



Origo Vac Cart W3



Instruction manual Original instructions



EU DECLARATION OF CONFORMITY

According to
The Machinery Directive 2006/42/EC, entering into force 17 May 2006
The EMC Directive 2014/30/EU, entering into force 20 April 2016
The RoHS Directive 2011/65/EU, entering into force 2 January 2013

Type of equipment
Fume extractor

Type designation
Origo Vac Cart W3 0700 003 895

Brand name or trademark
ESAB

Manufacturer or his authorized representative established within the EEA
Name, address, and telephone No:
ESAB AB
Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden
Phone: +46 31 50 90 00, Fax: +46 31 50 92 22

The following harmonized standards in force within the EEA has been used in the design:

EN ISO 21904-1:2020, EN ISO 12100:2010, EN ISO 20607:2019
EN 61000-6-2:2019, EN 61000-6-4:2019
EN 61000-3-3:2013, EN 60204-1:2018

Additional Information:
Restrictive use, Class A equipment, intended for use in location other than residential.

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorized representative established within the EEA, that the equipment in question complies with the safety requirements stated above.

Date	Signature	Position
2023-06-06	 Bartosz Kutarba	Global Director Light Industrial Products Welding and Plasma





UK DECLARATION OF CONFORMITY

According to:

- Electric Equipment (Safety) Regulations 2016;
- Electromagnetic Compatibility Regulations 2016;
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)

Type of equipment

Fume extractor

Type designation

Origo Vac Cart W3 230V 0700 003 898

Origo Vac Cart W3 110V 0700 003 899

Brand name or trademark

ESAB

Manufacturer or his authorised representative established within United Kingdom

ESAB Group (UK) Ltd,
322 High Holborn, London, WC1V 7PB, United Kingdom
www.esab.co.uk

The following British Standards and Instruments in force within the United Kingdom has been used in the design:

- BS EN ISO 21904:2020	Health and safety in welding and allied processes – Equipment for capture and separation of welding fume – Part 1: General requirements.
- BS EN ISO 12100:2010	Safety of machinery – General principles for design – Risk assessment and risk reduction.
- BS EN ISO 20607:2019	Safety of machinery – Instruction handbook
- BS EN ISO 61000-6-2:2019	EN 61000-6-4:2019
- BS EN 61000-3-3:2013	EN 60204-1:2018

Additional Information:

Restrictive use, Class A equipment, intended for use in locations other than residential.

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the UK, that the equipment in question complies with the safety and environmental requirements stated above.



Bartosz Kutarba

Bartosz Kutarba
Global Director Light Industrial Products
Welding and Plasma
Date: 2023-05-22

David Todd

David Todd
Commercial Director,
ESAB Group UK & Ireland
Date: 2023-06-01

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1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!



DANGER!

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.



WARNING!

Means potential hazards which could result in personal injury or loss of life.



CAUTION!

Means hazards which could result in minor personal injury.



WARNING!

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).



1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
 - no unauthorised person is stationed within the working area of the equipment when it is started up
 - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
 - be suitable for the purpose
 - be free from drafts
4. Personal safety equipment:
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
 - Make sure the return cable is connected securely
 - Work on high voltage equipment **may only be carried out by a qualified electrician**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand
 - Lubrication and maintenance must **not** be carried out on the equipment during operation

If equipped with ESAB cooler

Use ESAB approved coolant only. Non-approved coolant might damage the equipment and jeopardize product safety. In case of such damage, all warranty undertakings from ESAB cease to apply.

For ordering information, see the "ACCESSORIES" chapter in the instruction manual.

**WARNING!**

Arc welding and cutting can be injurious to yourself and others. Take precautions when welding and cutting.

**ELECTRIC SHOCK - Can kill**

- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

**ELECTRIC AND MAGNETIC FIELDS - Can be dangerous to health**

- Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should use the following procedures to minimize exposure to EMF:
 - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Do not place your body between the torch and work cables. Never coil the torch or work cable around your body. Keep welding power source and cables as far away from your body as possible.
 - Connect the work cable to the workpiece as close as possible to the area being welded.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**NOISE - Excessive noise can damage hearing**

Protect your ears. Use earmuffs or other hearing protection.

**MOVING PARTS - Can cause injuries**

- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.
- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.

**FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure that there are no inflammable materials nearby.
- Do not use on closed containers.

**HOT SURFACE - Parts can burn**

- Do not touch parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or insulated welding gloves to prevent burns.

MALFUNCTION - Call for expert assistance in the event of malfunction.

PROTECT YOURSELF AND OTHERS!

**CAUTION!**

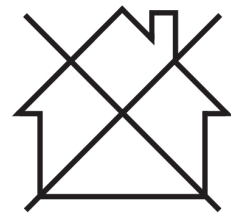
This product is solely intended for arc welding.

**WARNING!**

Do not use the power source for thawing frozen pipes.

**CAUTION!**

Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.

**NOTE!****Dispose of electronic equipment at the recycling facility!**

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.

As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.

For further information contact the nearest ESAB dealer.



ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

1.3 California proposition 65 warning

**WARNING!**

Welding or cutting equipment produces fumes or gases which contain chemicals known in the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

**WARNING!**

This product can expose you to chemicals including lead, which are known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after use.

For more information, go to www.P65Warnings.ca.gov.

2 INTRODUCTION

The **Origo Vac Cart W3** filters out pollutants such as fumes and dust, class W3. Moreover, it filters out welding fumes containing CMR (Carcinogenic Mutagenic Reprotoxic) substances, e.g. generated by welding high alloyed steels or welding consumables with more than 5 % (Cr, Ni).

The **Origo Vac Cart W3** is only intended for indoor use and is designed for extraction and filtration of welding fumes and dust, class W3. The hood is provided with an efficient spotlight.

ESAB accessories for the product can be found in the "ACCESSORIES" chapter of this manual.

2.1 Equipment

The **Origo Vac Cart W3** is supplied with:

- Instruction manual

3 TECHNICAL DATA

Origo Vac Cart W3	
Capacity	675–1050 m ³ /h (397–620 cfm)
Main filtration efficiency	> 99 % average weight filtration efficiency. Minimum Efficiency W3 (99%), EN ISO 15012-1, MERV 14 (ASHRAE 52.2)*
HEPA filtration efficiency (accessory)	> 99.95 % H13*
Main filter area	30 m ² (323 ft ²)
HEPA filter area (accessory)	7.5 m ² (81 ft ²)
Noise level at 100% motor power	79 dB(A) at 1m, ISO 11201
Motor power	0.75 kW (1 hp)
Voltage **	110/120/230/240 V
Phase	1 ~
Frequency **	50/60 Hz
Transformer	24 V secondary
Spotlight	LED 24 V, 5W/6VA
Alarm signal	acoustic, 2.9 kHz
Action radius extraction arm	maximum 2 m (6 ft 7 in) or 3 m (9 ft 10 in)
Swivelling extraction arm	approx. 240°
Weight	71 kg (156 lb) with 2 m arm 73 kg (161 lb) with 3 m arm
Maximum ambient temperature	40 °C (104 °F)
Maximum airflow temperature	60 °C (140 °F)
Noise level, measured according to ISO 11204	73 dB(A)
Material recycling	90% by weight, without filter cartridge

** Depending on the model

4 INSTALLATION

General safety regulations for handling the equipment can be found in the "SAFETY" chapter of this manual. Read it through before you start using the equipment!



NOTE!

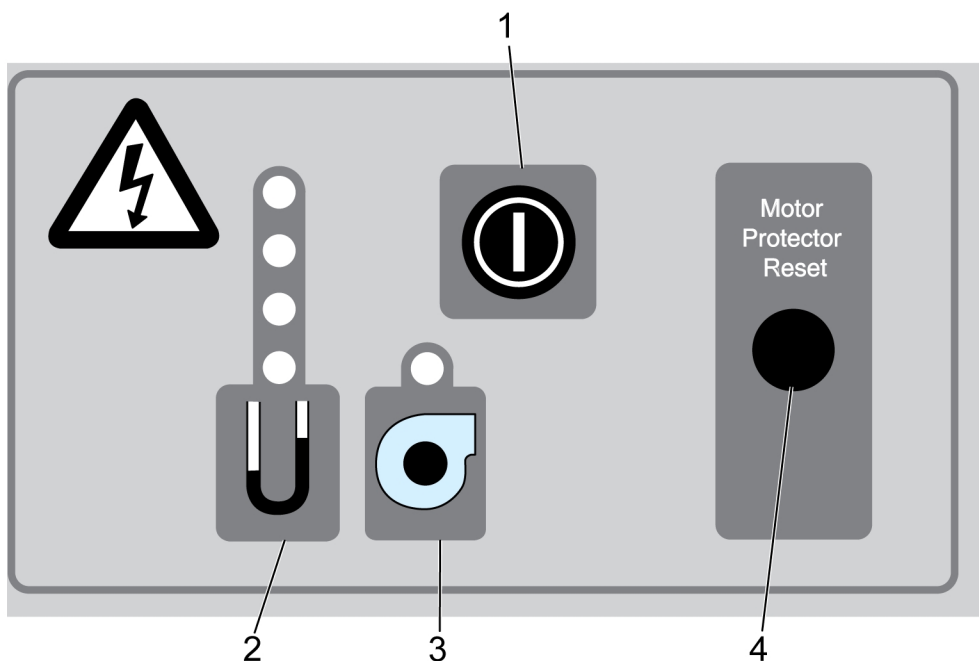
When moving the equipment use intended handle. Never pull the cables.



WARNING!

Electric shock! Do not touch the workpiece or the welding head during operation!

