

# Welding Safety

PRODUCT CATALOGUE



**SAFETY** AND **COMFORT**

FOR YOUR **WELDING LIFE**



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# THE KEMPPI SAFETY STORY

Kemppi is a reliable and trusted international welding brand. Designed and made in Finland since 1949, Kemppi is the company responsible for market changing innovations, including the electronic and digital welding power source.

Carefully studying the welding trades and wide ranging work environments, Kemppi design for the ordinary welder the very best welding performance and reliable protection for their health and safety.

**Personal health is the most precious thing anyone can own. This catalogue describes Kemppi welding safety products, a mark of quality offering safety and comfort for your welding life.**

Safety and comfort for your welding life



# YOUR WELD YOUR HEALTH OUR MISSION

Health hazards in the workplace are a major concern for both employers and employees. However, it is important to remember that hazardous materials only present a health hazard when they come into contact with your body.

Occupational lung diseases are the number one cause of work-related illness in terms of frequency, severity and preventability. Most occupational lung diseases are caused by repeated, long-term exposure, but even a severe, single exposure to a hazardous agent can damage the lungs.

Respiratory protection equipment featuring the positive pressure principle are an efficient way of preventing the development of occupational lung diseases.

## Occupational lung diseases are preventable!



**Exposure to airborne** contamination for lengthy periods may result in long-term health issues, including cancer.



**Welding fume** is composed of elements dangerous to human health.



**If unprotected**, tiny fume particles can pass deep into the lung structure.

**4000**

**Typically**, we breath 4000 litres of air per 8-hour work shift.



**Occupational lung diseases** are preventable by using proper respiratory protection.



**One single welding operator** can produce up to 40 grams of air-borne fume and particulate per hour.

# SAFETY PRODUCTS RANGE

Protection for the eyes, ears, face, lungs  
and head

Whether you're seeking a simple, low cost and lightweight welding helmet for occasional use, or the very best respiratory protection for prolonged exposure to airborne welding and grinding fumes, Kemppi offer the protection level to suit your needs – including work environments in challenging low light conditions.

## Welding helmets



### ALFA 60P

Lightweight welding shield including flip-up passive welding lens. (Page 28)



### Beta 60P/60A/90P/90A/90X

Lightweight welding and grinding shields. Flip-up passive or automatic welding lens models, large clear view visor, GapView setting, comfort headband. (Page 26)



### Gamma 100P/100A

Maximum vision for welding, grinding and inspection operations. Passive and automatic lens models include market leading features for comfort and usability. (Page 14)

## Welding respirator systems



### Beta 90 SFA/90 XFA

TH2 rated PAPR and supplied air respirator packages, suitable for welding and grinding operations. Automatic welding lens options. (Page 27)



### Gamma GTH3 PFA/SFA/XFA

TH3 rated PAPR and supplied air respirator packages for welding, grinding, cutting and inspection operations. Feature packed model options, including LED work lights. (Page 16)



### Delta 90 SFA/Delta+ 90 XFA

TH2 rated PAPR and supplied air respirator packages, suitable for welding, grinding, cutting and inspection operations in work areas demanding head protection. Automatic welding lens options. (Page 21)

## Hearing protection



### EAR DEFENDERS

Quality ear defenders for connection with the Delta and Delta+ hard hat welding visors systems.

# GAMMA

## Top level personal protection for professional welders and fabricators

Gamma product range represents premium levels of personal protection for professional welders and fabricators. Designed for all arc welding, cutting, grinding, gouging and inspection processes, Gamma range includes both standard welding helmets and welder's respirator models.

Gamma GTH3 respirator models meet the highest EU classification for respiratory performance (TH3) protecting you from 99.8 % of airborne fumes and particulate. Choose from either fast charging battery powered filter units, providing total independence of movement, or regulated supplied air models, connected to a breathing air source.

Designed from the user's perspective, Gamma GTH3 models include optimum vision performance and unique usability features including Axis regulation and GapView function. For low light working conditions XFA models integrate 70 lumen LED work lights, reaching new levels of safety and comfort for your welding life.

**Gamma welder's respirators can lower PPE cost by up to 80 % when compared to separate PPE solutions where disposable welder's filter masks are used.**



## Welding helmets



### Gamma 100P

Welding helmet with a passive welding filter, shade 11. (Page 15)



### Gamma 100A

Welding helmet with an auto-darkening welding filter SA 60. (Page 15)

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## Welding respirator systems



### Gamma GTH3 PFA

Passive welding filter (shade 11) and powered air respirator PFU 210e. (Page 18)



### Gamma GTH3 SFA

Auto-darkening welding filter SA 60 and powered air respirator PFU 210e. (Page 18)



### Gamma GTH3 XFA

Auto-darkening welding filter XA 74 and powered air respirator PFU 210e and 70 lumen LED work lights. (Page 17)



### Gamma GTH3 PFA Airline

Passive welding filter (shade 11) and RSA 230 regulator for breathing air systems. (Page 19)



### Gamma GTH3 SFA Airline

Auto-darkening welding filter SA 60 and RSA 230 regulator for breathing air systems. (Page 19)

# GAMMA GTH3

Excellent fit and usability keeps you  
efficient and comfortable

# GAMMA FEATURES

## for added comfort and safety



**Gamma GTH3 XFA features 70 lumen LED work lights**, reaching new levels of safety and comfort for low light working conditions and powered directly from the rechargeable PAPR battery. Works lights can be switched on and off from the helmet mounted remote control.



**ComFlex headband offers comfort and flexibility for the perfect fit** to your individual head shape and preferences. Even distribution of the suspended weight lowers pressure to sensitive areas of the head, minimizing fatigue and headgear related headaches.



**GapView switch sets a clear view beneath the welding visor** providing a narrow 15 mm gap and clear vision of the working area. Ideal for work piece setting and tacking prior to welding. An excellent feature with passive welding lens models and ADF equipped models, where adjacent welding arcs can trigger nuisance ADF activations.



**Inboard mounted ADF remote control for reliability and convenience.** Remote control adjustment of the SA 60 or XA 74 automatic welding lenses features three silicon rubber selector switches. The large switches select parameter values up or down and the small switch selects either the parameter type, or a long press activates the work lights on the XFA model.



### Axis regulator adjusts the Gamma visor position to your eye line.

Whether changing from overhead to down hand work piece targets, you can adjust for perfect field of view in seconds. Slightly lift the chin area and rotate the Axis control knob clockwise or counter clockwise. Easy, simple and convenient.

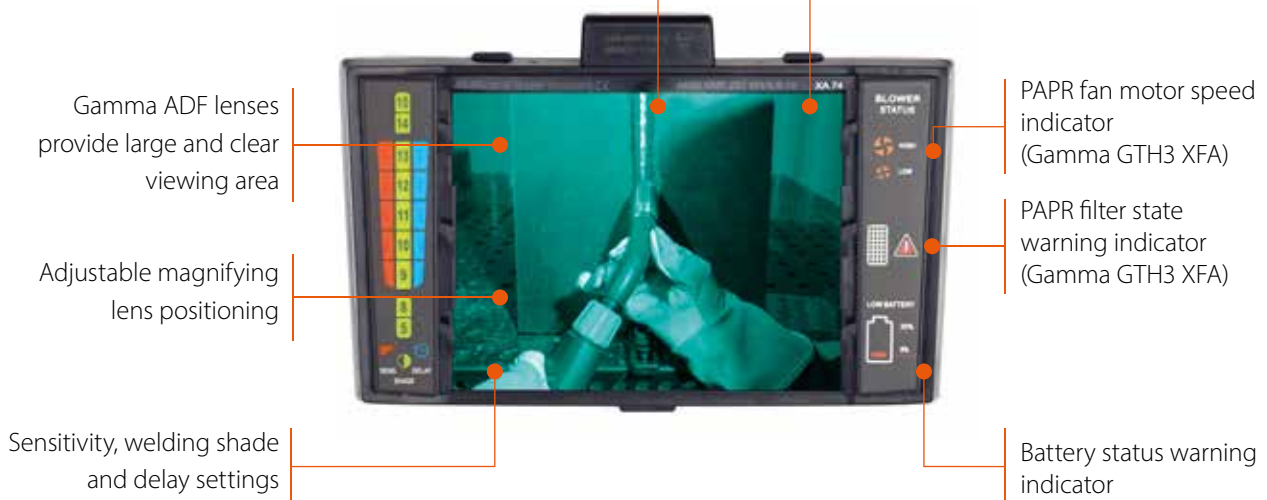


### ClickLenz system allows replacement of clear lens plates

**in seconds.** No additional cover plates or components means maintenance is fast and simple. Lift, remove and click a new clear cover plate into place.

**LiFE+ Color welding optics improve work accuracy, reduce eye fatigue and protect your sight.** For fine and low current welding applications, magnifying lenses can be fitted to the ADF frame, providing a more detailed view of the weld piece.

Shade options:  
SA 60: 4/5 8/9-13  
XA 74: 4/5 8/9-13/14-15



# GAMMA WELDING HELMETS

Gamma welding helmets offer maximum vision and safety for welding, grinding and inspection processes.

Choose from passive or automatic lens models including market leading features for comfort and usability.





# GAMMA 100P/100A

## Reliable protection with comfort features

Gamma product range contains two face shield models, offering premium protection for your eyes and face in working environments where respiratory protection is not needed.

### Gamma 100P

- Flip-up welding visor
- Passive welding lens 102 x 74 mm
- 198 cm<sup>2</sup> grinding visor with 170° work site view
- GapView welding visor setting
- Axis regulator tunes eye-line perspective
- Certified for welding and grinding work
- Magnifying lens options

### Gamma 100A

- Flip-up welding visor
- SA 60 automatic welding filter
- 198 cm<sup>2</sup> grinding visor with 170° work site view
- GapView welding visor setting
- Axis regulator tunes eye-line perspective
- Certified for welding and grinding work
- Magnifying lens options



# GAMMA RESPIRATORY MODELS

A safe breathing  
environment throughout  
your working day

The Gamma GTH3 welder's respirator range contains five models offering the best protection for your lungs and long-term health. Supplying clean fresh air from either a battery powered filter unit or airline breathing air source, Gamma GTH3 positive pressure respirators create a cool, comfortable and safe breathing environment throughout your working day. Gamma GTH3 models are certified to a maximum allowable inward leakage of 0.2 %, so 99.8 % efficient.

For further information on Kemppi powered filter units and supplied air regulators, please see page 31.

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**Positive pressure, clean breathing air lowers breathing resistance and fatigue. Fresh air flow rates can be adjusted to suit your preference. PAPR filter options include both particle and gas filters. See page 32.**

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LiFE+ Color ADFs increase the field of vision and work accuracy, plus reduce eye fatigue.

LED work lights improve safety, vision and work efficiency in poorly lit conditions.

Convenient and impact protected remote control for ADF lens setting.

# GAMMA GTH3 XFA

## Maximum protection, premium comfort, total control, LED work lights

Gamma GTH3 XFA offers top class safety and comfort with total freedom of movement. Even in the toughest working environments, Gamma GTH3 XFA is the ultimate welder's respirator, featuring class leading LiFE+ Color ADF, integrated LED work lights, fast charge Li-ion battery packs and all Gamma comfort features.

### Gamma GTH3 XFA

- Respiratory protection class TH3
- XA 74 ADF filter with 75 cm<sup>2</sup> viewing area
- Integrated LED work lights
- 198 cm<sup>2</sup> grinding visor with 170° work site view
- GapView welding visor setting
- Axis regulator tunes eye-line perspective
- Air speed selection 160 and 210 lpm
- Heavy duty battery as standard

### ADF

- LiFE+ Color Auto-darkening welding filter XA 74
- Viewing area 102 x 74 mm, 75 cm<sup>2</sup>
- Shade selections 5, 8, 9, 10, 11, 12, 13, 14, 15
- Protected remote control buttons
- Visible ADF parameter selection when wearing
- Clear optics for improved work accuracy
- Magnifying lens option





# GAMMA GTH3 SFA/PFA

Lighter specification and weight with premium TH3 breathing protection

Premium TH3 class respiratory protection, plus all the safety and comfort offered throughout the Gamma GTH3 product range, SFA and PFA models include alternative welding lens options suiting differing user needs. Both packages include the PFU 210e battery powered filter unit, one equipped with the automatic welding lens SA 60 and the other with a passive welding lens.

## Gamma GTH3 SFA (PFU 210e)

- LiFE+ Color auto-darkening welding filter SA 60
- Viewing area 102 x 60 mm, 61 cm<sup>2</sup>
- Shade selections 5, 8, 9, 10, 11, 12, 13
- Protected remote control buttons
- Visible ADF parameter selection when wearing
- Clear optics for improved work accuracy
- Magnifying lens option
- PFU 210e filter pack with particle and gas filter options
- All Gamma comfort and safety features

## Gamma GTH3 PFA (PFU 210e)

- Passive welding filter 102 x 74 mm
- 198 cm<sup>2</sup> grinding visor with 170° work site view
- PFU 210e filter pack with particle and gas filter options
- All Gamma comfort and safety features





# GAMMA FOR SUPPLIED AIR

## Long work periods, lower costs

Connected to a certified breathing air source via an airline and belt-mounted regulator RSA 230, Gamma GTH3 Airline models provide an alternative to the battery powered systems. SFA and PFA models include alternative welding lens options suiting differing user needs, featuring the automatic welding lens SA 60 ADF or a passive welding lens.

### Gamma GTH3 SFA (RSA 230)

- LiFE+ Color auto-darkening welding filter SA 60
- Viewing area 102 x 60 mm, 61 cm<sup>2</sup>.
- Shade selections 5, 8, 9, 10, 11, 12, 13
- Protected remote control buttons
- Visible ADF parameter selection when wearing
- Clear optics for improved work accuracy
- Magnifying lens option
- RSA 230 belt mounted regulator and silencer
- All Gamma comfort and safety features

### Gamma GTH3 PFA (RSA 230)

- Passive welding filter 102 x 74 mm
- 198 cm<sup>2</sup> grinding visor with 170° work site view
- RSA 230 belt mounted regulator and silencer
- All Gamma comfort and safety features



# DELTA

## Respiratory protection in hard hat working areas

Delta 90 SFA and Delta+ 90 XFA models provide head protection for welding and fabrication personnel working in extreme conditions, such as shipbuilding, heavy fabrication, mining and construction sites.

Delta respirator systems channel clean breathing air over the welder's face from either a rechargeable, Li-Ion battery powered filter pack or locally supplied breathing air source. The adjustable face seal, combined with the 'positive air pressure' design, creates a comfortable breathing zone certified to TH2 European standards, ensuring that 98% of contaminated air remains outside the breathing zone.

- **Certified to EN 12941 TH2 and AS/NZS 1716**
- **Positive pressure design makes breathing effortless**
- **Li-Ion battery powered filter pack or regulated supplied air breathing system**
- **Mounting for optional high quality ear defenders**



## Welding helmets



### Delta 90

Heavy duty hard hat and welder's visor meeting EN 397, EN 175, AS/NZS 1801 and AS/NZS 1337.1 (not certified for grinding operations). Includes SA 47 ADF lens.



### Delta+ 90

Delta+ 90 XFA has a large and clear impact rated visor.

**Note:** If using Delta/Delta+ as standalone welding helmets the fabric face seal must be removed before use.

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## Respiratory protection



### Optional ear defenders

Delta and Delta+ models connect with optional quality ear defenders.



### Delta 90 SFA / Delta+ 90 XFA (PAPR)

Integrating head, face and respiratory protection for welding in designated head protection work areas. Features battery powered filter unit and ADF lens. (Page 23)



### Delta 90 SFA / Delta+ 90 XFA (Airline)

Integrating head, face and respiratory protection for welding in designated head protection work areas. Features supplied air regulator and ADF lens specification. (Page 23)

Integrated head, face and respiratory protection for welders and fabricators



# DELTA 90 SFA

## Integrated welder's protection for the head, face, eyes and lungs

Delta 90 SFA offers welders protection for the head, face, eyes and the respiratory system in one high strength unit. Delta 90 SFA includes a hinged welding visor and optional ear defenders and can be supplied with clean breathing air from either the battery powered filter unit or FA Pressure Flow Control regulation valve.

### Delta 90 SFA

- Heavy duty hard hat and welding visor
- Certified EN 397, EN 175, AS/NZS 1801 and AS/NZS 1337.1
- ADF welding filter, shades 9-13
- Li-ion battery powered filter pack or supplied air packages



FA Pressure Flow Control unit regulates the supplied air flow. Air source must meet the local breathing air standards.





# DELTA+ 90 XFA

## Maintain respiratory protection during all work processes

Delta+ 90 XFA protects the head, face, eyes and the respiratory system in one high strength unit and includes optional ear defenders. The hinged welding shield raises independently from the large impact rated clear visor, offering exceptional work site views. Ideal for pre and post welding processes, Delta+ 90 XFA maintains the face seal protected, clean breathing air environment.

