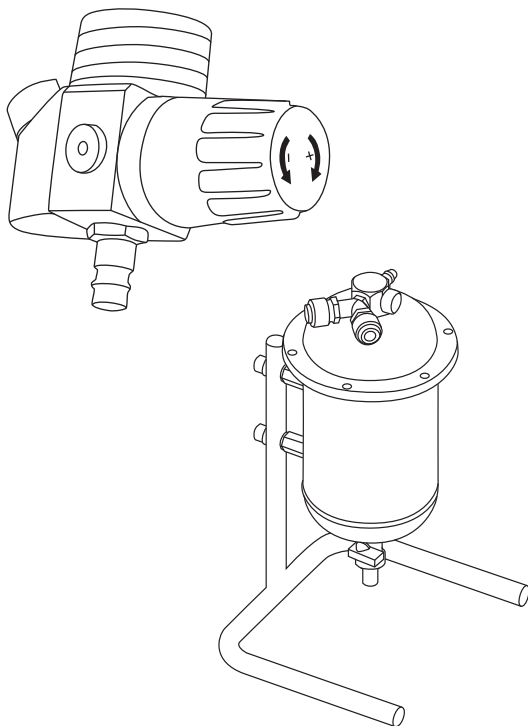


FreshAir

Pressure Flow Control

FreshAir

Pressure Conditioner



Operating manual

EN

Brugsanvisning

DA

Gebrauchsanweisung

DE

Manual de instrucciones

ES

Käyttöohje

FI

Manuel d'utilisation

FR

Manuale d'uso

IT

Gebruiksaanwijzing

NL

Bruksanvisning

NO

Instrukcja obsługi

PL

Manual de utilização

PT

Инструкции по эксплуатации

RU

Bruksanvisning

SV

操作手册

ZH

OPERATING MANUAL

English

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1. INTRODUCTION

1.1 General

Congratulations on choosing the FreshAir (FA) respiratory protective system. Used correctly, Kemppi products can significantly increase the productivity of your welding, and provide years of economical service.

This operating manual contains important information on the use, maintenance and safety of your Kemppi product. 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.

For more information on Kemppi products, contact Kemppi Oy, consult an authorised Kemppi dealer, or visit the Kemppi web site at www.kemppi.com.

The specifications presented in this manual are subject to change without prior notice.

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.

1.2 About the product

FreshAir (FA) is a respiratory protective system which is based on the principle of circulated pressurized air in the hood. A supply of clean, filtered breathing air creates positive pressure inside the headpiece, which prevents the external contaminated air from entering the user's breathing zone.

A suitable compressed air source complying to EN 12 021 standard and supplying hygienically clean breathing air, can be connected to the FA Pressure Flow control valve. If the air does not comply with this standard, install the FA Pressure Conditioner filtration unit before the FreshAir Pressure Flow Control valve unit.

FA Pressure Flow Control is equipped with a pressure gauge for checking the input pressure. The air at the outlet of a FA Pressure Conditioner filter unit complies with EN 12 021 standard, if it is used within the temperature range 10 – 60 °C and the air from the compressor complies with the requirements explained later in this manual. Up to two users can be connected to the FA Pressure Conditioner filtration unit.

***NOTE:** FreshAir Pressure Conditioner does not remove carbon monoxide (CO) and carbon dioxide (CO₂).*

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 written permission from Kemppi.

1.3 Requirements for compressed air supplied from the compressor

- FA Pressure Conditioner can only be connected to a compressor which supplies air at an oxygen concentration of 20 – 22 % vol.
- The carbon dioxide concentration must not exceed 500 ppm and the carbon monoxide concentration must not exceed 15 ppm.
- The maximum concentration of water in the air may be 50 mg/m³ at the rated pressure of 1 – 20 MPa. The humidity of the supplied air must be controlled to prevent the unit from freezing.

1.4 Manufactured by

Manufactured for and on behalf of Kemppi Oy by:

CleanAir Ltd.

2. PRECONDITIONS FOR USE

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

- It is forbidden to use the unit in explosive environments.
- The system may only be used in environments where the probability of damaging the supply hose is small and the user's movement is not limited.
- If the unit is used in environments with high temperatures, the supply hose must be resistant to such effects.
- During an extreme work load, the pressure in the hood may reach negative values and the user may feel air deficiency. In such case the protection of air passages is reduced.
- In the FreshAir system it is forbidden to use oxygen-enriched air or oxygen. There is a risk of explosion.
- If another accessory apart from FreshAir (e.g. a spray gun) is connected to the compressed air supply, the user must make sure that a sufficient air flow to the hood is secured even at the maximum air consumption by this accessory.
- Before every use of the unit, check that the air flow is higher than the minimum value specified in the technical parameters.
- If the unit stops supplying air for any reason, the user must leave the contaminated area immediately.
- The unit, in a combination with a welding helmet or a hard hat, is

not recommended for users with beard or long hair extending to the respiratory zone.