4.1 Initial operation

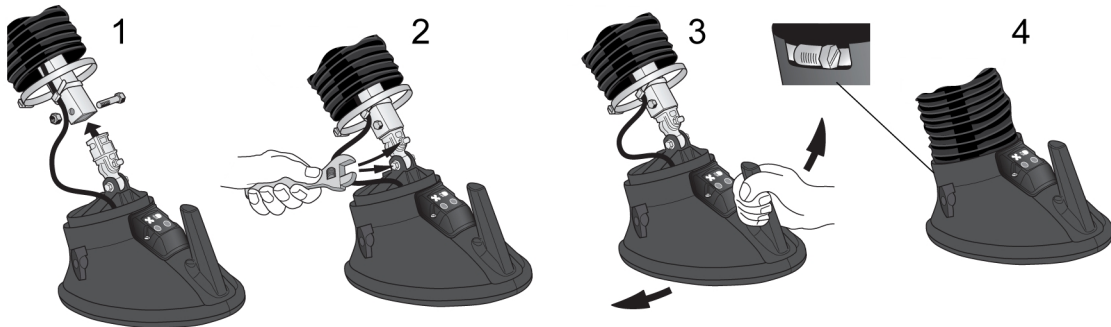


- | | |
|-----------------------------------------------------------|--------------------------|
| 1. Start switch | 3. Light diode |
| 2. Light-emitting diodes for fixed light and alarm signal | 4. Motor Protector Reset |

- 1) Make sure that the Origo Vac Cart W3 has not been damaged during transport.
- 2) Check that the mains voltage is the same as on the sign plate.
- 3) Connect the connection cable with the plug to the mains. The light-emitting diodes **(2)** indicate fixed light and an alarm signal sounds for a short time. The light diode **(3)** indicates a blinking green light (stand by).
- 4) Start the Origo Vac Cart W3 with the switch **(1)** or as an alternative with the switch on the hood of the extractor arm.
- 5) The light emission **(3)** indicates fixed green light and the fan operates.

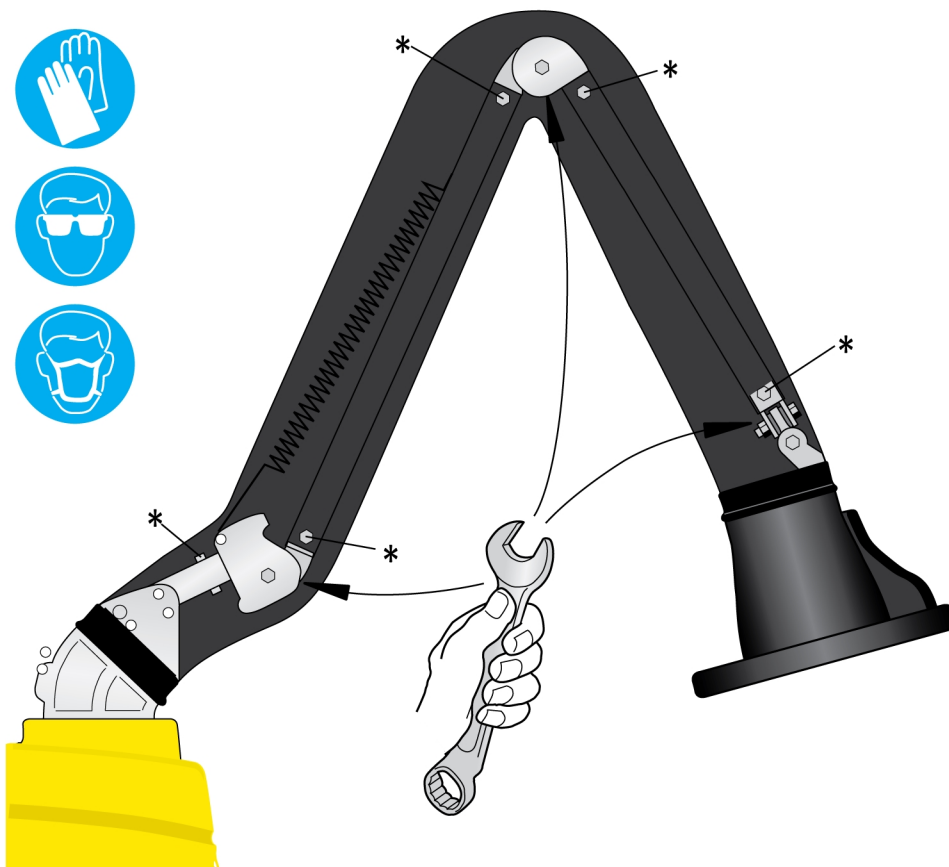
4.2 Fitting the fume extractor hood

The Fume extractor arm is already fitted. The hood must be fitted according to the following image.



- 1) Insert the hood into the swiveling arm and fasten together.
- 2) Adjust the swiveling arm to the correct tension.
- 3) Make sure that the swiveling arm has the correct tension and can be easily positioned.
- 4) Fasten the hose into the hood and secure it using the tightening ring.

Adjust the links so that the hood easily can be positioned. See the following image.



