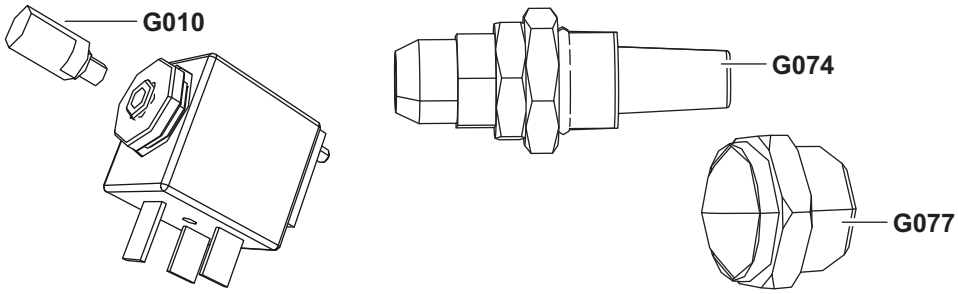
8.5 Measurement



Ref.	Description	P/N	Qty	Notes
E025	PI1 gauge, aluminium	795706	1	
E047	Filament - 3G analyser cell	114864S	1	

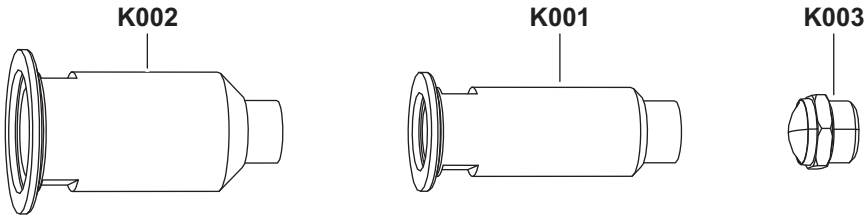
Ref.	Description	P/N	Qty	Notes
E053	NBR seal - 3G cell	114346	1	Sold individually
E084	Internal calibrated leak	121528S	1	

8.6 Vacuum block



Ref.	Description	P/N	Qty	Notes
G010	M5 sintered bronze silencer	108449	1	
G074	Vacuum unit sintered filter	122237	1	
G077	1/4” silencer, stainless steel wire braid	101552	1	

8.7 Pump exhaust

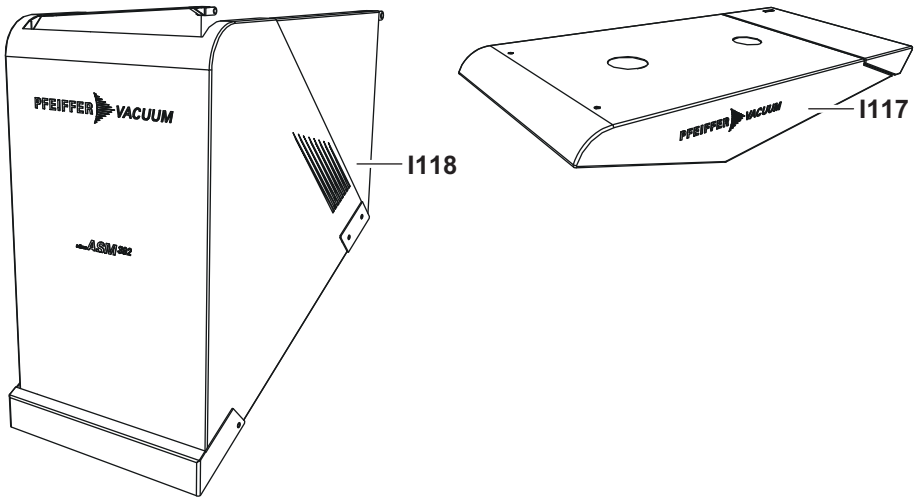


Ref.	Description	P/N	Qty	Notes
K001	Exhaust port, DN25KF	126602	1	
K002	Exhaust port, DN40KF	126603	1	
K003	1/2” silencer, stainless steel wire braid	109369	1	

8.8 Pipes - Connections - Seals

Ref.	Description	P/N	Qty	Notes
H009	Stainless steel hose, DN25/40KF - L 250mm	101539	1	
H017	1/2” silencer, stainless steel wire braid	109369	1	
H018	1/4” silencer, stainless steel wire braid	101552	1	
H020	Clamp, DN10/16KF	110BSR016	1	
H026	Clamp, DN20/25KF	120BSR025	1	
H028	Clamp, DN32/40KF	120BSR040	1	
H029	Stainless steel blank-off flange, DN40KF	120FBL040	1	
H037	HNBR O-ring, DN25KF	106022	1	
H038	HNBR O-ring, DN40KF	106023	1	
H040	HNBR O-ring, DN16KF	106021	1	
H047	O-ring support ring, DN25KF	120ZRG025	1	
H048	O-ring support ring, DN40KF	120ZRG040	1	
H086	HNBR O-ring, DN63K	106816	1	
H117	O-ring support ring, DN16KF	120ZRG016	1	
H144	NBR seal - 3G cell	114346	1	Sold individually
H154	D6 polyurethane pipe Thickness 1 mm	118207	1	Sold by the metre
H182	O-ring support ring, DN63K	068174	1	Sold by the metre

8.9 Cover



Ref.	Description	P/N	Qty	Notes
I117	Work surface - ASM390/392	126789	1	
I118	Equipped front cover - ASM 390/392	126249S	1	

8.10 Accessories



Ref.	Description	P/N	Qty	Notes
J077	Bronze dust filter 20 µm D 114 mm	105847	1	
J078	Bronze dust filter 5 µm D 114 mm	105848	1	
	Stainless steel dust filter D 114 mm	-	1	5 or 15 µm - Consult us
J174	Seal Ø 5 mm - D 114 mm	082152	1	
J175	20 µm bronze dust filter, DN25/25 KF	105841	1	
J176	20 µm bronze dust filter, DN40/40 KF	105842	1	
J177	20 µm bronze dust filter, DN40/25 KF	105843	1	
J178	5 µm bronze dust filter, DN25/25 KF	105844	1	
J179	5 µm bronze dust filter, DN40/40 KF	105845	1	
J180	5 µm bronze dust filter, DN40/25 KF	105846	1	
	Stainless steel dust filter, DN25/25 KF	-	1	5 or 15 µm - Consult us
	Stainless steel dust filter, DN40/40 KF	-	1	5 or 15 µm - Consult us
	Stainless steel dust filter, DN40/25 KF	-	1	5 or 15 µm - Consult us

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Pfeiffer Vacuum GmbH
Headquarters
T +49 6441 802-0
info@pfeiffer-vacuum.de

Pfeiffer Vacuum SAS, France
T +33 (0) 4 50 65 77 77
info@pfeiffer-vacuum.fr

www.pfeiffer-vacuum.com

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