



RESPIREX™



RJS RESPIRATORY AND CHEMICAL PROTECTIVE SUITS



USER INSTRUCTIONS



Type 3, EN14605:2005+A1:2009
Type 4, EN14605:2005+A1:2009
Type 5, EN13982-1:2004+A1:2010
Type 6, EN13034:2005+A1:2009



Type 3-B, EN 14126:2003
Type 4-B, EN 14126:2003
Type 5-B, EN 14126:2003
Type 6-B, EN 14126:2003

Contents

Approvals.....	1
Warnings and Limitations Δ	1
Indicator Lights and Warnings.....	2
Equipment Marking	5
Operating Conditions	5
Preparation for Use	5
Donning	6
Doffing	11
Filter and Cartridges	12
Cleaning Instructions	12
Disposal	12
Maintenance	12
Storage and Transportation	12
Key to Product Labelling	13
Sizing.....	14
Technical Specification.....	15
Whole Suit Performance	15
Chemical Permeation Testing At Respirex.....	16
Material Performance Data	16
Spares & Accessories	18

Approvals

These products meet the requirements of the European PPE Regulation (EU) 2016/425 and are thus CE marked. Certification under Module B, EU Type-Examination and Module D, EC Quality Control, has been issued by BSI Group The Netherlands B.V. Say Building, John M. Keynesplein 9, 1066 EP, Amsterdam, Netherlands (Notified Body number 2797).

The Respirix™ RJS suit meets the requirements of the European Standards EN ISO 13982-1: 2004+ A1: 2010 (Protective Clothing Against Airborne Solid Particulates, Type 5), EN 14605: 2005+ A1: 2009 and EN 13034: 2005+A1:2009 (Protective Clothing Against Liquid Chemicals, Type 3, Type 4 and Type 6), and EN 14126:2003 (Protective Clothing Against Infective Agents).

The Malina Safety CleanAIR® Chemical 2F Plus, when used in conjunction with the Respirix™ RJS suit, meets the requirements of European Standard EN 12941: 1998+A2: 2008 TH3 (Respiratory Protective Devices - Powered Filtering Devices).

The Malina Safety CleanAIR® Chemical 2F Plus, complies with European EMC directive 2014/30/EU. See <https://www.clean-air.cz/doc/>

Respirex™ RJS protective suits should be used to protect the wearer against solid airborne particulates and liquid splashes and sprays only. Respirix declarations of conformity: <https://www.respirex.com/doc>

 **Particular attention should be given to warning statements where indicated.**

Warnings and Limitations

Proper selection, training, use and appropriate maintenance are essential in order for the product to protect the wearer from certain airborne contaminants. A buddy system (two person operation) must be employed during donning, doffing and in use.

Failure to follow all instructions on the use of this product and/or failure to wear the respirator system during all times of exposure may adversely affect the wearer's health, may lead to severe illness or permanent disability or even death.

Failure to follow all instructions may also render any warranty null and void.

Use this respirator system, Malina Safety CleanAIR® Chemical 2F Plus (or PAPR) and Respirix™ RJS protective suit, strictly in accordance with all instructions:

- contained in this booklet
- accompanying other components of the system (e.g. Filter User Instructions)

Check the product is undamaged before use.

Always be sure that the complete product is:

- Suitable for the application;
- Fitted correctly;
- Worn during all periods of exposure;
- Replaced when necessary.

Never alter, modify or repair this device.

Flammable material, keep away from fire.

At very high work rates, the pressure in the headtop may become negative at peak inhalation flow.

Do not use for respiratory protection against unknown atmospheric contaminants or when concentrations of contaminants are unknown or immediately dangerous to life or health (IDLH).

Do not use in atmospheres containing less than 19.5% oxygen. (Respirex definition. Individual countries may apply their own limits on oxygen deficiency. Seek advice if in doubt).

Leave the contaminated area and remove the suit immediately if:

- a). Any part of the system becomes damaged.
- b). Airflow into the headtop decreases or stops.
- c). Breathing becomes difficult.
- d). Dizziness or other stress occurs.
- e). You smell or taste contaminants or irritation occurs.
- f). If excessive fogging or misting of the visor is noticed.
- g). If the alarm sounds (see page 2).

Use in the 'power-off' state is not normal. Little or no protection is provided and a build up of carbon dioxide and depletion of oxygen within the suit may occur.

Replace parts only with original Respirex™ or CleanAIR® spare parts.

Only to be used with batteries and filters specified in this user instruction.

Do not use in explosive atmospheres.

Indicator Lights and Warnings

• To check if the alarm works properly, close the air output with your palm and turn the unit on. You should hear and see alarm signals within 10 seconds.

• In an alarm condition the buzzer will beep with an appropriate warning symbol. This indicates either low airflow or a low battery.