5 OPERATION

5.1 Overload protector

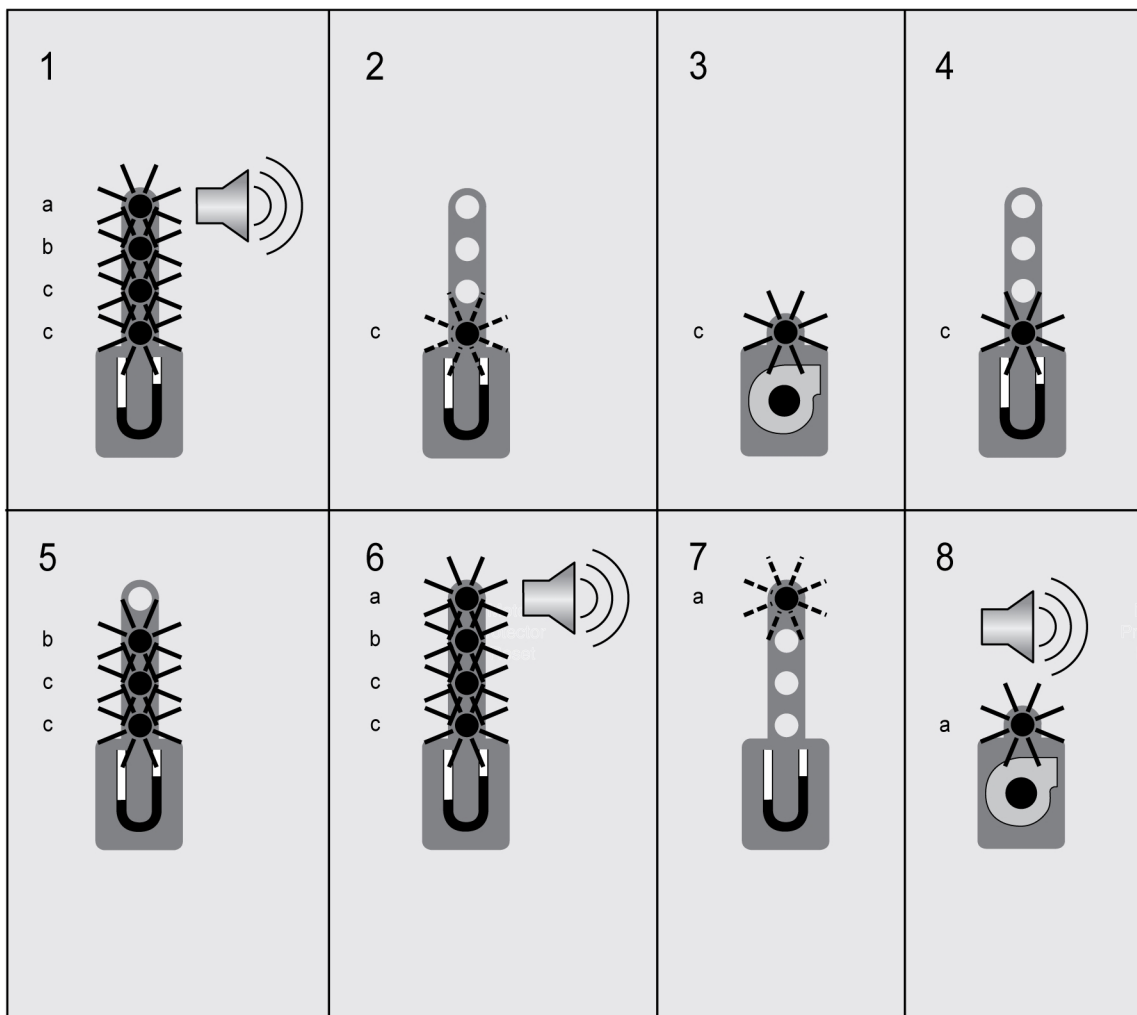
The Origo Vac Cart W3 is equipped with an overload protector which means that the power will disconnect automatically if the fan motor is overloaded.

See Section 4.1 "Initial operation", page 10:

