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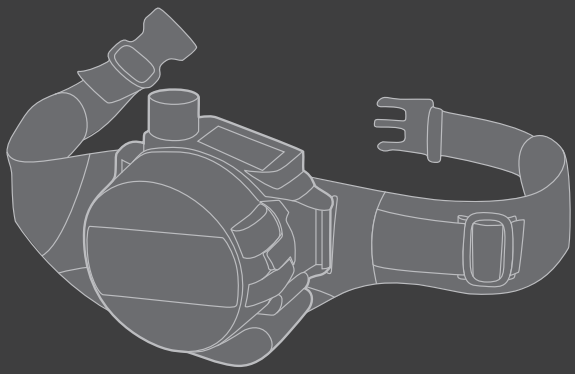
FA Flow Control



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

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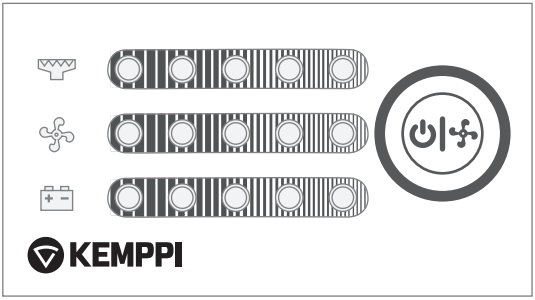

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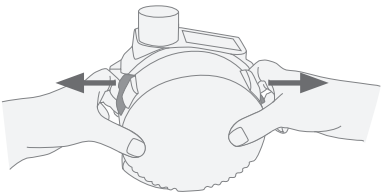

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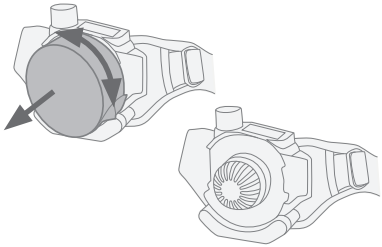

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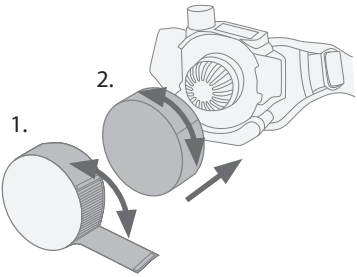

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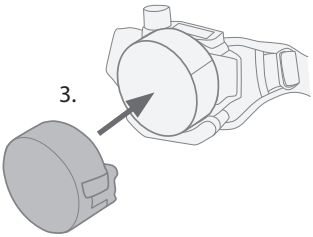

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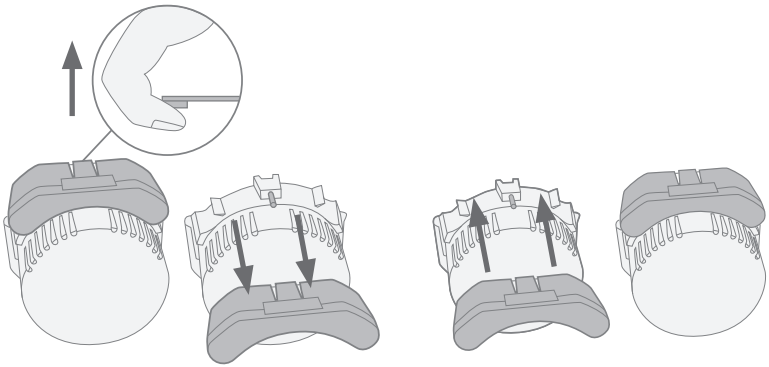

1. Introduction

1.1 General

Congratulations on choosing the FA Flow Control respiratory system.

This operating manual contains important information on the use, maintenance and safety of your FA Flow Control respiratory system. The technical specifications of the equipment can be found at the end of the manual.

Please read the operating manual and other instructions carefully before using the equipment for the first time.

