



# OPERATING INSTRUCTIONS

EN

Translation of the original instructions

## CART - ASM 340 SERIES

**PFEIFFER**  **VACUUM**

# Table of contents

<b>1</b>	<b>About this manual</b> . . . . .	<b>3</b>
1.1	Validity . . . . .	3
1.1.1	Applicable documents . . . . .	3
1.2	Conventions . . . . .	3
1.2.1	Safety instructions . . . . .	3
1.2.2	Pictographs . . . . .	4
1.2.3	Instructions/Abbreviations used . . . . .	4
1.2.4	Labels . . . . .	4
<b>2</b>	<b>Safety</b> . . . . .	<b>5</b>
2.1	Safety precautions . . . . .	5
2.2	Proper use . . . . .	5
2.3	Improper use . . . . .	6
<b>3</b>	<b>Transport and storage</b> . . . . .	<b>7</b>
3.1	Transport . . . . .	7
<b>4</b>	<b>Product description</b> . . . . .	<b>8</b>
4.1	Product identification . . . . .	8
4.1.1	Scope of delivery . . . . .	8
4.2	Interface connection . . . . .	9
<b>5</b>	<b>Installation</b> . . . . .	<b>10</b>
5.1	Prerequisites . . . . .	10
5.2	Set-up . . . . .	10
5.2.1	Prerequisites . . . . .	10
5.2.2	Procedure . . . . .	11
5.3	Connection to the mains power supply . . . . .	12
<b>6</b>	<b>Operation</b> . . . . .	<b>13</b>
6.1	Prerequisites to use . . . . .	13
6.2	Leak detector use . . . . .	13
<b>7</b>	<b>Accessories</b> . . . . .	<b>13</b>
<b>8</b>	<b>Technical data and dimensions</b> . . . . .	<b>14</b>
8.1	Technical data . . . . .	14
8.2	Dimensions . . . . .	14
<b>9</b>	<b>Appendix</b> . . . . .	<b>15</b>
9.1	Electrical diagram . . . . .	15
	<b>Declaration of conformity</b> . . . . .	<b>16</b>

# 1 About this manual

## 1.1 Validity

This operating manual is for customers of Pfeiffer Vacuum. It describes the functioning of the designated product and provides the most important information for safe use of the unit. The description follows applicable EU guidelines. All information provided in this operating manual refers to the current state of the product's development. The documentation remains valid as long as the customer does not make any changes to the product.

Up-to-date operating instructions can also be downloaded from [www.pfeiffer-vacuum.com](http://www.pfeiffer-vacuum.com).

This document is a translation of the original French instructions.

This manual covers products with the following part numbers:

Part number	Description
805142	Cart - ASM 340 Series - 90-130 V 50/60 Hz
805143	Cart - ASM 340 Series - 200-240 V 50/60 Hz

### 1.1.1 Applicable documents

Cart - ASM 340 Series	Operating instructions
Operating instructions of the ASM 340 leak detector	P/n 121762
Operating instructions of the customer primary pump	Included with the pump
Declaration of conformity	Included with this manual
Declaration of incorporation of partly completed machinery	Included with this manual

\*also available at [www.pfeiffer-vacuum.com](http://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:

<b>DANGER</b>
<p><b>Imminent danger</b> Indicates an imminent hazardous situation that will result in death or serious injury.</p>
<b>WARNING</b>
<p><b>Possibly imminent danger</b> Indicates an imminent hazardous situation that can result in death or serious injury.</p>
<b>CAUTION</b>
<p><b>Possibly imminent danger</b> Indicates an imminent hazardous situation that can result in minor or moderate injury.</p>
<b>NOTICE</b>
<p><b>Command or note</b> Command to perform an action or information about properties, the disregarding of which may result in damage to the product.</p>

### 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

### 1.2.3 Instructions/Abbreviations used

⇒ or → Work instruction: you must perform an operation here.

### 1.2.4 Labels

This chapter lists all the labels that could appear on the product as well as their meaning.