⚠ If the alarm continues to sound immediately exit the contaminated area, then open the suit zip as soon as possible.



Blocked Filter
Change Filter

Blocked filter - if the unit cannot maintain the chosen airflow, the electronics will automatically decrease the airflow by one level and you will hear an acoustic signal. If the unit is unable to maintain the lowest possible airflow, you will be warned by an audiovisual alarm.



Low battery
Charge battery

Low battery charge - an alarm notifies the user when the battery has run out. It is best to leave the contaminated area and replace or recharge the battery.



Time expiration
Change filter

Filter expiration - the alarm should be preset manually before you start using new filters. Once you start using the filters, the unit starts the countdown from the preset time. When the preset time expires, the unit will start to warn you.

Remote Display Device (RDD)

- Connect the RDD to the connection port on the top of the PAPR battery
- During normal operation the green light will remain illuminated.
- In an alarm condition the red light will flash and the buzzer will beep. This indicates either low airflow or a low battery.

⚠ If the red light flashes or the alarm continues to sound immediately exit the contaminated area, then open the suit zip as soon as possible.

NOTE: The 'in-use' life of the product will vary with frequency and conditions of use. The timer indicates the duration of use and does not indicate the condition of the device.

The Remote Display Device (RDD) is connected to the PAPR unit and is positioned in the hood of the RJS suit for the wearer to identify the operational status of the PAPR unit.

Blocked motor

In the event of a blocked motor, an intermittent flashing red LED signal alarm is displayed. It can either occur at the engine start or during the run.

Clogged filter/Low airflow

It is synchronized with the PAPR alarm. Alternating red and blue LED signalling with a corresponding acoustic signal.

Low battery

A single beep and series of discrete red flashes are displayed periodically every second. It is not synchronous with the battery alarm of the PAPR.

Filter timer

The signalling has a double period compared to the alarm in the PAPR. The corresponding LED lights up between the alarms, depending on the unit status.

Elapsed time indicator on the Remote Display Device (RDD)

While in operation, the PAPR unit has an elapsed time indicator to communicate to the wearer, via the RDD, the duration of time spent in the suit. The table below indicates how the RDD communicates the elapsed time after each hour. After 240 min the RDD will continue to indicate a consistent Amber pulse.

<u>RDD status before</u>	<u>Elapsed Time</u>	<u>Amber Pulse Series</u>			<u>RDD status after amber pulse series</u>
		<u>Number of Rapid Pulses</u>		<u>Number of Discreet Pulses</u>	
Green	60 min	4	+	1	Green
Green	120 min	4	+	2	Green
Green	180 min	4	+	3	Green
Green	240 min	4	+	4	Amber pulse
Amber pulse	300 min	4	+	5	Amber pulse

Safe Use of Battery Chargers

To reduce exposure to hazardous voltage:

Do not use the chargers outdoors or in wet environments.

Do not attempt to service the chargers. There are no user-servicable parts inside.

Inspect the chargers and power cords before use. Replace if any parts are damaged.

Do not substitute, modify or add parts to the chargers.

Only charge CleanAIR® rechargeable batteries with the 51 00 30EUR charger.

Batteries

For technical reasons, batteries are not fully charged when leaving the manufacturer. They are supplied with a 50 70% charge. Therefore either fully charge the battery before first use, or expect shorter runtime in the first cycle. For maximum battery life, follow the storage instructions (see "Storage")

Battery charging (rechargeable battery 51 00 12)

- Slide the battery out of the unit.
- Connect the charger to the 100 - 230 V ~ 50/60 Hz mains.
- Connect the battery to the charger via the port under the battery rubber seal (see figure 2). Charging is indicated by a red light, the green light indicates connection to power. Charging time is < 3 hours.
- When the red light goes off, the battery is fully charged.
- After charging, disconnect the battery from the charger and the charger from the mains.

It is also possible to charge the battery while the battery is still plugged into the unit. The unit must be turned off during charging.

- Connect the charger to the 100 - 230 V ~ 50/60 Hz mains.
- Connect the charger via the port under the battery (lift the rubber seal - see pictorial annex "How to charge the battery"). The port on top of the battery is for the RDD unit.
- The charging sequence is initiated by connecting a charging connector to the battery while the Remote Display Device (RDD) is connected. The RDD runs the initiation sequence followed a green light for several seconds. If the PAPR is not running (communication is silent) or if the battery is not inserted in the PAPR, the RDD switches into charging mode. Charging is indicated by cyclic dimming of the blue LED.

After the battery is fully charged, the charger switches to maintenance mode to keep the battery fully charged. The charging time is less than 3 hours.

Red LED on: fast charging

Red LED flashing while plugged: error

Red LED off: charge complete

Red LED flashing while unplugged: precharge detection

⚠ The battery charger is for indoor use only. Never charge the battery in potentially explosive atmospheres. It is forbidden to use the battery charger for other purposes than those determined by the manufacturer.