### Delta+ 90 XFA

- Heavy duty hard hat, welding and grinding visor
- Certified EN 397, EN 175 B, AS/NZS 1801 and AS/NZS 1337.1
- XA 47 ADF welding filter, shades 5 / 9-13 / 14-15
- Li-ion battery powered filter pack or supplied air packages
- Remain protected behind the large, clear impact rated visor



Lightweight, belt mounted, powered filter pack with Li-ion battery.



# BETA

## Better visibility, better protection

Beta welding helmets provide exceptional protection for the eyes and face. Designed for professional welders and certified to EN175 B for welding, cutting and grinding processes, Beta welding helmet range includes either passive or auto-darkening filters.

All Beta models feature the same lightweight but strong shell construction, a comfort headband, GapView flip lens function and magnifying lens frame. When combined with a Kemppi PAPR system, Beta FA models offer TH2 respiratory protection for your lungs.

- 
- Protection for welding, grinding and cutting
  - Flip-lens with GapView stage position
  - Extra protection to face and neck
  - ADF and passive lens models
  - Comfort headband
  - Magnifying lens frame
- 



## Welding helmets



### Beta 60P/60A/90P/90A/90X

Lightweight welding and grinding shields. Flip-up passive or automatic welding lens models, large clear view visor, GapView setting, comfort headband. (Page 26)



## Welding respirator systems



### Beta 90 SFA/90 XFA

TH2 rated PAPR packages, featuring solutions for both particle and gas filtration. Suitable for welding, grinding and inspection operations. Automatic welding lens options. (Page 27)



### Beta 90 SFA/XFA Airline

Welder respirators for connection to a supplied breathing air source. Suitable for welding, grinding and inspection operations. Automatic welding lens options. (Page 27)

Comfort, value and protection  
for the eyes, face and lungs



# BETA WELDING HELMETS

Designed for professional welders and certified to EN175 B for welding, grinding and cutting processes, Beta welding helmet range includes five models equipped with either passive or automatic filters. All Beta models feature the same lightweight but strong shell construction, a comfort headband, GapView flip lens function and magnifying lens frame.

## Model options and features

- Beta 60P/60A/90P/90A/90X
- For welding, tacking, cutting, grinding and inspection
- Passive or ADF welding lens options
- Beta 90X features XA 47 LiFE+ Color ADF including shades 14 and 15
- EN 175 B and AS/NZS 1337.1
- Deeper protection for facial sides
- Comfort headband
- Magnifying lens option
- See page 46 for models specification



Beta models feature a range of automatic welding filters, plus optional magnifying lenses.





# BETA RESPIRATORY MODELS

Beta FA respirators provide cool and clean breathing air, from either a PFU 210e battery powered filter unit offering optimal freedom of movement around the workspace, or a supplied breathing air solution where the air flow is regulated from the RSA 230. Although movement is controlled to a local area, supplied air solutions suit applications where welding and shielding gases may build up displacing the breathing air. Beta FA models are certified with a maximum inward leakage level of 2 % and when connected to the PFU 210e filter unit, offer the option of combined particle and gas filtration.

## Model options and features

- Beta 90 SFA/XFA
- For welding, tacking, cutting, grinding, inspection
- Battery powered PAPR or airline supplied models
- XFA model features LiFE+ Color ADF technology including shades 14 and 15
- EN 175 B, AS/NZS 1337.1, EN 12941 TH2 and AS/NZS 1716
- Particle and gas filter options
- Fast charging PAPR battery packs
- Leather belt and metal buckle
- Comfort headband
- Magnifying lens option



**XA 47 features LiFE+ Color technology and shade adjustment 5, 8, 9-13 and 14, 15.**



**ADF lens SA 47 featuring shade adjustment 9-13, plus grinding mode.**



# ALFA

Simple, lightweight, efficient





# ALFA

## Lightweight, compact, flip-lens welding shield

Alfa represents the most compact, lightweight face shield in the Kemppi welder's protection range. A durable, low cost solution for light to medium duty welding tasks. Alfa is an easy-to-wear eye and face protection for all general welding applications. The shell design is tightly packaged, providing improved access for tight work spaces. The flip-up welding lens is perfectly positioned for pre and post weld inspection.

### Alfa

- MMA, TIG and MIG/MAG welding process
- Compact design for easy access
- Flip-up welding lens
- Inspection lens feature
- Standard glass welding lens shades 10 to 14
- Strong, adjustable headband
- Lightweight – 465 g
- Certified EN 175



# RESPIRATORY PROTECTION EQUIPMENT



# POWERED FILTER UNITS FOR SAFE AND EASY BREATHING

## Portable unit gives you freedom of movement

Powered filter units, or Powered Air Purifying Respirators (PAPR), are the most advanced group of personal protective equipment providing a high level of protection even for long lasting applications. Battery powered portable fan units drive the local air through a particulate or chemical filter and blow it into the breathing zone.

Major user advantages are derived from the excellent mobility, independence of movement provided by the battery powered filter pack and providing positive over pressure by the fan forcing air into the breathing zone. This eliminates difficulty in breathing associated with negative pressure respirators and reduces the importance of a good facial fit.

# SUPPLIED AIR RESPIRATORS

## Long working periods, lower cost

Supplied air respirators provide an ideal solution for workplaces equipped with breathing air supplies and where freedom of movement is not an issue. Ideal for long work periods and fixed work stations, supplied air respirators offer lower running costs compared to PAPR systems. Supplied air respirators are also recommended where there may be a temporary build-up of gases. (See table on page 39).

**Note:** Supplied air sources must meet mandatory local breathable air quality regulations. See page 40 for Standards and Approvals and page 42 for Frequently Asked Questions.



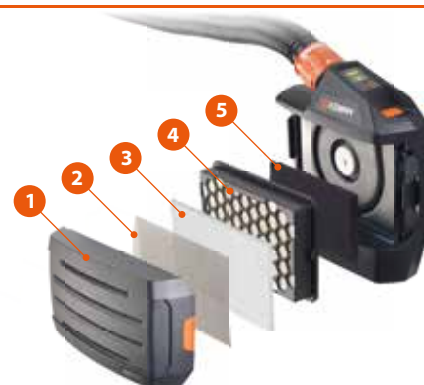
# PFU 210E

## The best protection for your lungs

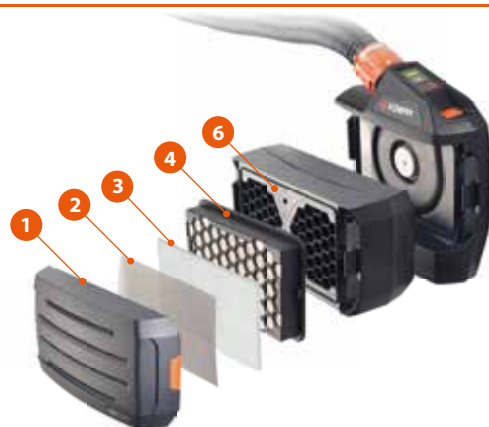
PFU 210e means 'Powered Filter Unit with a maximum air speed of 210 liters per minute'. Representing the highest level of filtration performance, PFU 210e is available with both Gamma GTH3 and Beta FA respirator systems, so you can be sure of receiving clean and safe air to breathe.

Robust and durable, PFU 210e offers selectable fan speeds of 160 lpm and 210 lpm, battery and filter status indicators, plus a choice of either standard duty or heavy duty batteries. Lithium-Ion battery technology guarantees fast charging times and the power to protect with either particle filter or a combined filter set with the A1B1E1 gas filter.

- 1 Filter cover
- 2 Spark arrester
- 3 Pre-filter
- 4 Particle filter
- 5 Odor filter: Removes unpleasant odors. Optional accessory. Do not use if a gas filter is present.
- 6 Gas filter: Removes gases and vapors



Protection against particles



Protection against particles and gas





# FA FLOW CONTROL

## Efficient, lightweight and compact

FA Flow Control is a battery powered filter unit with adjustable motor fan speeds from 140 lpm to 210 lpm. Powered from a Li-ion battery pack and providing protection against particulate contaminants associated with welding and fabrication operations, FA Flow Control offers excellent freedom of movement and breathing protection.

### FA Flow Control unit

- 140 lpm to 210 lpm air flow regulation
- Status indicators for motor speed, battery and filter
- Li-ion rechargeable battery pack
- Excellent freedom of movement in the workplace
- Supports Delta/Delta+ models only



**Filter cover, particle filter and motor unit.**





# RSA 230

RSA 230 regulation valve enables a controlled air flow to the welder's respirator head-top fitted with a fabric face seal, and is supplied together with Gamma and Beta supplied air models. The positive air pressure created inside the head-top controls the ingress of contaminated air to the breathing zone and ensures a supply of clean breathing air. The RSA 230 regulation valve features a replaceable silencer, decreasing audible airflow noise and is mounted to a comfort back pad, secured to the body with a leather belt.

## RSA 230

- Supports Gamma and Beta respirators
- Cost efficient alternative to PAPR models
- Recommended for specified environments
- Comfortable and light in weight
- Alarm alert should the air flow fall below 120 lpm
- Quick release connector to the Airline
- Easily adjusts airflow to the breathing zone
- Must be connected with known breathing air source.



**Supplied breathing air solutions offer excellent protection and costs efficiency.**





# FA PRESSURE FLOW CONTROL

FA Pressure Flow Control system ensures easy and reliable airflow control and monitoring for Delta and Delta+ hard hat supplied air respirators. The belt mounted airflow regulation valve enables simple air flow adjustment to the breathing zone and is an ideal and cost efficient solution for more static work place locations and applications.

## FA Pressure Flow Control

- Supports Delta and Delta+ respirators
- Easy and reliable airflow control
- Belt mounted and light in weight
- Quick release connector to the Airline
- Air monitoring gauge
- Must be connected with known breathing air source



**Supplied air solutions are ideal where welding gases may build up displacing breathing air.**



# AUTO-DARKENING WELDING FILTERS

## Digitally controlled protection for your eyes

**Welding shields fitted with auto-darkening filters (ADF)** protect your eyes from the intense light of the welding arc and UV/IR radiation. The ADF technology is based on liquid crystals that have the ability to switch their state when exposed to bright light, automatically switching from clear to dark instantly when you strike the arc and back to clear again when the arc is extinguished. The lens shade and its sensitivity to light is set by you according to the welding task and your personal needs.

**Kemppi's ADF selection** offers five models with different shade ranges and features. Please see the compatibility table.

**LiFE+ Color ADF technology** enables greater clarity of vision and improved work accuracy, which reduces user eye strain and fatigue. LiFE+ Color lenses improve color recognition and optical quality.

**Remote-RC feature is included to Gamma** welding helmets fitted with an ADF lens, making adjustment of the ADF extremely easy whilst wearing the helmet. The remote control buttons are protected from impact and conveniently placed, making adjustment simple without taking the helmet off. Gamma ADF parameters are marked by color LEDs and can be clearly seen and recognized from inside the helmet, ideal for parameter adjustment when moving between tasks.



Before



During



After



**Gamma ADF remote control** is designed for operation whilst wearing the helmet. The orange silicone rubber remote buttons are located inside the helmet shell wall, adding protection from knocks and abrasions. The wearer can adjust the ADF settings and view the changes on the large ADF panel interface, plus switch on and off the LED works lights in Gamma GTH3 XFA model.

# ADF SPECIFICATION

## and compatibility



ADF model	SA 35	SA 47	XA 47	SA 60	XA 74
<b>Ordering code</b>	SP9873061	SP9873062	SP9873063	SP012422	SP012421
<b>Inner protection plate item number</b>	SP012951	SP012952	SP012952	SP012425	SP012424
<b>CE classification</b>	1/1/1/2	1/1/1/2	1/1/1/2	1/1/1/2	1/1/1/2
<b>LiFE+ Color</b>	No	No	Yes	Yes	Yes
<b>View size</b>	96 x 35	97 x 47	97 x 47	102 x 60	102 x 74
<b>Filter dimension</b>	110 x 61	110 x 90	110 x 90	Customized	Customized
<b>Size of inner protection plate</b>	108 x 37	104 x 54	104 x 54	106.5 x 65.5	106.5 x 75
<b>Arc sensor</b>	2	2	2	2	2
<b>Shade range</b>	4/9-13	4/9-13	4/9-13 CUTTING 5 14-15	4/5,8/9-13 CUTTING 5	4/5,8/9-13 CUTTING 5 14-15
<b>Shade level of POWER OFF state</b>	4	4	6	4	6
<b>Power ON/OFF</b>	Fully automatic	Fully automatic	Fully automatic	Fully automatic	Fully automatic
<b>Shade control</b>	Internal	Internal	Internal, digital display	External	External
<b>Switching time (ms)</b>	0.1	0.1	0.1	0.1	0.1
<b>Grinding function</b>	No	Yes	Yes	No	No
<b>Low battery indicator</b>	No	Yes	Yes	Yes	Yes
<b>Low amperage TIG rated (A)</b>	5	5	5	5	5
<b>Power supply</b>	Solar Cell, 2 x CR2032, replaceable	Solar Cell, non-replaceable	Solar Cell, 1 x CR2450, replaceable	Solar Cell, 1 x CR2450, replaceable	Solar Cell, 1 x CR2450, replaceable PAPR battery
<b>Certification</b>	CE, ANSI, CSA	CE, ANSI, CSA, AS/NZS	CE, ANSI, CSA, AS/NZS	CE, ANSI, CSA, AS/NZS	CE, ANSI, CSA, AS/NZS

### ADF compatibility

<b>SA 35</b>	Beta 60A
<b>SA 47</b>	Beta 90A / Beta 90 SFA / Delta 90 SFA
<b>XA 47</b>	Beta 90X / Beta 90 XFA / Delta+ 90 XFA
<b>SA 60</b>	Gamma 100A / Gamma GTH3 SFA
<b>XA 74</b>	Gamma GTH3 XFA

# FILTERS FOR PAPR

A key component of any respirator is the filter. They are divided into gas, particle and combined filters according to the type of protection they provide. There are standards setting the minimum requirements, test methods and markings for the filters. Gas filters are divided into different types (A, B, E, K etc.) according to the group of substances they are capable of absorbing, and by their absorption capacity they are classified into groups 1, 2 and 3.

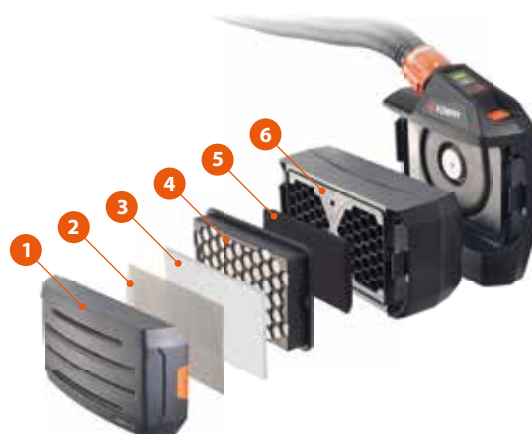
Kemppi particle filters in combination with Kemppi PAPR devices provide excellent protection for most welding processes and applications. But your local independent air measurement specialist can provide an air quality report in order for you to accurately select the correct respiratory solution

Kemppi combined filters are divided into gas and particle filters. They have an absorption capacity against organic vapors with boiling points over 65 °C, acid/inorganic gases and vapors, sulfur dioxide. The filtration efficiency is 99,9 % against dust, fumes and mists. Every substance that falls into the above mentioned categories is covered by a Kemppi combined filter set. See the table opposite for further guidance.

For further information regarding standards and approvals please see page 40.



- 1 Filter cover
- 2 Spark arrester
- 3 Pre-filter
- 4 Particle filter
- 5 Odor filter: Removes unpleasant odors. Optional accessory. Do not use if a gas filter is present.
- 6 Gas filter: Removes gases and vapors



Protection against particles and gas



# BREATHING AIR DELIVERY SOLUTIONS

	Gamma GTH3 XFA	Gamma GTH3 SFA	Gamma GTH3 PFA	Gamma GTH3 SFA Airline	Gamma GTH3 PFA Airline	Gamma 100A	Gamma 100P	Delta models	Beta 90 FA
Compatible with PFU 210e	•	•	•						•
Compatible with RSA 230				•	•				•
FA Flow Control								•	
FA Pressure Flow Control								•	
FA Pressure Conditioner								•	
Work lights	•								
Auto-darkening filter (ADF)	•	•		•		•		•	•
Passive filter lens (shades 8-13)			•		•		•		

Chemical	Filtering devices		Isolating devices
	Particle	Gas ABE	
Aluminum	•		
Argon			•
Beryllium	•		
Bromine	•	•	
Cadmium	•		
Carbon Dioxide			•
Carbon Monoxide			•
Chlorine		•	
Chlorine Dioxide		•	
Chromium Hexavalent	•	•	
Copper	•		
Fluorides		•	
Fluorine		•	
Helium			•
Isocyanates	•	•	
Hydrogen Chloride		•	
Hydrogen Cyanide	•	•	
Hydrogen Fluoride		•	
Hydrogen Sulphide		•	

Chemical	Filtering devices		Isolating devices
	Particle	Gas ABE	
Iron Oxide	•		
Lead	•		
Magnesium	•		
Manganese	•		
Nickel	•		
Nitrogen Dioxide			•
Nitric Oxide			•
Ozone	•	•	
Phosgene			•
Phosphine			•
Silicon Dioxide	•		
Sulfur Dioxide		•	
Trichloroethylene		•	
Vanadium Oxide	•		
White Spirit	•	•	
Zinc	•		
Zinc Chloride	•	•	
Zinc Oxide	•		

# STANDARDS AND APPROVALS

Personal protective equipment must be certified in compliance with specified standards before being placed on the market. Kemppi personal protective equipment meets European standards and is CE marked. Models marked accordingly also meet the defined standards for Australia and New Zealand.