3 Red light indicates disconnected power and released overload protector.

4 Button for re-setting the overload protector.

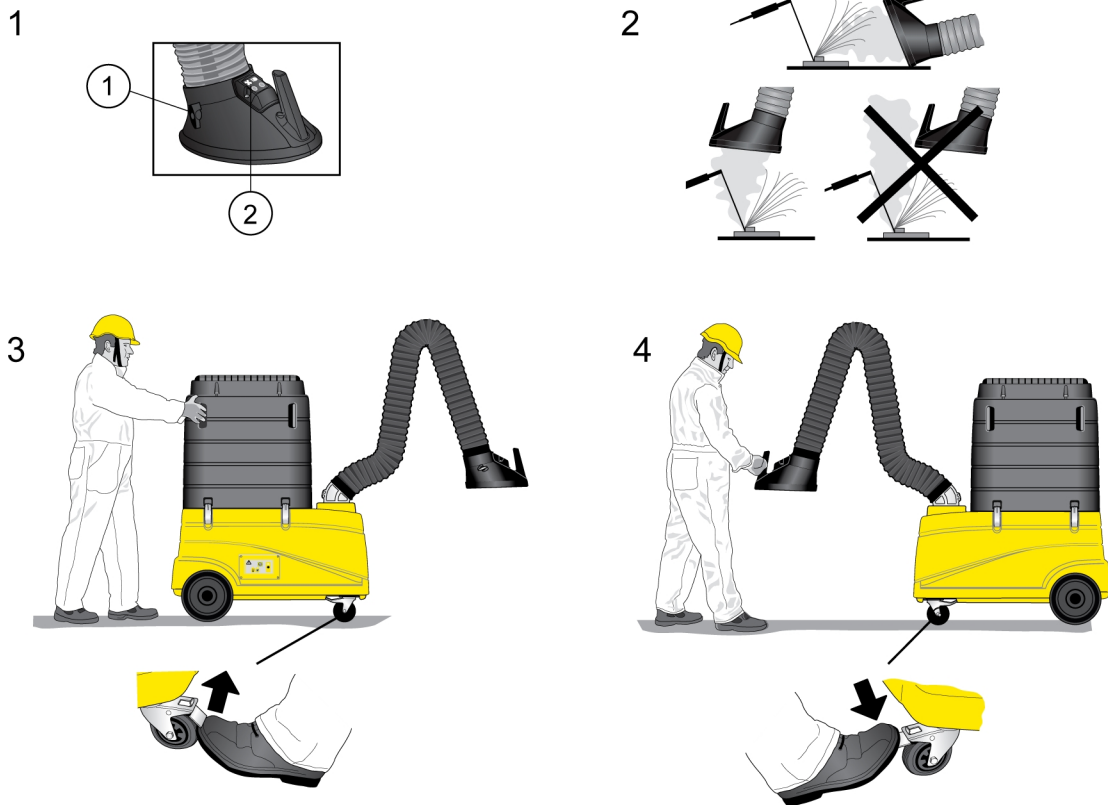
5.2 Control panel indicators



1. When the mains plug is connected, the light emission diodes indicate fixed light and an alarm signal sounds for a short time.
2. The light emitting diode indicates a blinking green light: The Origo Vac Cart W3 is connected to the mains (stand by).
3. When the Origo Vac Cart W3 is started, the light emission diode indicates fixed green light. The fan is in operation.
4. The Origo Vac Cart W3 is ready for use and after a while, the light-emitting diode indicates fixed green light. After use for a certain time, the airflow is reduced through the extraction arm and the pressure drop increases, which results in having to change the filter cartridge.
 - a. Red
 - b. Yellow
 - c. Green
5. The light emitting diodes indicate fixed light: The pressure drop is increased. Pre-warning for changing the filter cartridge.
6. The light-emitting diodes indicate fixed light and after about 30 seconds an intermittent alarm signal starts. Change the filter cartridge. If you want to finish the work in progress before the filter cartridge is changed, the alarm signal can be stopped by pushing once on the start button. The alarm signal activates after about 10 minutes. Pushing twice on the start button makes a fan stop. As an alternative, the fan can be stopped with the switch on the fume extractor hood.
7. The light emitting diode indicates blinking red light = alarm memory. The Origo Vac Cart W3 has been stopped after the alarm start (according to above), for example at work shifts. The filter in the cartridge must be changed.
8. The light-emitting diode indicates fixed red light and an intermittent alarm signal starts. The overload protector has been released. Examine the reason and reset the overload protector by pushing the **Motor Protector Reset-** button.

5.3 Directions for use

See Section 4.1 "Initial operation", page 10 and the following image.



1. 1 Lever for adjusting the damper. 2 Switches for fan and spotlight.
2. The hood of the extraction arm is to be positioned as close to the pollution source as possible.
3. The Origo Vac Cart W3 is to be moved from behind and with the wheels unlocked.
4. The extraction arm is to be positioned with the wheels locked.

6 MAINTENANCE


WARNING!

The mains supply must be disconnected during cleaning and maintenance.


CAUTION!

Only persons with the appropriate electrical knowledge (authorised personnel) may remove the safety plates.


CAUTION!

The product is covered by manufacturer's warranty. Any attempt to carry out repair work by non-authorised service centers or personnel will invalidate the warranty.


NOTE!

Regular maintenance is important for safe and reliable operation.


NOTE!

Perform maintenance more often during severe dusty conditions.


WARNING!

Origo Vac Cart W3 must only be disassembled in a well-ventilated room.

Use proper equipment, such as a vacuum cleaner to clean Origo Vac Cart W3.

Before each use - make sure that:

- Product and cables are not damaged

Maintenance is recommended at least once a year. Do as follows:

- Change the filter cartridge (and optional HEPA-filter) if necessary, see Section 6.1 "Changing the filter cartridge", page 15
- Check that the fume extractor hose is not damaged. If necessary, change the hose.
- Check that the hose to the fan inlet is not damaged. If necessary, change the hose.
- Check that no objects have been caught on the guard net on the fan inlet.
- Check that the pressure drop hose (from the control board) not is damaged and is fitted properly.
- If necessary, adjust the fume extractor links.
- If necessary, tighten the arm profile bolts, see the * symbols in the image in Section 4.2 "Fitting the fume extractor hood", page 11
- Check that the mains connection cable and the fan motor cable are not worn out or damaged.
- Check that the eccentric locks tighten the filter casing properly. Adjust the eccentric locks if necessary.