Safety label: guarantee that the packing has not been opened since leaving the factory.



Indicates an electric shock hazard in case of contact:

- ⇒ do not use the product if the power cable is not earthed,
- ⇒ disconnect the electrical power supply before working on the product.



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.



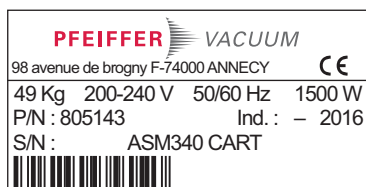
Indicates an electric shock hazard in case of contact.



Indicates an electric shock hazard in case of contact.



Quality: certifies that the product has been certified compliant with quality control upon leaving the factory.



Product identification label (see 4.1).

## 2 Safety

### 2.1 Safety precautions



#### Obligation to inform

Any person responsible for installing, using or maintaining the product must first read the security instructions in this operating manual and comply with them.

→ It is the operating customer's responsibility to protect all operators against the dangers associated with the product, with the media pumped and with the entire installation.



#### WARNING

#### Hazard associated with non-compliant electrical installation

Safe operation after installation is the operator's responsibility.

- Connect the product to an installation that is compliant with local safety standards.
- Do not carry out any alterations or modifications to the product on your own initiative.
- For specific questions, contact your service center.



#### WARNING

#### Electric shock hazard in case of contact

When the product's circuit breaker is set at **O**, some internal components still have an electrical charge.

- Make sure that the mains connection is always visible and accessible so that it can be unplugged at any time.
- Disconnect the power cable from all power sources before starting any work on the product.

- Only qualified personnel trained in safety rules (EMC, electrical safety, chemical pollution) may carry out the installation and maintenance described in this manual. Our service centers can provide the necessary training.
- Do not expose any part of the human body to the vacuum.
- Do not turn on the cart if the covers are not on the detector.

### 2.2 Proper use



#### NOTICE

#### EC conformity

The manufacturer's declaration of conformity becomes invalid if the operator modifies the original product or installs additional components.

→ Following installation into a plant and before commissioning, the operator must check the entire system for compliance with the valid EU directives and reassess it accordingly.

The cart is an accessory designed for ASM 340 leak detector.

ASM 340 all models	It allows the transport of the detector and its accessories.
ASM 340 Wet/Dry models	In case of use of the detector with an in parallel additional primary pumping, it allows to install the device detector/primary pump/bypass on the same cart.
ASM 340 Integrable model	It allows to install the device detector/primary pump on the same cart.

## 2.3 Improper use

Improper use will cause all claims for liability and warranties to be forfeited. Improper use is defined as usage for purposes deviating from those mentioned above, especially:

- use of accessories or spare parts, which are not named in this manual

The product is not designed to carry people and is not for use as a seat, stepladder or any other similar purpose.

## 3 Transport and storage

Upon delivery, check that the product has not been damaged during transport. If the product is damaged, take the necessary measures with the carrier and notify the manufacturer. In all situations we recommend:

- Keeping the product in its original packaging so it stays as clean as it was when dispatched by us. Only unpack the product once it has arrived at the location where it will be used.

### 3.1 Transport



#### WARNING

##### Risk of injury associated with heavy loads

Given the weight of the product, it should be removed from its packaging only by personnel qualified and trained in handling heavy materials.



#### WARNING

##### Risk of fall

- Never move the cart with the detector above if the detector is not fixed to the cart.
- Never move the cart with the pump above if the pump is not fixed to the cart.



#### WARNING

##### Risk of tilting

Even though compliance with EEC safety rules is guaranteed (normal tilting  $\pm 10^\circ$ ), all necessary precautions should be taken when moving, installing and operating the product.

When the detector is used on the trolley (accessory):

- Attach the detector to the trolley.
- Do not place the product on an inclined plane: its weight could cause the operator to be dragged.
- Place it on a flat, hard floor.
- Do not push the product sideways.
- Only use the trolley to move it short distances.



