RESPIREX™

Simplair Hood
Instructions for use

EN14605:2005+A1:2009
TYPE PB[3], TYPE PB[4]

Contents

General Information

The Respirex Simplair hood is designed for use within certain contaminated environments only. You should carefully read and follow the operating procedures detailed in these instructions.

The hood must be used in combination with breathable air supplied from an external compressed air source that provides positive pressure. Air flowing into the hood must conform to the requirements of EN 12021:2014.

The Simplair hood is divided into two main sections; headtop assembly and air supply belt assembly. The headtop assembly meets the lower strength requirements of EN 14594:2005, whilst the air supply belt meets the higher strength requirements. The product is UKCA and CE marked to indicate compliance with European Regulation 2016/425 on personal protective equipment (PPE) and Regulation 2016/425 on personal protective equipment as brought into UK law and amended, and complies with the following harmonized and designated standards:

- Headtop assembly - EN 14594:2005 (continuous flow compressed air line breathing apparatus with a hood) - Class 4A
- Air supply belt assembly - EN 14594:2005 (continuous flow compressed air line breathing apparatus) - Class 4B
- EN 14605:2005+A1:2009 (protective clothing against liquid chemicals - clothing providing protection to parts of the body only (PB [4])

The standards above specify the physical performance requirements of the equipment, i.e. level of respiratory protection and mechanical strength of component parts etc, and also the resistance to permeation by liquids of the main material of construction*.

The hood offers a nominal protection factor of 2000 as detailed in the guidance document for respiratory protective equipment, EN 529:2005. The UKCA and CE Declarations of Conformity can be found at www.respirex.com/doc

* Performance results for the main material of constructi on are detailed on a separate data sheet supplied with the hood.

Warnings & Limitations

- Only for use by trained, competent personnel.
- Always seek advice if you are in any doubt as to the suitability of the Simplair hood for your particular working environment. Refer to rear of user instructions for contact details.
- Failure to follow all instructions and/or failure to wear the Simplair hood during all times of exposure may be detrimental to the wearer's health.
- At high work rates pressure in the hood may become negative at peak inhalation flow or during bending or squatting.
- The hood may not provide adequate protection in atmospheres that are immediately dangerous to life or health (IDLH). Use only in atmospheres where the oxygen content of the air is 18-23 vol.%.
- The hood must NOT be used with oxygen only or oxygen enriched air.
- Ensure the hood is used with a compressed air supply tube (CAST) of appropriate length and bore size (see page 2); a low airflow may cause a reduced level of protection.
- The equipment is designed to work on a range of air line pressures. The Simplair hood is supplied pre-set by Respirex to operate at the end users specific air line pressure (the maximum airline pressure that the hood can be set to is 8.27 bar {120 lbf/in^2}).
- The Simplair hood provides partial body protection to classification PB [4] as defined by the harmonized standard EN14605:2005+A1:2009. Seek alternative PPE if full body protection is required. Always use compatible PPE, e.g. gloves and safety boots advised by Respirex.
- The Simplair hood is manufactured from non-breathable materials; it is likely that the wearer's body temperature will rise during use, particularly throughout periods of intense physical activity. Users who show signs of excessive stress such as fever, nausea, dizziness, eye irritation, difficulty in breathing, becoming fatigued or any unusual order or taste, should leave the working environment immediately and remove the hood. Wherever possible operational procedures should be planned to minimize the risk of heat stress occurring. Respirex assumes no responsibility for improper use of the Simplair hood.
- If the hood is to be used in low temperatures and misting of the visor occurs, apply Respirex FOG OFF to the inner and outer surfaces of the visor.
- The Simplair hood is not designed to be used for abrasive blasting operations or in applications with a high flammability risk. Alternative PPE offering the necessary level of protection should be utilised for such applications.
- The Simplair hood should not be worn in working environments where protection against non-ionizing radiation is necessary.
- Materials used in the construction of the Simplair hood are not known to cause allergic reactions to the majority of individuals. The hood contains no components made from natural rubber latex.