Battery replacement

see pictorial annex "How to insert the battery" and "How to remove the battery"

1. Grip the powered respiratory unit by the rim on the top side of the battery with your left hand. Release the safety lock located on the bottom of the unit between the filters. Then push the battery out of the unit using your thumb (press the rubber place on the battery).

2. Insert the battery into the corresponding opening of the unit until the clickin stop locks the battery in the right position.

How to take out the battery



How to charge the battery



IMPORTANT NOTICE:

Biological Agents and Hazards In the interests of clarity in the WARNINGS above, the term contaminant is deemed to include biological agents and hazards, subject to the following statement:

There are currently no safe exposure limits established for biological agents, therefore, while this respirator system will help reduce exposure it cannot be guaranteed to eliminate exposure or the risk of contracting illness, disease or infection.

SAFE USE OF COMMUNICATION RADIOS AND OTHER RADIO FREQUENCY TRANSMITTING DEVICES: If a communications radio, or other device that exhibits radio frequency interference is to be used with this system, please contact Respirex customer services department for advice.

Make sure the correct size suit is selected for each wearer. A suit of the incorrect size could lead to a reduction in protection level, and place unacceptable strain on the suit material.

Care must be taken not to over tighten the belt.

Beware of electrical hazards in your immediate vicinity.

CAUTION In hot conditions, consult local operating procedures to define "use time" guidelines to avoid heat stress of the user. Regular rest periods and use of absorbent undergarments may reduce heat stress.

The CleanAIR® Chemical 2F Plus is approved for use only with the Respirex™ RJS range of suits. Respirex™ RJS protective suits are approved for use only with the CleanAIR® Chemical 2F Plus. No other combination of protective suit and PAPR unit are approved or permitted.

If a helmet is to be worn when using RJS suits, please contact Respirex customer services department for advice.

To reduce the risk of injury due to impaired vision, if chemicals or other contaminants splash on the visor, wipe off immediately. If the visor is damaged, or vision obscured in any way, exit the contaminated area and doff the apparatus following the user instruction.

The visor does not offer the same level of chemical protection as the suit material.

For the RJS: the attached Kemblok™ gloves offer a high level of chemical protection, refer to Technical Specification for further information on permeation resistance of gloves.

For the soft rubber cuff option: the wearer may fit protective rubber gloves of their choosing, the gloves shall conform to the appropriate safety standards and the wearer will have read the gloves separate User Instructions. Please refer to the fitting instructions under PREPARATION FOR USE.

Owing to the non-breathable nature of the gloves attached to the suit it is not uncommon for the wearer's hands to moisten due to sweating. For this reason it is recommended that cotton gloves are worn to absorb sweat and to assist with the donning and doffing procedure.

If extra protection against mechanical risks, e.g. cuts, is required for the hand/wrist area, please don an additional pair of appropriate safety gloves over the attached laminate gloves.

The breathing hose in this product is located on the inside of the suit. The clauses in EN 12941, clause 6.10.3 and 6.10.4 have therefore not been tested for this product.

NOTES REGARDING ALLERGIC REACTIONS

Materials which may come into contact with the wearer's skin are not known to cause allergic reactions to the majority of individuals.

These products do not contain components made from natural rubber latex.

At very high work rates, the pressure in the headtop may become negative at peak inhalation flow.

Equipment Marking

The Respirer™ RJS suit is marked with the CE mark and the following standards EN 12941, EN ISO 13982-1, EN 14605, EN13034 and EN 14126.

The Respirer™ RJS suit are marked with a date of manufacture and product identification code.

The CleanAIR® Chemical 2F Plus PAPR unit is marked with the CE mark and is marked EN 12941. (Rear label)

The CleanAIR® Chemical 2F Plus PAPR unit is marked with a date of manufacture and serial number.

The Battery Packs are marked with the CE mark and EN 12941.

For filter marking please see CleanAIR® Chemical 2F Plus filter user instructions.

Operating Conditions

The CleanAIR® Chemical 2F Plus PAPR unit must only be used with the Respirer™ RJS suit, and within the Operating Conditions: -5°C to +50°C when using the rechargeable battery; <90% humidity and <4500mASL (Above Sea Level).

Preparation for Use

Inspection

Check apparatus is complete, undamaged and correctly assembled. Any damaged or defective parts must be replaced with original Respirer™ or CleanAIR® spare parts before use.

- 1). Undertake pre-use checks on suit assembly as outlined in the **appropriate user instruction**.
- 2). Select an approved battery and charger.
- 3). Fit battery. ⚠ The reusable batteries should be charged prior to first use or if unused for more than 5 days. Note: The battery must be charged in a safe area. Replace rechargeable batteries after 500 charges.
- 4). Thread the belt through the PAPR unit as described in the Donning section. Check that the PAPR unit is firmly held into place. If necessary, adjust belt for a comfortable fit.