#### NOTICE

##### Work/Handling the detector

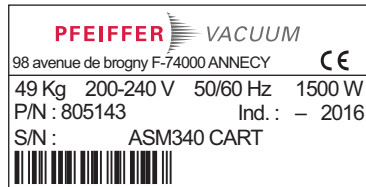
The operator must not move the cart until the detector has come to a complete shutdown! When the circuit breaker and the main switch of the cart are set at **O**, you must:

- Unplug the cart power supply cable.
- Disconnect the detector connection cable from the electric box.
- Wait for the control panel screen to turn off completely before moving the cart.

## 4 Product description

### 4.1 Product identification

To correctly identify the product when communicating with Pfeiffer Vacuum, always have the information from the rating plate available.



**Fig. 1: Nameplate example**

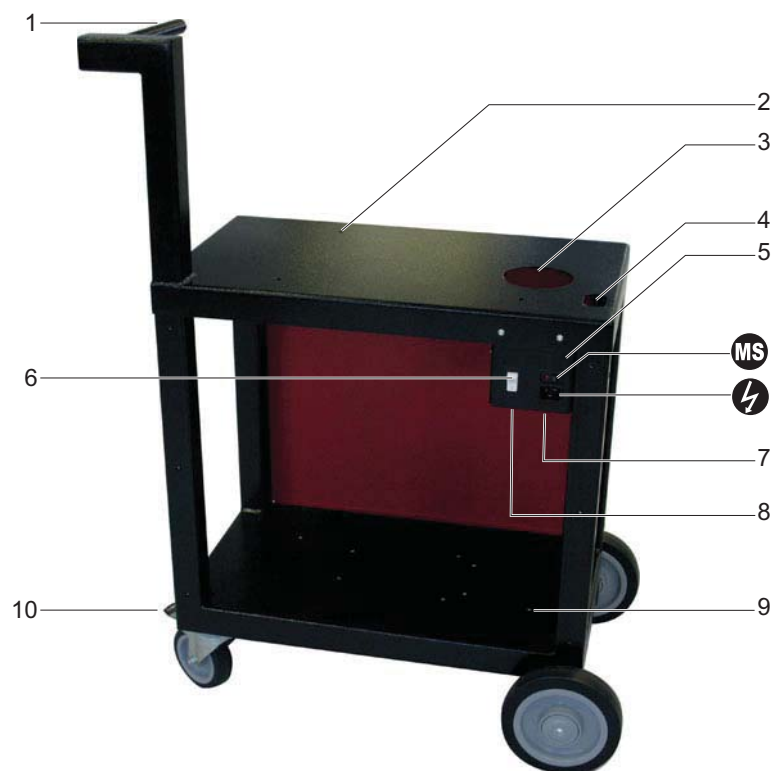
1	Part number
2	Description
3	Weight
4	Operating voltage
5	Operating frequency
6	Maximum power consumption
7	Serial number
8	Index
9	Date of manufacture

#### 4.1.1 Scope of delivery

- 1 cart
- 1 power cable for Europe (France/Germany) and/or 1 power cable for US
- 1 cable for power supply connection between the detector and the electric box
- 1 cable for power supply connection between the primary pump and the electric box
- 4 screws CHc 6x16 and 4 washers for detector fixation
- 4 screws CHc 6x10 and 4 washers for primary pump fixation
- 1 operating instructions



## 4.2 Interface connection



**Fig. 2: Interface men/machine**

1	Arm of handling	6	Circuit breaker
2	Detector fixation	⚡	Power supply of the cart
3	Passage of the flexible hose for the connection to the primary pump	7	Connection of the leak detector power supply cable
4	Passage of the connection cable of the power supply of the detector	8	Connection of the primary pump power supply cable
5	Electric box	9	Primary pump fixation
Ⓜ	Main switch	10	Brakes

## 5 Installation

### 5.1 Prerequisites

To optimize the pumping speed and the measurement speed:

- Follow the installation instructions given in the *Operating Instructions* of the detector.
- Realize a tightness test on the whole line when the detector is connected with the pumping circuit to make sure that the connections are correct (pump, pipes, valves,...).