For any enquiries please contact the Respirex customer services department on Tel : +44 (0)1737 778600 or Fax : +44 (0)1737 779441.

Pre-Checks Before Use

Under the Control of Substances Hazardous to Health (COSHH) regulations 2002 and the Personal Protective Equipment (EC Directive) regulations 1992, a thorough examination of respiratory protection equipment (RPE) is required to be undertaken in a clean area at least once per month if the garment has not been used. When in use Respirex recommend that the RPE is always checked before the start of each shift cycle. These inspections are required to ensure that the RPE will perform as intended and is free from defects.

Each inspection should be recorded and the following noted : date, serial number, name of examiner, condition of the equipment and details of any defect found. The inspection records should be kept by relevant Health & Safety departments for a period of at least five years.

1. Visually inspect the hood for any damage that may impair the correct working of the garment .
2. Check correct airflow into the hood. The hood will be marked with its working pressure which must correspond to the airline pressure as indicated by the pressure gauge at the airline supply outlet point. **Ensure that the silencer is clean and free of any contamination from the airline. The silencer must be replaced if it is contaminated to any extent.**
3. The hood is free from contamination both internally and externally.
4. The identification number is clearly legible in the hood.
5. The hood materials are free from tears and holes; pay particular attention to the seam areas.
6. The waist belt air attachment is secure and undamaged.
7. Vision through the visor is not impaired by scratches or scuff marks. On hoods fitted with rigid visors a removable outer visor can be fitted which prevents damage to the main visor. This can be changed by simply peeling away from the Velcro fasteners and replaced with a new outer visor.
8. It is recommended that the exhalation valves are part of the visual pre-check. If the valve diaphragm is distorted or damaged in any way it must be replaced (see page 6).
9. Ensure that the rubber neck seal (if fitted) is not torn or damaged and is still capable of sealing around the neck. If a drawstring neck seal is fitted ensure that the cord is intact and that the toggle will give a good seal around the neck.

An inspection of the compressed air supply tube (CAST) which supplies breathing quality air to the operator should be carried out at least once per month and before each shift cycle and the results recorded.

During the inspection the following should be checked:

1. The CAST is clean externally.
2. The CAST is free from damage (holes, splits, etc.).
3. Air line coupling connections are in good condition and non-return valves are in good working order.

Submerge in water to locate any leaks if any sign of damage is evident. Report any defects to the supervisor and record them. The CAST must NOT be used until the defect has been rectified.

Compressed Air Supply Tube (CAST)

It is recommended that a CAST with a minimum internal diameter bore diameter of 9.5mm (3/8”) is used in combination with the Simplair hood. The CAST must meet the requirements of EN 14594:2005. If CASTs and couplings not supplied by Respirex are to be used they should be suitable for the intended purpose and conform to the requirements of EN 14594:2005 (a sample must be supplied to Respirex to enable the correct airflow settings to be achieved).

Notes:

To ensure compliance with product type approval, CASTs marked ‘A’ (indicating suitability for use with Class A devices) should not be used with the Simplair hood.

CAST must conform to the strength requirements necessary for a Class 4B device, as specified by EN14594:2005.

Respirex supply the Simplair hood pre-set to deliver the correct rate of airflow that coincides with the end user’s supplied airline pressure, (as notified to Respirex) this will be indicated on the airline waist belt label. End users shall assure themselves that the pressure range of the air supply to the apparatus is within the limits recommended by Respirex.

Maximum And Minimum Airflow (litres/minute)

Airflow to the hood must be within the range:

Maximum 280 l/min.

Minimum 220 l/min.

This must be checked prior to each use by means of the Respirex airflow meter (see below).