6.1 Changing the filter cartridge

The filter cartridge is disposable and is to be thrown away after use. The life span of the filter cartridge varies greatly depending on how the Origo Vac Cart W3 is used and how much and what type of pollutants are collected.

Regularly check the light-emitting diodes on the pressure drop symbol on the control board to know when to change the filter cartridge, see Section 5.2 "Control panel indicators", page 12. Always check that the hoses for the extraction arm and the fan inlet are undamaged before it is decided to replace the filter cartridge.

**WARNING!**

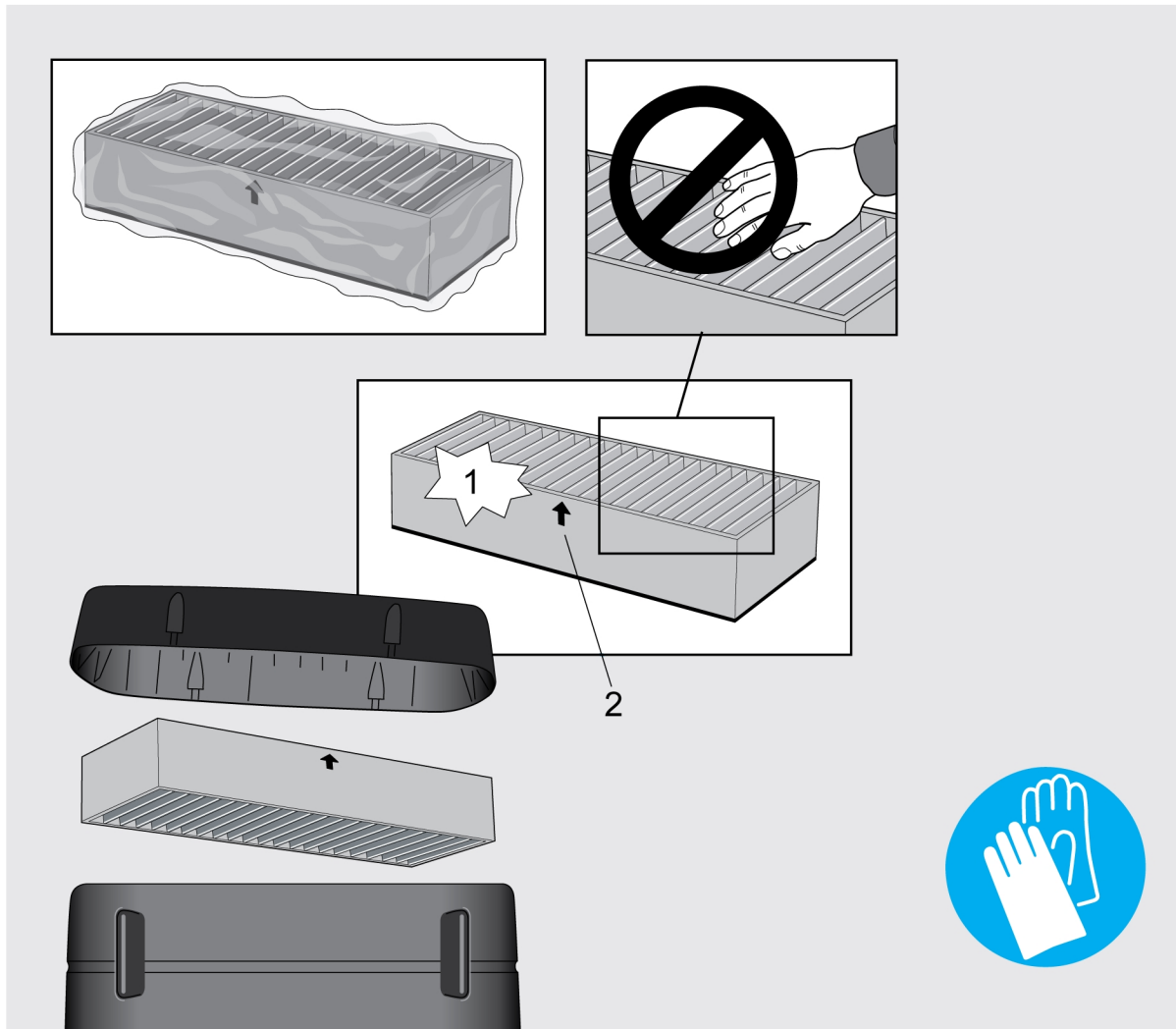
Use PPE (Personal Protective equipment) when replacing the filter cartridges.

