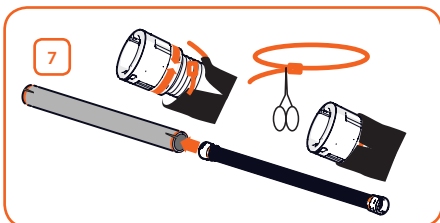
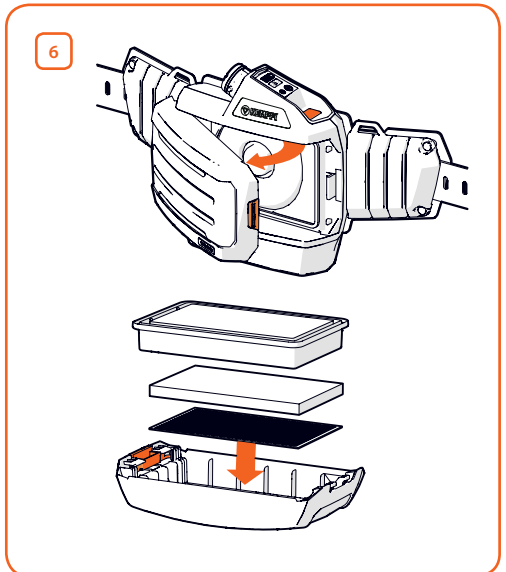
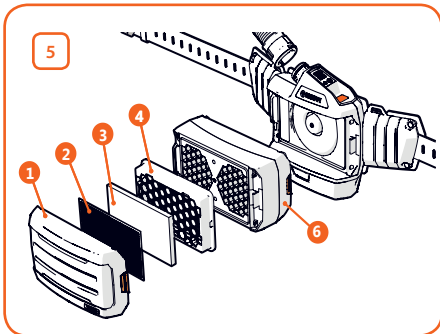
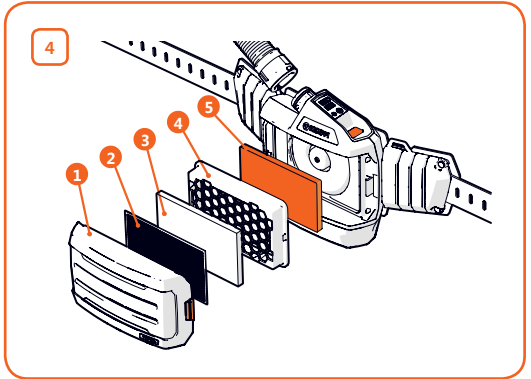
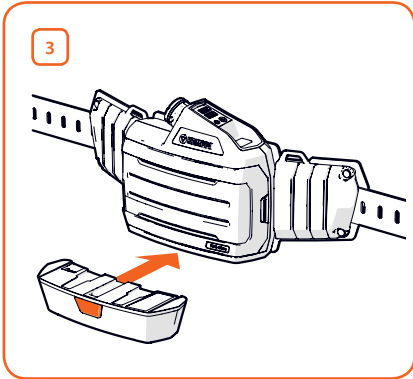
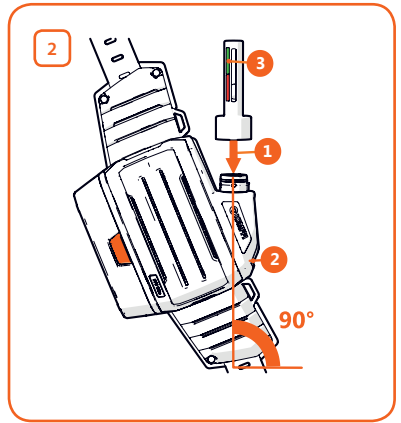
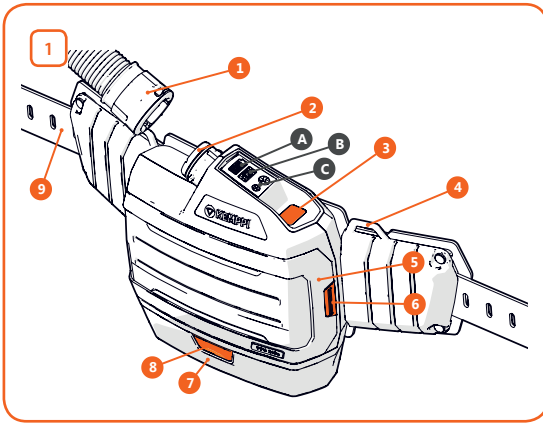