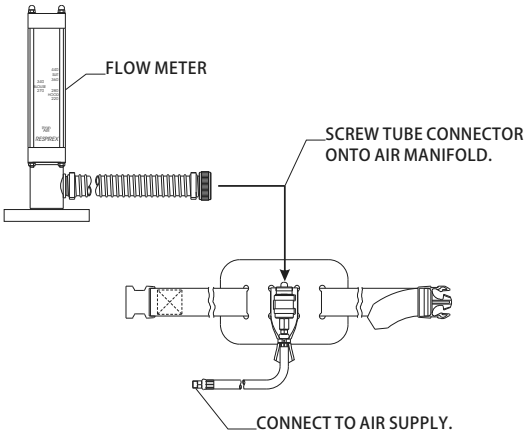


Fig. 1.

Checking Airflow

1. Lay the hood open to allow access to the air system.
2. Unscrew the connecting collar from the air manifold.
3. With the Respirex flow meter on flat a level surface, screw the tube connector from the flow meter onto the air manifold.
4. Connect the garment onto the air supply and measure the airflow on the meter. See above for correct flow rates.
5. Disconnect the flow meter and reconnect the air system. If you are unable to achieve the airflows indicated the silencer should be replaced.

Note : Respirex recommend that end users set up their own silencer replacement programme. This will be determined by the quality of the air and the frequency of use of the hood.

Minimum Flow Warning Device

1. With the Respirex flow meter connected to the air system turn the air pressure down to obtain the minimum airflow into the garment.
2. When the minimum airflow is reached the low flow warning device will sound a high pitch whistle.
3. After checking the low flow warning device set the air pressure back to the correct working pressure.

Donning

It is strongly recommended that before anybody attempts to wear or use an air supplied garment full training is given on wearing and decontamination by a competent person and the details of the training recorded.

Connect a compressed air supply tube (CAST) to an air source supplying air conforming to the requirements of EN 12021:2014.

Connect the Simplair hood to the CAST making sure that the couplings are fitted together correctly. Pull lightly on both hoses to make sure they are attached securely.

Check the airflow to ensure that the correct amount of air is being delivered to the hood.

Put on the Simplair hood making sure that it sits evenly on the shoulders.

Pull down the back cape making sure that it lays flat.

On rubber neck seal models ensure that the rubber grommet is seated correctly without any creases or folds that may allow air too much air to escape (Fig. 2).

On drawstring neck seal models lift up the front cape then carefully tighten the seal to a comfortable level until secure around the neck (Fig. 3).

Fig. 2.

Fig. 3.

Pull down the front cape, make sure it is lying flat, then pass the waist belt through the belt loops and fasten the belt buckle. Adjust the waist belt until comfortable (Fig. 4).

Re-check air pressure and adjust if necessary.

With air flowing into your Simplair hood you are now ready to enter the work area.

If necessary a hard safety hat can be worn inside the Simplair hood. This should be worn according to the manufacturers instructions.

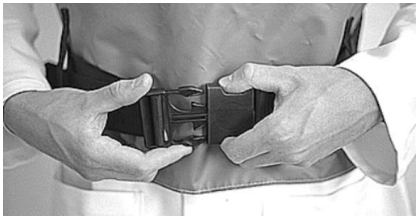


Fig. 4.

Inspection & Replacement Of Component Parts

A regular inspection and replacement program should be conducted by end users.

The Simplair hood and all component parts and assemblies should be inspected for damage or excessive wear before and after each use to ensure proper functioning. Immediately remove the hood from service and replace parts or assemblies that show any signs of failure or excessive wear that might reduce the degree of protection originally intended.

Use only approved Respirex components and replacement parts.

Removal & Replacement Of Control Waist Belt

1. Lay the hood assembly on a clean flat surface and lift up the front cape.
2. Unscrew the retaining ring from the bulkhead (Fig. 5).
3. Pull the breathing air tube assembly away from the control waist belt.
4. Release the two pop studs on the waist belt (Fig. 6) and slide the waist belt out through the belt loops.

Before fitting a control waist belt check there is a new silencer fitted and that it is securely screwed into the bulkhead.

Fig. 5.

