



## ***Fume Eliminator RFE860***

***Owner's Manual***  
*Installation, Operation & Maintenance*

*Revised August 2024*



# ***Fume Eliminator*** ***RFE860***

## ***Owner's Manual***

*Installation, Operation & Maintenance*

Manufactured by:

**RoboVent**

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# Preface

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## ***Thank you for using a Nederman product!***

The Nederman Group is a world-leading supplier and developer of products and solutions for the environmental technology sector. Our innovative products will filter, clean and recycle in the most demanding of environments. Nederman's products and solutions will help you improve your productivity, reduce costs and also reduce the impact on the environment from industrial processes.

Read all product documentation and the product identification plate carefully before installation, use, and service of this product. Replace documentation immediately if lost. Nederman reserves the right, without previous notice, to modify and improve its products including documentation.

This product is designed to meet the requirements of relevant EC directives. To maintain this status, all installation, maintenance, and repair is to be done by qualified personnel using only Nederman original spare parts and accessories. Contact the nearest authorized distributor or Nederman for advice on technical service and obtaining spare parts. If there are any damaged or missing parts when the product is delivered, notify the carrier and the local Nederman representative immediately.

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## ***A Message from the President***



Thank you for trusting RoboVent with your dust and fume control needs! At RoboVent, we are committed to providing world-class equipment backed by exceptional service and support. Our goal is to ensure your 100% satisfaction with your Senturion. The RoboVent team will continue to be here to support you over the lifetime of your unit. We are also here to help you with any additional air filtration and industrial ventilation challenges you may have in the future.

Thank you again for your purchase!

**Rick Kreczmer**

President, RoboVent

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## Declaration of Conformity

We, AB Ph. Nederman & Co., declare under our sole responsibility that the Nederman product: RFE860 (Part No. \*\*, and stated versions of \*\*) to which this declaration relates, is in conformity with all the relevant provisions of the following directives and standards:

- **Directives**  
2006/42/EC, 2014/30/EU, 2011/65/EU
- **Standards**  
EN 60204-1:2018, EN ISO 12100:2010, EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019, EN ISO 21904-1:2020, EN ISO 20607:2019

The name and signature at the end of this document is the person responsible for both the declaration of conformity and the technical file.



# Fume Eliminator RFE860 Owner's Manual

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## 1. Safety

### 2.1 Classification of important information

This document contains important information that is presented either as a warning, caution or note, according to the following examples:



#### **WARNING!**

##### **RISK OF PERSONAL INJURY**

Warnings indicate a potential hazard to the health and safety of personnel, and how that hazard may be avoided.



#### **CAUTION!**

##### **RISK OF EQUIPMENT DAMAGE**

Cautions indicate a potential hazard to the product but not to personnel, and how that hazard may be avoided.



**NOTE:** Notes contain other information that is important for personnel.

### 1.2 General safety instructions



#### **WARNING!**

##### **RISK OF FIRE AND EXPLOSION**

- Do not use the product for flammable or explosive dust and gases.
- Do not use the product in an environment where there is a danger of explosion, or where there is dust or gases in explosive concentrations.
- If the product has been used for dust applications, do not use it for welding fumes or grinding dust.
- Do not use the product for extracting toxic substances (except welding fumes).
- Only use the product in a well-ventilated room.
- In case of fire, smoke from the product may contain hazardous substances such as burning polycarbonate, PVC, polyethylene, etc. Also, hazardous smoke from the separated dust may occur depending on the material being separated.
- In case of fire, disconnect power to the product at the mains. Use a fire extinguisher, minimum class AB.
- Check that no sparks or objects that can cause fire are sucked into the nozzle. For welding applications generating a high amount of sparks, spark protection (accessory) must be mounted inside the coarse separator to reduce the fire risk.

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## **WARNING!**

### **RISK OF PERSONAL INJURY**

Only properly trained personnel are allowed to use this product.



## **CAUTION!**

### **RISK OF EQUIPMENT DAMAGE**

Store RFE860 indoors in a dry environment.