## PPE product selection table

Correct product selection is essential to provide the best protection and performance for your personal needs and application. Please refer to page 46 for Kemppi PPE product selection table, including product features and standards conformity.

## Protection for the eyes and face

Helmets and visors featuring protective welding filters are classified under the European standards EN 175, EN 166 and EN 169 for passive welding filters (colored glass welding filters). EN 379 defines automatic welding filters (ADF).

EN 175 and EN 166 define the mechanical strength of personal protective equipment, measuring increased robustness as 'S' and resistance to high speed particles as 'F or B'. PPE must also be tested for protection against droplets and splashes from molten metals, penetration from hot solids and electric arcs.

The optical quality of the welding or clear visor plates are measured as either 1, 2 or 3, where 1 and 2 offer the best optical performance. Glass welding filters (Passive welding filters) only have one optical classification.

For automatic welding filters (ADF) there are four defining parts to the classification. Optical class, Diffusion of light, Variation in luminous transmittance and angular dependency. Kemppi automatic welding filters are typically defined as 1/1/1/2.

## Standards for powered air respirators

Welding helmets and visors fitted with a fabric face seal and supplied with filtered air from a battery powered filtering device are defined under the European standard EN 12941, listing three levels of protection performance as either TH1, TH2 or TH3. The number references define the products level of inward leakage performance and mechanical strength of hose couplings. Product certified as TH1 have a maximum inward leakage to the breathing zone of 10 %, TH2 products a maximum inward leakage of 2 %, and TH3 products offering the best respiratory protection with a maximum inward leakage of 0.2 %.

## Particle and gas filters

The performance of particle filters fitted to powered air respirators are classified together with the complete filtering device under EN 12941. However the performance of gas filters are defined by letters, number and a color code system, indicating the performance level and gases for which the filter protects. The letters represent 'A' for organic, 'B' for inorganic, and 'E' for acid gases and numbers '1, 2 or 3 indicate the filters capacity, either low, medium or high capacity. Kemppi PFU 210e gas filter is classified as A1B1E1.

## Standards for supplied air respirators

Supplied air respirators offer lower running costs compared to PAPR systems, and are also recommended where there may be a temporary build-up of welding gases. (See table on page 39).

Welder's respirators connected with a breathable air supply from a compressor meeting EN 12021 are defined under EN 14594. Kemppi welder's respirators must only be used in areas where the oxygen content exceeds 17% and must not be used as self contained breathing apparatus, or for escape purposes.

## Protection factors

The occupational exposure limit of general welding fumes is 5 mg/m<sup>3</sup>. OEL = the level of air contamination where respiratory protection is recommended under EN standards. (Levels and factors stated may differ in other regions.)

A respirator with a protection factor of 10 will provide protection up to  $10 \times 5 \text{ mg/m}^3 = 50 \text{ mg/m}^3$  provided that 50 mg/m<sup>3</sup> is still below the IDLH of the given substance (IDLH = Immediately Dangerous to Life and Health).

The nominal protection factors assigned by the European Standard Authorities to a class of respirator (PAPR or Airline supplied device fitted with hood or helmet under EN12941), define a Nominal Protection Factor (NPF) based on the tested inward leakage efficiency of the respirator device.

---

TH1: inward leakage max. 10%

NPF = 10 ( $10 \times 5 \text{ mg/m}^3 = 50 \text{ mg/m}^3$ ) APF 10

TH2: inward leakage max. 2%

NPF = 50 ( $50 \times 5 \text{ mg/m}^3 = 250 \text{ mg/m}^3$ ) APF 20

TH3: inward leakage max. 0.2 %

NPF = 500 ( $500 \times 5 \text{ mg/m}^3 = 2500 \text{ mg/m}^3$ ) APF 40

---

# FREQUENTLY ASKED QUESTIONS

## Why do the prices differ for welder's respirators?

The main reason is system performance and this affects several areas - safety and standards conformity, specification, plus usability and comfort. For example, the primary value of wearing a respirator is to protect your lungs. Lower priced PAPR units normally have higher levels of inward leakage, meaning higher levels of unfiltered air entering the breathing zone. For example TH1 rated units = 10 % inward leakage, TH2 rated units = 2 % inward leakage and TH3 rated units = 0.2 % inward leakage.

## PAPR or supplied air respirator?

Health and safety regulations and welding environments can vary enormously, therefore always consult your local Safety officer before commencing work. The best way to select the most appropriate respiratory device is to first measure the local air quality through an independent and qualified testing body and know the contaminants present. This analysis can be carried out by a local expert service provider.

Welding must always be carried out in well ventilated work areas with oxygen levels exceeding 17% by volume. Certified powered air purifying respirators and supplied air respirators offer effective protection for wide ranging welding environments, where fume and gaseous contamination remains within the scope of the device and the occupational exposure limits (OEL) set by the Health & Safety Executive or equivalent national authority. Never use a welder's respirator in atmospheres that present 'Immediate Danger to Life or Health' (IDLH). In enclosed welding environments where there could be a build-up of gases such as argon, helium, CO<sub>2</sub> or carbon monoxide, supplied air respirators should be used.

For further information please refer to page 40 'Standards and Approvals' plus page 38-39 'Filter for PAPR' and 'Breathing Air Solutions'.

## Isn't it cheaper to buy disposable welder's face masks?

Disposable welder's face masks are a cheaper solution if only welding occasionally. However professional welders and fabricators would typically use 1 x disposable mask per day and over time those costs would multiply and outweigh the investment cost of a quality PAPR or supplied air system, including replacement maintenance filters.

## Do welder's respirators filter ozone gas?

Ozone is a naturally occurring gas in the upper and lower atmosphere, however it can be created in the welding environment to a greater or lesser extent by ultraviolet radiation from the welding arc breaking down molecular oxygen.

Typically welder's respirators do not 'filter' ozone in the same way that they protect us against welding gases and airborne particles, but the process of conversion back to oxygen is positively influenced as ozone gas comes into contact with and impacts solid surfaces such as the particle filter substrate and hard plastic surfaces of the PAPR respirator, air tubes and diffuser. Gas filters such as the Kemppi A1B1E1 gas filter are filled with tightly packed carbon granules and these are more effective to accelerate the conversion process and therefore more suitable where higher concentrations may be present from higher welding currents and productivity.

## Why should I use respiratory protection?

Dangerous elements are present in the welding workplace and suitable respiratory protection should be used in order to protect both short and long-term health (see page 46-47). Welding fumes and gases are created through the burning of parent metals, welding filler materials, their coverings, shielding gases, paints, chemical reactions from the arcs ultraviolet light and heat process, plus contaminants in the air from solvents and cleaners.

Exposure to welding fumes is a serious occupational hazard and can cause numerous health problems if carried out without respiratory protection. Ultraviolet radiation given off by welding reacts with oxygen and nitrogen in the air to form ozone and nitrogen oxides, which can be life threatening in high concentrations, cause lung disease, and in small concentrations, irritate the nose and throat.

A single production welder can produce 20-40 g of fumes per hour, which corresponds to about 35-70 kg of welding fumes per year. Occupational exposure limit levels (OEL) to welding fume particulate is defined by  $\text{mg}/\text{m}^3$ , i.e. the concentration of fume in the air, measured by its weight in milligrams per cubic meter of air. For general welding fumes the point at which it is recommended to use respiratory protection is  $5 \text{ mg}/\text{m}^3$ . Check your local standards authority and recommendations and ensure the Kemppi respiratory device you select meets your personal needs.

# RECOMMENDED MAINTENANCE GUIDE

Item	Check	Frequency	Typical replacement frequency	Note
<b>Clear protection plates</b>	Spatter, scratches, heat damage	Daily	Weekly	Scratches, pitting, spatter, fumes and dirt impair your vision. Replace as necessary.
<b>Clear grinding visor plate</b>	Dirt, fumes and scratches	Daily	Monthly	Wash in warm soapy water and dry with a soft cloth.
<b>Fabric face seals</b>	Holes and hygiene	Daily	3 months	Check for burn holes and tears effecting to respiratory performance.
<b>Breathing tubes and covers</b>	Holes and tears	Daily	Only if damaged or leaking	Breathing tubes should be replaced if holed. Holes and Leaks reduces respiratory protection
<b>Batteries</b>	Charge state	Daily	12 months	Charge batteries daily when in use or at least every four months if in storage.
<b>Safety plates</b>	Scratches	Weekly	3 months	Clean with a soft dry cloth and replace as necessary.
<b>Sweatbands</b>	Hygiene	Weekly	Monthly	Can be washed in warm soapy water - dry before use.
<b>Pre-filters</b>	Contamination	Weekly	Weekly	Pre filters extend particle filter life. Replace as required depending on environment.
<b>Particle filters</b>	Contamination	Weekly	Monthly	Do not attempt to clean particle filter. Replace when necessary and follow the PAPR filter status lights and alarm.
<b>Filter cover</b>	Damage	Weekly	Only if damaged	Always ensure the filter cover and internal spark arrestor plate is correctly fitted.
<b>Gas filters</b>	Contamination	As needed	As needed	A guide to a gas filters life expiration is a change in odour. Gas filter life time is a matter of local contamination levels.

## Comparing standards and protection factors

The table below assists understanding of how respiratory protection systems are classified and performance levels defined. Ultimately performance values define total inward leakage of contaminated air to the breathing zone and factors occupational exposure limits for a given concentration of contaminant.

Respirator device	EN12941	Maximum inward leakage %	Nominal Protection Factor (NPF)	Assigned Protection Factors (Values vary between countries, see examples below)	Australia and New Zealand standards for maximum inward leakage	
<b>Powered Air Purifying Respirator (PAPR) fitted with a helmet and fabric face seal</b>	TH1	10 %	NPF = 10	UK = 10 / Finland = 5	P1	5 %
	TH2	2 %	NPF = 50	UK = 20 / Finland = 20	P2	1 %
	TH3	0.2 %	NPF = 500	UK = 40 / Finland = 200	P3	0.05 %

# SPECIAL SYMBOLS



Suitable for all welding process



Product fitted with LED work lights



ADF shade range (5-15)



Suitable for manual grinding process



Respiratory protection



ADF shade range (5-13)



Suitable for plasma arc cutting process



Protection for the eyes when welding



ADF shade range (9-13)



Suitable for pre and post weld inspection



Combined head and hearing protection



Passive welding filter



Lightweight and portable



Extended protection



Grinding visor viewing area cm<sup>2</sup>



Maximum operating altitude 3000 m (700 mbar)



Battery charging time to full charge state. Standard = 4 h



Battery charging time to full charge state. Standard = 2 h Heavy Duty = 3 h

## Welding filter table

Shade number selection for arc welding filters, SF 5143, EN 379.

	MMA (E-Hand)	MIG, Ss	MIG, Al	TIG	MAG, (CO <sub>2</sub> )	Carbon arc gouging	Plasma cutting
15 A				9			
20 A	9			10			
30 A							
40 A	10				10		
60 A		10	10	11			
80 A					11		
100 A	11						11
125 A		11	11	12	12	10	
150 A							
175 A						11	
200 A			12	13			12
225 A	12	12			13	12	
250 A							
275 A			13	14		13	
300 A							13
350 A					14		
400 A	13	13	14			14	
450 A							
500 A	14	14	15		15	15	

# Product selection table, features and standards conformity



	Alfa 60P	Beta 60P	Beta 60A	Beta 90P	Beta 90A	Beta 90X	Beta 90 SFA/XFA	Beta 90 SFA/XFA Airline
<b>Page number for full details</b>	28	26	26	26	26	26	27	27
<b>Welding</b>	●	●	●	●	●	●	●	●
<b>Cutting</b>	-	-	-	-	●	●	●	●
<b>Grinding</b>	-	●	●	●	●	●	●	●
<b>Finishing</b>	-	●	●	●	●	●	●	●
<b>Positional welding</b>	-	●	●	●	●	●	●	●
<b>Welding lens type</b>	P	P	A	P	A	A	A	A
<b>Viewing lens size (mm)</b>	99 x 52	99 x 52	96 x 35	100 x 78	97 x 47	97 x 47	97 x 47	97 x 47
<b>Hard hat protection</b>	-	-	-	-	-	-	-	-
<b>Tack welding feature</b>	●	●	●	●	●	●	●	●
<b>Magnifying lens option</b>	-	●	●	●	●	●	●	●
<b>MMA</b>	●	●	●	●	●	●	●	●
<b>MIG/MAG</b>	●	●	●	●	●	●	●	●
<b>TIG</b>	●	●	●	●	●	●	●	●
<b>Plasma welding</b>			●		●	●		●
<b>Gouging</b>	●	●	●	●	●	●	●	●
<b>Welding helmet weight</b>	476 g	574 g	601 g	615 g	634 g	663 g	615 g	634 g
<b>EN 175</b>	S-F	S-B	S-B	S-B	S-B	S-B	S-B	S-B
<b>AS/NZS 1337.1 face protectors</b>	-	●	-	●	●	●	●	●
<b>EN 166</b>	●	●	●	●	●	●	●	●
<b>EN 12941</b>	-	-	-	-	-	-	TH2	-
<b>EN 14594 pressured air systems</b>	-	-	-	-	-	-	-	2B
<b>AS/NZS 1716;</b>	-	-	-	-	-	-	P1	●
<b>EN 379, ADF</b>	-	-	●	-	●	●	●	●
<b>EN 169, passive welding filters</b>	●	●	-	●	-	-	-	-
<b>AS/NZS 1338.1 welding filters</b>	●	●	-	●	●	●	●	●
<b>EN 397, AS/NZS 1801 safety helmets</b>	-	-	-	-	-	-	-	-

P = Passive  
A = Auto-darkening

X = Extended  
S = Standard

FA = FreshAir



	Delta 90 SFA	Delta+ 90 XFA	Delta 90 SFA Airline	Delta+ 90 XFA Airline	Gamma 100P	Gamma 100A	Gamma GTH3 PFA	Gamma GTH3 SFA	Gamma GTH3 XFA	Gamma GTH3 PFA Airline	Gamma GTH3 SFA Airline
	22	23	22	23	15	15	18	18	17	19	19
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	-	●	-	●	●	-	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	A	A	A	A	P	A	P	A	A	P	A
	97 x 47	97 x 47	97 x 47	97 x 47	101 x 73	102 x 60	101 x 73	102 x 60	102 x 74	101 x 73	102 x 60
	●	●	●	●	-	-	-	-	-	-	-
	-	-	-	-	●	●	●	●	●	●	●
	-	-	-	-	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	950 g	1120 g	918 g	1103 g	735 g	775 g	962 g	1002 g	1100 g	962 g	1002 g
	S-B	S-B	S-B	S-B	S-B	S-B	S-B	S-B	S-B	S-B	S-B
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●	●	●	●
	TH2	TH2	-	-	-	-	TH3	TH3	TH3	-	-
	-	-	2B	2B	-	-	-	-	-	3B	3B
	P1	P1	●	●	-	-	P2	P2	P2	●	●
	●	●	●	●	-	●	-	●	●	-	●
	●	●	-	-	●	-	●	-	-	●	-
	●	●	●	●	●	●	●	●	●	●	●
	●	●	●	●	-	-	-	-	-	-	-

For full ADF specifications (auto-darkening welding filters) see page 36.  
Welding helmet weights include magnifying lenses if optional.  
Ear defenders for Delta model = 240 g.

# ALFA 60 P



## Alfa 60P

**9873010**

Alfa 60P welding helmet with shade 11 passive welding filter.