- Beware of a higher CO concentration in the air supply, which may occur if the compressor does not work properly when lubricating oil burns due to high temperatures.
- The supply air pressure must be within the range 300 – 1000 kPa.
- The supply pressure hoses may only be located in such places of the workplace where they cannot be damaged.
- The maximum working pressure of the hose supplied to the conditioner is 1000 kPa.
- Before connecting the unit to the air distribution, it is necessary to check what medium is in the line and what is its quality. For the FA Pressure units, it is necessary to provide breathable air according to EN 12 021 standard.
- The FA Pressure unit can be combined with Beta 90 FreshAir or Delta 90 FreshAir head tops.
- Information on head parts are provided in the instructions for use of the FreshAir head parts.

FA Pressure Conditioner

- Pressure hose for FA Pressure Conditioner is not antistatic and the maximum temperature to which they are resistant without damage is 70 °C.
- The maximum length of the hose from the compressed air distribution or FA Pressure Conditioner to the head unit must not exceed 10 m.
- The recommended temperature range of use ideally is 10 – 40 °C. At lower temperatures, the use of the protective hood with air supply may be unpleasant. The lowest allowable temperature for use of FA Pressure is 10 °C.

***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 FA Pressure Flow Control

Check that the delivery is complete and no damage occurred during transport.

Content of the FA Pressure Flow Control assembly

FreshAir Pressure unit	1 pc
Belt for the unit	1 pc
Air hose	1 pc
Air flow indicator	1 pc
Operating manual	1 pc

We recommend using the FA Pressure Conditioner together with the FA Pressure Flow Control in order to guarantee the supplied breathing air quality. The supplied compressed air in the breathing air distribution system must meet EN 12 021 standard.

Content of the FA Pressure Conditioner assembly

FA Pressure Conditioner unit	1 pc
Unit stand	1 pc
Screws for connecting the unit to the stand	2 pcs
Washer	4 pcs
Operating manual	1 pc

3.2 Assembly

FA Pressure Flow Control + FA Pressure Conditioner

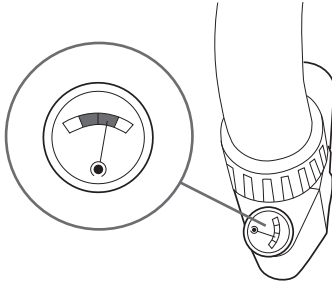
1. Check that all components are in good condition with no visible damage.
2. Connect FA Pressure Conditioner to a suitable breathing air distribution system. The air source must be equipped with safety valve. If the FA Pressure Conditioner is not used, the air supply must comply with EN 12 021 standard.
3. Attach the enclosed hose connector and screw it in.
4. It is recommended to use only original hoses supplied by the manufacturer and certified according to the applicable standard.
5. Check that the air pressure in the distribution system corresponds to the range 300 – 1000 kPa.
6. Attach the unit onto your belt and fit the connecting hose to it.
7. Using the quick coupling, connect the pressure hose from the compressed air source to the FA Pressure unit. The hose from FA Pressure Conditioner to FA Pressure Flow Control must not be longer than 10 metres.
8. Check the air flow as explained in section 4.2: "Air flow test". The lowest allowable flow rate is 170 l/min.

4. USAGE

4.1 Inspection before every use

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

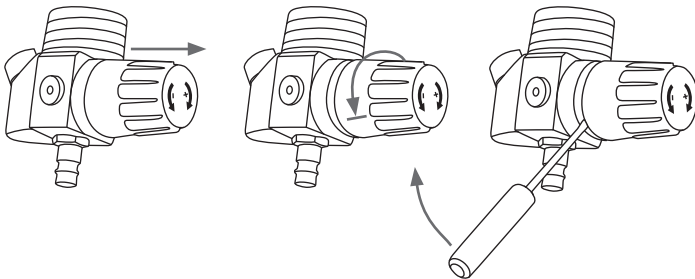
- Visually check individual parts, particularly the air hose and sealing elements for damages.
- Check that the hose is fitted correctly to the air unit and to the head part connector.