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PFU 210e

**Operating
manual**

Operating manual – Brugsanvisning – Gebrauchsanweisung – Manual de instrucciones – Käyttöohje – Manuel d'utilisation – Manuale d'uso – Gebruiksaanwijzing – Bruksanvisning – Instrukcja obsługi – Manual de utilização – Инструкции по эксплуатации – Bruksanvisning – 操作手册






1. Introduction

1.1 About PFU 210e

The powered filter unit PFU 210e filters ambient air and blows the filtered air to the hood of a welding helmet. The airflow creates positive pressure inside the headpiece, which prevents the external contaminated air from entering the user's breathing zone while supplying the user with clean breathing air. PFU 210e is compatible with Gamma GTH3 and Beta FA welding helmets.

1.2 About this manual

Read this manual carefully before using the equipment for the first time. Pay particular attention to the safety instructions.

	Convention	Used For
	Note	Gives the user a piece of information of particular importance.
	Caution	Describes a situation that may result in damage to the equipment or system.
	Warning	Describes a potentially dangerous situation that may result in personal damage or fatal injury.

1.3 Disclaimer

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Kemppi reserves the right to change the

specification of the product described at any time without prior notice. Do not copy, record, reproduce or transmit the contents of this guide without prior permission from Kemppi.

2. Safety

Read the following precautions carefully before using the product.

PFU 210e provides protection against non-toxic hazardous particles and solid and liquid aerosols in breathing air in welding and similar processes.



Warning:

- It is strictly forbidden to use any other than Kemppi branded filters or other parts or accessories with Kemppi's personal protection equipment. If you do not respect this safety regulation, serious damage for your health may occur.



Warning:

- Do not use this product against toxic gases and vapours.
- Oxygen concentration in the surrounding area must not drop under 17%.
- Type and concentration of the contaminants in the working place must be known to the user.
- Do not use PFU 210e in unventilated areas such as tanks, pipes and channels.
- Do not use PFU 210e in areas where there is danger of explosion.
- Use PFU 210e only with the blower unit switched on. If PFU 210e is switched off, the respiratory system gives little or no respiratory protection. There is also a risk of high concentration of carbon dioxide (CO₂)

and a low level of oxygen inside the headpiece.

- Before each use, check the air flow. For instructions, see chapter Air flow test.
- If PFU 210e stops working for any reason, leave the contaminated area immediately.
- To provide sufficient protection, the headpiece must fit the user's face perfectly. If the seal of the headpiece is not fitted properly, for example, due to a beard or long hair breaking the seal, the protective effect of the complete system is reduced.
- Make sure that the air hose does not make a loop or get caught or trapped in the surrounding objects.
- Use the correct type of filter according to the type of contamination.

See chapter Filters.

- If the breathing air in the workplace contains both particle and gas contamination, use an adequate combined filter.
- When you are using gas filters to protect you against gases that are difficult to identify by smell or other senses, follow all special rules for the current conditions.
- Immediately replace the filter(s) as soon as you can smell the contaminant.
- Use only original filters certified for the particular respiratory unit.

- Ensure that the air hose is not exposed to sparks, even if an air hose protection cover is used.
- During a period of really hard work, when the user's breathing becomes very intense, pressure inside the hood may decrease and decrease the protective effect.

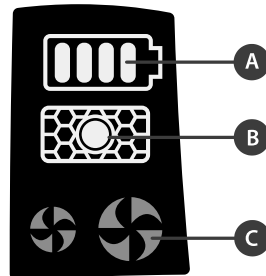
i **Note:** If the recommendations stated in this manual are ignored, the warranty is automatically invalidated and the level of personal protection may not meet the designated standards.