Important notes

Items in the manual that require particular attention in order to minimise damage and personal harm are indicated with the ***'NOTE!'*** notation. Read these sections carefully and follow their instructions.

Disclaimer

1.2 About FA Flow Control system

FA Flow Control is a battery powered air purifying respirator unit for Kemppi's respiratory protective system, which is based on the principle of circulated pressurized air in the hood. The belt-mounted blower unit delivers air through a filter and via an air hose into a headpiece. The supply of filtered air creates positive pressure inside the headpiece, which prevents the external contaminated air from entering the user's breathing zone.

FA Flow Control unit meets the European standard EN 12941, when used with Delta 90/Delta+ 90 SFA and XFA helmets.

FA Flow Control respiratory system can be used for protection against solid and liquid particles in breathing air in welding and similar processes. It is not to be used for protection against toxic gases and vapours.

2. Preconditions for use

Before you can use the system correctly and safely, you must fully understand all of the following precautions.

- 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.
- The FA respiratory system must not be used in unventilated areas such as tanks, pipes, channels etc.
- The FA respiratory system must not be used in areas with danger of explosion.
- The respiratory system must only be used with the blower unit switched on.
- The air flow must be checked before use.
- If the blower unit stops working for any reason, the user must leave the contaminated area immediately.
- If the blower unit is switched off, the respiratory system gives little or no respiratory protection. There is also a risk of high concentration of carbon dioxide (CO_2) and of oxygen reduction inside the headpiece.

During a period of really hard work when user's breathing becomes very intense, pressure may decrease inside the hood and thus the protective effect can decrease.

- The headpiece must fit the user´s face perfectly, only then the efficiency of the system is sufficient. The protective effect of the complete system is reduced, if the seal of the headpiece is not fitted properly, for example, due to beards or long hair breaking the seal.
- It must be ensured that the air hose does not make a loop and does not get caught or trapped in the surroundings.
- Respiratory system FA Flow Control is restricted for protection against solid and liquid particles only. Do not use it against toxic gases and vapours.
- The unit does not protect the user against gases.
- It is essential to choose the correct type of filter according to the type of contamination.
- Immediately replace the filter(s) as soon as the contaminant can be smelt.
- When using filters protecting against contaminants, which are difficult to identify by smell or other senses, special rules depending on the current conditions must be followed.
- Use only original filters certified for the particular respiratory system.

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. Unpacking and assembly

3.1 Unpacking

Check that the package is complete and that no part has been damaged in transit or for other reasons.

A package with the complete system including accessories contains:

1.	Blower unit including battery	1 pc
2.	Belt	1 pc
3.	Flexi hose	1 pc
4.	Air flow indicator	1 pc
5.	Battery charger	1 pc
6.	Operating manual	1 pc

The FA Flow Control is supplied with P R SL filter.

3.2 Assembly

1. Connect the battery to the blower unit.
2. Attach the unit onto the belt. Make sure that the filter or filters are fitted properly.
3. Connect the air hose to the blower unit.
4. Connect the air hose to the headpiece and hand tighten.

4. Usage

4.1 Inspection before every use

Do the following checks always before you start using the equipment:

- Check that all components are in good condition with no visible damage. Replace any damaged or worn parts. Carefully examine the air hose, seals and the facepiece.
- Check that there is a good connection between the air hose and the headpiece as well as the blower unit
- Ensure that there is sufficient air flow as explained in section "Air flow test".
- Check that the air is supplied through the whole respiratory system from the blower to the hood.

Fully charge the battery before first use.

4.2 Air flow test

Before every use, you should conduct an air flow test on the equipment as follows:

1. Disconnect the air hose from the blower unit.
2. Connect the air flow indicator to the unit.
3. Turn the unit on and check the air flow using the bottom air flow level.

If the pointer on the air flow indicator goes into the red zone, the air flow is insufficient and the filter(s) must be replaced.