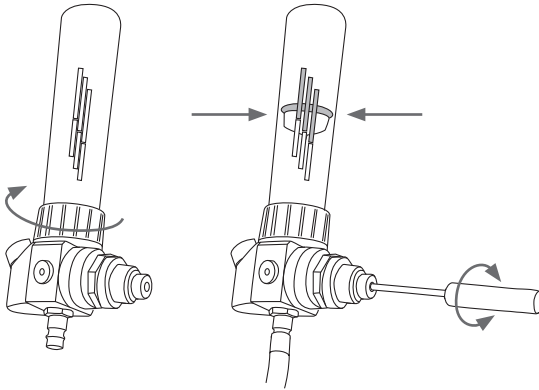
- The air pressure in the distribution system must be in the range 300 – 1000 kPa.
- Check that the air flow in the hose is sufficient.
- Ensure that air is supplied into the head part breathing zone.

4.2 Air flow test

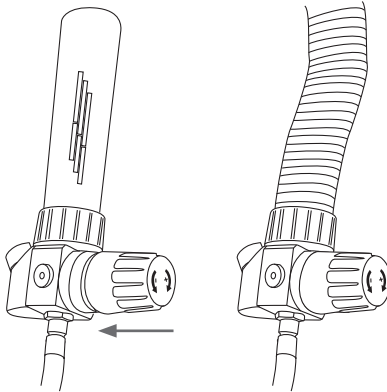
When measuring the air flow, follow the instructions delivered with the flow indicator. If the flow rate is different, proceed as follows.



1. Pull plastic screw cap out to the adjustment position and turn counter-clockwise by hand until it stops.
2. Lever the cap off from the regulation valve with a flat screwdriver.



3. Let the noise silencer stay in place and connect the flow meter to the regulation valve. Turn on the air supply and adjust the flow rate to 170 l/min using a flat screwdriver.
4. Air flow is sufficient, if the top of the cone is placed in the green area. Read the flow meter manual.
5. Close the air supply. Remember that there is still some pressure in the conditioner for a few seconds after the air supply is closed.



6. Firmly replace the plastic cap to the regulation valve body with a firm pressing action.

WARNING: This test is an indication of mechanical filter state. However, the absorption capacity of the activated carbon filter in the FA Pressure Conditioner may already be exhausted, even at a sufficient flow rate. The filter should be replaced when you smell a noticeable odour, but at least every 3 months.

5. MAINTENANCE AND CLEANING

FA Pressure Flow Control unit

Every time you finish work, it is recommended to clean the FA Pressure Flow Control unit, to check individual parts and to replace the damaged ones.

- Cleaning must be carried out in a well ventilated room. Avoid inhaling the harmful dust settled on individual parts of the unit and accessories.
- It is forbidden to use cleaning agents containing solvents or abrasives. Mild soap detergent and warm water is recommended.
- The air hose can be rinsed with clean water.
- Use a damp cloth for cleaning. Each part must be wiped dry after cleaning.

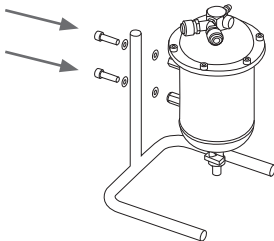
FA Pressure Conditioner

- Once a week, drain the condensate from the bottom of the unit, using the drain cock located at the base of the unit. Before completing this operation, it is recommended to disconnect the unit from the compressed air supply.
- Replace the filter at least once every three months. After this period, viruses and bacteria may proliferate in the units filter and if it is used regularly, the absorption capacity of the activated carbon to eliminate odour may be exhausted. If the air leaving FA Pressure Conditioner smells in any way, replace the filter immediately. When replacing the filter, clean the inner part of the container with a dry cloth.

6. SPARE PARTS

6.1 Assembling FA Pressure Conditioner

Screw the pressure conditioner body onto the stand.



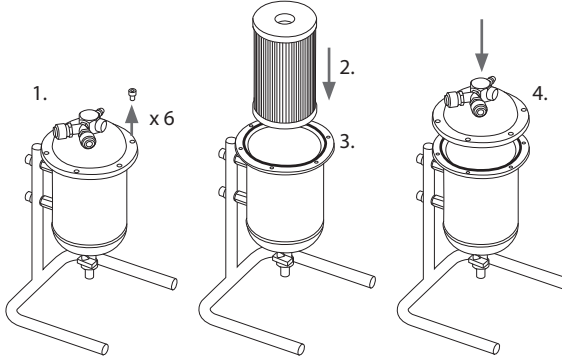
6.2 Filter for FA Pressure Conditioner

The FA Pressure Conditioner contains a combined filter which removes oil mist, smells and flavours from industrially produced compressed air.