## 2. Description

RFE860 is a portable welding filter that filters out pollutants such as fumes and dust, class W3 (non-alloy steel to high alloy steel with nickel and chromium > 30%). [See Figure 5](#)



**NOTE:** Gases are not filtered out.

### 2.1 Technical data

Dimensions	<a href="#">See Figure 3</a>
Noise level at 100% motor power	79 dB(A) at 1m, ISO 11201
Weight	14,8 kg (32,6 lb)
Ambient temperature, storage	-20°C - 60°C
Ambient temperature, operation	0°C - 35°C
Voltage	110/220–240 V AC
Power	1250/1300 W (1.7 hp)
Max. vacuum generated by the motor	25 kPa (100 in. w.g.)
Max. vacuum at hose connection (pos 15 in <a href="#">Figure 5</a> ) at set point T8	18 kPa (72 in. w.g.)
Capacity	180 m <sup>3</sup> /h (106 cfm) with 2,5 m hose. <a href="#">Also see Figure 4</a>
Filter area	5,3 m <sup>2</sup>
Filtration efficiency	>99% (ISO 21904-2) F9 (EN779) MERV 14 (ASHRAE 52.2)
Protection class	IP21

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## 3. Using RFE860

[See Figure 5.](#)

**i NOTE:** Do not block exhaust (18).

### 3.1 Manual mode

- Set the main switch (7) to position ON (8).

The unit will now work continuously. A fixed green light (13) indicates that the unit is in operation.

### 3.2 Automatic mode

1. Place the welding cable, or welding return cable in the current sensor clamp (3).
2. Set the main switch (7) to the AUTO position (5). The green light (13) will flash indicating that the unit is in standby mode.
3. The unit will start when the welding arc is struck and return to standby 10 seconds after the arc is broken.

### 3.3 Adjusting the suction power

The suction power (setpoint) can be adjusted using the knob (9). The unit will automatically adjust the motor power to maintain the desired suction and airflow, even as the filter gets saturated.

Before setting the suction power, ensure the hose is in the desired working position and that all connections are correctly fitted.

**i NOTE:** The scale of the knob (9) corresponds to a pressure setpoint, not motor speed. Therefore, the full motor speed can be reached at any scale position, depending on the resistance of the connected system and the saturation of the filter.

When adjusting the knob (9), work clockwise to minimize the risk of false alarms. Fast adjustments could trigger an alarm. The alarm will be reset after 3 seconds or if the unit is powered off (and on) again.



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**Table 3.1 Suction settings**

	Hose length [m]	Setpoint
Nozzle	2,5	N1
Nozzle	5,0	N2
Nozzle	15,0	N3
On-Torch	2,5	T1-T8

### 3.3.1 Using the unit with a Nozzle (N1-N3)

Adjust the knob (9) using the suction settings table above to find the recommended setpoint, N1-N3<sup>1</sup>, depending on the hose length. For hose lengths over 2,5 meters, it may be possible to adjust the knob (9) slightly counterclockwise and still maintain an adequate airflow, but with a reduced capturing distance.

### 3.3.2 Using the unit with a fume extraction torch (T1-T8)

Each fume extraction torch requires a specific airflow, as specified by the torch manufacturer, to ensure adequate extraction. Too high extraction can compromise weld integrity.

1. Measure the flow at the nozzle according to the instructions supplied by the torch manufacturer.
2. Adjust the knob (9) until the desired flow is achieved to ensure the correct extraction of fumes. For most torches, extraction will be correct using settings T1 to T8. However, in certain cases, N1-N3 may provide adequate extraction.
3. Repeat the process on a regular basis according to the manufacturer's instructions or when welding conditions change.

Ensuring the correct flow is always the responsibility of the user.

## 3.4 Status lights, Warnings and Alarms

[See Figure 5.](#)

- **Green light (13), fixed** - indicates that the unit is operational, the motor is running and the status is OK. The light turns off when an alarm is active.
- **Green light (13), flashing** - indicates that the unit is set to Auto mode but is on standby awaiting a run signal from the sensor clamp.
- **Orange Warning light (12)** - flashing every 5th second - indicates that the filter is approximately 85% full (at the current setpoint).
- **Orange Alarm light (12)** - continuously flashing - indicates that the unit is not maintaining the desired pressure as set by the knob (9).

<sup>1</sup> Other nozzles than TM80/200 or other hoses than 50 mm, may require other settings.