4.3 Using the FA Flow Control

1 Switch on the unit by pressing the ON/OFF button on the control panel.

1 The airflow can be adjusted by short press of the ON/OFF button from 170 l/min up to 240 l/min. The number of lit LED diodes in row marked with symbol of fan displays the airflow level.

The unit ensures a constant supply of air. The microprocessor inside the unit automatically regulates the motor speed to compensate the filter clogging and the battery state.

If the microprocessor cannot maintain the adjusted airflow, an acoustic alarm signal can be heard and the LED diodes display RED in colour. If possible, the microprocessor automatically reduces the airflow to the next lower level.

2 When the airflow falls below the minimum level, the alarm intensifies. Then the user must stop working at once and change the filter or recharge/change the battery.

To check the alarm function, perform the air flow test as follows:

1. Disconnect the air hose from the headpiece.
2. Cover the disconnected end of the air hose with your hand. The blower starts to run faster after about 20 seconds, the audible alarm activates and the LED diodes on the control panel start blinking.
3. Remove your hand. The blower speed should decrease.

If the blower speed does not change, it is necessary to check the unit.

4.4 Checking the battery state

3 Check the row of LED marked with symbol of battery. The more LED diodes are on, the higher the remaining battery capacity is.

4.5 Checking the filter

4 Check the row of LED marked with symbol of filter. The more LED diodes are on, the more clogged the filter is.

5. Maintenance

It is recommended to clean the respiratory system after each use. Also inspect all parts and replace any which are damaged or worn.

- Always clean the respiratory unit 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!
- The outer surface of the blower unit can be cleaned with a soft cloth and mild detergent solution. The unit must be completely dry before assembling the filler and cover.
- Ensure that no water or detergents enter the blower unit!
- The air hose itself, detached from the blower unit and the headpiece, can be rinsed in clean water.

6. Filters

The respiratory power unit is equipped with a high efficiency particle filter of class P R SL.

The filter must be checked regularly and replaced when necessary. See section 4.2: "Air flow test".

Make sure that the new filter is within its expiry date, unused and not noticeably damaged.

From the hygienic point of view the maximum working time of a filter is 180 hours and should not be exceeded.

6.1 Changing filter

Remove the filter cover: 5

1. Pull the locking clips outwards and move the filter cover off the unit.

Note! Never use any tools to uncover the filter.

Remove the filter: 6

2. Turn the filter and pull it away from the main body.
3. Remove any dust with a soft cloth.

Insert a new filter: 7

4. If you are using a prefilter or an odor filter, place and fix it around the new filter as tightly as possible, sticking the ends together using the sticky tape located on the ends of the prefilter or odor filter.
5. Put the filter back into position using the same rotating motion and gently push until it fits well onto the body of the unit.
6. Put the filter cover back. Ensure you snap the cover into place on both sides.

7. Battery

Note! The battery must be charged before the first use.

The charger must not be used for any other purpose than that for which it was manufactured. Please read the following precautions:

- Do not charge the battery where there is a risk of explosion.
- The battery charger is intended for indoor use only.
- The charger must be protected against damp.

7.1 Removing and inserting the battery 8

7.2 Charging the battery

1. Check that the voltage of the electrical power supply is correct.
2. Plug the charger into the socket.
3. Remove the battery from the unit and connect it to the charger.
4. Once the battery is fully charged, a green LED is lit.
5. Disconnect the charger from the power supply.

The charger controls the charging automatically. After the battery has been charged, the charger switches to maintenance mode and keeps the battery fully charged. Charging time is 4 – 5 hours.

Note! Do not leave the charger in the power supply if not in use !

8. Storage

All parts of a FA Flow Control system must be stored in an environment with temperature between -10 – 55 °C and humidity between 20 – 80 % Rh. The storage life is 2 years for the product if stored in its original unopened package.

Note! Batteries get discharged even if not in use. Therefore for long-term storage it is highly recommended to charge the batteries for an hour every 3 months.

9. Warranty

There is a 12 month warranty covering production defects and a 6 month warranty for batteries.