Fitting gloves into soft rubber Push-Fit cuff

- 1). Insert the tapered cone approximately 3-4 cms into the glove so that the glove stretches over the cone (see below Fig. 1 & Fig. 2).
- 2). Slide the glove and cone down the garment sleeve and into the rubber cuff; make sure that the little finger of the glove is in-line with the seam of the sleeve (see Fig. 3).
- 3). Ensure that the glove and cone are pushed firmly into the cuff with equal pressure all around its circumference so that the cone sits as tightly as possible in the cuff (see Fig. 4).



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Donning

- 1). Unscrew the screws holding belt clips on the back of the PAPR unit, Fig. 5. Place the provided decontaminable PVC belt behind the belt clips and screw back into place, clamping the belt as shown, Fig. 6.



Fig. 5



Fig. 6

- 2). Open the zip flap by either undoing the re-sealable Velcro fastener, or simply lift the flap and undo the zip. Put the PAPR unit inside the suit, lining up the filter ports of the PAPR unit with the holes on the back of the suit (Fig. 7).



Fig. 7



Fig. 8

- 3). Attach the filter adaptors to the outside of the suit. Take care not to tear the suit. There should be no gap of fabric around the filter adaptor (Fig. 9). If there is a gap (a tear or misaligning of attachment), DO NOT DON THE SUIT- Reposition or obtain a new RJS suit (Fig. 10). The suit is now clamped between the PAPR unit body and the filter adaptors (Fig. 12).



Fig. 9



Fig. 10



Fig. 11

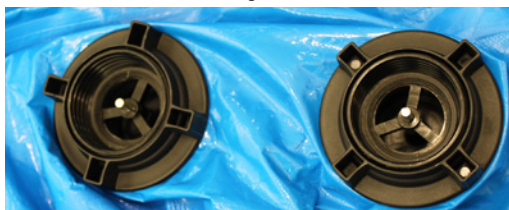


Fig. 12

- 4). Select approved filters. ⚠ Only Malina Safety CleanAIR® filters can be used. Incorrect filters will not press the central opening pin that engages the "closing system" of the PAPR air intake. Screw the Malina Safety CleanAIR® filters into the filter adaptors (Fig. 13). Check that the filters are adequately tightened. Ensure that a pair of identical filters are fitted. Filter lids should be in place when the filter is used (Fig. 15 and Fig. 16). ⚠ Incorrect fitting of the filters will result in severely reduced product performance. They should be attached to the PAPR unit only, using the filter adaptors as described.



Fig. 13



Fig. 14



Fig. 15



Fig. 16

- 5). Attach the breathing hose of the suit, to the PAPR unit. Pull gently on the breathing tube to check a secure connection has been achieved. ⚠ If the breathing hose is not firmly attached, DO NOT DON THE SUIT. Check components and replace if necessary. ⚠ Take care to ensure the breathing hose is not twisted.



Fig. 17



Fig. 18

- 6). Push the RDD through the inside hole in the internal neck seal at the base of the hood and secure with the attached elastic band, so that the lights are visible to the wearer. The hole and the elastic band are located to the right of the wearer's chin (Fig. 20).
 ⚠ Ensure that the RDD is plugged into the port on top of the battery (Fig. 21) of the PAPR unit. Do not use the PAPR system if the RDD is not operational or lights are not visible to the wearer.



Fig. 19



Fig. 20



Fig. 21

- 7). **Turn on the PAPR unit**, using either of the on/off buttons positioned on the PAPR unit body (Fig. 22). The PAPR unit will make a brief sound, and the lights on the RDD will cycle for a few moments, then show a green light. If a green light is not achieved, the battery may be flat or the particulate filter may be clogged. To check that the warning device is operational, block the breathing tube outlet by putting your hand into the headspace and covering the open end of the tube with a flat hand. Ensure that after a short time the buzzer begins to beep and the red light begins to flash. Remove hand from the outlet. The red light will go out, all three lights cycle for a short time then the green light will remain illuminated. ⚠ Do not don the RJS suit until a green light is achieved.



Fig. 22



Fig. 23

- 8). An option of integral overshoe (the ability to wear standard footwear inside the suit) or integral sock bootee which are not designed to accommodate internal footwear.
- For the integral overshoe, sit down and put feet in the suit. You may wear standard flat soled footwear inside the suit, however a risk assessment must be taken to determine if there are any mechanical risks that may be unsuitable for the footwear e.g. puncture risks or falling heavy objects. This leg option is best to be used in clean environments. This leg option only protects to the wearer from chemical and particulate risks.