### 5.2 Set-up

- Connect the power supply of the cart only having installed and reassured all the elements on the cart.
- Put the cart on a plane and horizontal surface, in support on its wheels.
- Immobilize the cart by activating brakes on the cart during the installation of the detector and/or the primary pump.
- Follow the instructions indicated in the operating instructions of the detector and/or the pump to treat it by respecting the rules of the art considering their weight.
- Respect the maximum weight authorized on the cart (see 8.1).

#### 5.2.1 Prerequisites

Prepare the detector on a workbench: do not realize the interventions below with the detector on the cart.

**ASM 340 Wet/Dry models with additional pumping**

- Install the bypass on the detector (see *the Bypass operating instructions*).

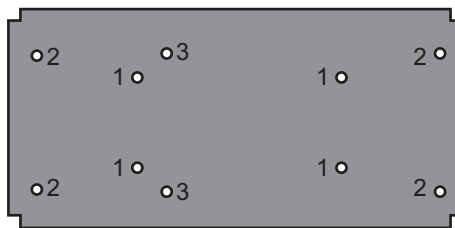
**ASM 340 Integrable model**

The detector is delivered with the connection for the primary pumping in the back.

- Install the connection of the primary pump under the detector (see *chapter **Connection the primary pump** in the maintenance instructions*).
  - Use a flexible hose of maxi length 1 m (0,5 m recommended) between the detector and the primary pump (see 7).

**Primary pump**

Fixing holes are present on the frame to fix ACP's pumps model 15/28/40 and RVP 2005/2010/2015/2021. The procedure (see 5.2.2) addresses these models of pumps.



**Fig. 3: Positioning of fixing holes**

1	Fixing holes for RVP 2005/2010/2015/2021
2	Fixing holes for ACP 28/40
3	Fixing holes for ACP 15

It is however possible to install quite different primary pump of his/her choice respecting the following characteristics:

- Wet or Dry pump in DN 25 ISO-KF
- Ultimate pressure < 1 mbar ( $5 \cdot 10^{-2}$  mbar recommended)
- Minimum throughput = 1 m<sup>3</sup>/h  
If used as a sniffer with a Smart probe, minimum throughput = 3 m<sup>3</sup>/h

- Maximum throughput = 100 m<sup>3</sup>/h  
A greater throughput does not improve the performance of the leak detector/primary pump combination.
- Maximum 2 m-long flexible tube between the detector and primary pump
- Maximum weight: 35 kg

It is the responsibility of the user to fix correctly the primary pump to the cart to secure the use.

**Whatever is the primary pump model used, the pump exhaust must always be positioned contrary to the arm of the cart.**

## 5.2.2 Procedure

Necessary tools:

- 5 mm Allen key
  - 1 flexible hose DN 25 ISO KF 0.5 m (recommended length; mini 0.4 m/maxi 1 m) (see 7)
  - 1 reducer DN40/25 ISO-KF (for ACP 40 only) (see 7)
- Check that the power supply indicated on the detector and on the pump corresponds to the power supply voltage on the cart.



1	Rear side of the detector
2	4 screws CHc 6x16
3	4 screws CHc 6x10
	Pump exhaust side

- Place the pump on the frame in positioning feet on the fixing holes of the model to be installed (see 5.1).
- **Whatever is the primary pump model used, the pump exhaust must always be positioned contrary to the arm of the cart.**
- Fix the pump with 4 screws CHc 6x10 and their washers.
- Remove 4 fixation screws of the leak detector feet.
- Place the detector on the cart in positioning the devices 'hock absorber + foot' on every fixing hole. The rear side of the detector has to be on the side of the electric box.