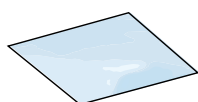
### Spare parts and accessories

Protection plate (60 x 110), 10 pcs	SP9873149
Passive welding filter (shade 11, size 60 x 110)	9873191
Filter retaining spring	9873014
Safety plate (60 x 110), 10 pcs	SP9873155
Plastic cover plate	9873158
Headband	9873012
Sweatband, 2 pcs	SP9873018

### Welding filters

Shade 8	9873161
Shade 9	9873171
Shade 10	9873181
Shade 11	9873191
Shade 12	9873202
Shade 13	9873211

SP9873149



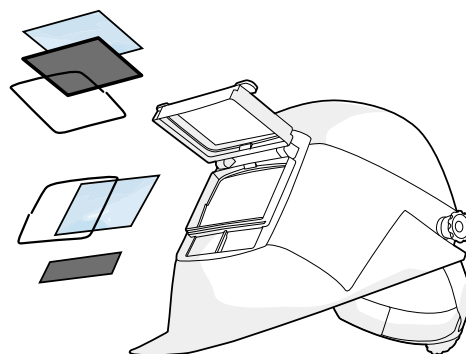
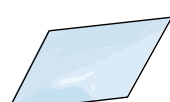
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9873014



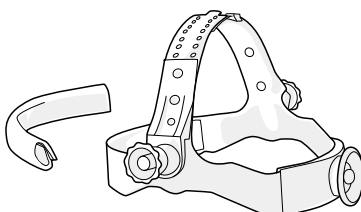
SP9873155



9873158



SP9873018



9873012



9873161

9873171

9873181

9873191

9873202

9873211

# BETA 60P



## Beta 60P

9873040

Beta 60P welding helmet with shade 11 passive welding filter.

### Spare parts and accessories

Protection plate (60 x 110), 10 pcs	SP9873252
Passive welding filter (shade 11, size 60 x 110)	9873191
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149840
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301040

### Welding filters

Shade 8	9873161
Shade 9	9873171
Shade 10	9873181
Shade 11	9873191
Shade 12	9873202
Shade 13	9873211

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

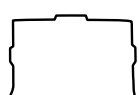
SP9873252



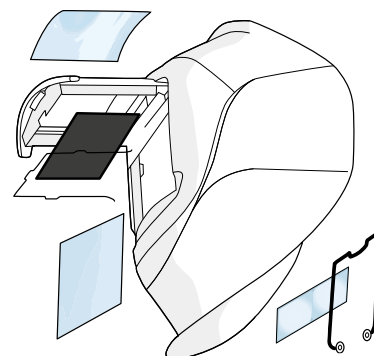
9873191



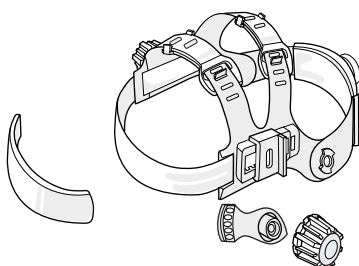
3149840



SP9873254



SP9873018



4306370



9873161

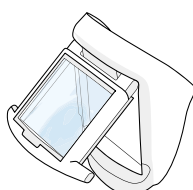
9873171

9873181

9873191

9873202

9873211



4301040



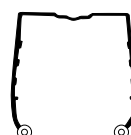
9873260

9873261

9873262

9873263

SP011159



# BETA 60A



## Beta 60A

9873041

Beta 60A welding helmet with auto-darkening welding filter SA 35.

### Spare parts and accessories

Protection plate (60 x 110), 10 pcs	SP9873252
ADF welding filter SA 35 (shades 9-13, size 60 x 110)	SP9873061
Inner protection plate for SA 35 (108 x 37), 5 pcs	SP012951
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149840
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301040

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

SP9873252



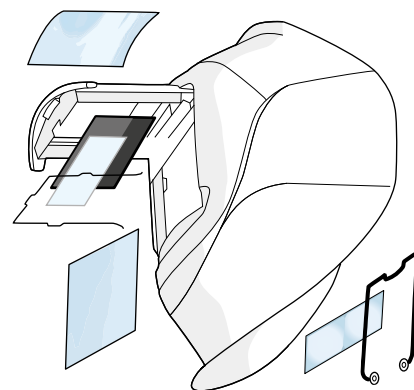
SP9873061



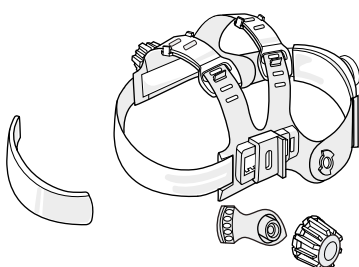
SP012951



3149840



SP9873018



4306370

4301040



SP9873254



9873260  
9873261  
9873262  
9873263

SP011159



# BETA 90P



## Beta 90P

**9873045**

Beta 90P welding helmet with shade 11 passive welding filter.

### Spare parts and accessories

Protection plate, 10 pcs	SP9873253
Passive welding filter (shade 11, size 90 x 110)	9873244
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050

### Welding filters

Shade 8	9873241
Shade 9	9873242
Shade 10	9873243
Shade 11	9873244
Shade 12	9873245
Shade 13	9873246

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

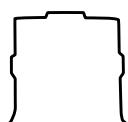
SP9873253



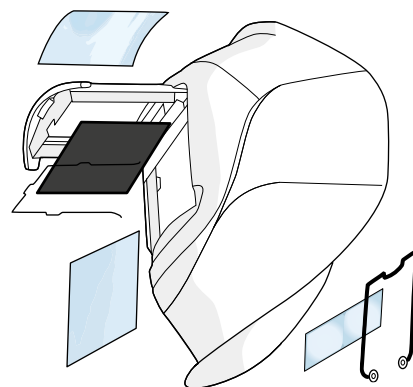
9873244



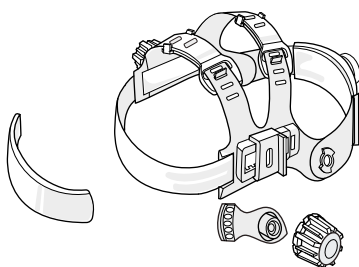
3149850



9873241  
9873242  
9873243  
9873244  
9873245  
9873246

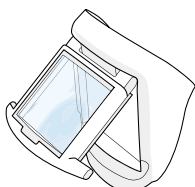


SP9873018



4306370

4301050

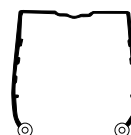


SP9873254



9873260  
9873261  
9873262  
9873263

SP011159



# BETA 90A



## Beta 90A

**9873046**

Beta 90A welding helmet with auto-darkening welding filter SA 47.

### Spare parts and accessories

Protection plate , 10 pcs	SP9873253
ADF welding filter SA 47 (shades 9-13, size 90 x 110)	SP9873062
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

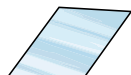
**SP9873253**



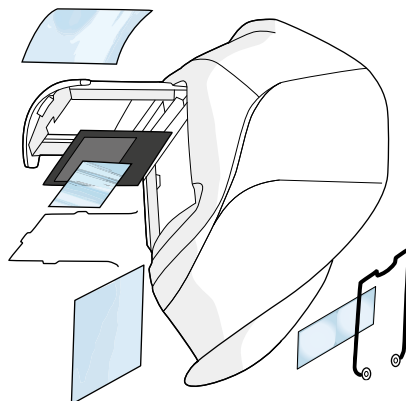
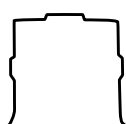
**SP9873062**



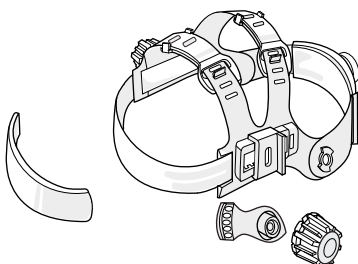
**SP012952**



**3149850**

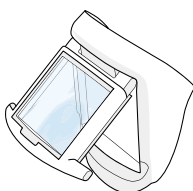


**SP9873018**

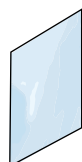


**4306370**

**4301050**

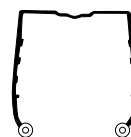


**SP9873254**



**9873260**  
**9873261**  
**9873262**  
**9873263**

**SP011159**



# BETA 90X



## Beta 90X

9873047

Beta 90X welding helmet with auto-darkening welding filter XA 47.

### Spare parts and accessories

Protection plate, 10 pcs	SP9873253
ADF welding filter XA 47 (shades 9-15, size 90 x 110)	SP9873063
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

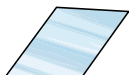
SP9873253



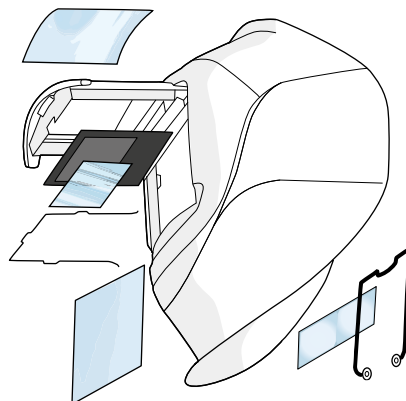
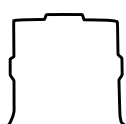
SP9873063



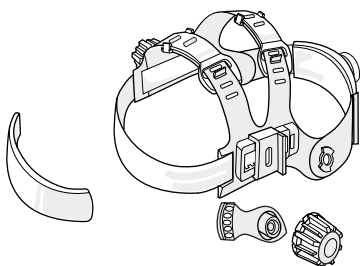
SP012952



3149850



SP9873018

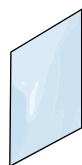


4306370



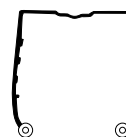
4301050

SP9873254



9873260  
9873261  
9873262  
9873263

SP011159



# BETA 90 SFA + PFU 210e



## Beta 90 SFA + PFU 210e 9873300

Beta 90 SFA welding helmet, auto-darkening welding filter SA 47, powered air respirator PFU 210e, air hose, pre-filter, particle filter, battery 3.2 Ah, battery charger, flow meter.

### Spare parts

Beta 90 SFA welding helmet	SP9873070
Protection plate, 10 pcs	SP9873253
ADF filter SA 47 (shades 9-13, size 90 x 110)	SP9873062
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050
Powered air respirator PFU 210e	SP011996
Filter cover for PFU 210e	SP012095
Spark shield Kemppi, 1 pc	SP9320003
Pre-filter, 10 pcs	SP9320002
Pre-filter, 100 pcs	SP9320002MP
Particle filter, 2 pcs	SP015757
Particle filter, 5 pcs	SP010415
Particle filter, 20 pcs	SP010415MP
Gas filter LIFE+	SP009934
Odor filter, 5 pcs	SP012223
Air hose	SP012253
Hose protection cover	SP010788
Battery (SD), 3.2 Ah	SP012584
Battery (HD), 6.4 Ah	SP012021
Battery charger	SP012426
Flow meter	SP012492

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

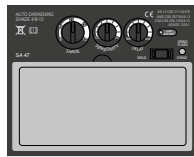
### Accessories

Face seal	W007523
Protective head cover	W007827
Protective neck cover	W007828
Leather belt	SP010243
Support belt	SP012999
Shoulder harness	SP011894
Kemppi Tool bag	SP010090

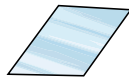
SP9873253



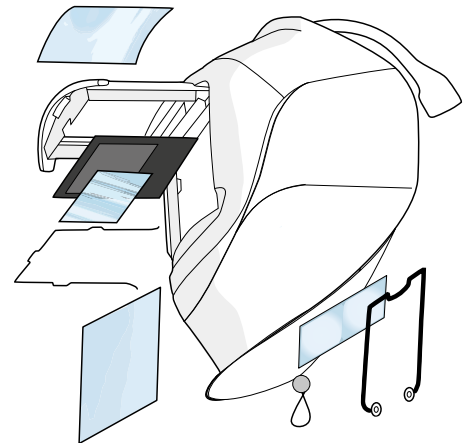
SP9873062



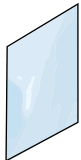
SP012952



3149850



SP9873254



9873260

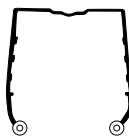
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9873262

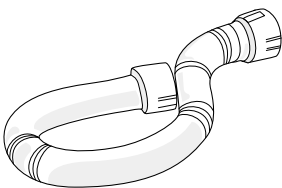
9873263



SP011159



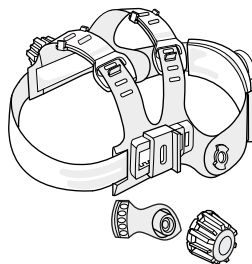
SP012253



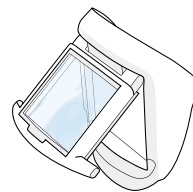
SP9873018



4306370

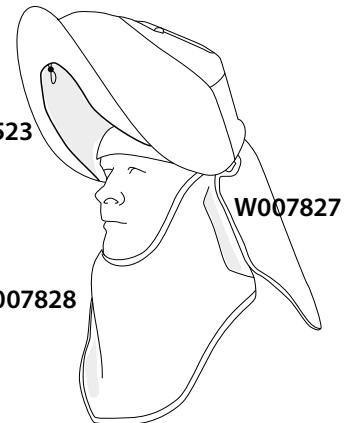


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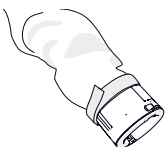
W007523

W007828

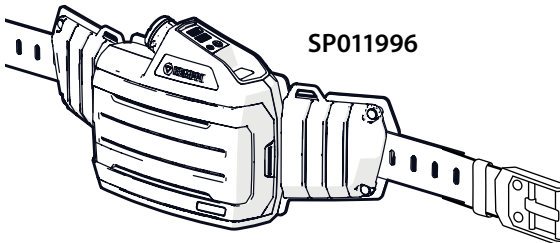


W007827

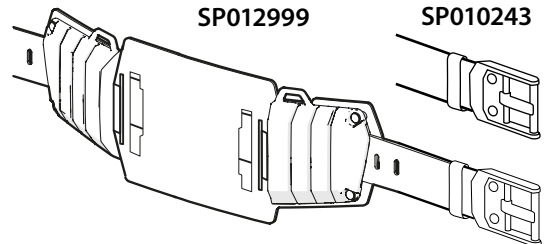
SP010788



SP011996

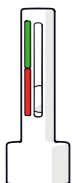


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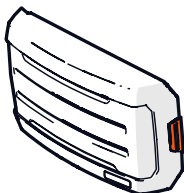


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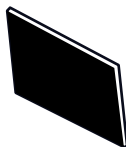
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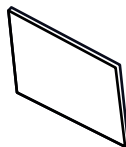
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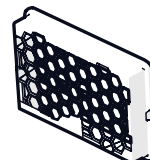
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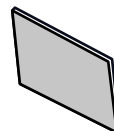
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SP9320002MP



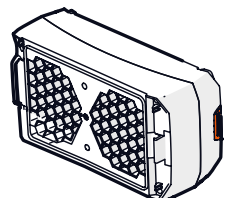
SP010415  
SP010415MP



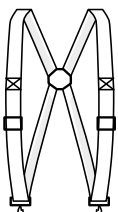
SP012223



SP009934



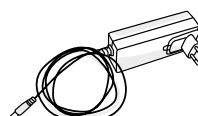
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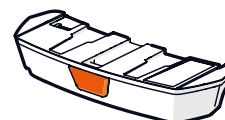
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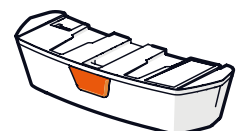
SP012426



SP012584



SP012021



# BETA 90 XFA + PFU 210e



## Beta 90 XFA + PFU 210e 9873302

Beta 90 XFA welding helmet, auto-darkening welding filter XA 47, powered air respirator PFU 210e, air hose, pre-filter, particle filter, battery 3.2 Ah, battery charger, flow meter.