3. Parts 1

Check that the package is complete and that no part has been damaged.

1. Air hose, comes with a cover
2. Air hose connector
3. ON/OFF button
4. Shoulder harness holder
5. Filter cover
6. Filter cover opening button
7. Battery
8. Battery opening button
9. Leather belt

A	Battery status: see chapter "5 Battery".
B	Filter status: when the red light switches on, the filter must be changed.
C	Blower status: maximum and minimum power.



4. Operation

4.1 Assembling PFU 210e

1. Fit the filters and the filter cover properly to the blower unit body.
2. Insert the battery to the blower unit body.
3. Connect the air hose to the blower unit body.
4. Fasten the belt around your waist. A shoulder harness is available as an accessory.
5. Connect the air hose to the welding helmet.

4.2 Operating PFU 210e

Before each use:

- Check all the parts. Replace damaged or worn parts.
- Perform an air flow test to ensure that the air flow is sufficient.
- Check that the air hose is properly connected at both ends.
- Check that the air flows all the way from the blower to the helmet.

Using the device:

- To turn the blower unit on or off, press and hold the ON/OFF button.
- When turning the blower unit off, press the button until the device beeps several times and then switches off.
- To adjust the blower speed, shortly press the ON/OFF button.

4.3 Air flow test 2

Perform the air flow test before every use.

1. Connect a flow meter to the blower unit. Make sure it is properly connected and upright.
2. Switch on the blower unit.
3. Check that the ball rises up to the green area.
4. To check the functionality of the alarm mechanism, cover the flow meter with your hand and wait for the alarm to go off.

5. Battery 3

The battery status light shows how much charge is left:

- 4 green bars: 80-100 % left
- 3 green bars: 60 - 80 % left
- 2 green bars: 40 - 60 % left
- 1 green bar: 20- 40 % left
- 1 red bar: < 20 % left
- Red bar flashes, the unit vibrates and beeps twice: critically low

5.1 Changing the battery

1. To remove the battery, press the opening button, and pull the battery outwards.
2. To insert the battery, press the battery against the bottom of the blower unit, and slide the battery inwards.

5.2 Charging the battery

The batteries are pre-charged (approx. 50%).



Caution: Only charge the battery in temperatures above 0 °C.



Warning: Only use the Kemppi Charger for charging the battery.
A wrong charger may cause a fire or an explosion.

1. Remove the battery from the blower unit.
2. Connect the Kemppi Charger to a power supply and to the battery. Charging time (80%): ca. 1.5 h / SD battery, 2.5 h / HD battery.

7. Daily maintenance 7

Kemppi recommends cleaning PFU 210e after every use.

1. Clean the outer surface of the blower unit with lukewarm water, mild soap and a soft cloth. Let the unit dry completely before reassembling.



Note:

- Ensure that no water or detergents get into the blower unit / filter.
 - Always clean the device in a ventilated room or outside. Be aware of harmful dust settled on any parts of the unit.
 - Never use flammable cleaning liquids or abrasive cleaners.
2. You can detach and wash the air hose cover.



Note: The fire retardant on the air hose cover may wear out after several washes. Wash max. 5 times.

6. Filters

1. Filter cover
2. Spark arrester
3. Prefilter
4. Particle filter
5. Odor filter (optional)
6. Gas filter



For protection against particles, always use a particle filter.



For protection against gases, always use a gas filter combined with a particle filter. Do not use the odor filter if a gas filter is present.

The filter service life depends on the working environment. If the environment is very dirty, Kemppi recommends changing the filter after every work shift. Immediately replace the filter, if you are using the gas filter and you can smell the contaminant, or if the filter status icon flashes red. To warn about a clogged filter, the blower unit also beeps and vibrates at a regular interval.



Caution: Always replace a clogged filter. Never attempt to clean the filter, for example, with pressurized air.