- Fix the detector with 4 screws CHc 6x16 and their washers.
- Cross the flexible hose connection the detector with the primary pump through the tray ((3) (see 4.2)).
- Connect the primary pump inlet to the leak detector.

### 5.3 Connection to the mains power supply



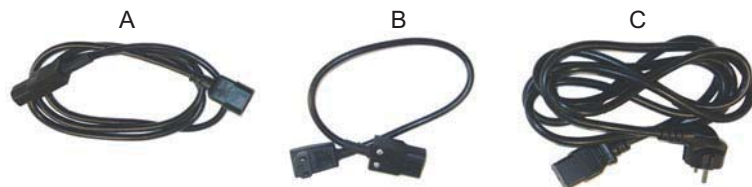
WARNING
<p><b>Risk of electromagnetic disturbance</b></p> <p>The product's EMC behavior is guaranteed only if the relevant EMC standards are followed during installation.</p> <p>→ Use shielded cables and connections for the interfaces in interference-prone environments.</p>



WARNING
<p><b>Hazard associated with non-compliant electrical installation</b></p> <p>Safe operation after installation is the operator's responsibility.</p> <p>→ Connect the product to an installation that is compliant with local safety standards.</p> <p>→ Do not carry out any alterations or modifications to the product on your own initiative.</p> <p>→ For specific questions, contact your service center.</p>

The leak detector is Class 1 equipment and therefore must be earthed.

- Connect the power supply cable (A) of the primary pump to the electric box (8) (see 4.2) and position the primary pump switch on I.
- Cross the power supply cable (B) connection the detector with the electric box through the tray (4) (see 4.2).
- Connect the power supply cable (B) of the detector to the electric box (7) (see 4.2) and position the detector switch on I.
- Connect the power grid with the plug ⚡ (see 4.2) by means of the power supply cable (C).
- Position the circuit breaker (6) (see 4.2) on I.
- Position the main switch Ⓜ (see 4.2) on I.



<p><b>A</b> - Power supply cable between the primary pump and the electric box</p>	<p><b>B</b> - Power supply cable between the detector and the electric box</p>	<p><b>C</b> - Power supply cable of the cart</p>
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## 6 Operation

### 6.1 Prerequisites to use

All models



#### NOTICE

##### Risk of seizing

→ Never move the detector while it is in use, even if it is placed on a trolley.

Integrable model



#### NOTICE


##### Connecting the primary pump

→ The external primary pump must be connected and powered up before the detector is switched on.

### 6.2 Leak detector use

Refer to the detector operating instructions for its use.

The switching on of the detector and the pump is realized via the cart electric box.

- When it is asked in the operating instructions of the detector or the primary pump to switch off it, position the main switch of the cart  (see 4.2) on **O**, the circuit breaker **(6)** (see 4.2) on **O** and disconnect the power supply cable of the power grid.
- Do not realize detector maintenance operation when this one is on the cart.