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If the Alarm is activated, terminate welding operations immediately and take action to resolve the issue by checking if any of the following conditions apply:

- The user has just changed the setpoint using the knob (4) and the unit is still calibrating itself to reach the desired pressure (when the setpoint is changed the alarm may either be triggered or released).
- The connections are not fitted properly.
- The hose or nozzle is clogged or damaged.
- The filter is clogged, damaged or bypassed.
- The filter is too saturated to maintain the required suction as set by the user and thereby requires changing as soon as possible.
- The unit cannot reach the desired pressure as the knob (4) is set too far clockwise in relation to the resistance in the system.

## 4. Maintenance

Installation, repair and maintenance work must be carried out by qualified personnel using only original spare parts. Contact your nearest authorised distributor or Nederman for advice on technical service or if you require spare parts. See also [www.nederman.com](http://www.nederman.com).

### 4.1 General inspection

Check hoses and seals for wear and damage. Replace if necessary.

### 4.2 Change the filter and empty the coarse separator

A new filter needs to be fitted when the orange light is flashing continuously and suction cannot be maintained, see [Section 3.4 Status lights, Warnings and Alarms](#).

*See Figure 5.*



#### **WARNING!**


**RISK OF PERSONAL INJURY**

Wear goggles, a dust mask, and gloves when changing the filter cartridge.

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1. Set the main switch (1) to OFF.
2. Loosen the filter indicator hose (2).
3. Remove the suction hose (3).
4. Turn down the handle (4) and remove the coarse separator (5). The handle works as a lock for the coarse separator.
5. Pull out and dispose of the old filter (6). Place the old filter in a plastic bag and tie the bag tightly.
6. Insert a new filter.
7. Unscrew the locking screw (7) and remove the outer part.
8. Empty the coarse separator (5).
9. Check the rubber seal (8) around the coarse separator (5) for any signs of damage.
10. Reassemble the coarse separator (5). Lock with the locking screw (7) and the handle (4).

 **NOTE:** The coarse separator (5) is partly locked when the handle (4) is in an upright position, and fully locked when it is turned down.

## 5. Spare Parts

Contact your nearest authorized distributor or RoboVent for advice on technical service or if you require help with spare parts. See also [www.robovent.com](http://www.robovent.com).

 **CAUTION!**  
**RISK OF EQUIPMENT DAMAGE**

Use only RoboVent original spare parts and accessories.

### 5.1 Ordering spare parts

When ordering spare parts always state the following:

- The part number and control number (see the product identification plate).
- Detail number and name of the spare part (see [www.nederman.com/en/service/spare-partsearch](http://www.nederman.com/en/service/spare-partsearch)).
- Quantity of the parts required.

## ***6. Recycling***

The product has been designed for component materials to be recycled. Different material types must be handled according to relevant local regulations. Contact the distributor or Nederman if uncertainties arise when scrapping the product at the end of its service life.