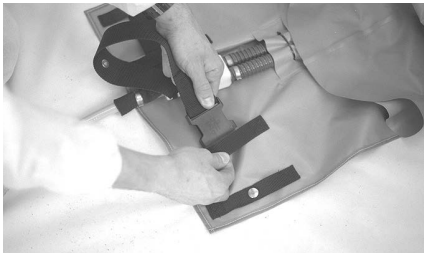


Fig. 6.

Silencer Replacement

1. Lay the hood assembly on a clean flat surface and lift up the front cape.
2. Unscrew the retaining ring from the bulkhead (Fig. 5).
3. Pull the breathing air tube assembly away from the control waist belt.
4. Unscrew the silencer from the bulkhead (Fig. 7).
5. Screw a new silencer into the bulkhead.
6. Locate the breathing air tube assembly over the bulkhead and tighten the retaining ring .

Check that the Simplair hood is working correctly and that there are no air leaks before use.

Fig. 7.

Replacing Removable Visor (Rigid Visor Model Only)

1. Carefully peel the removable visor from the Velcro discs.
2. If necessary clean the rigid visor before fitting a new removable visor.
3. Remove the protective film from the new removable visor.
4. Locate the centre discs at the top and bottom of the removable visor on to the centre discs on the hard visor.
5. Wrap the removable visor around each side of the rigid visor lining up all the fixing discs and firmly press together (Fig. 8).

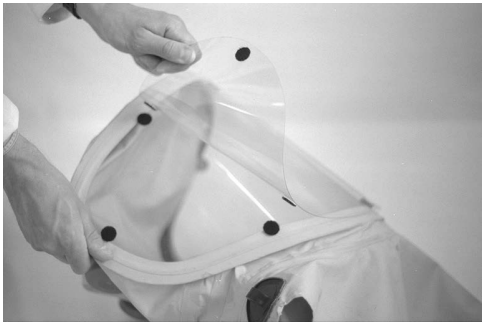


Fig. 8.

Replacing Exhalation Valve Diaphragm

1. Using a torque driver with a 'T8' Torx bit, loosen and remove the screw from the centre of the exhalation valve, then remove the cap.
2. Carefully slide the diaphragm up the central spigot and remove from the exhalation valve body.
3. Check that there is no dust, debris or contamination of any kind in the exhalation valve body.
4. Carefully slide a new diaphragm down the central spigot until it rests evenly on the valve body. Ensure the diaphragm is correctly orientated with the ridged side uppermost (Fig. 10).
5. Replace the exhalation valve cap and ensure the two location channels engage with the locating keys on either side of the valve body. Note: When correctly located, the valve cap will not rotate independently on the valve body.
6. Replace the centre screw, turn by hand two times to engage the thread with the valve body, then fully tighten using a torque driver set to 23 ± 2 cNm.

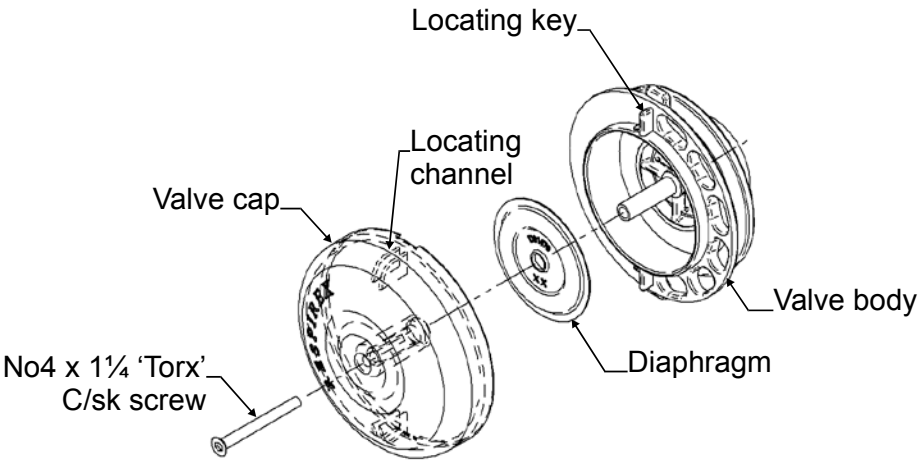

Locating key
Locating channel
Valve cap
Valve body
Diaphragm
No4 x 1¼ 'Torx' C/sk screw

Fig. 9.