## 7 Accessories

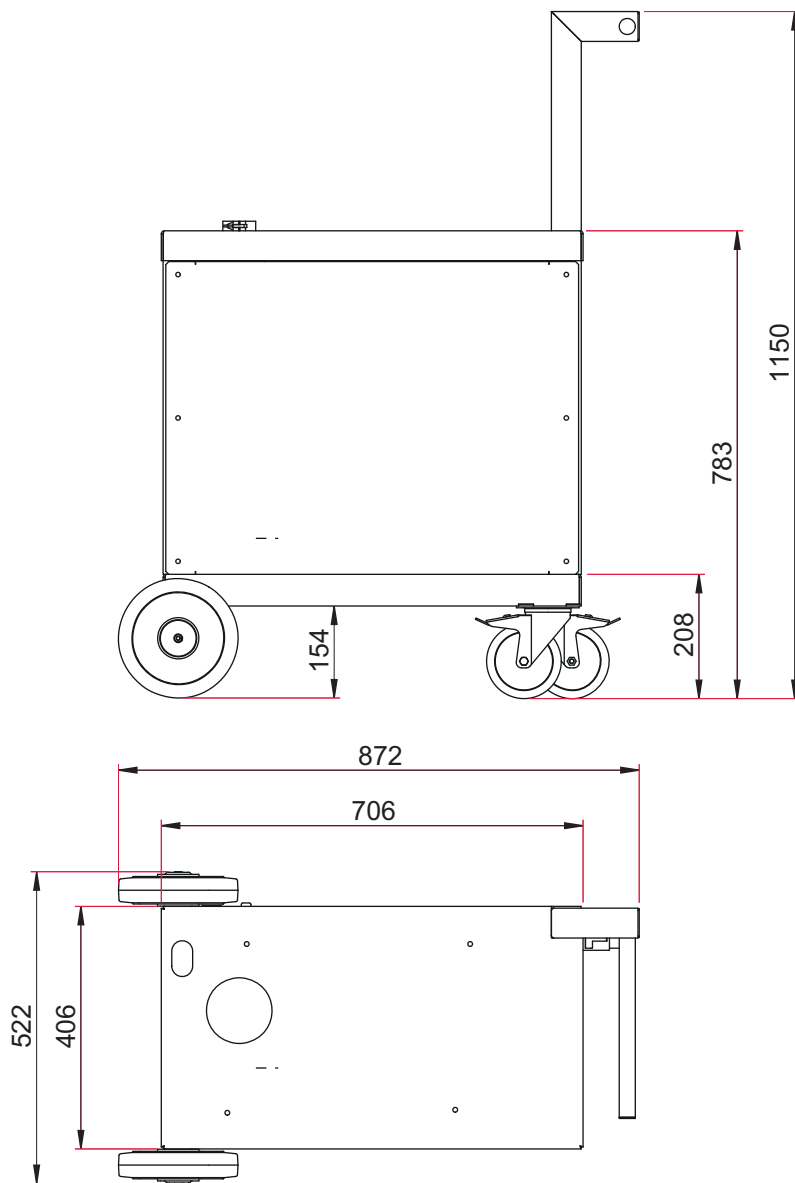
Description	Order number
Flexible hose DN 25 ISO-KF - 0.5 m	068371
Flexible hose DN 25 ISO-KF - 1 m	068372
Clamp DN 25 ISO-KF	083264
Clamp DN 40 ISO-KF	083267
Centering ring DN 25 ISO-KF	068189
Centering ring DN 40 ISO-KF	068194
O-ring DN 25 ISO-KF	106022
O-ring DN 40 ISO-KF	106023
Reducer DN 40/25 ISO-KF	303005
Other accessories: contact the manufacturer.	