Fig. 24



Fig. 25

- For the integral sock bootee, sit down and put feet inside the suit and pull up to waist level, fold the gaiters (splash guards) upwards. Don suitable safety boots for the work environment. It is strongly recommended that you wear a larger size boot than normal (ideally at least one size bigger), not only to accommodate the surplus fabric of the integral sock bootee, but also to ease in the donning process. Carefully fold down the gaiters of the suit over the exterior of the safety boots, channelling any contamination away from the wearer. Once folded down it is important to ensure that the seam where the gaiter joins the suit is flat and does not form a 'channel' where liquid could collect. Liquid will not be able to enter the boots once the gaiters are fully folded down.



Fig. 26



Fig. 27

- 9). Secure PVC belt of the PAPR unit around the wearer's waist (Fig. 28), taking care that the breathing hose is free from tangles and kinks. The PAPR system can be optimally adapted to the body with a decontaminable PVC belt and shoulder carrying system, thus allowing long periods of wear. The carrying system itself is designed to have a minimal weight (Fig. 29).



Fig. 28



Fig. 29

- 10). Don the suit arms and put head through the neck seal. Push arms into the sleeves (Fig. 30), and put hands into the gloves. The gloves attached to the RJS suit offer chemical protection against a range of common chemicals. Please contact Respirix customer services for advice. Push head through the knitted neck seal (Fig. 31), so headspace is positioned over the head. A flow of air should be felt on the face. Position neck seal evenly around the neck.



Fig. 30



Fig. 31

- 11). Do up zip (Fig. 32). ⚠ Ensure that the zip is securely fastened. Seal the resealable Velcro® fastener, ensuring a firm, secure seal, without gaps (Fig. 33). ⚠ To maintain protection it is important to keep the suit zip and zip flap closed at all times.



Fig. 32



Fig. 33

- 12). An optional respiratory protective device for self rescue. To be used in the case of PAPR failure in particulate environments only. Ensure that the dust cap of the permanently fitted P3 filter located on the shoulder of the wearer is removed. The wearer must place mouth over the mouthpiece (Fig. 34 and Fig. 35) situated inside the hood. Breathe normally and exit the hazardous environment immediately.



Fig. 34



Fig. 35



Fig. 36

- 13). Before entering the work zone, recheck that the RDD is visible to the wearer or, if fitted, that the PAPR display is visible through the rear window above the filters (Fig. 38). Workplace operating procedures should recommend rechecking the display at regular intervals. Squat to ensure good flow of air through the fitted exhalation valves above the knees of the wearer (Fig. 39). If no alarming and the RDD is displaying GREEN, the wearer may enter the work zone.

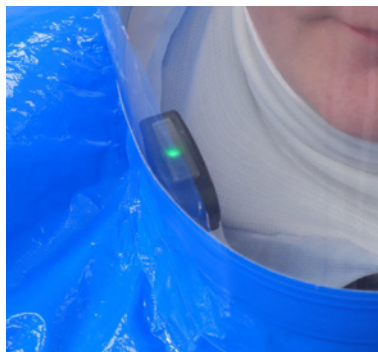


Fig. 37

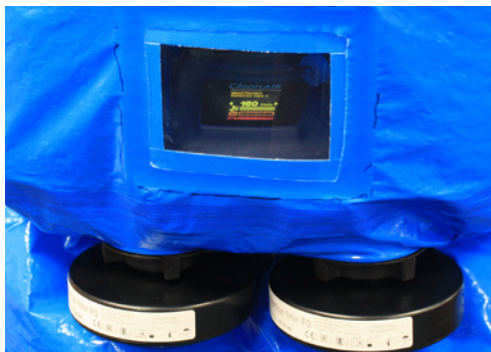


Fig. 38



Fig. 39

Decontamination Procedure

Refer to local operating procedures. ⚠ Take extreme care not to transfer any contamination from the exterior of the system on to the body. Preliminary showering at 30°C will remove most of the contaminant from the outer surface of the RJS Suit. Do not remove the filter until after showering.

Do not allow water/contaminants to run into the Air Filtering Unit.

Doffing

⚠ Do not remove the suit, open the flap or zip, remove the filters or turn off the PAPR unit until you have vacated the contaminated area. ⚠ Doff using a buddy system, where a “buddy” wearing suitable PPE, assists in the doffing of the system.

The buddy will handle all potentially contaminated parts of the system. Wearer should only touch uncontaminated areas of the system.

- 1). Buddy releases the re-sealable Velcro fastener on the storm flap and undoes the zip.
- 2). Grasp the glove of one arm, with the other gloved hand and pull arm free. Retract the other arm from the other suit sleeve. Remove the hood by lifting it clear of the head using the base of the hood.
- 3). Buddy removes filters and outer adapters.
- 4). Release the tube coupling.