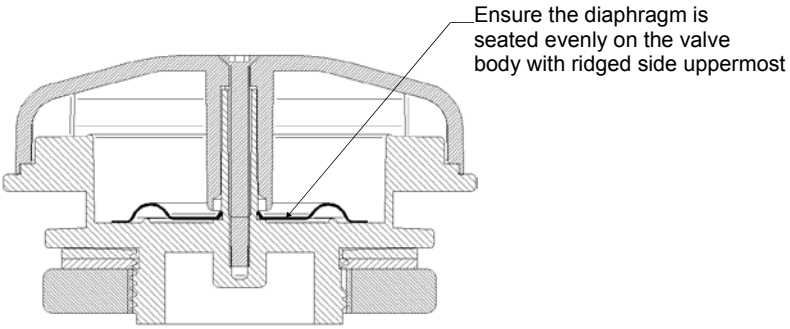

Ensure the diaphragm is seated evenly on the valve body with ridged side uppermost

Fig. 10.

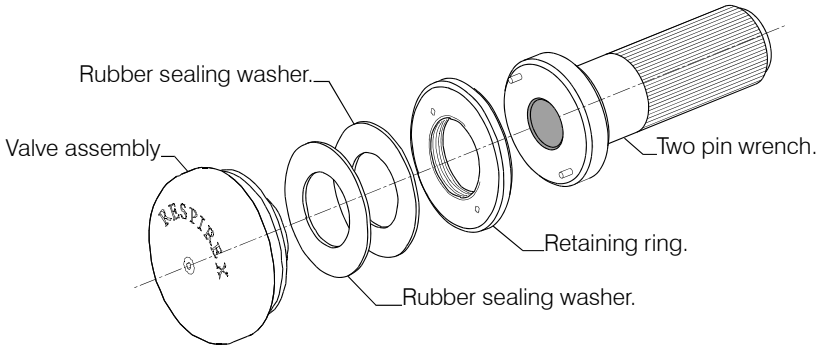


Fig. 11.

Replacing Exhalation Valve Assembly

1. Lay the hood on a clean flat surface and open fully at the waist to allow access to the interior of the hood.
2. Using a two pin wrench (Tool No. G01486) locate the pins into the two holes in the exhalation valve-retaining ring and unscrew.
3. Remove the rubber sealing washer.
4. From the outside of the hood carefully remove the exhalation valve assembly.
5. New exhalation valve assemblies will have all component parts screwed together, therefore prior to fitting remove the retaining ring and one of the rubber sealing washers.
6. Check that the remaining rubber sealing washer is laying flat against the valve body.
7. Locate the thread on the exhalation valve assembly through the hole at the rear of the hood.
8. Locate the second rubber sealing washer around the thread on the valve body so that it is lying flat against the material of the hood.
9. Hand tighten the retaining ring onto the exhalation valve.
10. Check that the exhalation valve is orientated correctly (the Respirex lettering should be at the top of the valve and the three slots under the cover must be at the bottom).
11. Tighten the retaining ring using the two pin wrench (Tool No. G01486, see Fig. 12).

Fig. 12.

Cleaning

Respirex do not recommend laundering the hood. If the hood becomes dirty it should be cleaned by wiping the outer surfaces with a sponge using a solution of Citikleen* and warm water (temperature not exceeding 50°C), followed by rinsing with cold water. Inner surfaces of the hood should be sprayed with Synodor to kill all bacteria.

Do not use solvents or strong cleaning and disinfecting agents as these can damage the visor and valve seals.

Care should be taken to prevent water entering the exhalation valves, air supply hoses and flow control waist belt assembly.

The air supply hoses should be cleaned by wiping with a sponge using warm water and a mild detergent, rinsed and air dried. Do not allow water to enter the air supply hoses.