### Spare parts and accessories

Beta 90 XFA welding helmet	SP9873071
Protection plate, 10 pcs	SP9873253
ADF welding filter XA 47 (shades 9-15, size 90 x 110)	SP9873063
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050
Powered air respirator PFU 210e	SP011996
Filter cover for PFU 210e	SP012095
Spark shield Kemppi, 1 pc	SP9320003
Pre-filter, 10 pcs	SP9320002
Pre-filter, 100 pcs	SP9320002MP
Particle filter, 2 pcs	SP015757
Particle filter, 5 pcs	SP010415
Particle filter, 20 pcs	SP010415MP
Gas filter LIFE+	SP009934
Odor filter, 5 pcs	SP012223
Air hose	SP012253
Hose protection cover	SP010788
Battery (SD), 3.2 Ah	SP012584
Battery (HD), 6.4 Ah	SP012021
Battery charger	SP012426
Flow meter	SP012492

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	W007523
Protective head cover	W007827
Protective neck cover	W007828
Leather belt	SP010243
Support belt	SP012999
Shoulder harness	SP011894
Kemppi Tool bag	SP010090

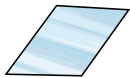
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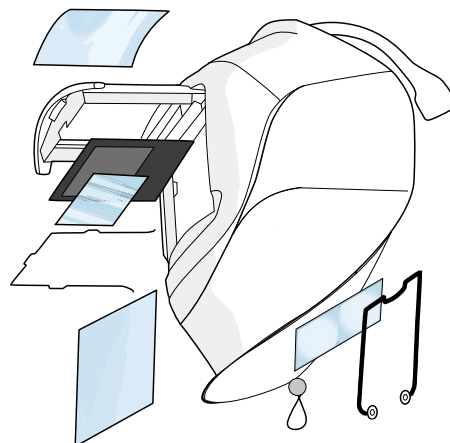
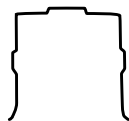
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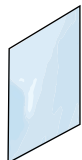
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3149850



SP9873254



9873260

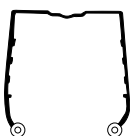
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9873262

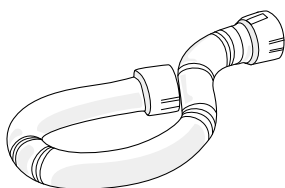
9873263



SP011159



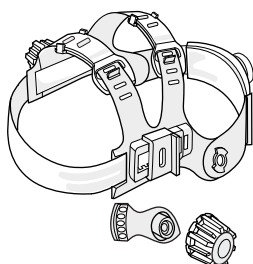
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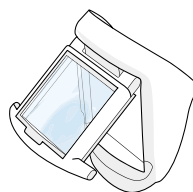
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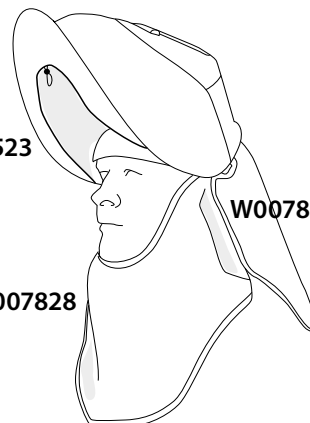
4306370



4301050



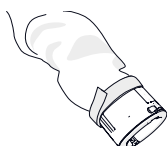
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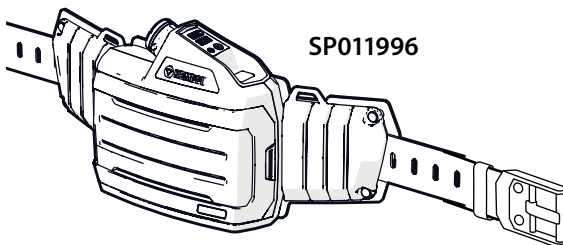
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W007828

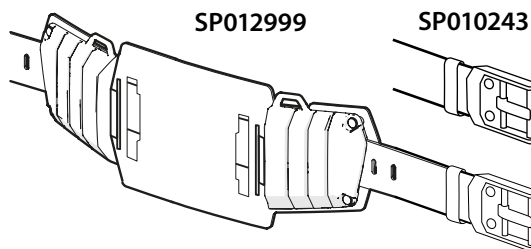
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SP011996

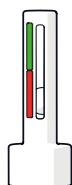


SP012999

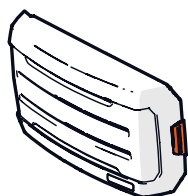


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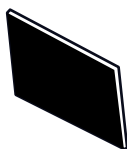
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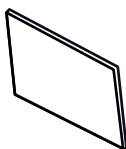
SP012095



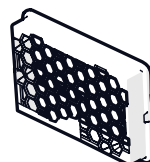
SP9320003



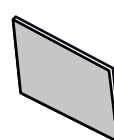
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SP9320002MP



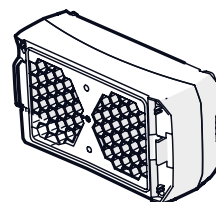
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SP010415MP



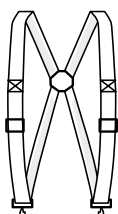
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SP009934



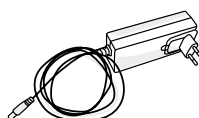
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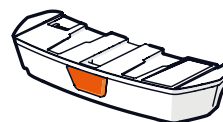
SP010090



SP012426



SP012584



SP012021



# BETA 90 SFA + RSA 230



## Beta 90 SFA + RSA 230

**9873301**

Beta 90 SFA welding helmet, auto-darkening welding filter SA 47, supplied air regulator RSA 230, air hose and air hose adapter for RSA 230, flow meter.

## Spare parts

Beta 90 SFA welding helmet	SP9873070
Protection plate, 10 pcs	SP9873253
ADF welding filter SA 47 (shades 9-13, size 90 x 110)	SP9873062
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050
Supplied air regulator set RSA 230	SP011617
Supplied air regulator RSA 230	SP012857
Air hose adapter for RSA 230	SP011227
Air hose	SP012253
Silencer for RSA 230, 2 pcs	SP011735
Hose protection cover	SP010788
Flow meter	SP012492

## Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

## Accessories

Face seal	W007523
Protective head cover	W007827
Protective neck cover	W007828
Leather belt	SP010243
Support belt	SP012999
Shoulder harness	SP011894
Kemppi Tool bag	SP010090
Pressure hose, 10 m	SP013848
Pressure hose, 20 m	SP013849
Pressure hose, 30 m	SP013850

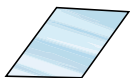
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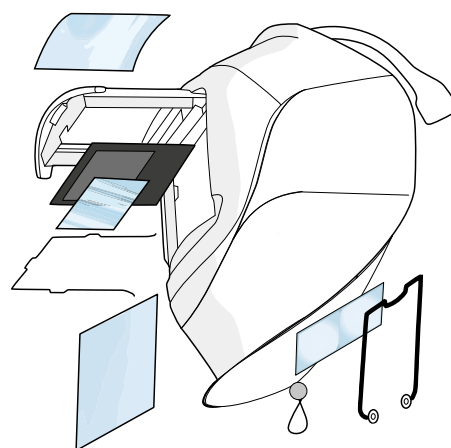
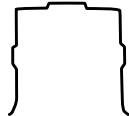
SP9873062



SP012952



3149850



SP9873254



9873260

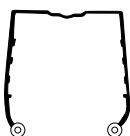
9873261

9873262

9873263

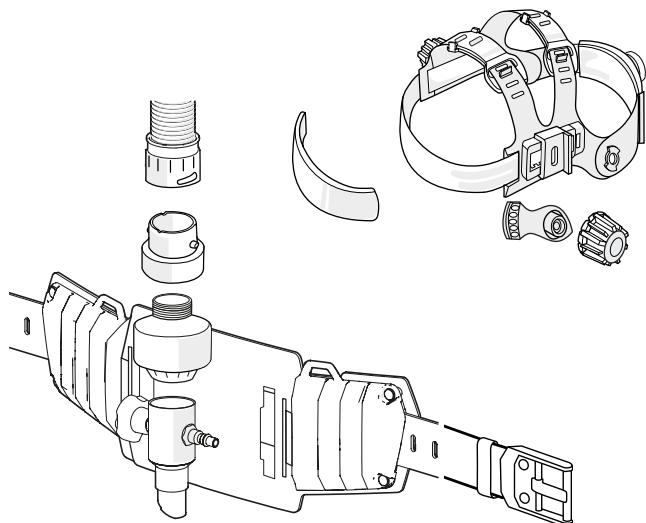


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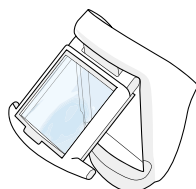


SP9873018

4306370

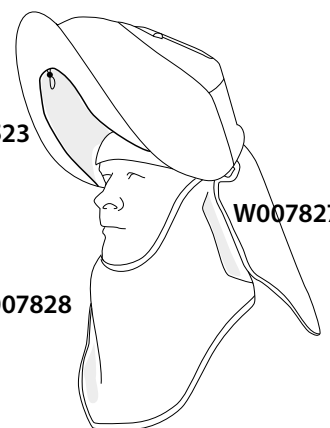


4301050



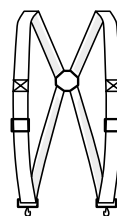
W007523

W007828



W007827

SP011894

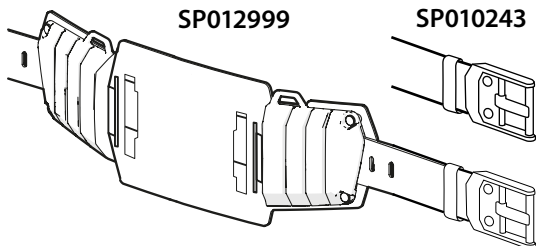


SP010090

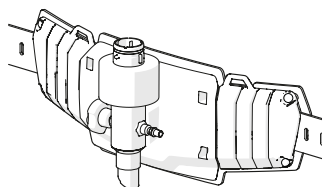


SP012999

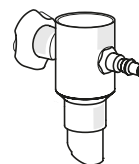
SP010243



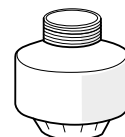
SP011617



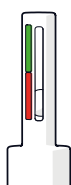
SP012857



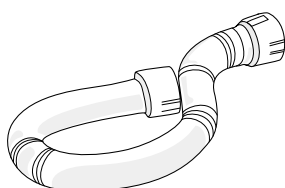
SP011735



SP012492



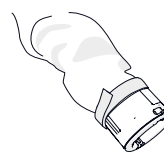
SP012253



SP011227



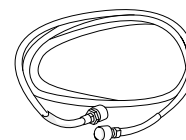
SP010788



SP013848

SP013849

SP013850



# BETA 90 XFA + RSA 230



## Beta 90 XFA + RSA 230

**9873303**

Beta 90 XFA welding helmet, auto-darkening welding filter XA 47, supplied air regulator RSA 230, air hose and air hose adapter for RSA 230, flow meter.

## Spare parts

Beta 90 XFA welding helmet	SP9873071
Protection plate, 10 pcs	SP9873253
ADF welding filter XA 47 (shades 9-15, size 90 x 110)	SP9873063
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Safety plate (90 x 110 x 1.5), 10 pcs	SP9873254
Filter retaining spring	3149850
Magnifying lens holder	SP011159
Headband	4306370
Sweatband, 2 pcs	SP9873018
Hatch set	4301050
Supplied air regulator set RSA 230	SP011617
Supplied air regulator RSA 230	SP012857
Air hose adapter for RSA 230	SP011227
Air hose	SP012253
Silencer for RSA 230, 2 pcs	SP011735
Hose protection cover	SP010788
Flow meter	SP012492

## Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

## Accessories

Face seal	W007523
Protective head cover	W007827
Protective neck cover	W007828
Leather belt	SP010243
Support belt	SP012999
Shoulder harness	SP011894
Kemppi Tool bag	SP010090
Pressure hose, 10 m	SP013848
Pressure hose, 20 m	SP013849
Pressure hose, 30 m	SP013850

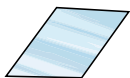
SP9873253



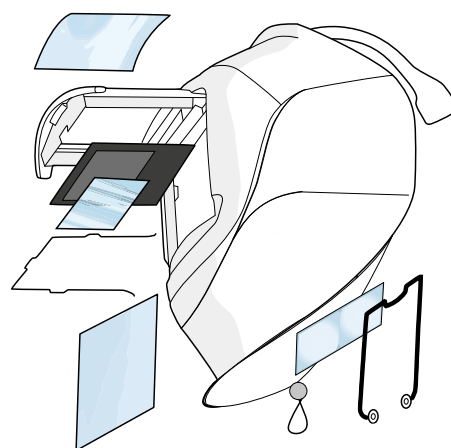
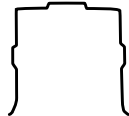
SP9873063



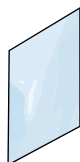
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3149850



SP9873254



9873260

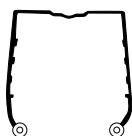
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9873262

9873263



SP011159



SP9873018

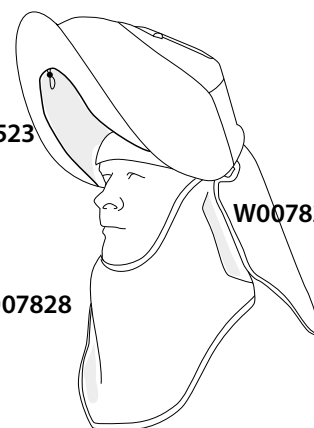
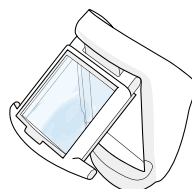
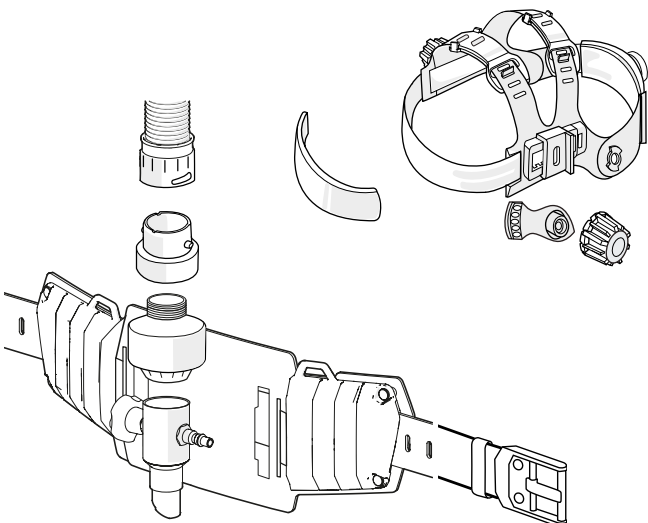
4306370

4301050

W007523

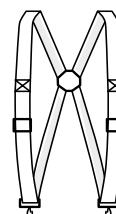
W007827

W007828



SP011894

SP010090



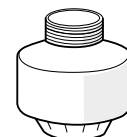
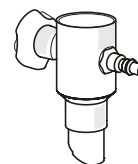
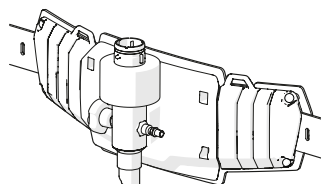
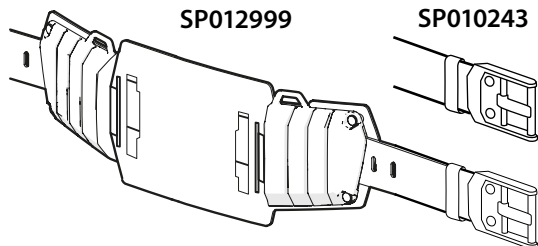
SP012999

SP010243

SP011617

SP012857

SP011735



SP012492

SP012253

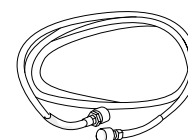
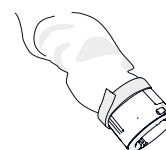
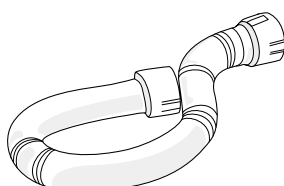
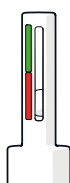
SP011227

SP010788

SP013848

SP013849

SP013850



# DELTA 90 SFA

## + FA Flow Control



### Delta 90 SFA + FA Flow Control 9873310

Delta 90 SFA welding helmet, auto-darkening welding filter SA 47, FA Flow Control unit, air hose, Li-ion battery and charger, flow meter, comfort belt.