## 8 Technical data and dimensions

### 8.1 Technical data

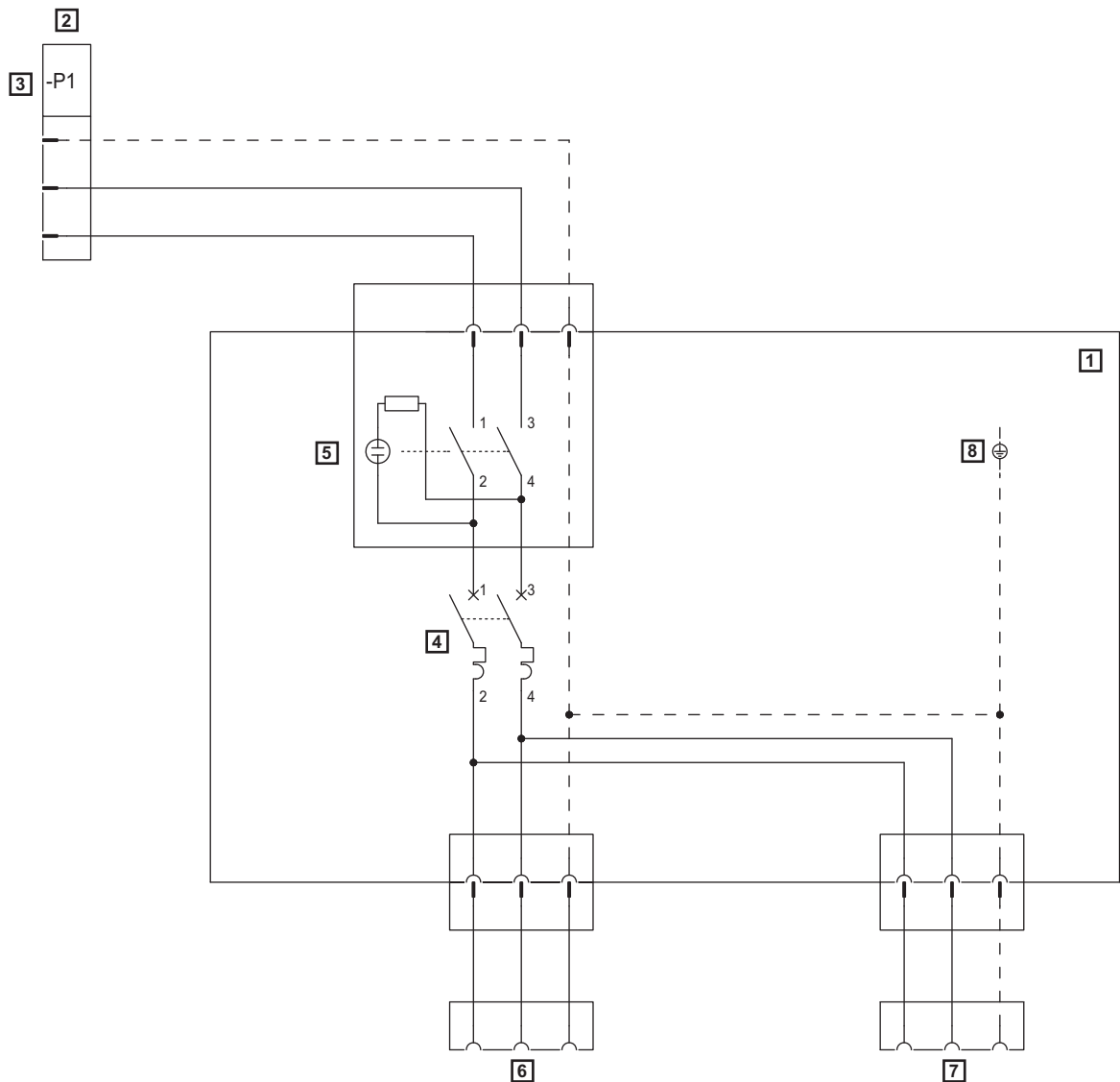
Parameter	
Power supply	90-130 V, 50/60 Hz 200-240 V, 50/60 Hz
Power consumption max.	1500 W
Protection category	IP 20
Weight (empty cart)	49 kg
Maximum weight (cart/detector/pumping/accessories/pparts to be tested)	138 kg
Dimensions (L x l x H)	(see 8.2)

### 8.2 Dimensions



## 9 Appendix

### 9.1 Electrical diagram



1	Electric box
2	Main power supply – 90-130 V 50/60 Hz – 200-240 V 50/60 Hz
3	Main power supply plug (2 plugs + ground)
4	Circuit breaker – 90-130 V 50/60 Hz: 16 A – 200-240 V 50/60 Hz: 10 A
5	Main switch
6	Detector power supply plug
7	Primary pump power supply plug
8	Protection ground



# Declaration of conformity

We hereby declare that the product cited below satisfies all relevant provisions according to the following **EC directives**:

- **Machinery 2006/42/EC (Annex II, no. 1 A)**

The technical file is drawn up by Mr Gilles Baret, Pfeiffer Vacuum SAS, [simplified joint stock company], 98, avenue de Brogny · B.P. 2069, 74009 Annecy cedex.

**Cart - ASM 340 Series**

**Part numbers: 805142 - 805143**

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08.02.2016



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