*Mix one part Citrikleen to 19 parts water, i.e 5% solution. Never use Citrikleen in neat form as this will cause damage to the hood materials.

Both Citrikleen & Synodor can be supplied by Respirex.

The hood should be hung in a warm room to dry (temperature should not exceed 30°C), if there is a possibility that water or cleaning agent has entered the air system, air should be passed through the air system until it is dry.

Warnings

HAND WASH ONLY

DO NOT SPIN

DO NOT DRY CLEAN

DO NOT BLEACH

DO NOT IRON

DO NOT TUMBLE DRY

DO NOT USE AGGRESSIVE CLEANING POWDERS

DO NOT SCRUB THE SURFACE OF THE FABRIC

Storage

The Respirex Simplair hood is supplied with a three point hanging system, there are loops on the head and shoulders that allow the hood to be hung on a three point hanging frame. The Respirex three point hanging frame is designed to allow the hood to be hung without distortions to the visor (Fig. 13).

If the hood is to be stored in a box or container it should be folded so that the pipes are not twisted and the visor is not distorted.

Note: In order to maintain the level of protection offered, care should be taken to minimize the risk of damage occurring to the Simplair Hood during transportation between work areas. It is recommended that all Simplair Hoods are transported in a suitably sized rigid container resistant to penetration by sharp objects, abrasive surfaces, chemicals, oils, solvents etc.

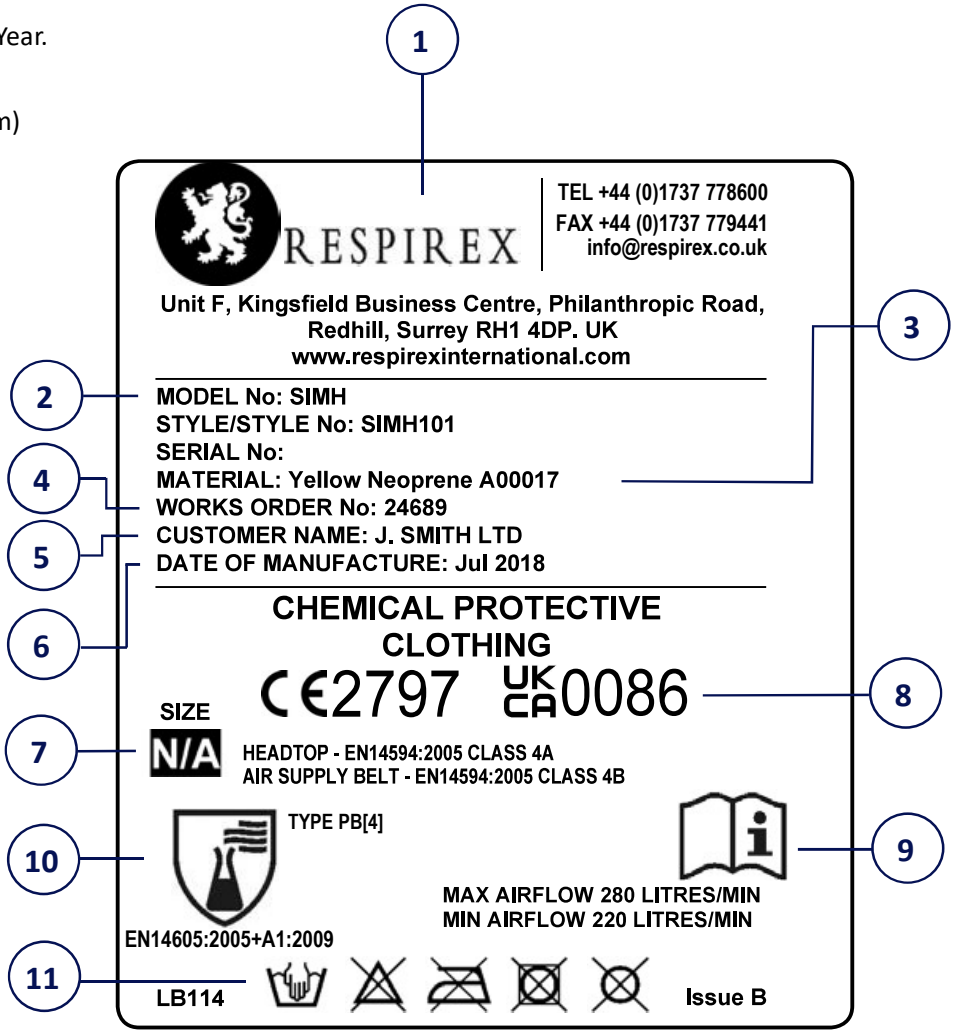
Fig. 13.