The warranty begins from the date of purchase. The claim must be lodged with the dealer. The paid invoice or receipt must be produced if claiming on the warranty.

The claiming procedure will be successful only if there were no changes made on the blower unit including the battery and charger.

If the damage is caused by not changing a clogged filter in time or using a filter which has been cleaned by the customer, the claim will not be processed.

10. Troubleshooting

Fault	Probable reason	Recommendation
The blower unit does not work at all.	Entirely discharged battery. Verify if the blower unit works with another charged battery.	Charge the battery. If problem persists, replace the battery.
	Faulty motor, circuit board or connector.	Contact your supplier.
Low airflow.	Blocked air hose or airduct.	Check and remove blockage.
	Leakage.	Check all seals, connectors and the air hose. Make sure that air cannot leak through holes or tears.
	Battery is not sufficiently charged.	Charge the battery. If problem persists, replace the battery.
	Blocked Filter.	Change the filter.
Short operating time.	Clogged Filter.	Change the filter.
	Battery is not charged properly.	Charge the battery. If problem persists, replace the battery.
Battery cannot be charged.	Battery contact is damaged.	Replace the battery.
	Charger is faulty.	Contact your supplier.
Battery cannot be charged sufficiently.	Battery is worn out.	Replace the battery.

11. Technical data

FA Flow Control	
Airflow	170 – 240 l/min at 5 adjustable flow rates
Weight of the blower unit incl. the filter and battery	980 g
Noise level	< 70 dB
Battery lifetime	Max. 500 charging cycles
Charging time	4 – 5 hours
Belt size	Max. 150 cm
Recommended temperature range	10 – 40 °C
Recommended humidity range	20 – 80 % Rh
Certification	EN 12941/A2 TH2 P R SL
Manufacturer (manufactured for Kemppi by)	Clean-air Ltd.

Notified body for CE testing:

Výzkumný ústav bezpečnosti práce, v.v.i. – ZL

Testing Laboratory No. 1040

Jeruzalémská 9, 110 00 Praha 1

Notified Body 1024

Regulation EU 2016/425

EN 12941:1998, EN 12941:1998/A1:2003, EN 12941:1998/A2:2008

Expected operating time of the blower unit after being fully charged (hours)

Airflow			Filter
min.	middle	max.	P R SL
X			10 h
	X		6 – 7 h
		X	4 – 5 h

Note! Operating time can be decreased if the filters are clogged.

12. Ordering codes

Delta 90 SFA welding helmet + FA Flow Control		9873310
Delta+ 90 XFA welding helmet + FA Flow Control		9873320
FA Flow Control unit with Li-ion battery	Complete package	W013560
Spare parts and consumables		
FA Battery charger, Li-ion		W013564
FA Li-ion battery, 4.4 Ah		W007507
FA Flow Control Flexi hose		W007487
FA Flow Control Flow indicator		W007488
FA Comfort belt		W007489
FA Basic filter	2 pcs, standard	W007490
FA Flow Control sealing ring	for filter	W007491
FA Flow Control pre-filter	10 pcs	W007492
FA FLow Control odour filter	10 pcs	W007494
FA Flow Control Filter cover		W013565
Optional		
FA Flexi hose cover		W007788
FA Heavy duty comfort belt		W007789
FA Head cover		W007827
FA Protective neck cover		W007828

	MMA (E-Hand)	MIG, Ss	MIG, Al	MAG, CO_2	TIG	Gouging	Plasma cutting
15 A					9		
20 A	9				10		
30 A							
40 A	10			10	11		
60 A		10	10				
80 A	11			11	12		11
100 A		11	11				
125 A				12		10	12
150 A							
175 A	12	12	12	13	13	11	
200 A							
225 A						12	
250 A			13		14		13
275 A						13	
300 A	13	13		14			
350 A			14			14	
400 A							
450 A				15		15	
500 A	14	14	15				
550 A	15	15					
600 A							

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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