CAUTION Avoid tripping over the half doffed suit. The suit should slip to the floor. It may be necessary to push the suit off the feet. Step out of the suit. The wearer is left with only the uncontaminated elements of the system.

- 5). Turn off the CleanAIR® Chemical 2F Plus PAPR unit by pressing the on/off button and releasing it on hearing the beep. Note that to avoid accidental shut down, the on/off button should be held down for at least 1 second to turn the PAPR unit off.
- 6). The filters can only be reused if the service life of the filters has not been exceeded. Refer to filter user instruction. The filter retainers can be reused. If either part is to be reused, decontaminate before reuse.

Filter and Cartridges

Powered Air Purifying Respirators (PAPR) are designed to remove potentially harmful gases, vapours and/or particulates from the surrounding atmosphere by means of filtration of the air. Make sure that the filter and cartridge is suitable for the application. Use filters strictly in accordance with all instructions contained in this leaflet and the relevant filter user instructions. Filters need to be regularly changed. The frequency of change depends on usage time and the concentration of contaminant. The user should not confuse the markings on a filter relating to any standard other than EN 12941 with the classification of this device when used with this filter.

Cleaning Instructions

⚠ CAUTION RJS protective suits are single use suits and are not designed to be reused, and should be disposed after exposure to hazardous conditions.

Use a clean cloth dampened with a mild solution of water and liquid household soap to clean the Malina Safety CleanAIR® Chemical 2F Plus, filters, filter retainers and belt.

⚠ Do not submerge the filters in liquid. Do not use petrol, chlorinated degreasing fluids (such as trichloroethylene), organic solvents or abrasive cleaning agents to clean any part of the equipment. To disinfect use wipes as detailed in Reference Leaflet. Do not autoclave. Do not clean the chargers with solvents that can damage plastic parts.

Disposal

CAUTION DO NOT dispose lithium and lithium ion batteries in a fire or send for incineration. Battery packs should be treated as special waste and in accordance with your local environmental regulations. The Respirer™ range of RJS Suits are designed for single exposure only and should not be reused after exposure to hazardous environments. Contaminated products should be disposed as hazardous waste in accordance with local health and safety and environmental regulations.

Maintenance

Maintenance, servicing and repair must only be carried out by properly trained personnel.

Use of unapproved parts or unauthorised modification could result in danger to life or health and can invalidate any warranty.

Storage and Transportation

These products should be stored in the packaging provided in dry, clean conditions away from direct sunlight, sources of high temperature, petrol and solvent vapours. Before initial use, always check that the product is within the stated shelf life (use by date).

Do not store the RJS Suits, the PAPR unit (Chemical 2F Plus) or the rechargeable batteries outside the temperature range -10°C to +50°C or with the humidity above 90%.

Please see appropriate filter user instructions for storage guide.

When stored as stated, the expected shelf life of the Protective Suits is 10 years from the date of manufacture.

When stored as stated, the expected shelf life of the PAPR unit (Chemical 2F Plus) is 5 years from date of manufacture.

All parts of the CleanAIR® system must be stored at temperatures between -10 °C and 50 °C, with relative air humidity between 20 and 95% Rh.

Batteries will self-discharge during storage. Therefore, it is recommended to charge the battery for 1 hour at least every 3 months. The optimal battery charge level for longer storage is between 50 to 70% of capacity. After longer storage time it is necessary to repeat 3 charging cycles to reach battery's full capacity.

In order to maintain the level of protection offered, use original packaging when transporting the RJS. Care should be taken to minimize the risk of damage occurring to the suits during transportation between work areas. It is recommended that the RJS suit is transported in a suitably sized rigid container resistant to penetration by sharp objects, abrasive surfaces, chemicals, oils, solvents etc.

Key to Product Labelling

- A Manufacturer of garment, Respirex International Ltd.
- B Demonstrates compliance with CEN standard from chemically protective clothing
- C Indicates protection against biohazards (see technical specification)
- D Full body protection level demonstrated by the RJS suit (see technical specification)
- E Indicates that the user should read all the relevant user information
- F Flammable, keep away from fire
- G Do not dry clean
- H Do not iron
- I Do not bleach
- J Do not wash
- K Indication of the size of suit (see technical specification)
- L Storage temperature
- M CE mark including Notified Body code

RESPIREX

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TEL +49 (0)3591-5311290
info@respirex.de

MODEL No: RJS#####
STYLE/STYLE No: RJS310
MATERIAL: Blue Laminate A00132
TRACE No:
DATE OF MANUFACTURE:

CHEMICAL PROTECTIVE CLOTHING

CE2797

SIZE: L
176 - 182

104 - 112

DO NOT RE-USE

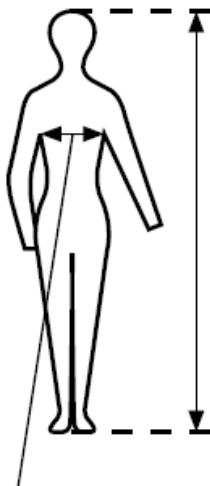
Issue D

Standards:
EN14605:2005+A1:2009
EN ISO13982-1:2004+A1:2010
EN13034:2005+A1:2009
EN12941:1998+A2:2008 TH3
EN14126:2003

Protection Levels:
TYPE 3
TYPE 4
TYPE 5
TYPE 6
TYPE 3-B
TYPE 4-B
TYPE 5-B
TYPE 6-B

Icons:
J (Do not wash)
I (Do not bleach)
H (Do not iron)
G (Do not dry clean)
F (Flammable, keep away from fire)

Sizing



select appropriate size garment to allow sufficient movement for the task.

Label	Size	Height (cm)	Chest (cm)
XS	Extra Small	150 - 157	74 - 91
S	Small	157 - 165	91 - 107
M	Medium	165 - 173	107 - 116
L	Large	173 - 180	116 - 122
XL	Extra Large	180 - 188	122 - 127
XXL	Extra, Extra Large	188 - 196	127 - 132

Technical Specification

Respiratory Protection

EN 12941 TH3

Nominal Protection Factor = 500 Assigned Protection Factor = 40

Additional testing, to EN 1073-1:1998 demonstrated that a Total Inward Leakage (Respiratory Zone) of 0.002% was achieved, relating to a Nominal respiratory protection factor of 50 000 for all suits.

Inward leakage of whole suit design meets the requirement of the suit Type 5 Test, with Ljmn 82/90 ≤30% and Ls, 8/10 ≤15%.

Outlet Flow Characteristics

Manufacturers Minimum Design Flow (MMDF) 160 l/min

Manufacturers Maximum flow 230 l/min.

If this flow rate is not achieved, a green light will not be achieved.

Battery Packs

Battery 51 00 12 Battery CA Chemical 2F for RDD, Li-Ion 14,4V/2,6Ah

Battery 51 00 13 Primary battery CA Chemical 2F for RDD, Li (single use only)

EN 12941:1998 TH3

Respirex™ RJS Suits meet the requirements of the following Protective Clothing standards:

Whole Suit Performance

Tests carried out under laboratory conditions by independent accredited laboratories.

		Test Result
Protective performance against liquid chemicals (liquid-tight Type 3)	EN 14605:2005 +A1:2009	complies
Protective performance against liquid chemicals (spray-tight Type 4)	EN 14605:2005 +A1:2009	complies
Protective performance against airborne solid particulates (Type 5)	EN ISO13982-1:2004+ A1:2010	complies
Protective performance against liquid chemicals (limited spray Type 6) - Type 6 chemical protective suits have been tested to the whole suit test (5.2)	EN 13034:2005 +A1:2009	complies
Respiratory protective devices- Powered filtering devices incorporating a helmet or hood. Requirements, testing, marking	EN 12941:1998+A2:2008	TH3

Chemical Permeation Testing At Respirix

Respirex will test their own materials against any chemical that the customer requires. In this way, the customer can be advised and recommended the most suitable material to use against any challenging chemical encountered in the workplace.

Permeation is the process by which a chemical moves through protective clothing material on a molecular level. The permeation tests are carried out according to both the European standard ISO 6529 and the American standard ASTM 739. The clothing material is exposed to the challenging chemical in a permeation cell so that breakthrough times and permeation rates can be measured. Breakthrough time is the time taken for the chemical to permeate through the material after continuous contact with the outer surface of a chemical safety suit. Permeation rates, measured in $\mu\text{g (min.cm}^2\text{)}$, are an indication of the amount of chemical reaching the person inside the suit after breakthrough occurs.

For advice on chemical permeation or decontamination contact Respirix on Tel : +44 (0)1737 778600, Fax : +44 (0) 1737 779441 or Email: info@respirex.co.uk, where our qualified staff will be happy to help you. Contact outside of normal working hours (9.00am-5.00pm) on Tel : +44 (0)1737 778600 answer phone, leave details of your enquiry and we will deal with your query with the minimum of delay.

Material Performance Data

Unless otherwise stated, all data shown indicates performance characteristics of the barrier laminate material in accordance with the requirements of EN 14605:2005+A1:2009 and EN 14126:2003, plus additional standards.

Chemprotex™ 300 material Physical Properties

Tests carried out under laboratory conditions by independent accredited laboratories.

Minimum CLASS as per EN 14325:2018		Class*
Abrasion resistance	EN ISO 12947-2	6/6
Flex cracking resistance	EN ISO7854:1997 method B	1/6
Trapezoidal tear resistance	EN ISO 9073-4:1997	4/6
Tensile strength	EN ISO13934-1:1999	3/6
Puncture resistance	EN863:1996	2/6
Seam strength	EN ISO13935-2:1999	4/6

* EN class specified by EN 14325:2018, the higher the class number the better the performance.