<u>Always store the hood in a dry condition</u>

Product labelling

1. Manufacturer of garment and address:
   Respirex International Ltd.
2. Manufacturer's Model number
3. Material of Manufacture.
4. Manufacturer's Order No.
5. Customer Name.
6. Date of manufacture: Day/Month/Year.
7. Standard Garment Size for wearer

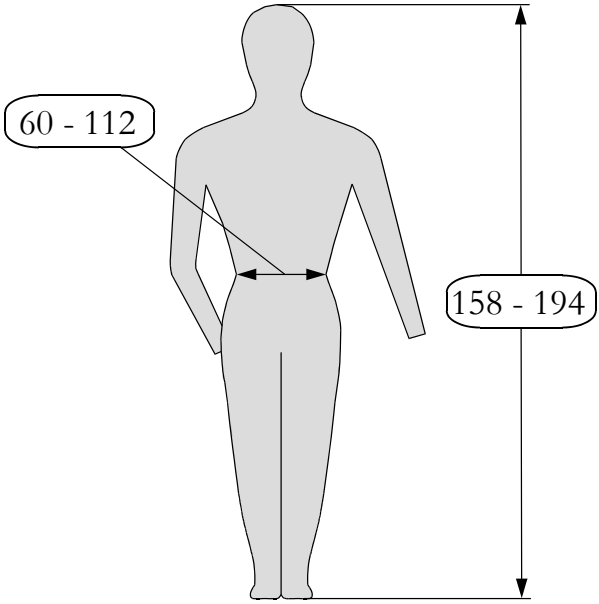
Body Height (cm)	Waist Girth (cm)
158 - 194	60 - 112



8. CE and UKCA mark including Notified Body and Approval Body code.
9. "Open Book Pictogram"; wearer must refer to the "Instructions for use" for further information.
10. Pictogram defining protection types: Particulate Radiation Pictogram
11. Five care pictograms indicating that clothing is not suitable for cleaning and reuse.
    - Pictogram 1 Hand wash
    - Pictogram 2 Do not bleach
    - Pictogram 3 Do not iron
    - Pictogram 4 Do not machine dry
    - Pictogram 5 Do not dry clean

Sizing

The following pictogram designates the range of height & waist sizes suitable for the Respirex Simplair hood, check your body measurements to make sure you are suitable. Body measurements in cm.



Body measurements in cm

Waist girth	Body height
60-112	158-194

RESPIREX INTERNATIONAL LTD,
Unit F Kingsfield Business Centre,
Philanthropic Road,
Redhill,
Surrey RH1 4DP
United Kingdom

Tel. +44 (0) 1737 778600
Fax.+44(0) 1737 779441
www.respirexinternational.com

RESPIREX GmbH
Wilthener Straße 32
Gebäude 4a,
D-02625,
Bautzen
DEUTSCHLAND

+49 (0)3591-5311290
+49 (0)3591-5311292
info@respirex.de

Module B and D Type Examination By:

BSI,
Davy Avenue, Knowhill,
Milton Keynes, MK5 8PP,
ENGLAND

UK Approved Body No. 0086

BSI Group The Netherlands B.V.
Say Building, John M. Keynesplein 9,
1066 EP,
Amsterdam, NETHERLANDS

Notified Body No. 2797