To change the filter cartridge, see the following instructions:

- 1) Disconnect the mains connection cable.
- 2) Unlock the eccentric locks and remove the filter casing.
- 3) Use the plastic bag that comes with the new filter cartridge and pull it over the used cartridge. Fold the plastic bag under the cartridge.
- 4) Use a duster to wipe off the filter cartridge contact surfaces in the Origo Vac Cart W3. Put the duster in the plastic bag with the filter cartridge and close the bag with the band supplied.
- 5) Handle the used filter cartridge according to the relevant regulations for the substances that have been collected.
- 6) Check that the pressure drop hose (from the control board) not is damaged and is fitted properly.
- 7) Check that the new filter cartridge is not damaged. Also, check that the seal fitted on the underside of the cartridge is not damaged. Then fit the cartridge on the Origo Vac Cart W3.
- 8) Refit the filter casing. Make sure the eccentric locks tighten the filter casing properly.
 - a) Use the lever **(1)** to increase the locking power.
 - b) Use the lever **(2)** to decrease the locking power.

6.2 Changing the HEPA-filter (accessory)

If the Origo Vac Cart W3 has been supplied with a HEPA-filter, this is to be changed at the same time as the main filter cartridge is changed.



WARNING!

Use PPE (Personal Protective equipment) when changing the HEPA-filter.

To change the HEPA-filter, see the following instructions:

- 1) Disconnect the mains connection cable.
- 2) Unscrew the top cover.
- 3) Remove the used HEPA-filter and put it in the plastic bag that comes with the new HEPA filter. Close the plastic bag with the band supplied.
- 4) Handle the used HEPA-filter according to the relevant regulations for the substances that have been collected.
- 5) Check that the new HEPA-filter (1) is not damaged.



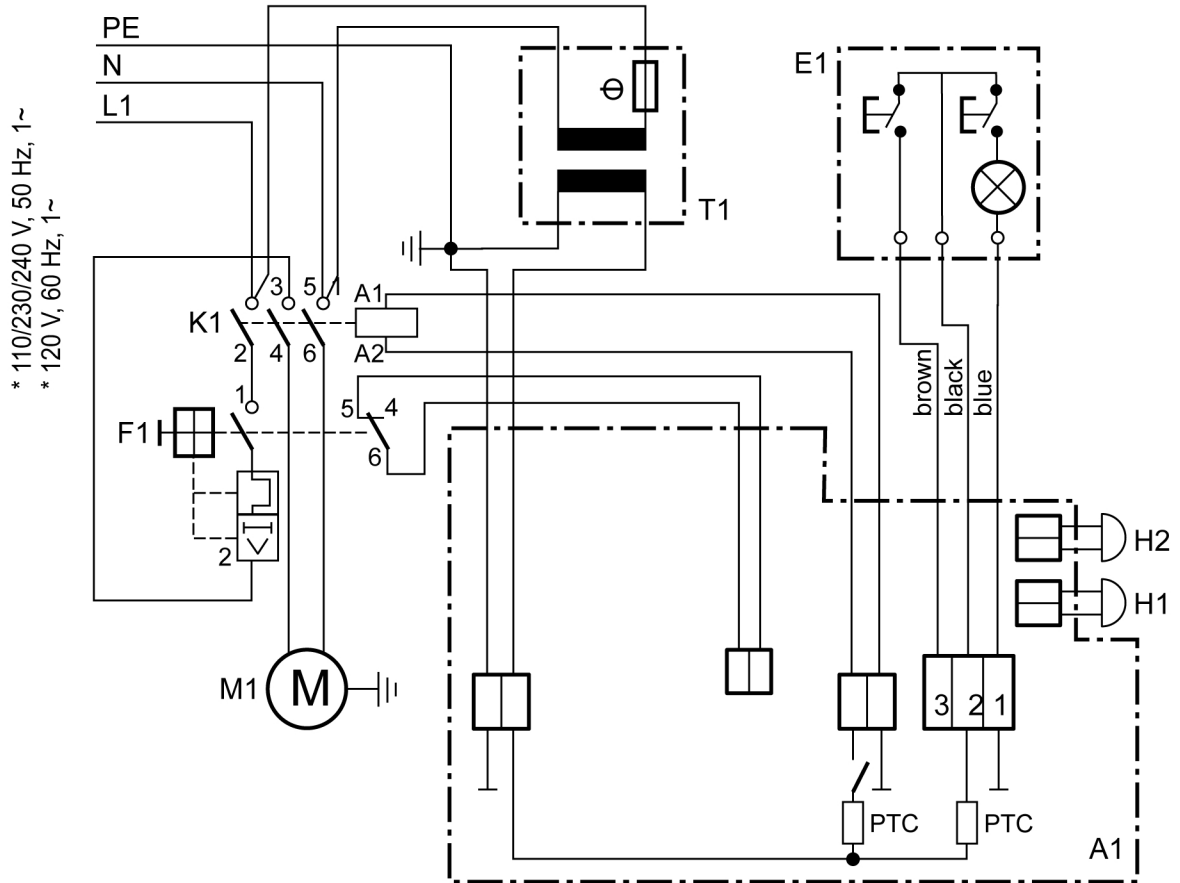
NOTE!

The filter surface must not be touched.

- 6) Verify that the UP-arrow **(2)** is pointing upwards. Handle the HEPA-filter very carefully and fit it in the Origo Vac Cart W3. Ensure it is fitted in the correct position and that the seal is downwards. Check that the seal not is damaged.
- 7) Refit the top cover and fasten it securely.