### Spare parts

Delta 90 SFA welding helmet	9873066
Protection plate, 10 pcs	W007520
ADF welding filter SA 47 (shades 9-13, size 90 x 110)	SP9873062
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Welding visor	W007522
Fixing screws, 2 pcs	W007518
Headband	W007519
FA Flow Control unit with Li-ion battery	W013560
Filter cover for FA Flow Control	W013565
Basic filter, 2 pcs	W007490
Sealing ring for FA Flow Control	W007491
Pre-filter for FA Flow Control, 10 pcs	W007492
Odor filter for FA Flow Control, 10 pcs	W007494
Air hose	W007487
Hose protection cover	W007788
Li-ion battery, 4.4 Ah	W007507
Li-ion battery charger	W013564
Flow meter	W007488

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	W007516
Protective head cover	W007827
Protective neck cover	W007828
Ear muffs, no 12	W007517
Comfort belt	W007489
Heavy duty comfort belt	W007789
Kemppi Tool bag	SP010090

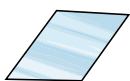
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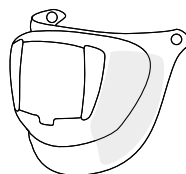
SP9873062



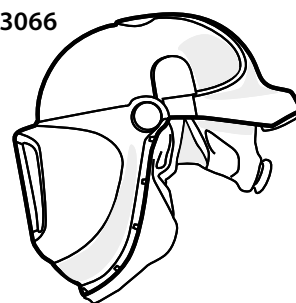
SP012952



W007522



9873066

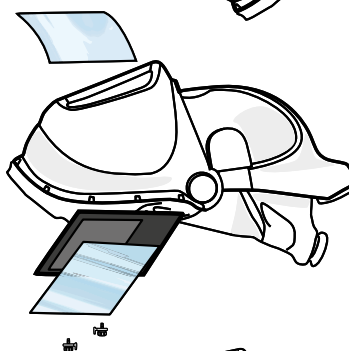
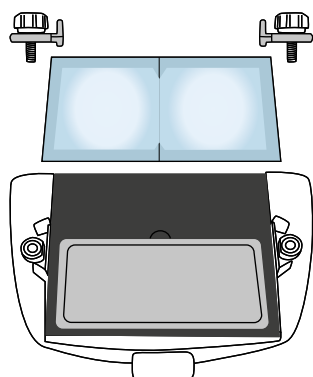


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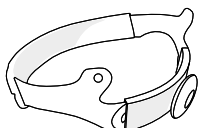
9873261

9873262

9873263



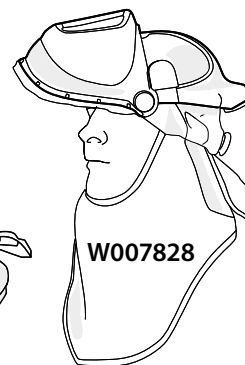
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W007518



W007516

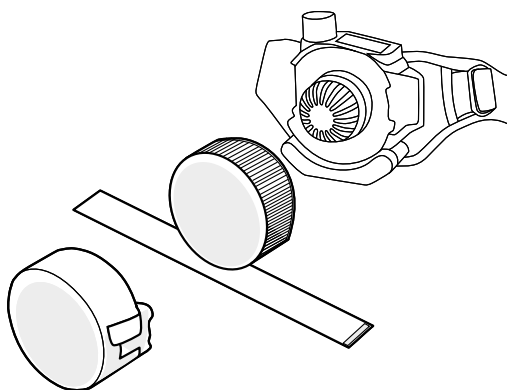


W007517

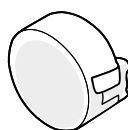


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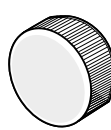
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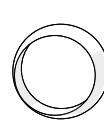
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W007490



W007491

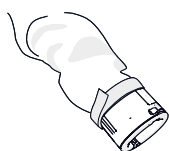


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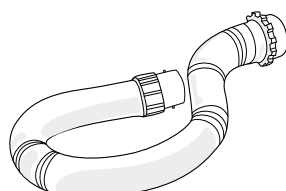
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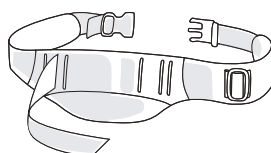
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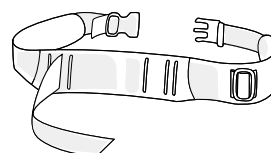
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W007789



W007489



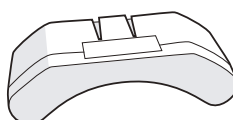
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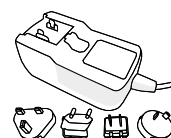
W007488



W007507



W013564



# DELTA 90 SFA

## + FA Pressure Flow Control



### Delta 90 SFA + FA Pressure Flow Control 9873311

Delta 90 SFA welding helmet, auto-darkening welding filter SA 47, FA Pressure Flow Control unit, flow meter, belt for FA Pressure Flow Control.

#### Spare parts

Delta 90 SFA welding helmet	9873066
Protection plate, 10 pcs	W007520
ADF welding filter SA 47 (shades 9-13, size 90 x 110)	SP9873062
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Welding visor	W007522
Fixing screws, 2 pcs	W007518
Headband	W007519
FA Pressure Flow Control unit with pressure hose	W007515
Air hose	W007501
Hose protection cover	W007788
FA Pressure Flow Control unit	W007496
Silencer for FA Pressure Flow Control	W007498
Valve cap for FA Pressure Flow Control	W007499
Fitting for FA Pressure Flow Control	W007500
FA Pressure Conditioner unit	W007504
Filter for FA Pressure Conditioner	W007505
Flow meter	W007503

#### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

#### Accessories

Face seal	W007516
Protective head cover	W007827
Protective neck cover	W007828
Ear muffs, no 12	W007517
Belt for FA Pressure Flow Control	W007502
Spiral hose, 10 m	W007506
Kemppi Tool bag	SP010090

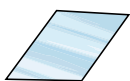
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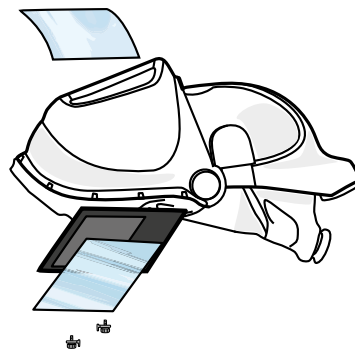
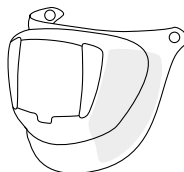
SP9873062



SP012952



W007522

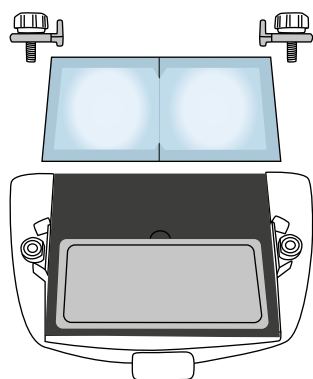


9873260

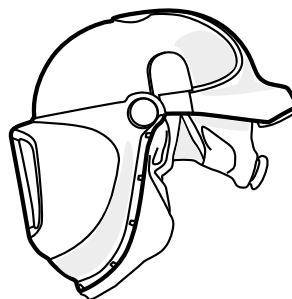
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9873262

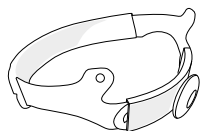
9873263



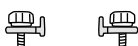
9873066



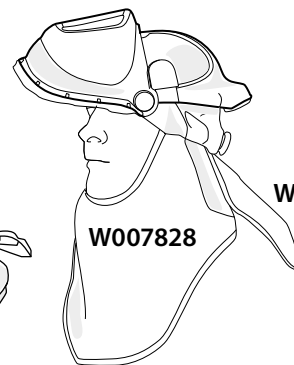
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W007518



W007516



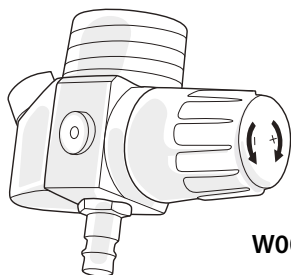
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W007827

W007828

W007496



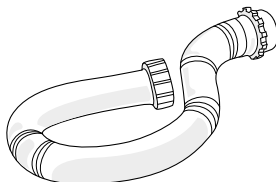
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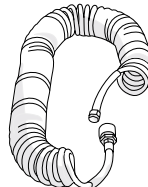
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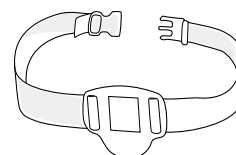
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W007506



W007502



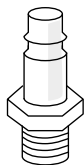
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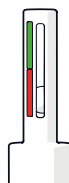
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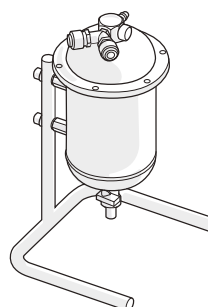
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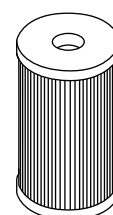
W007503



W007504



W007505



ORDERING CODES

# DELTA+ 90 XFA + FA Flow Control



## Delta+ 90 XFA + FA Flow Control 9873320

Delta+ 90 XFA welding helmet, auto-darkening welding filter XA 47, air hose, FA Flow Control unit, Li-ion battery and charger, flow meter, comfort belt.

### Spare parts

Delta+ 90 XFA welding helmet	9873069
Protection plate, 10 pcs	W007520
ADF welding filter XA 47 (shades 9-15, size 90 x 110)	SP9873063
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Welding visor	W009234
Grinding visor	W009233
Fixing screws, 2 pcs	W007518
Headband	W007519
FA Flow Control unit with Li-ion battery	W013560
Filter cover for FA Flow Control	W013565
Basic filter, 2 pcs	W007490
Sealing ring for FA Flow Control	W007491
Pre-filter for FA Flow Control, 10 pcs	W007492
Odor filter for FA Flow Control, 10 pcs	W007494
Air hose	W007487
Hose protection cover	W007788
Li-ion battery, 4.4 Ah	W007507
Li-ion battery charger	W013564
Flow meter	W007488

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	W007516
Protective head cover	W007827
Protective neck cover	W007828
Ear muffs, no 12	W007517
Comfort belt	W007489
Heavy duty comfort belt	W007789
Kemppi Tool bag	SP010090

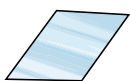
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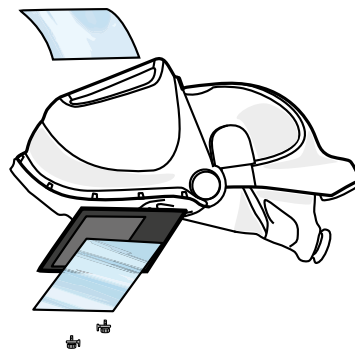
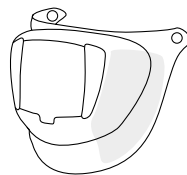
SP9873063



SP012952



W009234

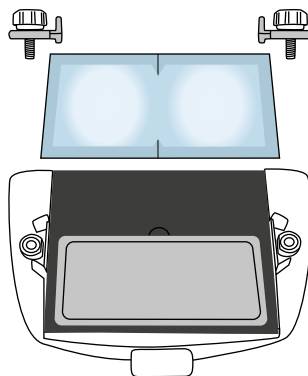


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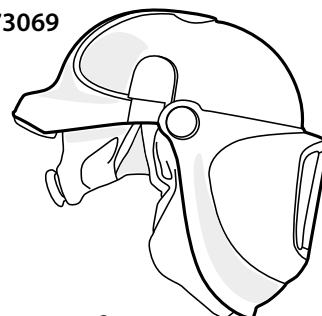
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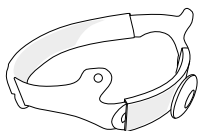
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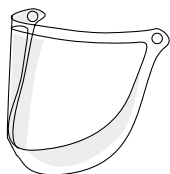
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W007519



W009233



W007518

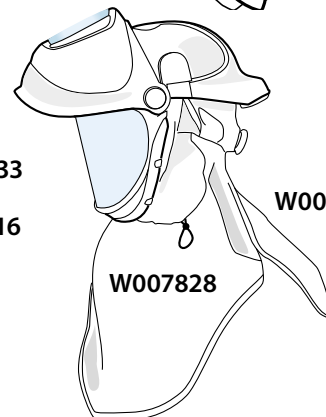


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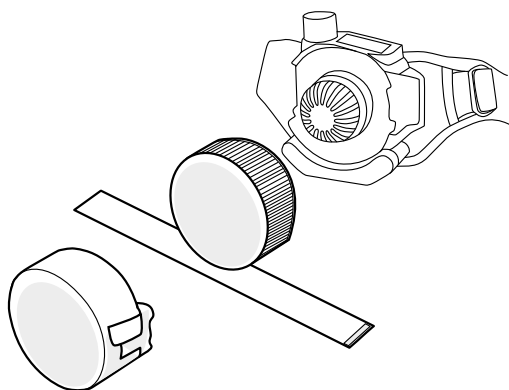
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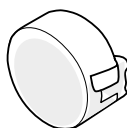


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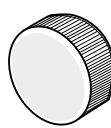
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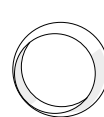
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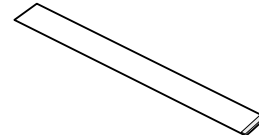
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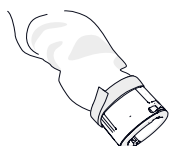
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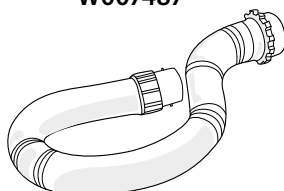
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W007494



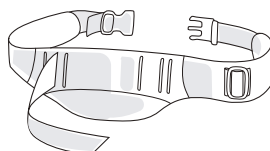
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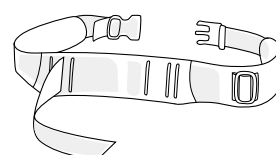
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W007789



W007489



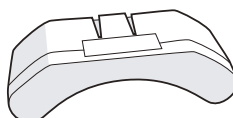
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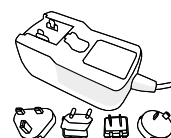
W007488



W007507



W013564



ORDERING CODES

# DELTA+ 90 XFA

## + FA Pressure Flow Control



### Delta+ 90 XFA + FA Pressure Flow Control 9873321

Delta+ 90 XFA welding helmet, auto-darkening welding filter XA 47, FA Pressure Flow Control unit, flow meter, belt for FA Pressure Flow Control, grinding visor.

#### Spare parts

Delta+ 90 XFA welding helmet	9873069
Protection plate, 10 pcs	W007520
ADF welding filter XA 47 (shades 9-15, size 90 x 110)	SP9873063
Inner protection plate for SA 47 / XA 47 (104 x 54), 5 pcs	SP012952
Welding visor	W009234
Grinding visor	W009233
Fixing screws, 2 pcs	W007518
Headband	W007519
FA Pressure Flow Control unit with pressure hose	W007515
Air hose	W007501
Hose protection cover	W007788
FA Pressure Flow Control unit	W007496
Silencer for FA Pressure Flow Control	W007498
Valve cap for FA Pressure Flow Control	W007499
Fitting for FA Pressure Flow Control	W007500
FA Pressure Conditioner unit	W007504
Filter for FA Pressure Conditioner	W007505
Flow meter	W007503

#### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

#### Accessories

Face seal	W007516
Protective head cover	W007827
Protective neck cover	W007828
Ear muffs, no 12	W007517
Belt for FA Pressure Flow Control unit	W007502
Spiral hose, 10 m	W007506
Kemppi Tool bag	SP010090

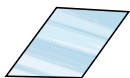
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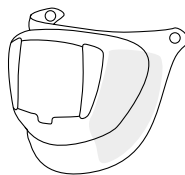
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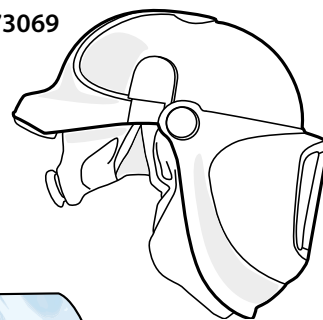
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W009234



9873069

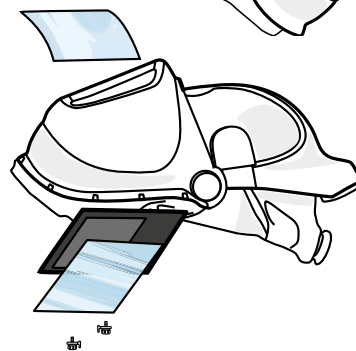
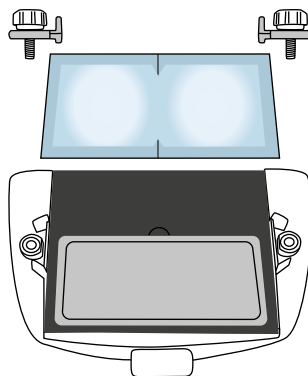


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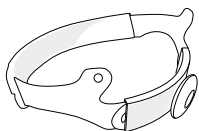
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9873262

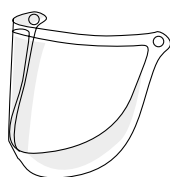
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W007519



W009233



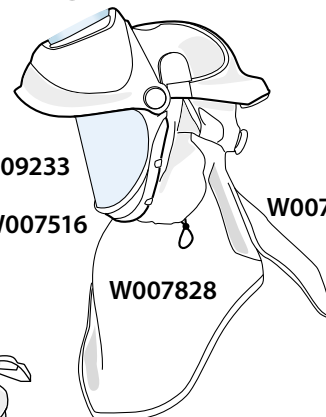
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W009233

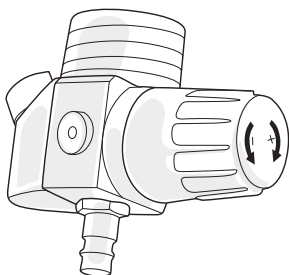
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W007827



W007828

W007496



W007788



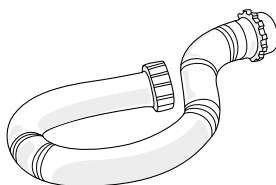
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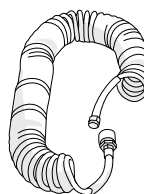
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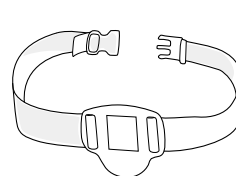
W007501



W007506



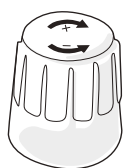
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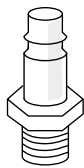
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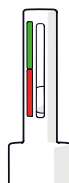
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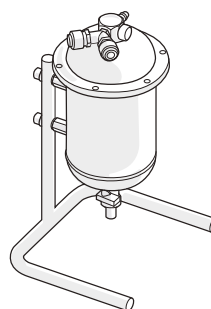
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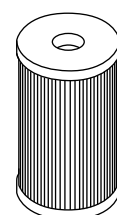
W007503



W007504



W007505



ORDERING CODES

# GAMMA 100P



## Gamma 100P

9873080

Gamma 100P welding helmet with shade 11 passive welding filter.