6.1 Changing the filter 6

1. To remove the cover, press the opening button.
2. Check which filters need replacing. Sometimes replacing the prefilter is enough.
3. Before inserting the filter, check that the filter and the filter gasket are undamaged.
4. Insert the filter tightly to the filter cover.
5. To attach the filter cover to the blower unit, first push the hinged side in its place.

8. Storage

Store PFU 210e in an environment with temperature between -20 °C and +50 °C and humidity <80% Rh. The product has a two-year storage life if stored in its unopened original package. For longer storage periods, keep the charging level of the battery at about 50 %. Check the charging level every 6 months and charge, if necessary.

Filters: see the expiry date on the package. Store the filters in the manufacturer-sealed packages.

9. Technical data

Model	PFU 210e
Manufacturer	Kempfi Oy, PL 13, 15801 Lahti, Finland
Compliance with standards	PFU 210e: EN 12941 <ul style="list-style-type: none"> • With Gamma GTH3: TH3 class • With Beta FA: TH2 class PFU 210e: AS/NZS 1716 <ul style="list-style-type: none"> • With Gamma GTH3: P2 class • With Beta FA: P1 class Particle filters: P R SL Gas filters: A1B1E1
Type inspected by:	FORCE Certification A/S (Notified Body 0200)
Airflow	Min. 160 l/min Max. 210 l/min (high flow, particle filter)
Belt size	max.125 cm
Weight (blower unit, particle filter, battery, hose and belt)	2510 g
Operating temperature	-5...+55 °C
Recommended humidity range for use	< 80 % Rh
Battery type	SD: Li-ion 14.4 V, 3.2 Ah (46 Wh) HD: Li-ion 14.4 V, 6.4 Ah (92 Wh)
Battery charging time	1.5 h (SD) / 2.5 h (HD) (80%)
Battery lifetime	500 charging cycles

Expected battery operation time

Blower speed	Battery operation time (hours)
Normal flow level	SD = 7 h with particle and odor filter HD = 9 h with gas and particle filter
High flow level	SD = 5 h with particle and odor filter HD = 10 h with particle filter

- The expected operation time is with a clean filter. If the filter is clogged the battery lifetime is considerably shorter.
- The battery operation time depends on the type of work and environment.
- Using the work lights reduces the battery lifetime by approximately 10-20% (Gamma GTH3 XFA).

10. Ordering codes

Part	Ordering code
Blower unit pack (incl. body of blower unit, filter cover, belt)	SP011996
Body of blower unit	SP012217
Air hose	SP012253
Air hose with cable (XFA)	SP012148
Hose protection cover	SP010788
PFU 210e Battery HD	SP012021
PFU 210e Battery SD	SP012584
PFU 210e Battery charger	SP012426
Belt	SP010243
Harness	SP011894
Flow meter	SP012492
Filter cover	SP012095
Spark arrester 10 pcs	SP9320003
Prefilter	SP9320002 10 pcs / SP9320002MP 100 pcs
Particle filter Life+	SP010415 1 pc / SP010415MP 20 pcs
Gas filter Life+	SP009934
Odor filter 5 pcs	SP012223

11. Disposal of the unit

 **Note:** Do not dispose of any electrical equipment with normal waste!



At the end of the useful working life of the unit and its accessories, make sure that you follow national and local regulations regarding the disposal of the unit. The unit includes some parts that include or are made of non-environmentally friendly or hazardous materials.

In observance of WEEE Directive 2012/19/EU on waste of electrical and electronic equipment and European Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and their implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and taken to an appropriate environmentally responsible recycling facility. The owner of the equipment is obliged to deliver a decommissioned unit to a regional collection centre, as per the instructions of local authorities or a Kemppi representative. By applying these European Directives you improve the environment and human health.

Declarations of Conformity – Overensstemmelseserklæringer – Konformitäts-erklärungen –
Declaraciones de conformidad – Vaatimustenmukaisuusvakuutuksia – Déclarations de conformité –
Dichiarazioni di conformità – Verklaringen van overeenstemming – Samsvarserklæringer –
Deklaracje zgodności – Declarações de conformidade – Заявления о соответствии – Försäkran om
överensstämmelse – 符合性声明



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