APPENDIX

WIRING DIAGRAM



Component ID

Description

M1	Fan motor, 0.75 kW (1 hp)
A1	Circuit card
T1	Transformer, 24 V secondary
K1	Fan relay
F1	Overload protector relay
E1	Spotlight, 20 W, 24 V
H1	Alarm signal, 2.9 kHz
H2	Alarm signal, 2.9 kHz

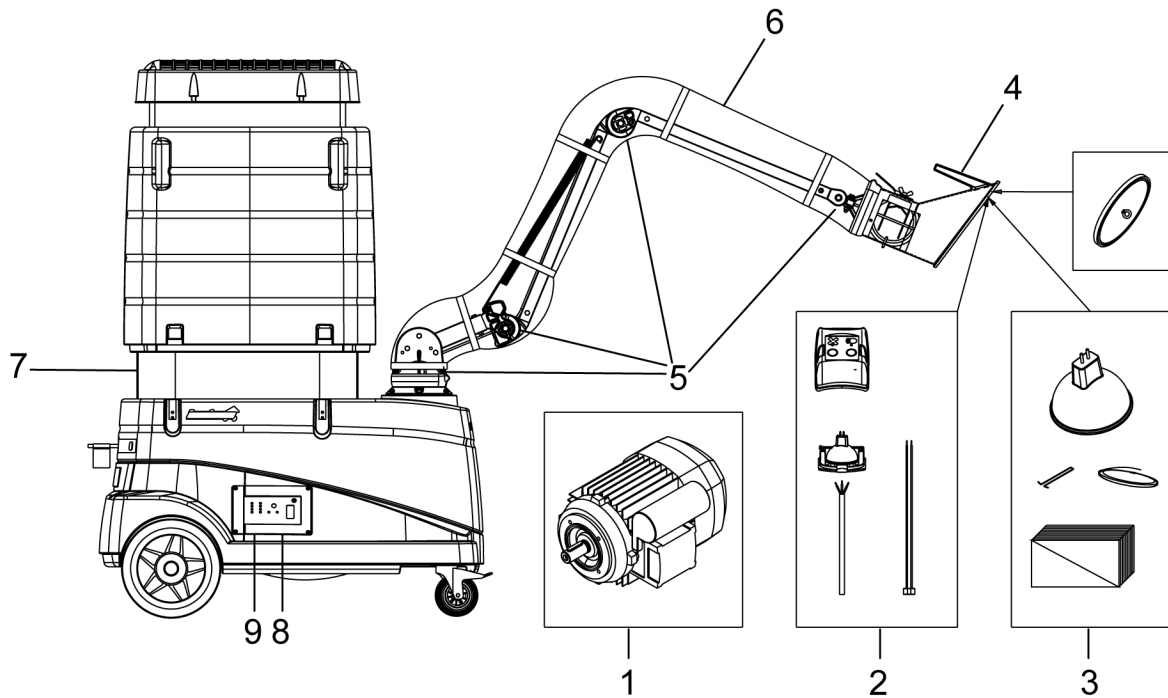
ORDERING NUMBERS



Ordering number	Type	Notes
0700 003 895	Origo Vac Cart W3 230V 50Hz, 3m	EUR + Light
0700 003 898	Origo Vac Cart W3 230V 50Hz, 3m	UK
0700 003 899	Origo Vac Cart W3 110V 50Hz, 3m	UK
0700 003 901	Origo Vac Cart W3 110V 60Hz, 3m	US + Light
0448 046 001	Instruction manual	Origo Vac Cart W3

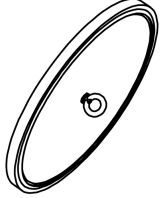
Technical documentation is available on the Internet at: www.esab.com

SPARE PARTS LIST



Item	Qty.	Ordering no.	Denomination	Notes
1	1	0700003081	Motor 0.75 kW 115/230V 1~ 50/60 Hz	
2	1	0700003212	LED light/fan switch Origo Vac Arm	
3	1	0700003072	10 × lens, 1 × LED	
4	1	0700003075	Hood for Origo Vac Arm	
5	1	0700003076	Wear kit original	Contains: <ul style="list-style-type: none"> • 3 × friction discs • 1 × rubber sleeve 6" • 1 × hose clamp
6	1	0700003062	Hose Øm 160 3m complete	
7	1	0464663050	Filter Nanofiber Origo Vac Cart	
8	1	0700003920	Overload protection w enclosure 8A T12	for 230/240V motor
		0700003921	Overload protection w enclosure 16A T12	for 110/120V motor
9	1	0700003902	Control Panel FC W3 w circ.board	

ACCESSORIES

0700 003 219	HEPA filter H13 OrigoVacCart	
0700 003 217	Spark filter for Origo Vac Arm hood	



A WORLD OF PRODUCTS AND SOLUTIONS.



For contact information visit <http://esab.com>

ESAB AB, Lindholmsallén 9, Box 8004, 402 77 Gothenburg, Sweden, Phone +46 (0) 31 50 90 00

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