# ***Figures***

# Figures

Figure 1

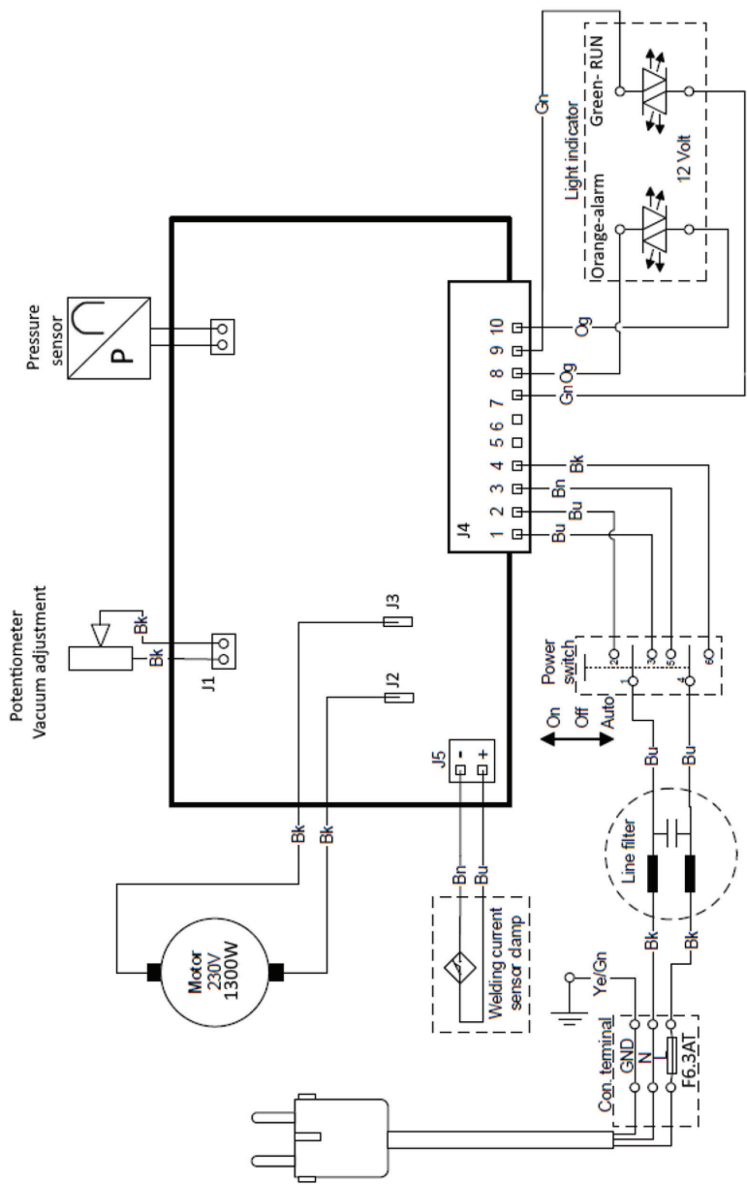