### Spare parts and accessories

Protection plate, 5 pcs	SP008034
Passive welding filter (shade 11, size 86 x 109)	W011257
Welding visor frame	SP007996
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Welding filter frame	SP009755

Visor knob and adjuster set

SP008152

Work light solid cover plate, 3 pcs

SP011026

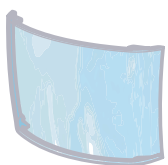
### Welding filters

Shade 8	W011254
Shade 9	W011255
Shade 10	W011256
Shade 11	W011257
Shade 12	W011258
Shade 13	W011259

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

SP008034



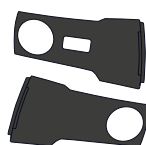
W011257



SP008040



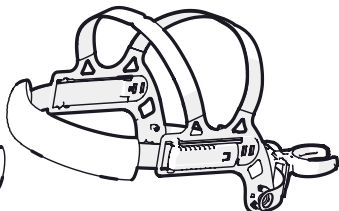
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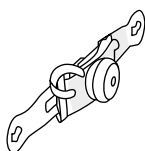
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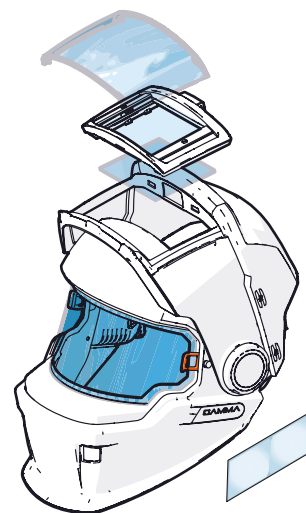
SP009023



SP010728



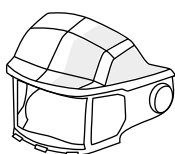
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9873261  
9873262  
9873263



SP013231



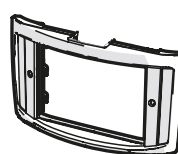
SP007996



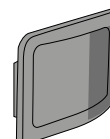
SP008152



SP009755



SP011026



# GAMMA 100A



## Gamma 100A 9873090

Gamma 100A welding helmet with auto-darkening welding filter SA 60.

### Spare parts and accessories

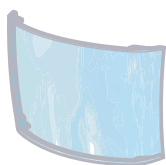
Protection plate, 5 pcs	SP008034
ADF welding filter SA 60 (shades 5, 8, 9-13)	SP012422
Inner protection plate (106.5 x 65.5), 5 pcs	SP012425
Welding visor frame	SP007996
Grinding visor, 5 pcs	SP008040
Remote control	SP012097
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728

Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Visor knob and adjuster set	SP008152
Work light solid cover plate, 3 pcs	SP011026

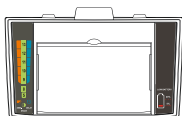
### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

SP008034



SP012422



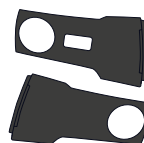
SP012425



SP008040



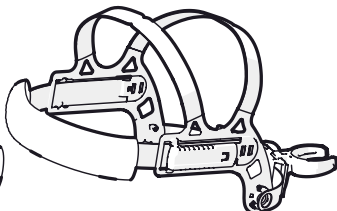
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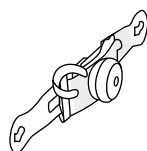
SP9873018



SP009023



SP010728

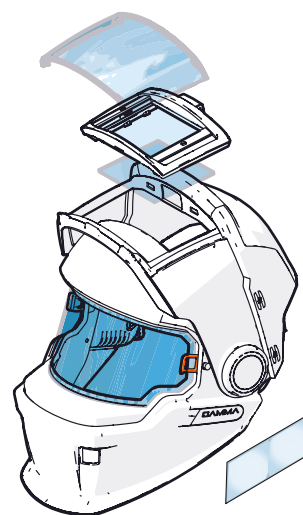


9873260

9873261

9873262

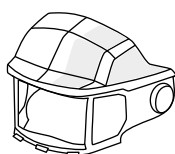
9873263



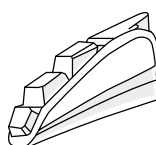
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SP007996



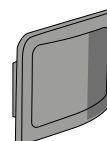
SP012097



SP008152



SP011026



# GAMMA GTH3 PFA + PFU 210e



## Gamma GTH3 PFA + PFU 210e 9873100

Gamma GTH3 PFA welding helmet, shade 11 passive welding filter, powered air respirator PFU 210e, air hose, pre-filter, particle filter, battery 3.2 Ah, battery charger, flow meter, Gamma leather belt.

### Spare parts

Gamma GTH3 PFA welding helmet	SP012252
Protection plate, 5 pcs	SP008034
Passive welding filter (shade 11, size 86 x 109)	W011257
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Welding filter frame	SP009755
Powered air respirator PFU 210e	SP011996
Filter cover for PFU 210e	SP012095
Spark shield Kemppi, 1 pc	SP9320003
Pre-filter, 10 pcs	SP9320002
Pre-filter, 100 pcs	SP9320002MP
Particle filter, 2 pcs	SP015757
Particle filter, 5 pcs	SP010415
Particle filter, 20 pcs	SP010415MP
Gas filter LIFE+	SP009934
Odor filter, 5 pcs	SP012223
Air hose	SP012253
Hose protection cover	SP010788
Battery (SD), 3.2 Ah	SP012584
Battery (HD), 6.4 Ah	SP012021
Battery charger	SP012426
Flow meter	SP012492

### Welding filters

Shade 8	W011254
Shade 9	W011255
Shade 10	W011256
Shade 11	W011257
Shade 12	W011258
Shade 13	W011259

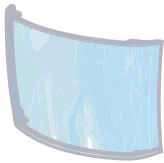
### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	SP009794
PFU 210e body	SP012217
Welding visor frame assembly	SP007996
Visor knob and adjuster set	SP008152
Air duct (PFA, SFA)	SP012157
Air duct nozzle	SP010639
Work light solid cover plate, 3 pcs	SP011026
Belt assembly	SP012999
Gamma leather belt	SP010243
Shoulder harness	SP011894
Kemppi tool bag	SP010090

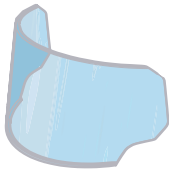
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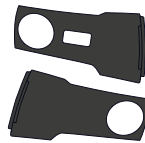
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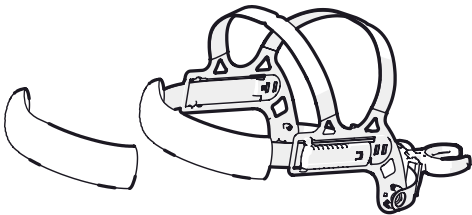
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SP012053

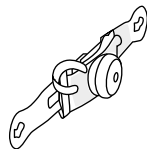


SP9873018



SP009023

SP010728



SP009794



9873260

9873261

9873262

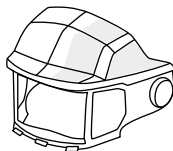
9873263



SP013231



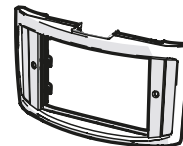
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SP009755



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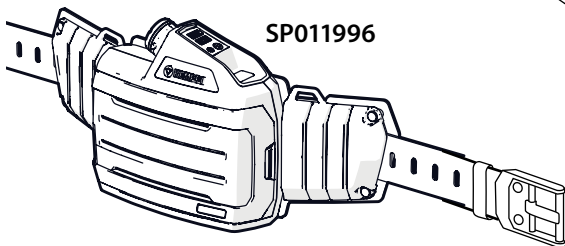
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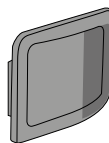
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W011259

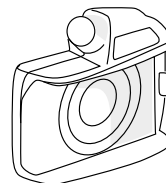
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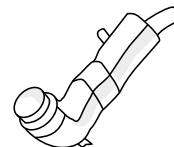
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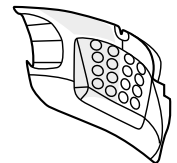
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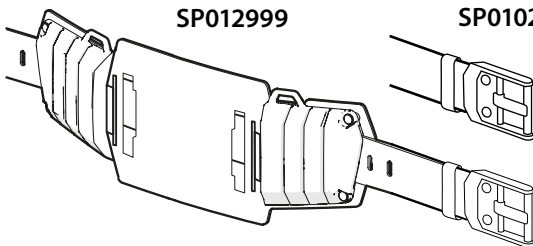
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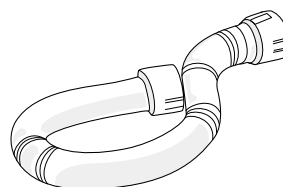
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SP012999



SP010243

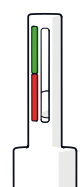


SP012253

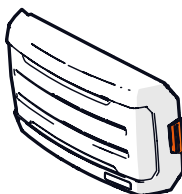
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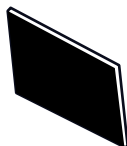
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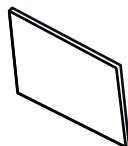
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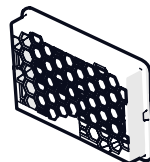
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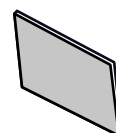
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SP9320002MP



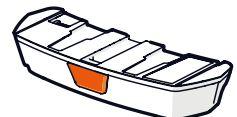
SP010415  
SP010415MP



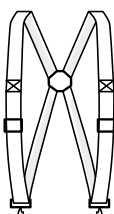
SP012223



SP012584



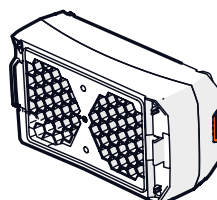
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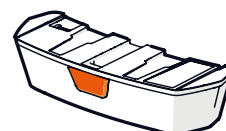
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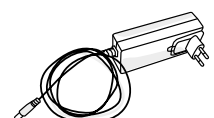
SP009934



SP012021



SP012426



ORDERING CODES

# GAMMA GTH3 SFA + PFU 210e



## Gamma GTH3 SFA + PFU 210e 9873120

Gamma GTH3 SFA welding helmet, auto-darkening welding filter SA 60, powered air respirator PFU 210e, air hose, pre-filter, particle filter, battery 3.2 Ah, battery charger, flow meter, Gamma leather belt.

### Spare parts

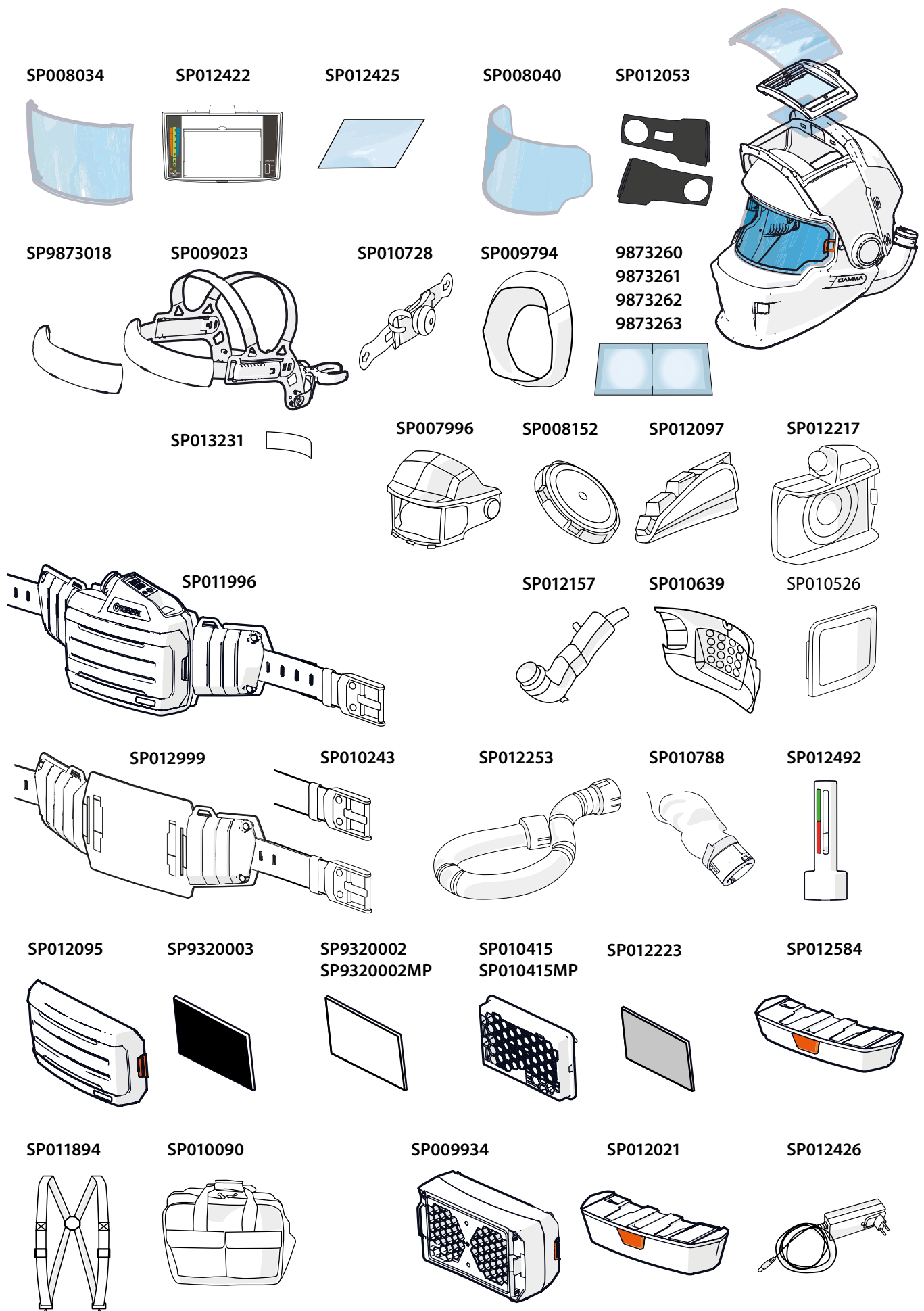
Gamma GTH3 SFA welding helmet	SP013232
Protection plate, 5 pcs	SP008034
ADF welding filter SA 60 (shades 5, 8, 9-13)	SP012422
Inner protection plate (106.5 x 65.5), 5 pcs	SP012425
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Powered air respirator PFU 210e	SP011996
Filter cover for PFU 210e	SP012095
Spark shield Kemppi, 1 pc	SP9320003
Pre-filter, 10 pcs	SP9320002
Pre-filter, 100 pcs	SP9320002MP
Particle filter, 2 pcs	SP015757
Particle filter, 5 pcs	SP010415
Particle filter, 20 pcs	SP010415MP
Gas filter LIFE+	SP009934
Odor filter, 5 pcs	SP012223
Air hose	SP012253
Hose protection cover	SP010788
Battery (SD), 3.2 Ah	SP012584
Battery (HD), 6.4 Ah	SP012021
Battery charger	SP012426
Flow meter	SP012492

### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	SP009794
Remote control for SA 60, XA 74	SP012097
PFU 210e body	SP012217
Welding visor frame assembly	SP007996
Visor knob and adjuster set	SP008152
Air duct for PFA, SFA	SP012157
Air duct nozzle	SP010639
Work light solid cover plate, 3 pcs	SP011026
Belt assembly	SP012999
Gamma leather belt	SP010243
Shoulder harness	SP011894
Kemppi tool bag	SP010090



# GAMMA GTH3 XFA + PFU 210e



## Gamma GTH3 XFA + PFU 210e 9873130

Gamma GTH3 XFA welding helmet, auto-darkening welding filter XA 74, powered air respirator PFU 210e, air hose, pre-filter, particle filter, battery 6.4 Ah, battery charger, flow meter, Gamma leather belt.