Chemprotex™ 300 material protection against infective agents

Tests carried out under laboratory conditions by independent accredited laboratories. Seams have not been tested.

Minimum CLASS as per EN14126:2003		Class*
Synthetic blood penetration resistance	ISO 16603:2004	✓
Blood-borne pathogen penetration resistance	ISO 16604:2004	6/6
Contaminated solid particle penetration resistance	EN ISO 22612:2005	3/3
Contaminated liquid aerosol penetration resistance	ISO/DIS 22611:2003	3/3
Wet bacteria penetration resistance	EN ISO22610:2006	6/6

Resistance to permeation by chemicals

Tests carried out under laboratory conditions by independent accredited laboratories in accordance with ISO 6529. Table shows average breakthrough times in minutes.

Chemical	Result Chemprotex™ 300 material and seam	Result Kemblok™ Glove	Visor	Class*
Sodium Hydroxide 40%	> 480 mins	> 480 mins	> 480 mins	6 of 6

* EN class specified by EN 14325:2018, the higher the class number the better the performance.

Repellency to liquid chemicals

Tests carried out under laboratory conditions by independent accredited laboratories in accordance with EN ISO 6530.

Chemical Tested to EN ISO 6530:2005	Repellency index	Class*
Repellency to liquid chemicals Sulphuric acid 30% CAS No. 7664-93-9	> 90%	3 of 3
Repellency to liquid chemicals Sodium Hydroxide 10% CAS No.1310-73-2	> 90%	3 of 3
Repellency to liquid chemicals o-Xylene 99.9% CAS No.1330-20-7	> 90%	3 of 3
Repellency to liquid chemicals Butan-1-ol 99.9% CAS No.71-36-3	> 90%	3 of 3

* class specified by EN 14325:2018, the higher the class number the better the performance.

Resistance to penetration by liquid chemicals

Tests carried out under laboratory conditions by independent accredited laboratories in accordance with EN ISO 6530.

Chemical Tested to EN ISO 6530:2005	Penetration index	Class*
Resistance to penetration by liquid chemicals Sulphuric acid 30% CAS No. 7664-93-9	< 1%	3 of 3
Resistance to penetration by liquid chemicals Sodium Hydroxide 10% CAS No.1310-73-2	< 1%	3 of 3
Resistance to penetration by liquid chemicals o-Xylene 99.9% CAS No.1330-20-7	< 1%	3 of 3
Resistance to penetration by liquid chemicals Butan-1-ol 99.9% CAS No.71-36-3	< 1%	3 of 3

* class specified by EN 14325:2018, the higher the class number the better the performance.

Battery	Order Number
CA Chemical 2F for RDD, Li-Ion 14,4V/2,6Ah	510012
Primary battery CA Chemical 2F for RDD, Li (single use only)	510013

Filters	Order Number
Filter A1B1E1P3, thread RD40×1,7"	500364
Filter A1P3, thread RD40×1,7"	500357
Filter A2, thread RD40×1/7"	500156
Filter A2B2, thread RD40×1,7"	500158
Filter A2B2E2, thread RD40×1,7"	500163
Filter A2B2E2K2, thread RD40×1,7"	500169
Filter A2B2E2K2HgP ZERO, 2x thread RD40×1,7"	500266
Filter A2B2E2K2HgP3, thread RD40×1,7"	500166
Filter A2B2E2K2P ZERO, 2x thread RD40×1,7"	500268
Filter A2B2E2K2P3, thread RD40×1,7"	500168
Filter A2B2E2P3, thread RD40×1,7"	500164
Filter A2B2P3, thread RD40×1,7"	500167
Filter A2P ZERO, 2x thread RD40×1/7"	500257
Filter A2P3, thread RD40×1/7"	500157
Filter A3AXP3, thread RD40×1,7"	500170
Filter B2, thread RD40×1,7"	500161
Filter B2P3, thread RD40×1,7"	500162
Filter K2, thread RD40×1,7"	500159
Filter K2P3, thread RD40×1,7"	500160
Filter NBC - A2B2E2K2P3, thread RD40×1,7"	500165X
Filter NBC - A2B2E2K2P3, two threads RD40×1,7"	500265X
Filter CBRN A3B2E2K2P R SL, thread RD40×1,7"	500565/2
Filter P3 lite, thread RD40×1,7"	504048
Filter P3, thread RD40×1,7"	500048
Filter P3, two threads RD40×1,7"	500248
Filter ZERO lite, 2x thread RD40×1,7"	504249
Filter ZERO, 2x thread RD40×1,7"	500249

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