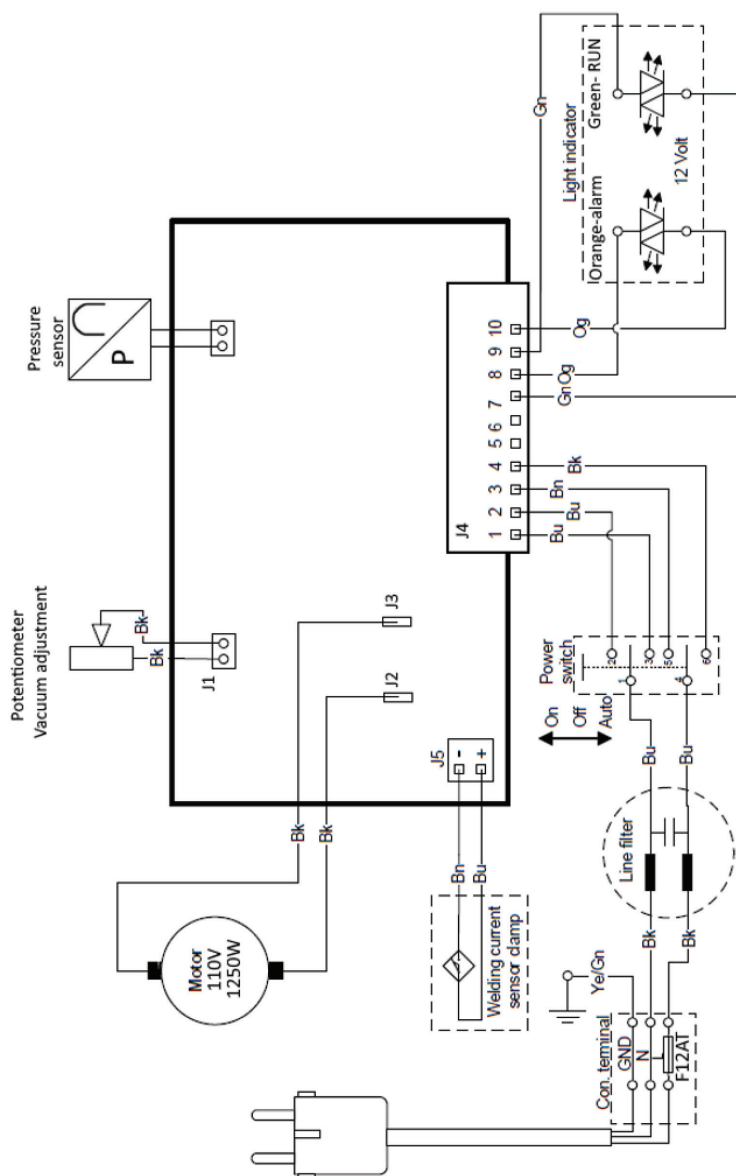
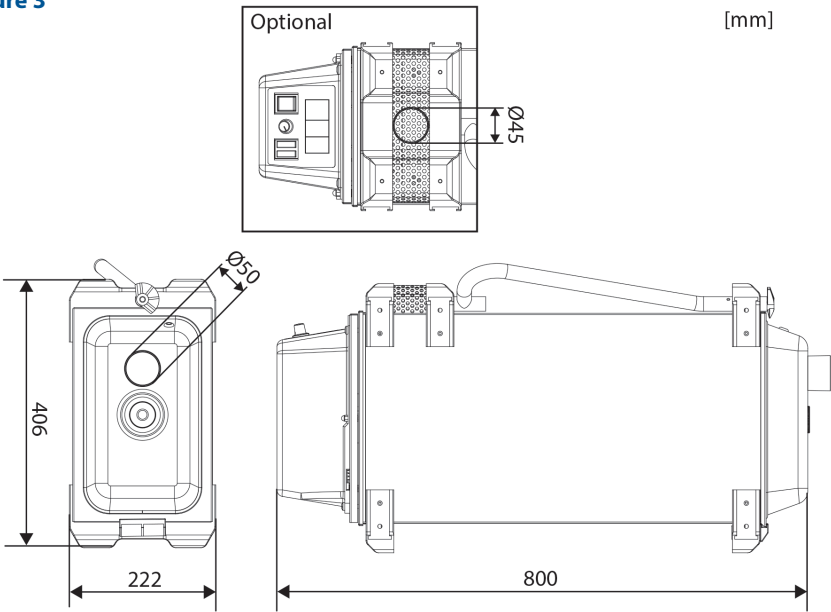