### Spare parts

Gamma GTH3 XFA welding helmet	SP013238
Protection plate, 5 pcs	SP008034
ADF welding filter XA 74 (shades 5,8,9-15, size 96x157)	SP012421
Inner protection plate (106.5 x 75), 5 pcs	SP012424
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Powered air respirator PFU 210e	SP011996
Filter cover for PFU 210e	SP012095
Spark shield Kemppi, 1 pc	SP9320003
Pre-filter, 10 pcs	SP9320002
Pre-filter, 100 pcs	SP9320002MP
Particle filter, 2 pcs	SP015757
Particle filter, 5 pcs	SP010415
Particle filter, 20 pcs	SP010415MP
Gas filter LIFE+	SP009934
Odor filter, 5 pcs	SP012223
Air hose	SP012148
Hose protection cover	SP010788
Battery (HD), 6.4 Ah	SP012021
Battery charger	SP012426
Flow meter	SP012492

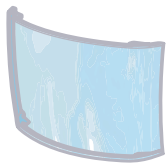
### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

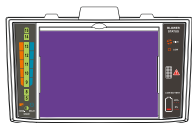
### Accessories

Face seal	SP009794
Remote control for SA 60, XA 74	SP012097
PFU 210e body	SP012217
Welding visor frame assembly	SP007996
Visor knob and adjuster set	SP008152
Air duct XFA	SP009349
Air duct nozzle	SP010639
Work light lens cover plate, 3 pcs	SP010526
Belt assembly	SP012999
Gamma leather belt	SP010243
Shoulder harness	SP011894
Kemppi tool bag	SP010090

SP008034



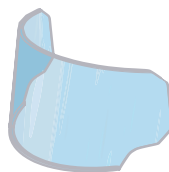
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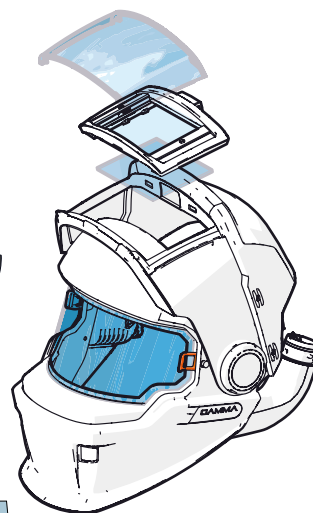
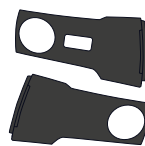
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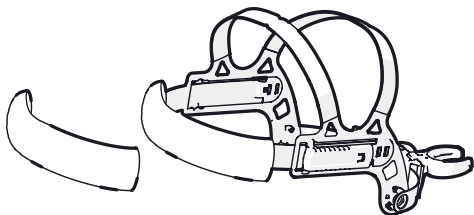
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SP012053

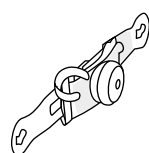


SP9873018

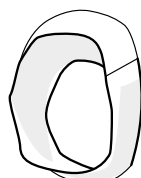


SP009023

SP010728



SP009794



9873260

9873261

9873262

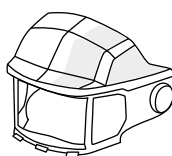
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SP013231



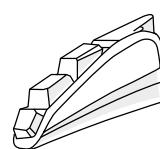
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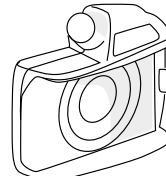
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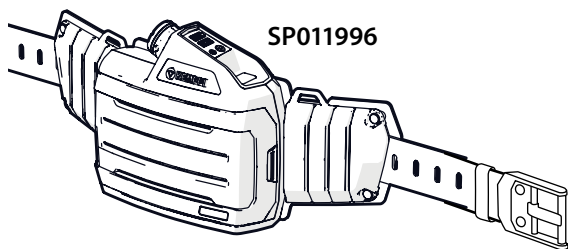
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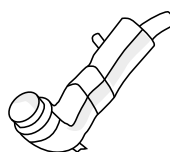
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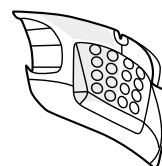
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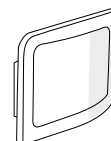
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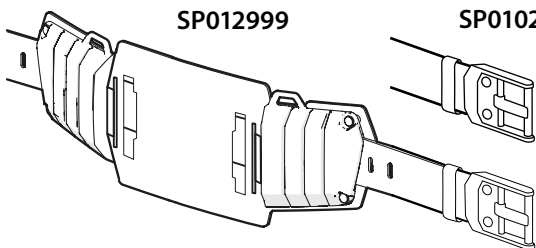
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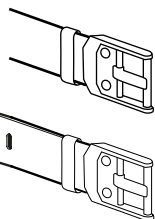
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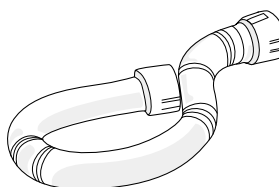
SP012999



SP010243



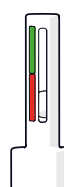
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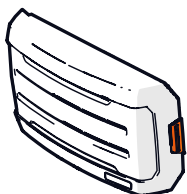
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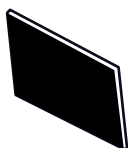
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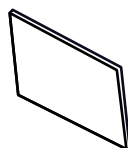
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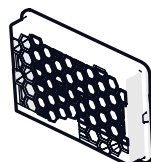
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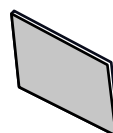
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SP9320002MP



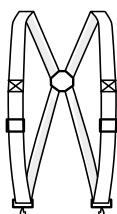
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SP010415MP



SP012223



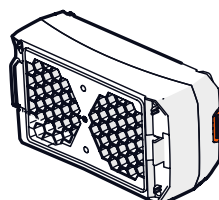
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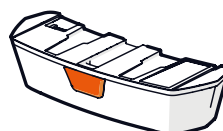
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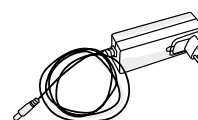
SP009934



SP012021



SP012426



ORDERING CODES

# GAMMA GTH3 PFA + RSA 230



## Gamma GTH3 PFA + RSA 230

9873140

Gamma GTH3 PFA welding helmet, shade 11 passive welding filter, supplied air regulator RSA 230, air hose for RSA 230, flow meter, Gamma leather belt.

### Spare parts

Gamma GTH3 PFA welding helmet	SP012252
Protection plate, 5 pcs	SP008034
Passive welding filter (shade 11, size 86 x 109)	W011257
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Welding visor frame assembly	SP007996
Visor knob and adjuster set	SP008152
Supplied air regulator set RSA 230	SP011617
Supplied air regulator RSA 230	SP012857
Air duct for PFA, SFA	SP012157
Air duct nozzle	SP010639
Work light solid cover plate, 3 pcs	SP011026
Welding filter frame	SP009755
Air hose adapter for RSA 230	SP011227
Air hose	SP012253
Hose protection cover	SP010788
Silencer for RSA 230, 2 pcs	SP011735
Flow meter	SP012492

### Welding filters

Shade 8	W011254
Shade 9	W011255
Shade 10	W011256
Shade 11	W011257
Shade 12	W011258
Shade 13	W011259

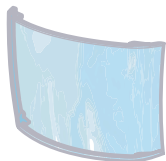
### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

### Accessories

Face seal	SP009794
Belt assembly	SP012999
Gamma leather belt	SP010243
Shoulder harness	SP011894
Kemppi tool bag	SP010090
Pressure hose, 10 m	SP013848
Pressure hose, 20 m	SP013849
Pressure hose, 30 m	SP013850

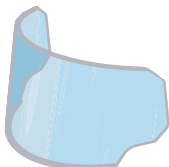
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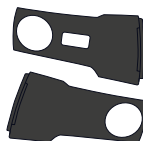
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SP008040



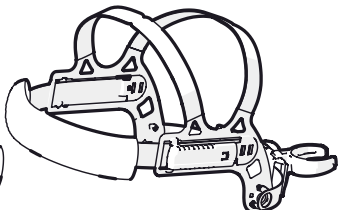
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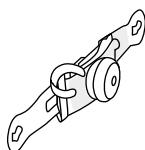
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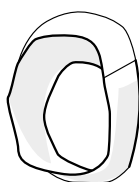
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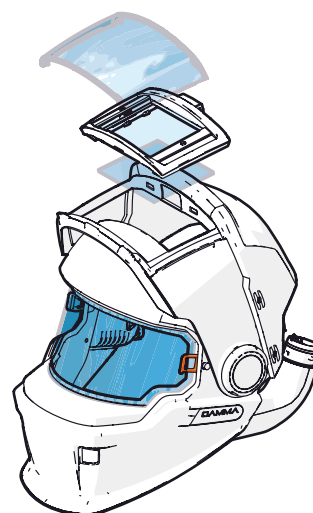
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SP009794



9873260  
9873261  
9873262  
9873263

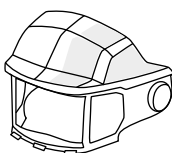


SP013231



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W011256  
W011257  
W011258  
W011259

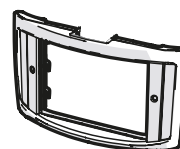
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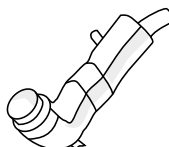
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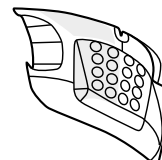
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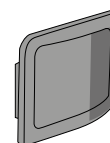
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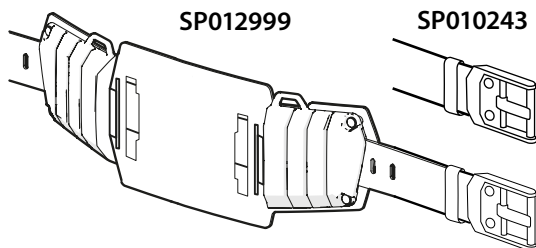
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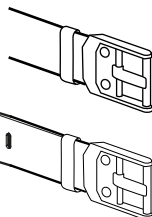
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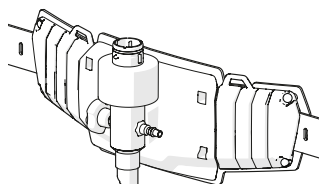
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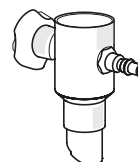
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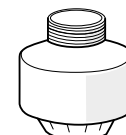
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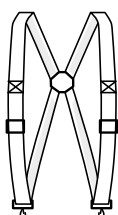
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SP011735



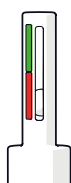
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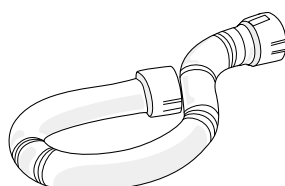
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SP012492



SP012253



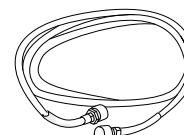
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W007788



SP013848  
SP013849  
SP013850



# GAMMA GTH3 SFA + RSA 230



## Gamma GTH3 SFA RSA 230 9873150

Gamma GTH3 SFA welding helmet, auto-darkening welding filter SA 60, supplied air regulator RSA 230, air hose for RSA 230, flow meter, Gamma leather belt.

### Spare parts

Gamma GTH3 SFA welding helmet	SP013232
Protection plate, 5 pcs	SP008034
ADF welding filter SA 60 (shades 5, 8, 9-13)	SP012422
Inner protection plate (106.5 x 65.5), 5 pcs	SP012425
Grinding visor, 5 pcs	SP008040
Side cover plate	SP012053
Headband	SP009023
Neck band	SP010728
Remote control for SA 60, XA 74	SP012097
Sweatband, 2 pcs	SP9873018
Comfort band padding, 5 pcs	SP013231
Welding visor frame assembly	SP007996
Visor knob and adjuster set	SP008152
Supplied air regulator set RSA 230	SP011617
Air duct for PFA, SFA	SP012157
Air duct nozzle	SP010639
Work light solid cover plate, 3 pcs	SP011026
Air hose adapter for RSA 230	SP011227
Air hose	SP012253
Silencer for RSA 230, 2 pcs	SP011735
Hose protection cover	SP010788
Flow meter	SP012492

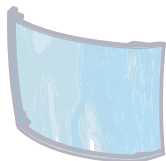
### Magnifying lenses

Diopter 1.0 (51 x 108 mm)	9873260
Diopter 1.5 (51 x 108 mm)	9873261
Diopter 2.0 (51 x 108 mm)	9873262
Diopter 2.5 (51 x 108 mm)	9873263

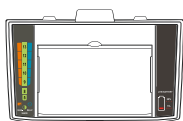
### Accessories

Face seal	SP009794
Belt assembly	SP012999
Gamma leather belt	SP010243
Shoulder harness	SP011894
Kemppi tool bag	SP010090
Pressure hose, 10 m	SP013848
Pressure hose, 20 m	SP013849
Pressure hose, 30 m	SP013850

SP008034



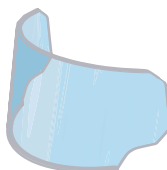
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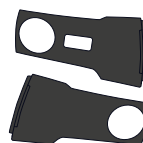
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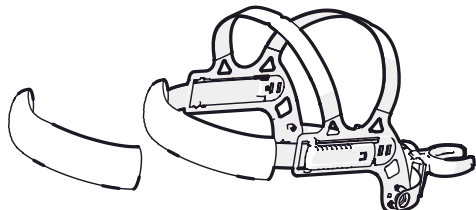
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SP012053

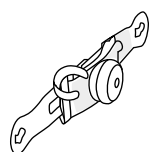


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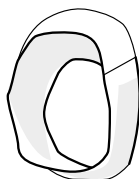


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SP010728



SP009794



9873260

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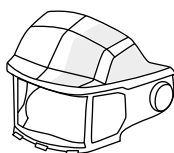
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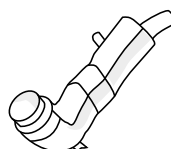
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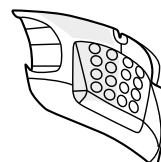
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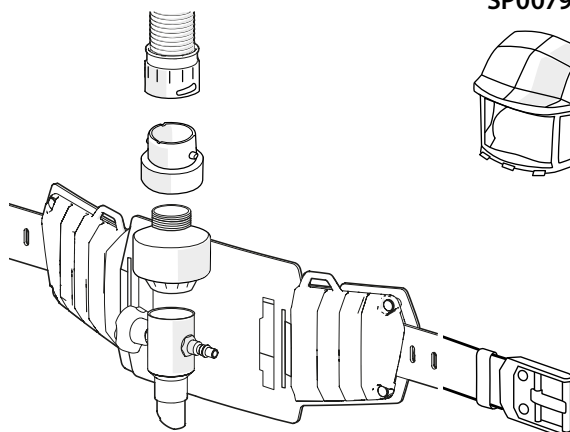
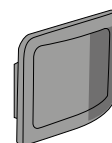
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SP010639

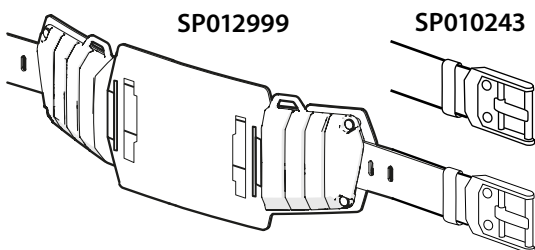


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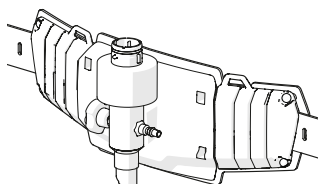


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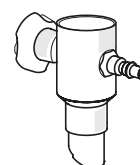
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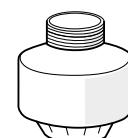
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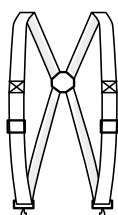
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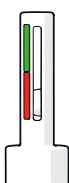
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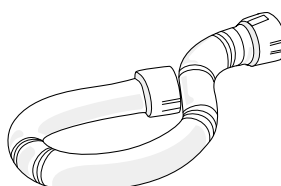
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SP012492



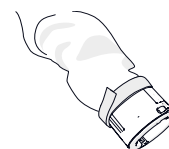
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SP011227



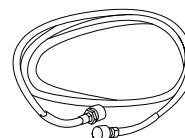
W007788



SP013848

SP013849

SP013850



# SAFETY PRODUCTS WARRANTY

Kemppi warrants that its safety products will be free from defects in materials and workmanship. Auto-darkening filters (ADF), Powered Air Purifying Respirators (PAPR) and supplied air regulation valves are covered by 24 months warranty from the date of sale when supported by the original sales invoice. PAPR batteries and chargers are covered for a period of 6 months from the date of sale. Kemppi will replace or repair faulty items presented for claim, providing that the product has been used in accordance with the operating instructions. The warranty is invalid if an item(s) has been modified, damaged, opened or manufacturers markings, dates and or numbers tampered with or removed.

Warranty terms and conditions may be subject to change.

For full Kemppi warranty terms and conditions, please visit [www.kemppi.com](http://www.kemppi.com)



[WWW.KEMPPI.COM](http://WWW.KEMPPI.COM)

**Kemppi** is the pioneering company within the welding industry. It is our role to develop solutions that make you win business. Headquartered in Lahti, Finland, Kemppi employs over 600 welding experts in 13 countries. Our offering includes welding and safety solutions, welding management software and expert services for industrial applications and needs. Local expertise is available via our global partner network covering over 60 countries.