NOTE: The filter does not remove CO and CO₂.

Read the instructions for use and replacement.

Replacing FA Pressure Conditioner filters:



1. Unscrew the top part of the filter pressure container (6 screws).
2. Remove the contaminated filter, wipe the inside of the container.
3. Check the condition of the rubber seal in the top cover. If the seal is damaged, replace it.
4. Install a new filter on the container cover and screw it back.
5. Check the container for leakage. If the container is not absolutely tight, tighten all screws that fasten the top cover.

7. TROUBLESHOOTING

Fault	Probable cause	Recommendation
The unit does not work at all.	Compressed air supply failure.	Check the compressed air source.
	Hose damage.	Check that connecting hoses are not damaged.
The unit does not supply the sufficient amount of air.	Air hose or air channel blocked.	Check and remove the possible obstacle.
	Air escapes through leakages.	Check all sealing elements and connections, check that the hose is not damaged and without leaks.
	The baffle is clogged.	Replace the baffle in FA Pressure Flow Control.
	The filter in FA Pressure Conditioner is clogged.	Replace the filter.

During the use, if there is a sudden decrease or increase in air supply and the user is located in a contaminated area, it is necessary to leave the workplace immediately and check the following:

- The unit is assembled correctly.
- The filter condition in FA Pressure Conditioner is in good condition.
- The air hose is not damaged during the use.
- The noise damper in FA Pressure FC is not clogged.
- The seal on the safety hood is in good condition.

8. STORAGE

All parts of a FreshAir system must be stored in an environment with temperature between 0 – 40 °C and humidity between 20 – 80 % Rh. The storage life is 2 years for the product if stored in its original unopened package. Temporary transportation to and from site is permitted, providing the units are stored in a dry container.

***NOTE!** Batteries get discharged even if not in use. Therefore for long-term storage it is highly recommended to charge the NiMH batteries every 12 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.

Warranty is void if there is evidence of mechanical intervention or abuse of the unit(s). Warranty does not cover, in particular, defects caused by a late replacement of the filter or by using a filter damaged by attempted cleaning with compressed air.

10. TECHNICAL DATA

FreshAir Pressure Flow Control	
Minimum air flow	170 l/min-1
Maximum air flow	> 400 l/min-1
Weight of unit	250 g
Inlet connection	
Outlet connection	MINI DN 5
Noise level of unit	61 dB
Belt size	60 – 150 cm
Supply pressure range	300 – 1000 kPa
Recommended temperature range at work	10 – 60 °C
Recommended air humidity range at workplace	20 – 80 % Rh
Certification	Class 2A

FreshAir Pressure Conditioner	
Maximum air flow	500 l/min
Weight without filter	6300 g
Weight including filter	6800 g
Inlet connection	Compatible with RECTUS series 25,26 a CEYN320
Outlet connection	Compatible with RECTUS series 25,26 a CEYN320
Recommended temperature range at work	10 – 60 °C
Recommended air humidity range at workplace	20 – 80 % Rh

Certification	If the requirements of TP-610050-1 are met, it complies with EN 12 021
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Notified body for CE testing:

Výzkumný ústav bezpečnosti práce, v.v.i. – ZL
 Testing Laboratory No. 1024
 Jeruzalémská 9, 116 52 Praha 1
 Authorized Body 235
 Notified Body 1024

11. ORDERING CODES

EN

Packages		
FA PRESSURE FLOW PACK	includes: FA Pressure flow control set (W007496) and FA Pressure flow hose (W007501)	W007515
FA PRESSURE FLOW SPIRAL HOSE	10 m	W007506
FA PRESSURE CONDITIONER UNIT		W007504
FreshAir Pressure Flow Control set	valve and belt	W007496
Spare parts and consumables		
FreshAir Pressure Noise silencer		W007498
FreshAir Pressure Control valve cap		W007499
FreshAir Pressure Air fitting		W007500
FreshAir Pressure Flow hose	flexible connection	W007501
FreshAir Pressure Flow Control belt		W007502
FreshAir Pressure Flow indicator	RD40x1/7"	W007503
FreshAir Pressure Conditioner unit		W007504
FreshAir Pressure Conditioner filter		W007505
FreshAir Pressure Flow Spiral hose	10 m	W007506

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