Figure 2



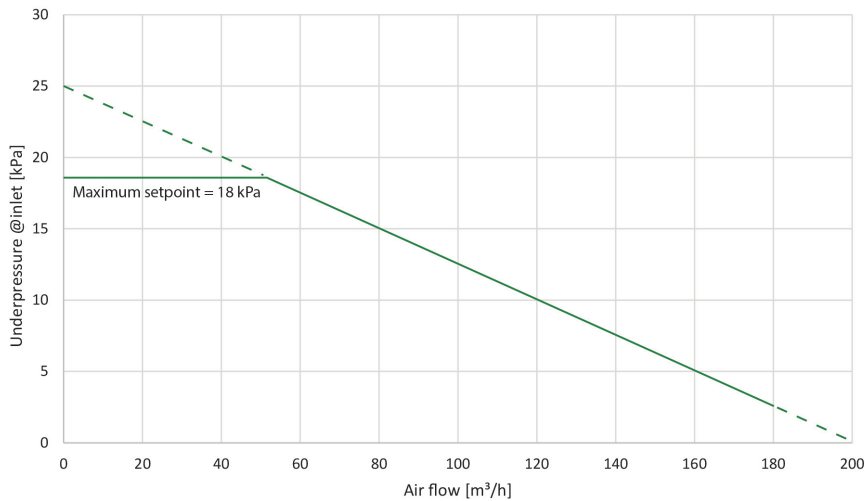
# Figures

Figure 3



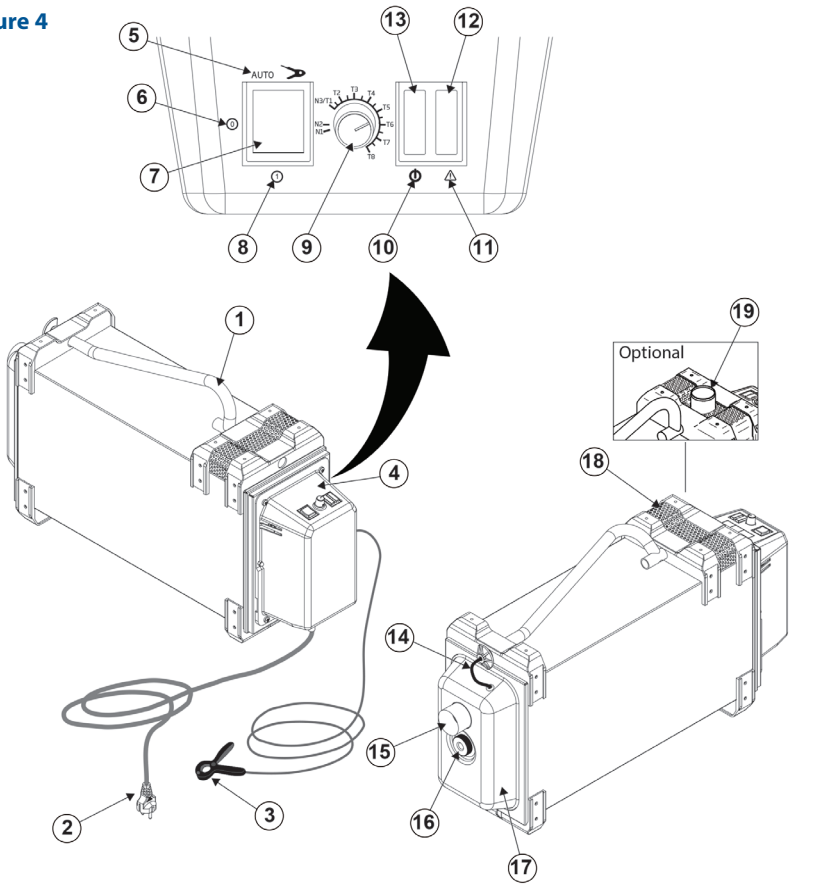
## RFE860 Performance

Measured at 100% motor power with clean filter and 2,5m hose





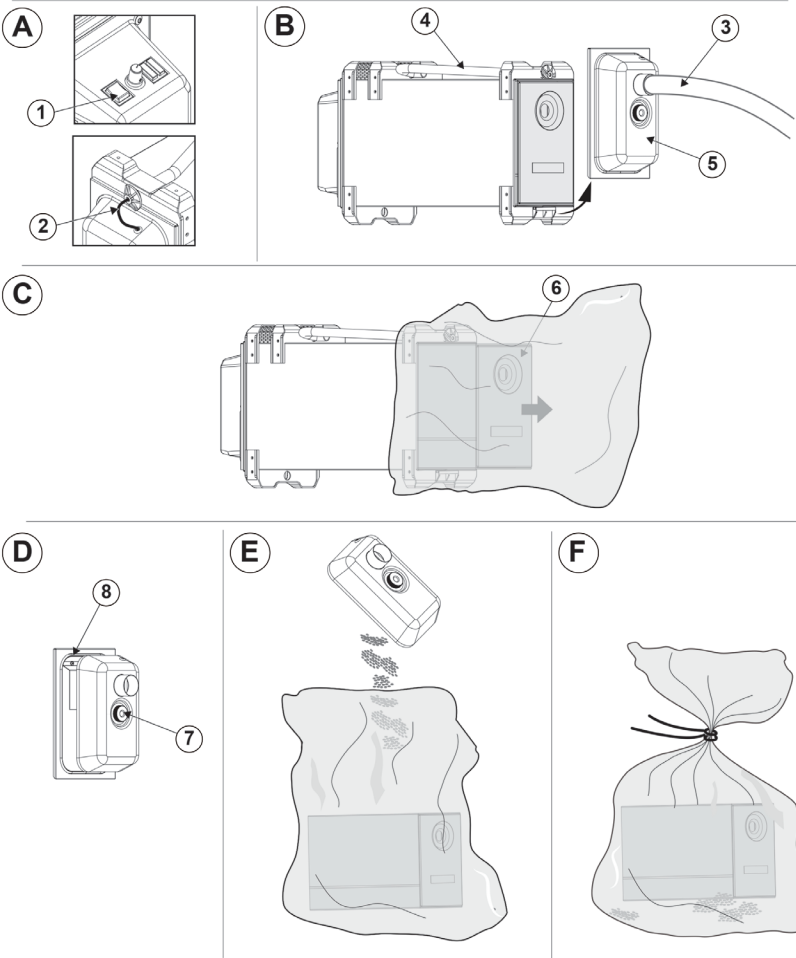
**Figure 4**



- |   |   |
|---|---|
| 1. Handle/lock  | 10. Standby                             |
| 2. Plug, electrical connection                              | 11. Warning and Alarm                   |
| 3. Current sensor clamp for welding or welding return cable | 12. Orange light                        |
| 4. Suction settings, see Table D4.1                         | 13. Green light                         |
| 5. Auto position  | 14. Filter indicator hose               |
| 6. Off  | 15. Hose connection                     |
| 7. Main switch  | 16. Locking screw                       |
| 8. On   | 17. Coarse separator                    |
| 9. Knob for suction power                                   | 18. Exhaust                             |
|   | 19. Exhaust, hose connection (optional) |

# Figures

Figure 5



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



***Making a Difference One Breath at a Time.***

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